EXPLORING THE LINK BETWEEN MENTAL HEALTH AND DRUG PARAPHERNALIA SHARING AMONG COCAINE USERS

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ABSTRACT

Introduction: Mental illness and cocaine use are significant risk factors for the sharing of drug paraphernalia and the transmission of bloodborne viruses among drug users. Yet little is known regarding the impact of different manifestations of mental illness on drug paraphernalia sharing among cocaine users.

Objectives: Using data from the COSMO study, a cohort of cocaine users in Montreal: 1) we examined the association between symptoms of psychological distress and drug paraphernalia sharing; 2) we examined the association between symptoms of psychological distress and drug paraphernalia sharing, while accounting for primary mood and anxiety disorders.

Methods: Smoking and injecting cocaine users were recruited in Montréal, Canada, between October 2010 and September 2014. Diagnosis of primary mood and anxiety disorders in the year prior to baseline were assessed using the Composite International Diagnostic Interview (CIDI). The severity of psychological distress based on the Kessler scale and three categories of drug paraphernalia sharing (smoking material; needle; and injection material excluding needle) were assessed at baseline and at each of the 5 follow-up visits at 3-month intervals. *Objective 1:* We conducted multivariate logistic regressions to examine the cross-sectional association between baseline psychological distress and paraphernalia sharing. *Objective 2:* We used generalized estimation equations (GEE) to examine the longitudinal association between the severity of psychological distress and paraphernalia sharing, while accounting for baseline diagnosis of mood and anxiety disorders.

Results: Among 605 cocaine users at study entry, 29% and 44.7% met criteria for primary mood and anxiety disorders, respectively, and 35% reported severe psychological distress. The baseline prevalence of sharing was 67.5% for crack pipes (among 536 smokers), 15% for needle and 24.5%

for injection material other than needle (among 387 injectors). The rate of severe psychological distress and of each type of paraphernalia sharing decreased over time. *Objective 1:* Cross-sectional multivariate analysis showed a significant association between psychological distress and needle sharing (Adjusted Odds Ratio (AOR): 2.1, 95% CI: 1.1-3.8), but not with sharing of other drug paraphernalia. *Objective 2:* After adjusting for socio-demographic and primary psychiatric disorders, the association between psychological distress and any type of material sharing were no longer significant. Participants with primary anxiety disorders were more likely to share needles (AOR: 1.89, 95% CI: 1.17–3.03). No mental illness marker was significantly associated with the sharing of injection material other than needles.

Conclusion: When symptoms of psychological distress, primary mood disorders, and primary anxiety disorders were assessed in relation with different types of drug paraphernalia sharing, we found that participants with primary anxiety disorders were more likely to share needles. Our results suggest a potential role of improving screening and treatment of anxiety disorders among cocaine users to decrease bloodborne virus transmission in this population. More research is necessary to determine the impact of treating anxiety disorders in active cocaine users to reduce needle sharing.

RÉSUMÉ

Introduction: Les problèmes de santé mentale et la consommation de cocaïne sont d'importants facteurs de risques pour le partage de matériel de consommation et pour la transmission du VIH et de l'hépatite C parmi les utilisateurs de drogue. L'impact de différents marqueurs de problèmes de santé mentale sur le partage de matériel de consommation chez les consommateurs de cocaïne demeure toutefois peu compris.

Objectifs: Parmi les participants à l'étude COSMO, une cohorte montréalaise de consommateurs de cocaïne, nous avons étudié : 1) l'association entre les symptômes de détresse psychologique et le partage de matériel de consommation et; 2) l'association entre les symptômes de détresse psychologique et le partage de matériel de consommation, en tenant compte des diagnostics primaires de troubles anxieux et de l'humeur.

Méthodes: Des consommateurs de cocaïne fumée ou injectée ont été recrutés à Montréal, Canada, entre Octobre 2010 et Septembre 2014. Les diagnostics primaires de trouble anxieux et de l'humeur durant l'année précédant le début de l'étude étaient établis à l'aide du Composite International Diagnostic Interview (CIDI). La sévérité de la détresse psychologique selon l'échelle de Kessler ainsi que le partage de trois types de matériel de consommation (pipes à crack; seringues; matériel d'injection excluant les seringues) étaient évalués à chacune des 5 visites de suivi à 3 mois d'intervalle. *Objectif 1* : Des régressions logistiques multivariées ont été effectuées pour étudier l'association transversale entre la détresse psychologique et le partage de matériel de consommation en début d'étude. *Objectif 2* : Des équations d'estimations généralisées multivariées ont été menées pour évaluer l'association longitudinale entre la détresse psychologique et le partage de matériel de consommation, tout en ajustant pour les diagnostics de troubles anxieux et de l'humeur en début d'étude.

Résultats: Parmi les 605 participants en début d'étude, 29% répondaient aux critères de trouble de l'humeur, 44.7% répondaient aux critères de trouble anxieux, et 35% rapportaient une détresse psychologique sévère. Les taux de partage de matériel de consommation en début d'étude étaient de 67.5% pour les pipes à crack (parmi 536 fumeurs), 15% pour les seringues et 24.5% pour le matériel d'injection excluant les seringues (parmi 387 injecteurs). Les taux de prévalence de détresse psychologique sévère ainsi que de partage de tout type de matériel de consommation ont diminué progressivement au cours des visites de suivi. *Objectif 1* : Une association significative a été démontrée entre la détresse psychologique et le partage de seringues (Rapport de cote ajusté (RCA): 2.1, 95% CI: 1.1-3.8). *Objectif 2:* La détresse psychologique n'était associée à aucun type de partage de matériel d'injection après avoir ajusté pour les facteurs socio-démographiques et pour les diagnostics psychiatriques primaires. Les troubles anxieux primaires étaient associés au partage de seringues (RCA: 1.89, 95% CI: 1.17–3.03). Aucun marqueur de trouble de santé mentale n'était associé au partage matériel de consommation autre que les seringues.

Conclusion: Dans cette étude, nous avons évalué l'association entre la détresse psychologique, les diagnostics primaires de troubles anxieux et de l'humeur et le partage de matériel de consommation. Nos résultats démontrent une association significative entre les troubles anxieux primaires et le partage de seringues. Ces résultats suggèrent qu'une amélioration du dépistage et du traitement des troubles anxieux dans le cadre des services préventifs offerts aux consommateurs de cocaïne pourrait contribuer à diminuer les taux de transmission du VIH et de l'hépatite C dans cette population. Davantage de recherche est nécessaire pour déterminer l'impact du traitement des troubles anxieux sur le partage de seringues chez les consommateurs de cocaïne.

PREFACE

Note on manuscript-based thesis

This thesis follows the format of a manuscript-based thesis that includes two published articles for which the student is the first author. This thesis follows the McGill University requirements for manuscript-based thesis preparation. The following section is quoted from the Faculty of Graduate and Postdoctoral Studies at McGill University *Manuscript-Based (Article-Based) Theses:*

"As an alternative to the traditional thesis format, the thesis research may be presented as a collection of scholarly papers of which the student is the author or co-author; that is, it can include the text of one or more manuscripts, submitted or to be submitted for publication, and/or published articles reformatted according to the requirements described below. Manuscripts for publication are frequently very concise documents. The thesis is expected to be a more detailed, scholarly work than manuscripts for publication in journals, and must conform to general thesis requirements. A manuscript- (or article-) based thesis will be judged by the examiners as a unified, logically-coherent document in the same way a traditional thesis is judged. A manuscript-based thesis must:

1) Be presented with uniform font size, line spacing, and margin sizes;
2) Conform to all other requirements listed under *thesis components*;
3) Contain additional text that will connect the manuscripts in a logical progression from one chapter to the next, producing a cohesive, unitary focus, and documenting a single program of research - the manuscripts alone do not constitute the thesis;
4) Function as an integrated whole.

There is no specified number of manuscripts or articles required for a Master's or a Doctoral thesis, nor is prior publication or acceptance for publication of the manuscripts a requirement. Publication or acceptance for publication of research results before presentation of the thesis in no way supersedes the University's evaluation and judgment of the work during the thesis examination process (i.e., it does not guarantee that the thesis will be found acceptable for the degree)."

Contribution of co-authors

Both manuscripts were sub-studies of the COSMO study, a prospective observational cohort study co-led by Dr. Julie Bruneau and Dr. Élise Roy.

Questionnaires and consent forms were developed jointly by Dr. Élise Roy and Dr. Julie Bruneau. Participants recruitment, data collection and data entry was performed by the COSMO team under the supervision of Dr. Élise Roy. Data cleaning and management was performed by Jill Vandermeerschen, Geng Zang and Djamal Berbiche. The research questions addressed in these manuscripts were developed jointly by Dr. Julie Bruneau, Dr. Élise Roy, Dr. Didier Jutras-Aswad and Annie Lévesque (MSc student). Statistical analysis were performed by Annie Lévesque under the supervision of Dr. Julie Bruneau and with the guidance of Jill Vandermeerschen and Geng Zang.

Both manuscripts were written by Annie Lévesque. The first manuscript entitled *Psychological distress increases needle sharing among cocaine users: results from the COSMO study* was written with conceptual and editorial support from Dr. Julie Bruneau, Dr. Élise Roy, Dr. Didier Jutras-Aswad, Dr. Karine Bertrand, Dr. Florence Chanut, Dr. Magali Dufour, Dr. François Lespérance, Dr. Michel Perreault, Dr. Éric Vaillancourt. The second manuscript entitled *Examining the link between psychological distress, mental health disorders and sharing behaviors*

among cocaine users was written with conceptual and editorial support from Dr. Julie Bruneau, Dr. Élise Roy, Dr. Didier Jutras-Aswad and Andreea Adelina Artenie.

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1-INTRODUCTION

Injection drug use has long been recognized for its ongoing impact on HIV and Hepatitis C (HCV) transmission, contributing to worldwide pandemics.[1, 2] Although people who inject drugs (PWID) represent only 0.2-0.5% of the global population, they account for approximately 5-10% of all individuals living with HIV worldwide.[2] In Canada, it was estimated that about 19% of all people infected with HIV also use injection drugs.[3, 4] Furthermore, injection drug use is the leading cause of HCV transmission in many countries, including USA and Canada.[5-8] Both infections are transmissible by percutaneous routes, with high prevalence rates reportedly among people who inject drugs (PWID) via needle sharing and other paraphernalia used in drug preparation and consumption.[9, 10]

Cocaine use in particular is a significant risk factor for HIV and HCV infections and is highly prevalent in North America.[11-13] Although transmission of bloodborne infections can result from injecting any drug, the probability of getting infected through injection is more likely when using cocaine. This is partly attributable to high risk consumption patterns, such as the practice of binge (defined as using as much drug as possible until the user reaches physical exhaustion or runs out of supply), increased frequency of injection and an overall increased likelihood of needle and other injection material sharing. [11, 12, 14-16] As for crack cocaine smoking, it was found to be associated with increased bloodborne virus transmission due to heightened sexual risk-taking and to blood exchange occurring through the sharing of crack smoking paraphernalia.[17-28]

Another important element for understanding mechanisms leading drug users to share paraphernalia is the role of mental illness in conditioning risk behaviours. Substance use and mental health disorders often coincide, and individuals with substance use disorders are approximately 3 to 5 times more likely to be diagnosed with a comorbid psychiatric disorder

compared to the general population.[29] Conversely, people with mental illness are also more likely to be diagnosed with substance use disorder.[29] Several markers of mental illness have been examined as potential determinants of risk behaviors. For example, studies found that individuals suffering from severe mental illness exhibit higher rates of HIV and HCV compared to the general population.[30, 31] Moreover, a few studies conducted among PWID found associations between different markers of mental illness and injection paraphernalia sharing.[32-35] However, limited data is available to inform about the differential effect of various manifestations of mental illness, such as specific psychiatric diagnosis, psychiatric symptoms and nonspecific states of psychological distress.

Prevention of HIV and HCV infections is particularly challenging among cocaine users, partly due to complex patterns of use and to the reduced effectiveness of traditional harm reduction and treatment approaches in this population.[36] Opioid substitution treatment were found to be among the most effective strategies to decrease HIV and HCV transmission among opioid users. Alas, there is currently no equivalent approach available in cocaine users. Cocaine users moreover exhibit high rates of psychiatric comorbidities, potentially contributing to their heightened susceptibility to bloodborne virus infections.[37, 38] Achieving a better understanding of the relative influence of different manifestations of mental illness on risk-taking in cocaine users is crucial to further develop more targeted preventive interventions for this highly vulnerable population.

Using data from the COSMO study, a prospective cohort study of cocaine smokers and injectors in Montreal, we thus conducted this investigation to examine the association between different manifestations of mental illness and drug paraphernalia sharing among cocaine users. Our specific objectives were twofold: 1) to evaluate the association between symptoms of psychological distress and paraphernalia sharing and; 2) to examine the association between

symptoms of psychological distress and paraphernalia sharing, while taking into account comorbid anxious and depressive disorders.

2-LITERATURE REVIEW

2.1 Overview of illicit drug use and their consequences

According to the World Drug Report 2015, it is estimated that about 246 million individuals used drugs in the year 2013, representing 5% of the global population aged between 15 and 64 years old.[39] Approximately 27 million of them suffered from substance use disorder, among which almost half injected drugs.[39] In Canada, a recent national survey estimated that over 1.3 million of individuals were diagnosed with a current substance use disorder, representing 4.4% of the population, with approximately 112, 900 individuals reporting recent injection drug use. [40, 41]

Illicit substance use, and more specifically injection drug use, has been linked to a broad range of deleterious social consequences including unemployment, loss of housing, poverty, and criminality. Moreover, substance misuse, and more specifically injection drug use, is associated with major health consequences, such as psychiatric comorbidities, suicidal behaviors, traumas, drug overdoses, and infectious diseases transmission.[42-45] From a public health perspective, transmission of blood-borne infections such as HIV and HCV is among the most burdensome consequences of injection drug use.

Compared to other illicit substances, regular use of cocaine further compromises the ability of users to adopt safe consumption practices, increasing the likelihood of HIV and HCV transmission. The impact of cocaine use on risk behaviors is therefore a key element to consider when examining the global HIV and HCV pandemics. In the following sections, the epidemiology of cocaine use, its mechanism of action and main health consequences are reviewed, with a focus on its impact on bloodborne infections transmission.

2.2 Overview of cocaine use

2.2.1 Epidemiology

Cocaine, a naturally occurring plant-derived alkaloid, is one of the most frequently used illicit drug worldwide.[46, 47] According to the most recent data from the World Drug Report, 14 to 21 million individuals reported having used cocaine in the prior year and a slight decreasing trend in the global number of users has been observed since the year 2011.[39, 47] In Canada, the annual prevalence of cocaine use is estimated at 0.9% among individuals aged 15 years and older, making it the second most commonly used illicit substance after cannabis.[48] It is also the substance most frequently injected in Canada, with about 64% of PWID in the country reporting recent cocaine injection.[49] In the province of Quebec, cocaine injection is reported by 86% of the 23,000 PWID.[50]

2.2.2 Mechanisms of action, dependence and treatment

Cocaine is a stimulant drug that acts as an activator of the central and peripheral nervous system. Its effects result from the blockage of dopamine, norepinephrine and serotonin presynaptic reuptake, leading to increase of those neurotransmitters' physiological activity. [51, 52] Intoxication is characterized by euphoria, enhanced alertness, energy and sociability, and decreased fatigue. Increased levels of dopamine in the brain's mesolimbic system triggers a sensation of euphoria and reward which is involved in the development of dependence to cocaine.[53] With repeated exposure, cocaine-related stimuli (conditioned stimuli) can trigger dopamine release without drug use, which contributes to craving for cocaine and to the development of dependence.[53] Chronic exposure to cocaine induces neuroadaptation in the mesocorticolimbic system, and discontinuing cocaine after a prolonged use can cause withdrawal symptoms including dysphoria, anhedonia, fatigue, sleep disturbance, difficulty concentrating and increased craving for cocaine, all of which may lead to relapse using the substance.[54]

Significant research efforts have been deployed to improve the treatment of cocaine use disorder. Although multiple medications have been tested, none has yielded clinically significant results, and behavioral approaches currently remain the most efficacious therapeutic approaches available.[55, 56] Some vaccines aimed at blocking the action of cocaine in the body are in development but are not currently available.[57]

2.2.3 Cocaine formulations and routes of utilization

Cocaine can be used as a salt (cocaine hydrochloride) or as a base (also known as crack cocaine or freebase).[58] Cocaine salt is a powder that is typically injected or used intranasally, as the water-solubility of the molecule allows for good absorption through the mucosal membranes and facilitates its dissolution for injection. Cocaine salt cannot be smoked due to its high vaporization temperature. In contrast, cocaine base, or crack cocaine, has a low vaporization temperature and is typically smoked using glass pipes, cans, or rolled into a cigarette. Crack cocaine can also be injected, however this method is less frequently practiced due to its low water solubility, necessitating more complex preparation such as diluting the rock in vinegar.[59]

Regardless of the chemical form and route of administration, a cocaine molecule produces similar physiological and psychoactive effects when it reaches the brain and targets organs.[58] However, the rate of onset, duration, and intensity of the experienced subjective effects vary according to the dose and route of utilization.[58] Compared to intranasal use, intravenous and smoked cocaine are associated with faster rates of drug delivery to the brain, eliciting subjective sensations within a few seconds that last between 15 and 30 minutes.[60] The faster onset of psychological effects causes a more intense and pleasurable response, which explains the greater risk of developing problematic use and dependence when using injected or smoked cocaine.[60, 61]

Although both cocaine hydrochloride injection and smoking crack are highly prevalent in Montreal, crack cocaine use has increased over the past decade, progressively overtaking the market of cocaine hydrochloride.[62] Results from a mixed methods study conducted in Montreal among a population of cocaine users suggest that this rise can be explained in part by drug market forces.[63] While crack became more accessible because of its lower price, cocaine salt became progressively less accessible on the street; its sale transaction typically required phone orders and deliveries, therefore demanding greater organization and knowledge from the user. Likewise, concerns over bloodborne virus's transmission and the simplicity of drug preparation process also contributed to users' preference for crack cocaine. For other users, cocaine salt injection is still preferred due to the greater intensity of the subjective intoxication symptoms it produces.

2.2.4 Health consequences of cocaine use

A wide range of health complications have been reported following acute and chronic cocaine intake, including potentially life threatening cardiovascular and neurological complications as well as acute and long lasting neurocognitive consequences.[64-67] Neuroimaging studies of chronic cocaine users have shown different brain structural changes, including decreased gray and white matter volumes in the frontal cortex and enlarged basal ganglia.[68] The sustained use of cocaine has been associated with cognitive dysfunctions, such as impaired attention, verbal memory, inhibitory control and decision-making, which can persist up to several months from the start of abstinence.[69, 70]

Both injection and smoked cocaine use have been recognized as significant risk factors for bloodborne virus infections, partly due to their association with erratic injections behaviors.[11, 71-75] Studies conducted in Montreal among cohorts of PWID consistently identified cocaine injection as one main driver for the transmission of HCV and HIV infections.[12, 76-78] Another Canadian

cohort study conducted among PWID seronegative for HIV in Vancouver found a strong dose-dependent association between cocaine injection and HIV seroconversion.[11] Both injected and smoked cocaine use have been linked to increased self-reports of risky injection benaviors among American PWID.[14, 75]

The higher vulnerability of cocaine injectors to risk taking and to HIV and HCV infection is partly due to the short half-life of the molecule leading to repeated injections (up to 30 times per day).[71, 79] The practice of "binging," defined as ingesting large amounts of drugs over a short period of time, until s/he feels physically unable to tolerate more and/or lacks financial resources to procure more drugs, is common among cocaine injectors and increases the likelihood of material sharing between users. [11, 12, 14-16]

Smoking crack has also been identified as a risk factor for bloodborne viruses infections.[80] Results from a cohort study of PWID conducted in Baltimore, USA, found an increased likelihood of using needles acquired from an unsafe source among crack smokers.[81] Researchers also found that crack cocaine use is associated with increased sexual risk behaviors, such as having unprotected sex and having multiple sex partners.[17, 18, 20-28, 82] Furthermore, although the risk is fairly low, bloodborne virus transmission can occur through of the sharing of drug paraphernalia used to smoke crack, as mouth lesions caused by the repeated use of crack pipes can act as pathways for the viruses' transmission.[19]

2.3 Overview of HIV and HCV among PWID

HIV is a retrovirus affecting the immune system, potentially leading to opportunistic infections and to a broad range of cutaneous, cardiovascular, endocrine, hematological, neoplasic and neuropsychiatric complications. Although no curative treatment exists to date, anti-retroviral therapies are effective in lowering blood viral load to undetectable levels, allowing a majority of

treated individuals to maintain a normal immune function, which significantly limits the disease's impact. Hepatitis C, a liver infection caused by a single strand RNA enveloped virus, is a slowly progressing, generally asymptomatic disease, but yet can lead to potentially fatal complications such as advanced liver cirrhosis and hepatocellular carcinoma.[83, 84] Major advances have been achieved in HCV treatment in recent years, and there are efficacious curative treatments approved for HCV with few side effects. However, these treatments are very expensive and access to care is still very low in most countries.

Worldwide, PWID exhibit significantly higher rates of both diseases infections compared to the general population.[85] However, HIV and HCV treatment rates remain significantly lower among PWID compared to those reported for their non-drug users counterparts, which further increases the burden of the diseases and the risk of infections propagation in this population.[86-88]

2.3.1 Prevalence, incidence and trend

Worldwide, an estimated 35.3 million people are infected with HIV and approximately 170 million people are infected with HCV, leading to about 350,000 and 1.2 million annual deaths respectively.[89-91] In Canada, approximately 0.2 % of the population has HIV, with an incidence rate of 9.2 per 100,000 persons per year.[92] As for HCV, between 0.64% and 0.71% of the Canadian population is chronically infected, with an incidence rate of approximately 33.7 per 100,000 people.[7, 8] Although the incidence rate of HCV countrywide has slightly declined in the past few years, the prevalence of the disease remains stable.

In many parts of the world, PWID represent one of the groups at highest risk for HIV and HCV transmission. Recent literature reviews of studies conducted among PWID populations from different countries found that the average global prevalence rates of HIV- and HCV-positivity amongst PWID were as high as 18.9% and 82%, respectively, with significant variation between

regions.[85] Data from a Canadian surveillance network showed that 11.2% and 68% of PWID in the country are infected with HIV and HCV, respectively.[93] A decline in HIV incidence rates among Canadian PWID was observed between 1995 and 2002, after which it remained fairly stable at about 2.7 per 100 person-years.[62] As for HCV, the national incidence rates have remained fairly stable in the past decades, oscillating between 20 and 30 per 100 person years, with most recent data estimating the incidence rate for HCV among Canadian PWID at 26.8 person-years.[62]

2.4 HIV and HCV routes of transmission

In general, the HIV virus can be found in sufficient concentrations to cause disease transmission through blood, semen, vaginal fluids and breast milk.[94] Transmission mechanisms include unprotected sex, sharing of drug injecting paraphernalia, accidental punctures and mother-to-child transmission during pregnancy, labor or breastfeeding.[95, 96] For all type of exposure, high viral load in the HIV-infected source is linked with increased risk of transmission, and taking antiretroviral therapy significantly reduces the risk of transmission.[97-99]

Estimating the risk of HIV transmission via different types of exposure is difficult to assess, and estimates vary broadly between studies. In the absence of treatment, the risk of sexual transmission varies according to the type of exposure, and is estimated between 0.5% to 3.38% for anal receptive, 0.06% to 0.16% for anal insertive, 0.08% to 0.19% for vaginal receptive and 0.05% to 0.1% for the vaginal insertive.[100] The highest risk of transmission is found from mother-to-child during the perinatal and prenatal times, estimated between 15% and 45% in the absence of treatment.[100]

HCV is predominantly found in the blood and is highly transmissible via sharing of injection equipment. Other transmission mechanisms include occupational incidents involving contaminated medical equipment (associated with 1.8% risk of seroconversion [101]); blood

transfusions (although the risk has been negligible in North America since 1990 [102]); organ transplants; infected tattooing and body piercing equipment; and perinatal transmission.[103] Low risks of HCV transmission have also been reported through sexual contact and sharing of personal items that may contain blood (e.g. razors and toothbrushes).[103]

2.4.1 HIV and HCV transmission among PWID

The sharing of contaminated injection drug paraphernalia is the main vector for HIV and HCV transmission among drug users.[1, 2, 9] Transmission can occur from reusing contaminated needles, as well as from sharing of auxiliary injection equipment such as diluted water, filters, and cookers.[9, 10] Other practices involved in the preparation of injecting drugs, such as backloading and frontloading –defined as using drug solution that was prepared in a syringe that was already used by another person— are also associated with risks for HIV and HCV transmission.[104-106]

In North America, the sharing of contaminated injection equipment is the main vector for HCV transmission. The high prevalence rate among PWID is partly due to the high infection rate of the virus (estimated between 2.5% and 5% after injecting drugs with a contaminated needle) and to the capacity of the virus to survive several weeks outside the body at room temperature.[107-109]

The risk of HIV transmission through sharing of infected needles among PWID is estimated between 0.7 and 0.8%, which translates to one occurrence of virus transmission out of 125 to 142 injections using a contaminated needle.[100] Tests performed on syringes used by PWID demonstrated that the HIV virus can survive up to 6 weeks outside the human body at room temperature, which is partly attributed to the lipid envelope of the virus, which protects it against a dry environment.[100] Various factors influence the viability of the virus in biological fluids outside

the body, including viral concentration, the medium in which the virus is contained, and environmental factors such as moisture, temperature, and sunlight.[110, 111]

2.4.2-Harm reduction and prevention of HIV and HCV transmission

Thus far, curbing the propagation of HIV and HCV mostly relied upon preventive and harm reduction approaches, including injection equipment provision, opioid substitution therapy (methadone and buprenorphine), HIV and HCV testing and counselling, and, in a few cities, supervised injection facilities. [112] In the past decades, broadened access to such interventions has led to a reduction of needle sharing and to a lesser degree, of other injection material sharing. [113, 114] However, sharing practices remain high with 15% and 35% of Canadian PWID reporting having recently shared a needle or other injection material, respectively.[93] Moreover, opioid substitution treatment is one of the most effective approaches to prevent ongoing illicit opioid use and bloodborne viruses transmission in opioid users, but it has no impact on cocaine injection and associated risk behaviors.[36]

Literature reviews and recent cohort studies of drug users clearly demonstrated a protective effect of opioid substitution treatment on the incidence rates of HIV and HCV infections.[115-117] Data regarding the impact of needle exchange program on bloodborne transmission is less clear. A recent literature review suggested a protective effect of needle exchange programs on decreasing injection risk behaviors and HIV incidence rates, but found insufficient evidence to support the impact of needle exchange programs on HCV transmission. [112]

More recently, the concept of treatment as prevention has emerged, recognising that decreasing the number of individuals infected with HCV, as well as the contagiousness of HIV-positive individuals could control the overall pandemics. HCV is a curable disease and treatment allows to decrease the sources of infection transmission. Different mathematical model studies

have supported the feasibility of treatment as a mean of reducing HCV prevalence and incidence among PWID.[118, 119] As for HIV, although no curative treatment currently exist, antiretroviral therapy is highly effective to reduce plasma viral load to undetectable levels, which significantly reduces risks for ongoing virus transmission. [120] It was shown that early detection and initiation of treatment in HIV-infected individuals significantly decreases transmission risks, and that increasing access to treatment on a community level reduces HIV incidence. [121-123] Furthermore, a number of mathematical modelling studies have suggested dramatic decrease in HIV incidence by universalisation of treatment.[124-126] Finally, treatment also allows entry into care for this population, representing an opportunity to access screening and treatment for comorbid health problems, including comorbid mental health disorders.

2.5-Co-occurrence of mental health disorders and substance use disorder

Mental health and drug use are highly interconnected and frequently co-occur. [29, 127-130] It was estimated that the presence of a psychiatric diagnosis triples the risks of drug use. Drug users are in turn 5 to 6 times more likely to be diagnosed with a co-occurring psychiatric disorder. [130] This association can mostly be explained by two general processes: 1) substance use can cause mental health disorders and; 2) mental health disorders predispose to substance use. [131] To illustrate the first pattern, it is well known that intoxication, withdrawal and long term exposure to psychoactive substances can cause psychiatric symptoms and trigger psychiatric disorders. The latter are known as substance induced disorders and represent a distinct diagnostic category in the DSM-V.[132] On the other hand, numerous reports from longitudinal studies conducted in community samples found associations between the onset of substance use disorders and prior ratings of high psychiatric symptoms, supporting the hypothesis of drug use as a "self-medication".[133] Furthermore, several studies using tools allowing to differentiate between

substance induced and independent (or primary) psychiatric disorders demonstrated a significant positive association between substance use and primary psychiatric disorders. For instance, results from the American National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) survey demonstrated a significant association between substance use disorders and diagnosis of primary mood and anxiety disorders, with prevalence rates of 19.67% and 17.71% for recent primary mood and anxiety disorders respectively among participants with recent substance use disorders, compared to 9.21% and 11.08% among the full sample.[29] Such results can partly be explained by overlapping factors causing both substance use disorders and other mental illnesses, such as genetic vulnerabilities and early exposure to trauma.[134]

2.5.1-Co-occurring mental health disorders and cocaine use disorders

High rates of co-occurring mental health disorders were found amongst the population of cocaine users specifically. Prevalence of lifetime psychiatric disorders was estimated around 40% among out-of-treatment cocaine users and between 65% and 73.5% in populations of cocaine users seeking treatment, with higher rates of primary disorders as compared to substance induced disorders. [37, 38, 133, 135]

Data from the NESARC study revealed that 62.5% and 45% of participants with cocaine dependence also had a lifetime diagnosis of primary mood and anxiety disorder respectively, compared with 19.5% and 16.2% in the full sample.[129] Mood disorders are the lifetime primary disorder most frequently diagnosed amongst cocaine users. Anxiety disorders are the primary disorders most frequently diagnosed during the past year amongst cocaine users, consistent with the general chronicity of these disorders.[37, 136]

Most of the aforementioned studies were conducted among undifferentiated populations of cocaine users. Little is known regarding differences in psychiatric co-occurring disorders between

sub-groups of cocaine users based of their preferred route of utilization. It has been suggested that compared to intranasal cocaine users, crack users would report more severe depressive, anxious and psychotic symptoms, and would be more likely to be diagnosed with mood disorder. [133] Further research is needed to better understand the relationship between utilization of different cocaine routes and comorbid mental illness.

2.6-Impact of mental illness on HIV and HCV transmission

Mental illness is a known risk factor for HIV and HCV transmission. Different American studies have reported HIV prevalence rates between 5.2% and 22.9% among individuals suffering from severe mental illness, corresponding to 12 to 80 times the rates found in the general US population.[137, 138] As for HCV prevalence, it is estimated to be 11 times higher among individuals suffering from severe mental illness compared to the general population.[137] This phenomenon can be explained by an increased likelihood of sexual and drug related risk-behavior among individuals with severe mental illness, including unprotected sex, multiple sex partners, and injection drug use. [30, 139]

Literature also suggests that mental health plays a significant role in conditioning drug-related risk behaviors among PWID specifically. A few studies conducted in PWID populations examined the impact of two different categories of mental illness manifestations on paraphernalia sharing: psychiatric symptoms and mental health diagnosis, yielding mixed and limited results.

Among studies that examined psychiatric symptoms, a majority looked into depressive symptomatology. A 2008 meta-analysis including 55 studies on depression and drug-related risk behaviors found slightly increased probability of sharing needles among patients with severe depressive symptoms.[140] Conversely, no significant association between depressive symptoms and needle sharing was found among female PWID sex workers in China nor in a US population

of PWID in Massachusetts.[141, 142] As for sharing of injection material other than needles, a large US study of PWID found a greater prevalence of needle, cottons and cookers sharing among participants with high levels of boredom and depressive symptoms.[143] However, a large study of out-of-treatment PWID found that those with elevated depressive symptoms were more likely to use a needle previously used by another person, but found no association with sharing of cottons, cookers nor with the practice of backloading.[144]

Only sparse and contradictory data exist on the association between anxiety symptoms and paraphernalia sharing. A study conducted among PWID in Puerto Rico found increased odds of sharing needles, filters or cookers, water dilution and practice of backloading among participants reporting severe symptoms of anxiety.[34] Similarly, a study of PWID in Massachusetts found a significant association between needle sharing and the presence of tension or anxiety symptoms.[142] One recent study from India, however, demonstrated the opposite finding, concluding that severe anxious symptoms lend a protective effect on sharing practices.[32]

Rare studies examined the association between injection material sharing and symptoms of psychological distress. Gu et al. reported that among Chinese female PWID sex workers, participants reporting psychological distress manifesting as hatred toward oneself were almost twice as likely to share needle in comparison with the rest of the sample.[145] Another study conducted among HIV-positive PWID found increased likelihood of distributive needle sharing and receptive sharing of cookers, water and filters among participants with high psychological distress scores based on the Beck Inventory Symptoms scale (a scale including symptoms of anxiety, depression and hostility).[146]

A few studies also examined the association between formal mental health diagnoses, measured using validated tools, and sharing behaviors. A Canadian multicenter study found that

participants diagnosed with major depression were at greater risk of sharing needles and other injection equipment than those without this diagnosis.[35] Finally, a study conducted in Rhode Island among PWID diagnosed with major depression found an increased likelihood of needle sharing among those reporting severe depressive symptoms.[147]

2.7-Summary of the literature review and research questions

In summary, injection and smoked cocaine use have a significant impact on HCV and HIV propagation in North America, partly due to their association with increased drug paraphernalia sharing. Mental illness frequently co-occur in substance users and further increases the risk for bloodborne viruses' transmission. However, only weak evidence exists to help clarify the role of different manifestations of mental health on the risk of blood borne virus transmission.

This review highlights a few gaps in the literature. First, a few studies have examined the link between mental illness and sharing behaviors by focusing either on the impact of symptoms or diagnosis, but no study examined the dual contribution of both psychiatric symptoms and disorders on sharing practices. Furthermore, significant differences between prior studies' populations and methodologies, including the utilization of different measures of symptoms or disorders limited the generalizability and replicability of the results.

Another important gap in the literature is that most studies assessed needle sharing outcome, but little data is available regarding the association between mental illness and other types of injection material sharing outcomes. Moreover, to our knowledge, no study examined the impact of mental illness on crack smoking paraphernalia.

Finally, there is a lack of data from populations of cocaine users specifically. Most available data was drawn from populations of undifferentiated substance users, mostly composed of illicit opioid users. However, cocaine intoxication, withdrawal and sustained use is linked to specific manifestations of mental illness that may impact sharing on ways that may differ from other drug users. It is crucial

to achieve a better understanding of factors driving risk taking in the population of cocaine users specifically to allow the development of more adapted preventive interventions.

We therefore conducted this investigation with the objective to better understand the association between different manifestations of mental illness and paraphernalia sharing among smoked and injected cocaine users. In this thesis by paper, we will present two manuscripts exploring the association between different manifestations of mental illness and sharing behaviors. In the first manuscript, we examined the cross-sectional association between symptoms of psychological distress and three categories of material sharing (needle, injection material excluding needle and crack pipes). In the second paper, we used longitudinal data to explore the dual contribution of symptoms of psychological distress and psychiatric diagnosis on two categories of injection material sharing (needle, injection material excluding needle).

PREFACE TO MANUSCRIPT 1

This paper was published in the special issue *Addictions with Co-occuring Problems* of the *Journal of Addiction Research and Therapy* in April 2014. Results from this study were also presented at the 3rd *International Symposium on Hepatitis Care in Substance Users* in Munich, Germany, in September 2013.

The objective of this study was to explore the association between symptoms of psychological distress and different categories of injection and smoking paraphernalia sharing in a population of cocaine users. Data was drown from the COSMO study, a cohort of cocaine smokers and injectors recruited in Montreal, Canada. Analysis were performed before the end of the cohort recruitment period, using baseline data from 589 participants, including 378 injectors and 508 smokers.

3. MANUSCRIPT 1: Psychological distress increases needle sharing among cocaine users: results from the COSMO study.[148]

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3.1 Manuscript Abstract

Background: Cocaine use and mental health disorders have both been separately identified as risk factors for blood borne virus infection. However, the contribution of specific underlying aspects of mental health to risks is not well documented. The aim of this study was to examine the association between psychological distress and risk behaviors for HIV and Hepatitis C infection among cocaine users.

Methods: Individuals who either smoked or injected cocaine were recruited in community-based and addiction treatment programs located downtown Montreal. Participants were asked to complete an interviewer-administered questionnaire assessing psychological distress based on the Kessler scale (K10). Three-month risk behaviors outcomes included drug injection material sharing (needle, dilution water, cooker, filters, backloading, frontloading or wash), and smoking equipment sharing. Socio-demographic data, severity of cocaine dependence and other substances use information were also collected. Statistical analyses were conducted using logistic regression.

Results: Severe psychological distress was reported by 202 (34.3%) out of 589 participants (86.2% male; 76.6% >30y.o.). The prevalence of sharing was: 14.8% for needles, 24.9% for other injection equipment (378 injectors) and 68.3% for smoking material (508 smokers). Multivariate analysis showed that injectors with severe psychological distress were more likely to report needle sharing (Adjusted Odds Ratio (AOR): 2.1, 95% CI: 1.1-3.8). No significant association was found between K10 score and sharing of other paraphernalia.

Conclusions: Severe psychological distress increases the risk of needle sharing, a major risk factor for HIV and HCV infection, but not sharing of other paraphernalia. These results suggest differential psychological mechanisms according to sharing practices. They also support the

importance of screening for psychological distress in order to implement adequate preventive interventions aimed at cocaine users.

3.2 Introduction:

According to the latest estimates from the United Nations Office on Drugs and Crime, 17 million people, representing 0.37% of the world population, have used cocaine in 2011.[4] In Canada, cocaine is the most frequently injected substance among the estimated 125,000 people who inject drugs (PWID).[149, 150] This is of concern since injection drug use is one of the main drivers of HIV and HCV transmission worldwide.[2, 151] Among PWID, blood borne infections are transmitted mainly through the sharing of injection equipment or through injection preparation practices such as backloading and frontloading, which implies the use of a syringe to split drugs and then fill each partner' syringe.[104-106] Although the risk of blood borne pathogens infection exists for any injected substance, it is higher for cocaine, partly because the short half-life of the molecule leads to repeated injection.[11, 74, 152-154] Likewise, it has been estimated that cocaine users were 3 to 15 times more likely to share needles than other injection drug users.[14, 155] Crack smoking has also been found to increase risks of HIV and HCV infections, mainly via increased unsafe sexual behaviors and shared use of crack-smoking implements.[17-19, 82, 156, 157]

The presence of psychiatric comorbidity further compromises the ability of drug users to adopt safe consumption behaviors.[158] This is worrying considering the high prevalence of psychopathology among drug users, estimated between 40% and 53 %.[159, 160] In order to develop preventive interventions tailored for the needs of this vulnerable population and identify at-risk individuals, it is crucial to understand the psychological mechanisms involved in their specific patterns of drug related risk-taking. Previous studies have suggested that individuals who had a psychiatric diagnostic of anxiety, antisocial or borderline personality disorders were more likely

to share injection equipment. [35, 142, 144, 147, 161-168] Underlying mechanism linking psychiatric disorders to risky behaviors are not fully understood, and it is not entirely clear if specific psychiatric symptoms, social consequences of psychiatric disorder, their cognitive correlates or their general impact on functioning and well-being mediate these associations. Among these, psychological distress may represent a relevant marker and aspect of mental illnesses predisposing to sharing behaviors. A few studies have suggested that psychological distress could be associated with injection equipment sharing among PWID.[145, 146] Nonetheless, there is a lack of studies addressing the relation between distress and risk of HIV and HCV transmission that are examining the different types of material sharing, measured as separate entities, among cocaine users. Since each type of paraphernalia conveys a specific level of risk and is associated with different perceptions from users, it appears sensible to address them as separate outcomes.

Herein, we conducted a cross-sectional study to examine the association between psychological distress and sharing of different types of injection and smoking equipment among cocaine users.

3.3 Methods:

The study population was drawn from COSMO, an ongoing prospective cohort study carried in Montreal, Canada. The main objective of this study is to understand the contribution of mental health disorders on HIV and HCV risk behaviors among cocaine users. To be eligible for the study, participants need to have smoked or injected cocaine in the previous month, speak French or English, be able to consent and be 14 years of age or older. All participants signed an informed consent in compliance with institutional review board regulations of the Centre Hospitalier de l'Université de Montréal (CHUM), and of the Faculté de Médecine et des Sciences de la Santé (FMSS) de Sherbrooke.

Participants were recruited mainly in community-based programs located in downtown Montreal, including homelessness day programs, shelters, needle exchange programs. A smaller group was recruited at the CHUM's emergency room and addiction service (5%). After providing their consent, participants underwent a 90 minutes baseline interviewed-administered questionnaire. The "Life history calendar" technique was used to help situate events in time in order to minimise recall bias.[169] Recent life events were put on a visual calendar that was used to better define the time period assessed during the interview.

To facilitate accessibility to the participants, interviews were conducted in a research office located in the same neighbourhood as recruitment sites. They were offered a CAD30$ financial compensation for their time. Participants were also asked if they wished to participate to follow-up visits for the prospective component of the study, in which case additional contact information was collected.

The outcome for this investigation was injection or smoking material sharing in the past 3 months. Material sharing was defined as using paraphernalia that had already been used by someone else. Three dichotomous variables representing different categories of material sharing were used for analyses: 1-needle sharing; 2-other injection material, including dilution water, cookers, filters, sharing while backloading/frontloading (defined as sharing drug using a syringe that has already been used by another person) and "doing a wash" (defined as injecting drug residues extracted from a cotton, a filter or a container used by another person); 3-crack pipes sharing.

The main explanatory variable was psychological distress, assessed by the K10 scale developed and validated by Kessler and coll.[170] It consists of 10 questions on non-specific psychological distress and measures the level of anxiety and depressive symptoms a person may

have experienced in the previous four-week period. The final score ranges between 10 and 50 and a score equal or greater than 30 was considered as severe psychological distress. It can be administered in less than 10 minutes with minimal training requirements.[171] The decision to use the K10 scale as a dichotomous variable and the choice of the cut-off were based on validation studies and on previous studies using this scale. [171, 172] Dichotomisation of the psychological distress variable also appeared more clinically relevant than its use as a continuous variable.

Other explanatory variables were selected based on previous studies addressing risk factors for injection and smoking material sharing. They were integrated in the analyses as potential confounders of the association between psychological distress and sharing behaviors. These variables included age, gender, ethnicity, level of education, living with a partner, homelessness (defined as having lived or slept in a shelter or in any place not intended for housing in the past 3 months), unstable income (defined as having no regular source of income in the past 3 months), polyuse (defined as using 2 or more substances excluding cannabis in the past 3 months), polyinjection (defined as injection of 2 or more different substances in the past 3 months), regular cannabis (defined as 4 days of use or more by week in the past month), cocaine and alcohol binge in the past month (defined as using large amounts on a short period of time, until feeling physically unable to use more) and attendance to an addiction or an opiate treatment program in the past 3 months. Finally, the severity of dependence to cocaine was estimated using the severity of dependence scale (SDS).[173] The SDS is a five items tool measuring the intensity of dependence to a drug over the past 3 months. The score ranges between 0 and 15. Cocaine dependence was determined by a SDS score of 4 or higher.[174]

3.3.1 Statistical analysis

Analyses were carried out for each of the three outcomes separately. Analyses for the outcomes "needle sharing" and "sharing of injection material other than needle" were conducted among all the participants who reported having injected drugs in the past 3 months. Analyses for the outcome "crack pipe sharing" were conducted among all the participants who reported having smoked crack in the past 3 months. Bivariate analyses (Pearson chi-square and logistic regressions) were performed between explanatory variables and each of the three dichotomous outcome variables. A multivariate logistic regression model was conducted for each of the three outcomes. Explanatory variables with a p-value ≤ 0.20 in bivariate regression analyses were included in the multivariate models. Following the purposeful selection procedure, significant variables at a level alpha of 0.05 and those with a confounding effect were kept in the final models. A variable was considered confounding if its removal from the model changed a significant coefficient by more than 20%. From the final models, adjusted odds ratios (AOR) and 95% confidence intervals were derived. SPSS 18.0 software was used to perform the analyses.

3.4 Results:

Baseline data from the 589 participants recruited between October 2010 and April 2013 were included in our analyses. Mean age was 40 years (SD 11.0) and 76.6% were older than 30 years old. The majority of participants were males (86.2%) and were born in Canada (94.2%). 51.6% had completed high school, 32.3% were homeless, 32.5% had an unstable source of outcome and 13.9% reported living with a partner. Detailed characteristics of the study population are reported in Table 1.

Severe psychological distress was found among 34.3% of the sample. Of the 378 (64% of total sample) participants who injected drugs, 14.8% reported needle sharing and 24.9% other

injection equipment sharing. Among the 508 participants who reported having smoked crack, 68.3% reported having shared crack pipes in the past 3 months.

Results of bivariate analyses and final multivariate logistic regression models displaying adjusted odds ratios and 95% confidence intervals are presented in Tables 2 and 3, respectively. Multivariate logistic regression showed that participants with severe psychological distress (AOR : 2.1, 95% CI : 1.1-3.8) were more likely to share needles, after adjusting for other risk factors. In both bivariate and multivariate analyses, severe psychological distress was significantly associated with needle sharing but not with sharing of other paraphernalia, either other injection material or crack pipe.

3.5 Discussion:

Needle and other drug paraphernalia sharing is the leading cause of HIV and HCV transmission in North America.[2, 151] Cocaine use and mental health disorders have both been identified as risk factors for material sharing.[11, 35, 74, 142, 147, 152, 154, 158, 161-168] However, information about the underlying mechanisms that lead to specific sharing practices remains limited. The current study documented the association between psychological distress and different categories of paraphernalia sharing in a population of cocaine users. The major finding of our study is that severe psychological distress increases the risk of sharing needles but not sharing of other paraphernalia.

Our results regarding needle sharing are consistent with previous literature suggesting a correlation between psychiatric symptoms severity and the propensity of PWID to share needles.[144, 147, 162-165, 175] More specifically, two studies have previously demonstrated an association between severe psychological distress and injection material sharing (including needles) among a population of undifferentiated drug using PWID.[145, 146] The present study

confirms this association among a population of cocaine users. On the other hand, our study shows no association between the severity of psychological distress and paraphernalia sharing other than needle among injectors. The higher prevalence of paraphernalia sharing other than needle is reported in most studies among PWID.[176] It suggests that different perceptions and stigmas surround each type of material sharing and that some practices might be considered as less harmful. In the past decade, a lot of effort has been devoted to decrease the rate of needle sharing, especially through increased counselling and implementation of needle distribution and exchange programs. In Montreal, two prospective cohort studies have shown evidence of a decline in needle sharing in the past two decades.[76, 177] The rate of needle sharing reported in our study is relatively low, which is consistent with the effectiveness of the preventive services implemented. As for other injection material, the situation remains worrying. It is possible that PWID are ambivalent toward the need to systematically use clean material other than needle. In fact, qualitative studies have shown that many PWID perceive HCV infection as an inevitable consequence of the injecting lifestyle.[178, 179] Therefore there is a need for innovative preventive efforts that target paraphernalia sharing other than needles.

Our data are also consistent with an emerging literature suggesting that specific dimensions of mental health disorders may come into play in the manifestation of risk behaviors. Previous studies have suggested that severe anxiety symptoms may cause difficulty concentrating and impulsive behaviors which may in turn lead to impaired decision making and increased risk taking.[34, 180] Likewise, it has been argued that depressive symptoms increase risky behaviors through a feeling of hopelessness and despair, leading individuals to care less about deleterious health outcomes. It is plausible that psychological distress preferentially affects behaviors that are more stigmatised and carry higher infection risks and, therefore, are more systematically avoided.

Furthermore, if a behavior is perceived as relatively risk-free, and is commonly adopted by drug users (such as crack pipe sharing), it may not be perceived as self-destructive or dangerous and may not be influenced by altered decision-making. This could explain the association of psychological distress with needle sharing, but not other paraphernalia.

Some limitations of this study should be acknowledged. First, the self-recruitment process may have affected the representativeness of the sample. Also, data collection by interview-administered questionnaires may have led to minimization of certain stigmatized behaviors and recall bias may have occurred because of the broad period of time covered by the questions. Finally, the cross-sectional design could not ascertain causality. We hypothesized that psychological distress increases the rate of needle sharing, but the opposite could also be true. Indeed, having shared needles could eventually lead to psychological distress. A longitudinal follow-up of this cohort will help better understand the direction of the association, adding a temporal consideration to the analyses.

Despite these limitations, the results of this study help characterise a sub-group of drug users who are more vulnerable to HIV and HCV infection, and to identify an easy-to-assess, valid marker of mental health that is related to risk-taking behaviors. It also highlights the need to consider psychological distress in the development of preventive strategies aimed at cocaine users, possibly by targeting this aspect of mental health to indirectly decrease drug use practices leading to blood borne pathogens infections. Multidisciplinary research initiatives that would include epidemiological as well as neuropsychological and clinical measures of mental health and risky behaviors could be tremendously promising for that purpose.

Table 1: Sociodemographic, drug use and behaviors according to severe psychological distress, as ascertained by a K10 score ≥ 30, among 589 cocaine users recruited between October 2010 and April 2013, in Montreal, Quebec, Canada.

PARTICIPANT CHARACTERISTICS	Total n = 589 n (%)	Severe psychological distress (n=202) n (%)	No severe psychological distress (n=387) n (%)	P-value
Age (≥30 year old)	451 (76.6)	164 (81.2)	287 (74.2)	0.06
Gender (Male)	508 (86.2)	161 (79.7)	347 (89.7)	0.00
Born in Canada	555 (94.2)	192 (95.0)	363 (93.8)	0.54
Homelessness	190 (32.3)	74 (36.6)	116 (30.0)	0.10
Living with a partner	82 (13.9)	28 (13.9)	54 (14.0)	0.98
Completed high school	304 (51.6)	99 (49.0)	205 (53.0)	0.36
Unstable source of income	191 (32.5)	58 (28.7)	133 (34.4)	0.16
High SDS score (≥4)	344 (58.1)	149 (73.8)	195 (50.4)	0.00
Cocaine binge	144 (24.4)	57 (28.2)	87 (22.4)	0.12
Alcohol binge	295 (50.1)	118 (58.4)	177 (45.7)	0.00
Polyuse (more than 2 substances excluding cannabis)	463 (78.6)	167 (82.7)	296 (76.5)	0.08
Polyinjection (more than 2 substances among 378 injectors)	231 (61.1)	123 (61.0)	224 (57.9)	0.78
Opioid substitution treatment	35 (5.9)	14 (6.9)	21 (5.4)	0.47
Regular cannabis use (≥4days/week)	241 (41)	115 (56.9)	233 (60.2)	0.44

P-value by Pearson chi-square test

Table 2: Bivariate logistic regression analyses of predictors for material sharing outcomes among 589 cocaine users recruited between October 2010 and April 2013, in Montreal, Quebec, Canada.

	Needle Sharing (n = 378)			Injection equipment sharing (n = 378)			Crack pipe sharing (n= 508)		
	OR	**p-value**	**95%CI**	**OR**	**p-value**	**95%CI**	**OR**	**p-value**	**95%CI**
Severe psychological distress (K10 score≥ 30)	1.8	0.04	1.0-3.2	1.0	0.94	0.6-1.6	1.1	0.78	0.7-1.6
Age (≥30 year old)	0.9	0.71	0.4-1.8	0.9	0.63	0.5-1.6	1.7	0.01	1.1-2.7
Gender (Female)	2.4	0.01	1.2-4.8	1.6	0.11	0.9-3.0	1.4	0.22	0.8-2.5
Born in Canada	0.5	0.31	0.1-1.9	1.0	0.99	0.3-3.8	0.9	0.86	0.4-2.0
Homelessness	0.9	0.81	0.5-1.7	1.0	0.97	0.6-1.7	1.4	0.10	0.9-2.1
Living with a partner	3.4	0.00	1.8-6.5	2.3	0.00	1.3-4.1	0.9	0.82	0.6-1.6
Completed high school	1.3	0.42	0.7-2.3	1.4	0.15	0.9-2.3	1.1	0.74	0.7-1.6
Unstable source of income	1.6	0.14	0.9-2.8	1.2	0.46	0.7-2.0	0.9	0.75	0.6-1.4
High SDS score (≥4)	1.8	0.06	1.0-3.30	1.4	0.20	0.9-2.2	1.7	0.01	1.1-2.4
Cocaine binge	1.5	0.24	0.8-2.8	1.4	0.27	0.8-2.3	1.6	0.03	1.1-2.6
Alcohol binge	1.0	0.91	0.6-1.8	1.0	0.95	0.6-1.6	1.9	0.01	1.3-2.8
Polyuse	1.2	0.69	0.5-2.5	2.9	0.01	1.3-6.3	1.8	0.01	1.2-2.8
Polyinjection	1.3	0.41	0.7-2.3	2.1	0.01	1.2-3.5	1.3	0.17	0.9-1.9
Opioid substitution treatment	1.6	0.29	0.7-3.9	1.5	0.26	0.2-3.3	0.7	0.34	0.4-1.5
Regular use of cannabis	0.9	0.67	0.5-1.6	1.1	0.72	0.7-1.8	0.6	0.08	0.4-0.9

OR: Odd Ratio

95% CI: 95% Confidence Interval

P-value by Pearson chi-square test

Table 3: Multivariate logistic regression analyses of the association between material sharing outcomes and severe psychological distress, accounting for sociodemographic and behavioural co-variates, among 589 cocaine users recruited between October 2010 and April 2013, in Montreal, Quebec, Canada.

	Needle n=378		Injection material excluding needle n=378		Crack pipes n=508	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Severe psychological distress	2.1	1.1-3.8	1.1	0.6-1.8	0.8	0.5-1.2
Control variables						
Age (≥30 year old)					2.1	1.3-3.4
Homelessness					1.6	1.0-2.5
Living with a partner	3.8	2.0-7.3	2.3	1.3-4.1		
High SDS score (≥4)					1.8	1.2-2.8
Alcohol binge					2.3	1.5-3.4
Polyuse					2.2	1.4-3.6
Polyinjection			2.1	1.2-3.5		
Regular use of cannabis					0.6	0.4-0.9

AOR: Adjusted Odd Ratio

95% CI: 95% Confidence Interval

PREFACE TO MANUSCRIPT 2

This manuscript was published in the journal *Addictive Behaviors* in November 2016. Results were also presented at the 2016 College on Problems of Drug Dependence (CPDD) Conference in California, USA, in June 2016.

In this manuscript, our objective was to assess the association between symptoms of psychological distress and different types of injection material sharing, while accounting for co-occurring primary mood and anxiety disorders. Longitudinal analysis were performed in a sub-sample of the COSMO study, including 387 participants who had reported injection drug use in the three months prior to study entry.

4. MANUSCRIPT 2: Examining the link between psychological distress, mental health disorders and sharing behaviors among cocaine users.[181]

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4.1 Manuscript Abstract

Background: Psychiatric problems and cocaine use are associated with heightened vulnerability for HIV and Hepatitis C infections. Little is known regarding the relationship between psychiatric symptoms, psychiatric diagnoses and injection risk behaviors among cocaine users. We examined the association between psychological distress and injection material sharing among cocaine users, while accounting for comorbid anxious and mood disorders.

Methods: Participants included cocaine users who inject drugs recruited in a prospective cohort study in Montreal, Canada. Diagnosis of mood and anxiety disorders in the year preceding baseline were established using the Composite International Diagnostic Interview (CIDI) questionnaire. Psychological distress based on the Kessler scale and injection material sharing in the past 3 months were assessed at baseline and at each of the five follow-up visits at 3-month intervals. Statistical analyses were conducted using generalized estimation equation.

Results: Of the 387 participants (84.5% male; 80.1% ≥30y.o.), 35% reported severe psychological distress, 43% qualified for an anxiety disorder diagnosis and 29% for a mood disorder diagnosis at baseline. Psychological distress was not associated with any injection risk behavior when adjusting for socio-demographic and psychiatric disorders. Participants with anxiety disorders were more likely to share needle (Adjusted Odds Ratio: 1.89, 95% CI: 1.17-3.03). Sharing of injection material other than needle was not associated with psychiatric disorders or with psychological distress in multivariate analyses.

Conclusions: Anxiety disorders are associated with needle sharing among cocaine users. Our results suggest the importance of screening for anxiety disorders as part of preventive interventions to decrease blood-borne viruses' transmission.

4.2 Introduction

Injection drug use is a major public health concern as it remains one of the main vectors for human immunodeficiency virus (HIV) and hepatitis C virus (HCV) transmission worldwide.[2, 151] Both infections are effectively transmissible through percutaneous routes, via needle sharing and other paraphernalia used in drug preparation and consumption.[9, 10] Cocaine use in particular plays a central role in the spread of HIV and HCV infections, partly due to its association with high risk consumption patterns. When compared to other PWID, those who regularly use smoked or injected cocaine were found to engage in more risky injection practices and to have increased likelihood of HIV and HCV seroconversion.[11, 12, 14, 75, 80, 81]

While exact mechanisms underlying these risk taking behaviors remain unclear, there is a growing body of evidence to suggest that mental health should be examined as a potential key element conditioning risk behaviors among drug users. Thus far, investigators have looked at two categories of mental health measures and their association with risk behaviors: mental health symptoms (including depressive, anxious and nonspecific psychological distress) and measures of mental health disorder diagnoses.

Of the few studies that have examined the association between mental health symptoms and injection risk behaviors, significant population and methodological differences, including studied samples from different countries and different measures to assess symptoms, limited comparisons and generalizability. A positive association was found between depressive symptoms and injection material sharing in PWID samples in India and Canada [32, 33], but not among a sample of PWID in Massachusetts, United States [142] nor among street-based female injectors in the city of Danzhou, China.[141] Likewise, symptoms of anxiety were associated with sharing of injection

material in Puerto Rico and in Massachusetts, USA [34, 142], while a negative association was found among PWID in Delhi, India.[32]

A few studies have also examined the relation between diagnoses of depression or anxiety disorders and sharing behaviors among drug-using populations. A Canadian study showed that PWID diagnosed with depression were more likely to share injection equipment than those who were not.[35] Similarly, a study conducted among young PWID in Chicago, Illinois, found an increased prevalence of major depression and anxiety disorders among young injectors who shared needles, but these associations were not statistically significant.[182]

Of note, none of these studies have specifically examined the relative contribution of diagnoses and mental health symptomatology on sharing behaviors. Moreover, these studies were conducted in populations mainly composed of opiate users.

We recently reported that severe psychological distress was associated with greater odds of needle sharing, but not sharing of other paraphernalia among 378 cocaine users who inject drugs in Montreal, Canada.[148] This analysis did not, however, take into account mental health disorders. The aim of the current investigation was to examine the association between psychological distress and sharing of different types of injection paraphernalia, while taking into account comorbid anxious and depressive disorders.

4.3 Methods

The sample was drawn from COSMO, an ongoing prospective cohort study conducted in Montréal, Canada, which aimed to assess the impact of mental illness on HIV and HCV risk behaviors among cocaine users. Participants were recruited between October 2010 and April 2013 in different community-based programs in downtown Montréal, including needle exchange programs (53.3%), homeless day programs and shelters (40.5%) and the Centre Hospitalier de

l'Université de Montréal's emergency room and addiction treatment program (5%). A small number (1.2%) were recruited directly at the study office where interviews were performed. Participants were eligible for enrolment into the study if they met the following criteria: having smoked crack cocaine or having injected cocaine in the previous month, being 14 years of age or older, being able to communicate in French or English, planning to stay in the Montréal area in the following year, and providing informed consent. Consents were obtained in compliance with the institutional review boards regulations of both the Faculty of Medicine and Health Sciences of the Université de Sherbrooke and the Centre Hospitalier de l'Université de Montréal. Only participants who reported having injected drugs (including cocaine, opioid or any other injected substance) in the 3 months prior to study entry were included in the current investigation.

The study design included one baseline visit and 5 follow-up visits at 3-month intervals. Participants underwent a 60 to 90 minutes baseline interviewer-administered questionnaire. A shorter (20 to 30 minutes) version of the same questionnaire was administered at every follow-up visit. The "Life History Calendar" technique that consists of placing recent life events on a visual calendar was used to help situate events in time and to minimize recall bias.[183] Participants were compensated $30 for every visit they completed. Interviews took place in a research office located near the recruitment sites to facilitate access for participants.

4.3.1 Measurements

Sharing of injection material, defined as having used paraphernalia that had already been used by someone else in the previous 3 months, was assessed at each study visit. Two dichotomous outcomes representing different types of paraphernalia sharing were considered for the present analyses: 1) needle sharing and; 2) sharing of other injection material (including dilution water, cookers, filters, backloading/frontloading -defined as using drug solution prepared in a syringe that

has already been used by another person- and "doing a wash" -defined as injecting drug residues removed from a cotton, a filter or a container already used by another person).

The main variable of interest for this study was psychological distress, assessed at each study visit using the K10 scale developed by Kessler et al.[170] The K10 scale is a self-report tool consisting of 10 questions aimed at measuring non-specific psychological distress. Each question evaluates the frequency of experiencing different anxious and depressive symptoms over the last 30 days, for which a score of 1 to 5 is obtained (1 = none of the time, 2 = a little of the time, 3 = some of the time, 4 = most of the time, 5 = all of the time). The total score ranges from 10 to 50. Psychological distress was assessed as a continuous variable for inferential analysis, as the K10 tool was originally validated as a continuous measurement. A dichotomous assessment of psychological distress, using a score of 30 or more to denote "severe psychological distress" was also used for descriptive analysis, in order to facilitate interpretation. The cut-off was based on prior studies using this scale and on a validation study of 10 641 Australian adults, in which K10 scores equal or higher to 30 were found to detect anxiety and mood disorders with a sensitivity of 0.24 and a specificity of 0.99. [171, 172]

Diagnoses of mood and anxiety disorders were considered as main potential confounders. These were measured at baseline assessment only, as they are likely to persist over several months (in contrast to psychological distress which is a fluctuating mental state). A diagnosis of mood disorder (major depression, bipolar disorder or dysthymia) in the past year was assessed using the World Mental Health-Composite International Diagnostic Interview (WMH-CIDI).[184] A diagnosis of anxiety disorder (phobia, panic disorder or general anxiety) in the previous year was determined using the Composite International Diagnostic Interview Simplified (CIDIS) developed by Kovess and colleagues.[185] Both instruments are validated tools used to diagnose psychiatric disorders

according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), and were developed to discriminate between a primary disorder and a substance-induced psychiatric disorder.[184-186] In the current study, only primary disorder diagnoses were considered.

A large body of literature demonstrated that mental health and injection material sharing are both associated with gender and age.[182, 187, 188] Accordingly, both variables were included as potential confounders in our analyses. Other variables that were evaluated as potential confounders included country of birth, homelessness (defined as having lived or slept mainly in a shelter or in any place not intended for housing in the past 3 months), unstable income (defined as having a marginal or criminal principal source of income in the past 3 months), level of education and severity of dependence to cocaine. The level of education was defined as having completed the equivalent of a two-year college program. The severity of dependence to cocaine was assessed using the severity of dependence scale (SDS), a 5-item questionnaire evaluating the intensity of dependence to a drug over the past 3 months.[173] Each item is scored between 0 and 3, for a total score ranging between 0 and 15. Cocaine dependence was defined as a SDS score of 4 of higher.[174] To account for the potential decrease in psychological distress and risk behaviors over time among cohort participants exposed to serial counseling [76, 189], a follow-up time variable, indicating number of visits since baseline assessment, was also considered as a potential confounder.

4.3.2 Statistical analysis

Descriptive statistics were used to characterize the study population at baseline, including frequency distributions for categorical variables, and median and standard deviation (SD) for continuous variables. Proportions of different types of injection material sharing and of severe psychological distress were assessed at each study visit to examine changes over time.

Separate statistical models were conducted for the two dichotomous outcomes "needle sharing" and "sharing of injection material other than needles". First, bivariate generalized estimating equations (GEE) analyses with a binomial logit link function and autoregressive order 1 covariance structure [190, 191] were used to examine the relationship between psychological distress (assessed as a continuous variable) and outcomes of interest, while accounting for within-subject correlation as a result of repeated measurements made for participants followed-up more than once. Preliminary analyses were performed using different formats of the psychological distress variable, including binary (severe vs non severe score), three categories (high, median, and low score), linear, quadratic, and cubic format. The linear format yielded the smallest Quasi-Likelihood Information Criterion (QIC) and was selected for GEE analysis to obtain a better fit. Potential interactions between psychological distress and each mental health disorder (mood and anxiety) were tested in relation to each outcomes. Subsequently, a multivariate GEE model was conducted for each outcome, including the predictors for which a p-value ≤ 0.20 was obtained in bivariate GEE analysis. Based on the purposeful selection procedure, statistically significant variables and those with a confounding effect on other covariates were kept in the final multivariate models. A variable was considered to have a confounding effect if its removal from the model modified the coefficient of a significant covariate by more than 20%. Adjusted odds ratio (AOR) and 95% confidence intervals (CI) were derived from the final multivariate GEE models. With the exception of mental health disorders, gender, country of birth and education, all variables were time-updated, representing their most recent value. All hypothesis testing was performed using two-tailed tests with pre-selected level of significance of 5%. Analyses were performed using SPSS 18.0 software.

4.4 Results

Among the 605 participants that were recruited in the study, 387 participants reported having injected drugs in the 3 months prior to study entry and thus met the eligibility criteria for this investigation. Participants' sociodemographic, mental health and substance use-related characteristics at baseline assessment are reported in Table 1. The majority of participants were male (84.5%), aged 30 years or older (80.1%) and born in Canada (94.6%). About one-third of the sample was mainly homeless and reported an unstable source of income. Only 19.1% of the participants had completed the equivalent of a two-year college program. The average Kessler scale score was 26.43 (SD = 8.35), and over one-third of participants (34.6%) were found to have severe psychological distress (score ≥30). Past-year anxiety and mood disorders were reported among 42.9% and 29.3% of participants, respectively. Needle sharing and sharing of other injection material were indicated by 15% and 24.5% of the study participants, respectively.

The overall retention rates were 87% at follow-up visit 1, 82.4% at visit 2, 78% at visit 3, 70% at visit 4, and 60% at visit 5. The longitudinal analyses included 1848 observations collected from the 387 participants over the study period. Among the 336 participants with at least one follow-up visit, the median number of follow-up visits was 5 (interquartile range (IQR): 4 – 5), with a median time between consecutive visits of 3.23 months (IQR: 3.07-3.73). Baseline characteristics, including the prevalence of severe psychological distress, psychiatric disorders and material sharing did not significantly differ between participants with and without follow-up visits (data not shown).

The proportions of participants reporting severe psychological distress and the prevalence of paraphernalia sharing at different time points are presented in Figure 1. There was a progressive

decrease in the prevalence of severe psychological distress and in both types of injection material sharing across study visits.

Results of bivariate analyses are presented in Table 2, and final multivariate GEE models for the outcomes “needle sharing” and “sharing of injection material other than needles” are presented in Table 3 and 4, respectively. Psychological distress was significantly associated with both types of injection material sharing in the bivariate analysis, but these associations did not persist in the final multivariate models. Participants with an anxiety disorder and those with an unstable source of income were significantly more likely to have engaged in a needle sharing episode during the study period. Furthermore, female participants, those who were homeless, and those with an unstable source of income were significantly more likely to report having shared injection material other than needle. No association was found for a diagnosis of mood disorder and sharing, either needle or other injection material. Time into the cohort was negatively correlated with both sharing outcomes. Of note, no significant interaction was found between psychological distress and mood or anxiety diagnosis, for needle sharing ($p = 0.227$ and $p = 0.413$ respectively) or for other material sharing outcome ($p = 0.835$ and $p = 0.470$ respectively).

4.5 Discussion

In the current study, we examined the association between psychological distress and needle and other injection equipment sharing among cocaine users while accounting for recent psychiatric disorders. Our results demonstrated that psychological distress was not significantly associated with needle or other material sharing behaviors when adjusting for socio-demographic and comorbid psychiatric disorders. Conversely, we found that, while the presence of primary anxiety disorders was independently associated with needle sharing, this association was not found significant for the sharing of other paraphernalia.

Our findings regarding psychological distress differ from those of previous studies conducted in other setting reporting a positive link with sharing.[145, 146] This discrepancy could be attributed, at least partly, to differences in the studied populations, as prior studies were not conducted among cocaine users specifically. The diversity of methods used to assess psychological distress could also account for these differences. More importantly, the present results help amend the interpretation made of our previous investigation showing a positive association between psychological distress and needle sharing behavior among cocaine users, an analysis of baseline data that did not include diagnoses of psychiatric disorders. [148] High scores on the K10 scale are known to correlate with CIDI diagnosis of anxiety and mood disorders as the scale assesses the experience of nonspecific psychological distress symptoms that partly overlap with symptoms characterising anxiety and mood disorders. [171] Herein, it is likely that the association between psychological distress and needle sharing found in bivariate analysis was partly confounded by the presence of underlying anxiety disorders. Altogether, these results underscore the importance of examining the dual contribution of recent psychiatric diagnoses and psychiatric symptoms when examining injection risk behaviors, as suggested by other authors.[32]

That anxiety disorders are associated with 89% greater odds of needle sharing among cocaine users, even when controlling for time in follow-up and other potential covariates, may possibly be attributed to their specific deleterious consequences on a number of mechanisms involved in sharing behaviors. It has been hypothesised that frequent consequences of anxiety disorders, such as insomnia, impulsivity, and difficulty concentrating, may compromise the ability of users to plan ahead and successfully adopt safe injection practices.[34] It is also possible that certain primary anxiety disorders, such as panic disorder, have more profound effects on specific cognitive functions involved in sharing behaviors compared to symptoms that are assessed by this

scale or associated with depressive disorders. Finally, other correlates of primary anxiety disorders such as the long-term general functioning and social consequences of the disease may also play a role in increasing sharing of injection material. Future studies exploring potential mediators of the association between anxiety disorders and needle sharing, such as objective measures of cognition, would help elucidate some of these issues.

In line with previous studies, we found that the proportion of participants reporting needle sharing was lower relative to that of other paraphernalia sharing.[12, 192] This difference is likely reflective of needle sharing being perceived as more risky among users. This finding further supports the need to increase prevention efforts addressing the risks associated with other injection equipment sharing. Furthermore, the fact that anxiety disorder is associated with a greater likelihood of engaging in needle sharing but not sharing of other paraphernalia suggests a preferential impact of anxiety on the behaviors that are perceived as most risky. It is possible that decision-making impairments that are induced by anxiety disorders affects preferentially the behaviors that are more systematically avoided by users. As observed in other longitudinal cohorts of people who inject drugs, [76, 189] sharing behaviors decreased overtime in our study, possibly due to serial exposure to counseling.

Strengths of this study include the longitudinal design that allowed a large number of observations, the high rate of follow-up in a rather unstable population of cocaine users, and the consideration of both mental health symptoms and disorders, allowing to examine their distinct contribution to material sharing outcomes. Limitations include the fact that data were collected through an interview-administered questionnaire, potentially leading to underreporting of stigmatized behaviors, especially toward the end of the study when bonding is more likely to have developed between interviewers and participants. Retrospective self-reported data collection may

have led to recall bias. In addition, our sample included only a small number of female participants, which may have limited our power to detect further differences with regard to our main research question. Finally, despite our longitudinal design, the current analysis did not allow to assess if the observed associations were stable over time. Further research exploring this question would be of great value.

Our results highlight the significant role of primary anxiety disorders in increasing needle sharing, a high-risk behavior for the transmission of HIV and HCV infections. Diagnosing and treating psychiatric disorders is particularly challenging in substance users and clinicians often hesitate to initiate treatment of anxiety in active users. Our results suggest that improving screening and interventions for anxiety disorders could potentially be beneficial in limiting the propagation of blood borne viruses among active cocaine users. Future research initiative testing the impact of treating anxiety disorders on needle sharing could help develop more effective interventions targeting underlying mechanisms of risk behaviors.

Table 1: Sociodemographic characteristics, mental health, drug use and injection material sharing at study entry (N=387).

PARTICIPANT CHARACTERISTICS	N = 387 N (%) or Mean ± SD
Sociodemographic	
Age (≥30 years old)	310 (80.1)
Gender (Male)	327 (84.5)
Born in Canada	374 (94.6)
Mainly homeless (last 3 months)	129 (33.3)
Completed a two-year college program	74 (19.1)
Unstable source of income (last 3 months)	126 (32.6)
Psychological distress (last month)	
K10 score (continuous score)	26.43 ± 8.35
Severe psychological distress (K10 score≥30)	134 (34.6)
Mental health diagnosis (last 12 months)	
Anxiety disorder [a]	164 (42.9)
Mood disorder [a]	112 (29.3)
Dependence to cocaine	
High SDS score (≥4) [b]	224 (58.3)
Paraphernalia Sharing (last 3 months)	
Needle	58 (15)
Injection material excluding needle [c]	95 (24.6)

SDS = Severity Dependence Scale; K10 = Psychological Distress Kessler Scale

a = 5 missing; b = 3 missing; c = 1 missing

Table 2: Bivariate GEE analyses of predictors for material sharing outcomes among 387 participants.

	Needle Sharing			Sharing of injection material excluding needle		
	OR	**p-value**	**95%CI**	**OR**	**p-value**	**95%CI**
K10 (continuous score)	1.03	0.002	1.01-1.05	1.03	0.000	1.01-1.05
Anxiety disorder	1.84	0.009	1.21-2.90	1.34	0.134	0.91-2.02
Mood disorder	0.87	0.596	0.50-1.40	0.94	0.767	0.61-1.42
Age (≥30 years old)	0.90	0.695	0.52-1.56	0.68	0.092	0.43-1.07
Gender (Female)	2.16	0.007	1.24-3.77	1.82	0.022	1.09-3.02
Born in Canada	0.77	0.656	0.25-2.41	1.14	0.794	0.42-3.15
Homelessness	1.10	0.576	0.78-1.55	1.69	0.001	1.23-2.34
Completed a two-year college program	0.63	0.141	0.34-1.17	0.85	0.515	0.52-1.38
Unstable income	2.03	0.000	1.37-2.99	1.94	0.000	1.40-2.69
High SDS score (≥4)	1.73	0.001	1.25-2.39	1.57	0.002	1.17-2.08
Follow-up time	0.75	0.000	0.68-0.83	0.70	0.000	0.63-0.77

OR: Odds Ratio; CI: confidence interval; K10: Psychological Distress Kessler scale

Table 3: Multivariate GEE analyses of predictors for needle sharing outcome (N = 387).

	Full model*		Final model**	
	AOR	**95% CI**	**AOR**	**95% CI**
K10 (continuous score)	1.01	0.99-1.04		
Anxiety disorders	1.55	0.90-2.68	1.89	1.17-3.03
Female gender	1.80	0.96-3.34		
Completed a two-year college program	0.66	0.33-1.31		
Unstable source of income	1.79	1.19-2.69	1.90	1.27-2.81
High SDS score (≥4)	1.33	0.93-1.91		
Follow-up time	0.79	0.71-0.87	0.77	0.69-0.85

AOR: Adjusted Odds Ratio; CI: confidence interval

*The full model includes all the variable with a p-value ≤ 0.20 in bivariate GEE analysis.
**The final model only includes statistically significant variables and those with a confounding effect on other covariates.

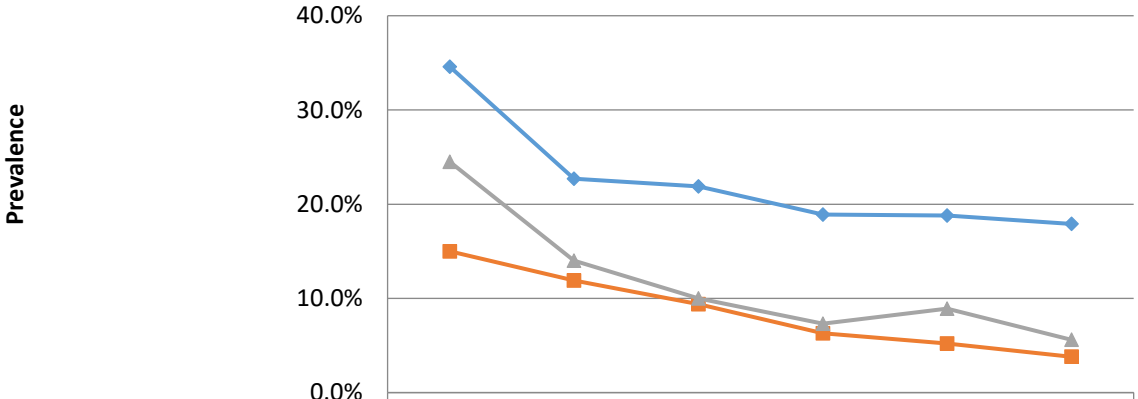
Table 4: Multivariate GEE analyses of predictors for the outcome injection material sharing other than needles (N = 387).

	Full model*		Final model**	
	AOR	**95% CI**	**AOR**	**95% CI**
K10 (continuous score)	1.01	0.99-1.03		
Anxiety disorders	1.10	0.72-1.68		
Age (≥30 years old)	0.81	0.49-1.32		
Female gender	1.65	0.92-2.98	1.80	1.04-3.14
Homelessness	1.50	1.06-2.13	1.50	1.06-2.12
Unstable source of income	1.50	1.07-2.10	1.56	1.11-2.20
High SDS score (≥4)	1.26	0.93-1.71		
Follow-up time	0.74	0.66-0.82	0.72	0.65-0.79

AOR: Adjusted Odds Ratio; CI: confidence interval

*The full model includes all the variable with a p-value ≤ 0.20 in bivariate GEE analysis.
**The final model only includes statistically significant variables and those with a confounding effect on other covariates.

Figure 1: Prevalence of severe psychological distress and paraphernalia sharing at different time points.



	Baseline visit (N=387)	Visit 1 (N=336)	Visit 2 (N=319)	Visit 3 (N=302)	Visit 4 (N=271)	Visit 5 (N=234)
Severe psychological distress	34.6%	22.7%	21.9%	18.9%	18.8%	17.9%
Needle sharing	15.0%	11.9%	9.4%	6.3%	5.2%	3.8%
Other paraphernalia sharing	24.5%	14.0%	10.0%	7.3%	8.9%	5.6%

5- THESIS DISCUSSION

5.1 Study rationale

Our interest in studying the impact of different manifestations of mental illness on the adoption of drug-related risky behaviors in cocaine users was primarily driven by an urgent need to develop more effective preventive interventions aimed at this population. Currently, although cocaine users are at higher risk of contracting HIV and HCV infections compared to other drug-using populations, harm reduction approaches remain poorly tailored to their needs.[11-13, 36] The literature suggests a deleterious impact of mental illness on the capacity of drug users to adopt safe consumption practices. Still, little data is available regarding the differential impact of specific markers of mental illness (such as specific psychiatric symptoms and disorders) on paraphernalia-sharing behaviors.[32, 34, 35, 140, 142] Moreover, the associations between mental illness and sharing practices in cocaine users have not been specifically examined. The overarching goal of this study was thus to examine potential pathways by which mental illness influences sharing behaviors in cocaine users to inform the development of novel preventive interventions.

5.2 Summary of results

In this thesis, we presented two investigations conducted in a population of cocaine users and explored the associations between: 1) symptoms of psychological distress and different categories of paraphernalia sharing; 2) symptoms of psychological distress, primary mood disorders, primary anxiety disorders, and different categories of injection paraphernalia sharing.

In our first manuscript, we found a significant and independent association between psychological distress assessed using the K10 scale and needle sharing among cocaine users who inject drugs. While this association was also found to be significant when examined in univariate analysis in our second manuscript, it was no longer significant after adjusting for

sociodemographic and for comorbid psychiatric diagnosis. Hence, when symptoms of psychological distress, primary mood disorders, and primary anxiety disorders were examined in relation to different categories of material sharing in a same statistical model, only primary anxiety disorders remained significantly associated with needle sharing. Primary mood disorders were not associated with injection material sharing. Importantly, we found no association between any marker of mental illness and sharing of paraphernalia other than needles.

Results from our second manuscript differ from prior studies that found a significant association between psychological distress symptoms and sharing behaviors.[145, 146] This discrepancy could be attributed in part to differences in the studied population (prior studies were not conducted in cocaine users exclusively), or in the tools used to assess psychological distress. Moreover, prior studies that found a significant association between psychological distress and sharing, including our first manuscript, did not consider comorbid psychiatric disorders in their analyses. There is a significant overlap between symptoms of psychological distress included in the K10 scale and symptoms associated with anxiety disorders.[171] It is likely that the presence of anxiety disorder confounded the association between psychological distress and needle sharing that was found in our first manuscript.

The reasons why primary anxiety disorders and not psychological distress symptoms are associated with needle sharing remain unclear. It is thought that certain cognitive correlates of anxiety, such as concentration difficulties and impulsivity, may interfere with decision making processes, leading to adverse consequences on the user's ability to adopt safe injection practices. It is possible that symptoms associated with certain primary anxiety disorders that are not included in the K10 scale, such as symptoms of panic disorders, have greater cognitive consequences leading to sharing behaviors. It can also be hypothesized that the consequences of anxiety, which

impact decision making and subsequently lead to sharing, are more likely to occur when experiencing anxiety symptoms on a sustained manner, which is generally the case when suffering from a primary anxiety disorders, as opposed to psychological distress that fluctuates over time. Finally, other correlates of anxiety disorders for which this study did not account could possibly mediate the observed association between anxiety disorder and needle sharing. To be sure, additional research exploring precise mechanisms underlying this association are needed.

Primary mood disorders were not found to be significantly associated with any type of injection material sharing. This finding contrasts with results from a Canadian study that found a significant association between diagnosis of mood disorders and injection risk behaviors in opioid users.[35] It also differs from prior studies that demonstrated an increased probability of needle sharing among PWID with severe depressive symptomatology.[32, 33, 140] This absence of correlation between primary mood disorders and injection material sharing in our sample population has been discussed in another paper from our group.[193] This paper showed that diagnoses of primary mood and anxiety disorders were not mutually exclusive. However, interactions between primary anxiety and mood disorders were tested in relation with both types of injection material sharing and were not found to be significant.

Other factors were included in our analysis to account for a potential confounding effect on the association between mental illness and material sharing. Although it was not the primary objective our study, our statistical models allowed the identification of various non-psychiatric variables associated with drug paraphernalia sharing. Similarly to prior studies, we found that female gender, unstable source of income, homelessness, polyinjection and living with a partner were significant risk factors for injection material sharing.[188, 194-196] We also found that homelessness, high severity of the dependence to cocaine, binge drinking and polysubstance use

were significantly associated with sharing of smoking paraphernalia. These results are consistent with risk factors identified for injection material sharing among PWID, though there is a lack of data regarding risks factors for smoking paraphernalia sharing specifically.[195-197] We found a significant association between older age and crack pipe sharing, which differs from a large body of literature from PWID populations demonstrating that injection material sharing occurs more frequently among younger users.[196, 198-200] Reasons for this discrepancy are unclear, but may be related to differences in users' perceptions regarding sharing of smoking paraphernalia as opposed to sharing of injection paraphernalia. Interestingly, we found that regular cannabis use was significantly associated with a decreased risk of crack pipe sharing. More research to replicate and to further explore this association would be of great interest.

In line with prior studies conducted in PWID and in crack-smoking populations, we found relatively high rates of smoking material sharing (68.3% among smokers at study entry) and of sharing of injection material other than needle (24.5% of injectors at study entry), as opposed to needle sharing that was reported by 15% of injectors at study entry.[93, 201] In both manuscripts, we found no association between any of the examined markers of mental illness and sharing of drug paraphernalia other than needles. These findings could possibly be attributed to the lower perceived risk and the relative banalization of sharing of paraphernalia other than needle, as it has been described in prior qualitative studies.[202, 203] In the past decades, drug users have been widely educated regarding the infectious consequences of direct needle sharing, but less emphasis has been placed on risks linked to other paraphernalia sharing. Moreover, while needle exchange programs have become increasingly accessible in Canadian urban centers, they rarely provide users with other types of paraphernalia required for cocaine consumption such as crack pipes.[201] Our results support the need for further efforts to reduce paraphernalia sharing other than needles,

as such behaviors represent significant vectors for bloodborne virus transmission. Furthermore, additional research is needed that looks into barriers to safe consumption practices, including assessment of users' understanding of risks associated with different types of paraphernalia sharing and perceived obstacles to accessing clean material.

5.3 Study novelty

This study contributes to the relatively limited body of literature on the association between mental illness and drug consumption-associated risk behaviors. To our knowledge, this was the first study exploring the link between mental illness and sharing behaviors in a cohort exclusively composed of cocaine injectors and smokers. Another novelty of this study was the inclusion of three different categories of paraphernalia sharing examined as distinct outcomes. Most importantly, our study differed from prior research on the topic by examining different markers of mental illness in one unique statistical model, allowing the assessment of the differential role of psychiatric symptoms and disorders on each sharing outcome.

5.4 Study strengths and limitations

5.4.1 Strengths

The strengths of this study include the longitudinal design and the high retention rate between visits that resulted in a large sample size, which allowed sufficient power to answer our research questions. In addition, the employment of widely used validated questionnaires allowed for an accurate assessment of symptoms and disorders and may facilitate comparison with future studies' results. The recruitment of participants in different community services allowed increased generalizability of our findings to out of treatment cocaine users.

5.4.2 Limitations

The study's limitations include the utilization of self-reporting questionnaires that could have led to recall bias, and the self-recruitment process may have decreased the representativeness of the sample. Moreover, the interviewer-administered data collection could have led to under-reporting of less socially accepted behaviors. Our longitudinal GEE analysis method did not allow to establish causality between the independent and the dependent variables, and utilization of log analysis could be a more suited approach to assess casualty in future analysis. Future studies looking into the differential impact of both categories of disorders would be of interest. Finally, the current analysis did not allow for the identification of factors that mediated the observed association between anxiety disorders and needle sharing.

6- THESIS SUMMARY AND CONCLUSION

6.1 Main conclusion

In this study, we examined the association between symptoms of psychological distress, mental health disorders (mood and anxiety), and different categories of drug paraphernalia sharing among cocaine smokers and injectors. The following conclusions can be drawn from the two aforementioned manuscripts:

- Self-reported rates of paraphernalia sharing were fairly high at study entry, with 68% of smokers reporting smoking material sharing and 15% and 25% of injectors reporting needle sharing and sharing of injection material other than needles, respectively. All reported rates of sharing decreased over time.
- The prevalence of mental illness was high at baseline, with 29% and 43% of participants meeting criteria for primary mood and anxiety disorders respectively, and 35% reporting severe psychological distress. The rate of severe psychological distress decreased over time.
- Participants with anxiety disorders were more likely to share needles (adjusted odds ratio: 1.89, 95% CI: 1.17–3.03).
- Psychological distress and mood disorders were not significantly associated with sharing practices after adjusting for socio-demographic and for other markers of mental illness.
- No mental illness marker was significantly associated with paraphernalia sharing other than needle.

6.2 Implications and future research direction:

The main finding of this study is that anxiety disorders play a potential role in promoting needle sharing among cocaine users who inject drugs. The public health implications of such

findings are significant given the infectious risks associated with needle sharing, and the high prevalence of anxiety disorders in cocaine users. Data from the NESARC study estimated that approximately 45% of individuals with cocaine dependence also have a lifetime history of primary anxiety disorder, compared with 16 % in the general population.[129] Similarly, 42% of our study sample was diagnosed with primary anxiety disorder at study entry. Despite the frequent co-occurrence of mental illness in drug using populations, rates of treatment remain very low, partly due to challenges in establishing a clear diagnosis and to the lack of empirically-based guidelines for psychiatric treatment in active drug users. Although a majority of experts support the concurrent treatment of substance use disorders and anxiety disorders, only a few studies that were mostly conducted in alcohol users demonstrated the effectiveness of pharmacological and psychotherapeutic treatment of anxiety disorders in active users.[204] Data regarding the effectiveness of treating anxiety disorders in active cocaine users are lacking. Our result suggest the potential role of screening and treating anxiety disorders as part of preventive interventions offered to cocaine users. However, future studies assessing the impact of treating anxiety disorders in cocaine users on needle sharing outcomes are needed.

Anxiety disorders can be negatively impacted by a number of social, financial and health related stressors frequently associated with substance use disorders. Efforts must be made to develop comprehensive interventions taking into account the global needs of substance users in addition to providing targeted psychiatric care. Moreover, limited access to care represents a major barrier in initiating psychiatric treatment among substance users. Broader implementation of easy to access community-based services aimed at substance users (for example safe injection sites) may play an important role in increasing linkage to medical and psychiatric care in this population.

While we demonstrated an association between primary anxiety disorders and needle sharing, our results do not clarify the mechanisms underlying this association, nor do they establish causality between anxiety and sharing behaviors. More research is needed to examine which specific correlates of anxiety disorders mediate the association with needle sharing.

Finally, this study showed high rates of smoking material sharing among crack cocaine users and of injection material sharing other than needle among injectors. These findings highlight the need to improve preventive interventions aimed at reducing the sharing of drug consumption material other than needles. While access to clean needles has significantly improved over the past decades through the broad implementation of needle exchange programs, other paraphernalia used for cocaine consumption remain less accessible.[62, 76, 201] Moreover, further education may be needed to inform users regarding the deleterious health consequences associated with different types of material sharing. Future studies exploring the perception of users regarding the risks of different types of material sharing and aiming to better characterize barriers to the utilization of clean paraphernalia would be of great interest.

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APPENDIX 1: Information on the questionnaires

Baseline and mental health questionnaires (see appendices 2 and 3, respectively) were administered at study entry. A shorter version of the baseline questionnaire (not presented) was administered at each of the five follow-up visits. Questions from the baseline questionnaire assessing psychological distress and different types of material sharing were included in every follow-up questionnaire. Diagnosis of primary anxiety and mood disorders were assessed at baseline exclusively, as part of the mental health questionnaire.

Below is a list of our main variables of interest with the corresponding questionnaire and question numbers (when applicable):

Material sharing (baseline questionnaire)

- Needle sharing: question # 82
- Sharing of injection paraphernalia excluding needle: questions # 83 to 87
- Sharing of crack pipes: question # 91

Psychological distress (baseline questionnaire)

- K10 Kessler Scale: questions # 29 to 38

Diagnosis of primary anxiety and mood disorders (mental health questionnaire)

APPENDIX 2 : Baseline questionnaire

C :	CND :

VERSION : 13 février 2013

QUESTIONNAIRE

VERSION ANGLOPHONE

T 1

Recherche sur le développement d'approches novatrices de prévention du VIH et du VHC chez les usagers de cocaïne souffrant de problèmes de santé mentale

VALIDATION OF RECRUITMENT

A. Have you ever participated in one of the following studies?

⇨ Cocher toutes les possibilités.

1 ☐ St-Luc Cohort	⇨ Si coché, demandé the date/moment of …	
	… the previous participation : _____	⇦ Écrire « Ne s'applique pas » ou « Ne sait pas ».
	AND/OR	
	… the next participation : _____	⇦ Écrire « Ne s'applique pas » ou « Ne sait pas ».
2 ☐ EMPIR	⇨ Si coché, demander the date/moment of …	
	… the previous participation : _____	⇦ Écrire « Ne s'applique pas » ou « Ne sait pas ».
	AND/OR	
	… the next participation : _____	⇦ Écrire « Ne s'applique pas » ou « Ne sait pas ».
3 ☐ COSMO	⇨ Si coché, l'entrevue est terminée	

B. Have you ever used cocaine powder, crack or freebase, alone or mixed with other drugs?

0 ☐ No ⇨ Si No, l'entrevue est terminée.
1 ☐ Yes

C. How long has it been since you last used cocaine powder, crack or freebase, alone or mixed with other drugs?

⇨ Si pas de consommation de cocaïne dans les 30 derniers jours, l'entrevue est terminée.

☐ Hours or

☐ Days or

☐ Months or

☐ Years

A- SOCIO-DEMOGRAPHICS

1. What is your date of birth? ☐☐ DAY / ☐☐ MONTH / ☐☐☐☐ YEAR

⇨ Calculer l'âge actuel. Valider cette information avec le participant :

So you are ☐☐ **years old?**

2. Indicate the participant's sex.

1 ☐ Male
2 ☐ Female

3. Were you born in Canada?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander :

In what province and city were you born? province / city

⇨ Si No, demander :

In what country were you born? country

In what year did you come to Canada?

4. With which ethnic or cultural group do you most identify?

⇨ Noter toutes les informations supplémentaires mentionnées par le participant. Pour les # 1 et 2, cocher d'abord à gauche et ensuite à droite, s'il y a lieu.

1 ☐ Quebecer ⇦⇨ 1 ☐ French Quebecer 2 ☐ English Quebecer
2 ☐ Canadian ⇦⇨ 1 ☐ French Canadian 2 ☐ English Canadian
3 ☐ Aboriginal from Canada
4 ☐ Aboriginal from elsewhere, specify: _____
5 ☐ North African
6 ☐ Sub-Saharan African
7 ☐ American (United States) 1 ☐ White American 2 ☐ Afro-American 3 ☐ Latino-American
8 ☐ Central, Latin and South American
9 ☐ West Indies and Caribbean (ex. : Haïti, Jamaica, Cuba), specify: _____
10 ☐ Asian
11 ☐ Western Europe
12 ☐ Eastern Europe
13 ☐ Middle Eastern
14 ☐ Other, specify: _____

Informations supplémentaires : _____

5. What language do you feel most comfortable speaking?

1 ☐ French
2 ☐ English
3 ☐ Spanish
4 ☐ Creole
5 ☐ Vietnamese
6 ☐ Italian
7 ☐ Greek
8 ☐ Other
Specify: _____

6. What is your marital status?

1 ☐ Legally married and not separated
2 ☐ Separated but still legally married
3 ☐ Never married/single
4 ☐ Divorced
5 ☐ Widowed

6.1. Are you currently living …

1 ☐ … with a legal spouse?
2 ☐ … with a common-law spouse, as though you were a married couple?
3 ☐ … without common-law or legal spouse?

7. What is the highest level of education you have completed?

⇨ Lire les choix de réponse et cocher une seule case.

⇨ Une année d'études secondaires est considérée complétée si les cours de français, anglais et mathématiques ont été réussis.

1 ☐ None
2 ☐ Some elementary school
3 ☐ Completed elementary school
4 ☐ Some high school
5 ☐ Completed high school
6 ☐ Some CEGEP/College/Trade (vocational) school
7 ☐ Completed CEGEP/College/Trade (vocational) school
8 ☐ Some university
9 ☐ Completed university
10 ☐ Other, specify: _____

Most of the following questions relate to the past three months. To help you remember, we prepared a calendar on which we will write down the major/important events that occurred during that time period.

⇨ Inscrire le numéro du participant et le numéro de document sur les calendriers.

⇨ Barrer les jours précédant la période des trois derniers mois sur les calendriers et les montrer au sujet.

⇨ Poser les questions suivantes une à la fois. Si le sujet répond « Yes », lui demander la date/période et mettre un ou des collants sur les calendriers. Il pourrait aussi être pertinent d'écrire sur les calendriers.

In the past three months …

8. … did you have a health problem, were you hospitalised, did you overdose on drugs? 0 ☐ No 1 ☐ Yes

9. … did someone close to you get ill or die? 0 ☐ No 1 ☐ Yes

10. … did you get a new boyfriend or girlfriend or did you split up with someone? 0 ☐ No 1 ☐ Yes

11. ⇨ Women **… were you pregnant or did you give birth?** 0 ☐ No 1 ☐ Yes

⇨ Men **… were you with a woman you had gotten pregnant or did you become a parent?**

12. … did you have conflicts with anyone close to you? 0 ☐ No 1 ☐ Yes

13. … did you change job or did your income change significantly? 0 ☐ No 1 ☐ Yes

14. … were you a victim of violence, robbery or sexual assault? 0 ☐ No 1 ☐ Yes

15. … did you go on or come back from a trip? 0 ☐ No 1 ☐ Yes

16. … did you start or stop attending school or college? 0 ☐ No 1 ☐ Yes

17. … did you celebrate your birthday or someone else's birthday? 0 ☐ No 1 ☐ Yes

18. … were you incarcerated or discharged from prison? 0 ☐ No 1 ☐ Yes

19. … did you move? 0 ☐ No 1 ☐ Yes

20. Aside from events we have just talked about, did anything else happen in the past three months for which you remember the date or time period? 0 ☐ No 1 ☐ Yes

⇨ Récapituler les informations inscrites sur les calendriers avec le sujet et apporter les modifications pertinentes.

⇨ Il pourrait être pertinent de recopier au propre sur de nouveaux calendriers.

21. Have you lived or slept in any of the following places during the past three months?

⇨ Lire les choix de réponse et cocher toutes les cases pertinentes.

⇨ Montrer les calendriers.

1 ☐ Your own apartment/house
2 ☐ Parent's house
3 ☐ House of another family member
4 ☐ Friend's house
5 ☐ Hotel/motel room
6 ☐ Rooming/boarding house
7 ☐ Shelter
8 ☐ Rehabilitation/detox centre
9 ☐ Mid-/long-term shelter
10 ☐ Street (squat, park, bus station, metro, car, sauna, etc.) ⇨ Tout lieu impropre à l'habitation.
11 ☐ Jail/penitentiary
12 ☐ Psychiatric institution
13 ☐ Correctional services halfway house
14 ☐ Other transition house
15 ☐ Other, specify: _____

22. Among all these places, where did you live the longest?

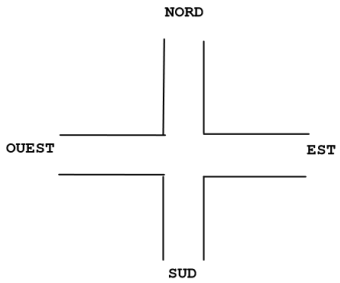
☐ ⇨ Écrire le chiffre correspondant.

23. What is the postal code of the place where you most often slept and lived <u>in the past 4 weeks</u>?

⇨ Pour ceux qui ont habité la majorité du temps dans des refuges, inscrire le code postal du refuge le plus fréquenté dans les quatre dernières semaines.

⇨ Pour ceux qui ont dormi la majorité du temps dans la rue, il faut noter plus bas le coin de rue le plus près. Dans le cas où la personne n'a jamais dormi au même endroit, il faut définir plus bas le quadrilatère le plus précis et chercher un code postal qui correspond à un point assez central du quadrilatère.

⇨ Pour ceux qui ont dormi la majorité du temps en prison dans les 4 dernières semaines, indiquer le code postal du lieu d'habitation principale le plus récent, avant l'incarcération.



24. <u>In the past three months</u>, what were your sources of income?

⇨ Montrer les calendriers.

⇨ Lire et cocher tous les choix qui s'appliquent.

1 ☐ Welfare ⇨ Si coché, demander :

24.1. On average, how long does your monthly check last? ☐☐ hours ☐☐ days

2 ☐ Employment insurance

3 ☐ Government loans and bursaries

4 ☐ Other governmental/paragovernmental source of income (CSST, SAAQ)

5 ☐ Occasional work or little jobs ⇨ Si coché, définir une fréquence.
1 ☐ Every week
2 ☐ Every month
3 ☐ Occasionally
Specify: _____

6 ☐ Part-time work, that is, less than 35 hours a week? Number of weeks? ☐☐

7 ☐ Full-time work, that is, 35 hours a week or more? Number of weeks? ☐☐

8 ☐ Support from family members

9 ☐ Support from friend(s)

10 ☐ Prostitution

11 ☐ Pimping

12 ☐ Robbery/selling stolen goods/fraud

13 ☐ Selling personal items (pawn shop, etc.)

14 ☐ Selling drugs ⇨ En tant que dealer ou intermédiaire entre un dealer et un client.

15 ☐ Artistic activities in the metro or on the streets

16 ☐ Begging (panhandling)

17 ☐ Squeegee

18 ☐ Other, specify : _____

⇨ Ce qui distingue le travail occasionnel/jobines (#5) et le travail à temps partiel (#6), c'est que le travail à temps partiel est prévu régulièrement à chaque semaine.

⇨ Si un même emploi a été un travail occasionnel, à temps partiel et à temps plein, il faut cocher aux 3 endroits (travail occasionnel/jobines, emploi à temps partiel et emploi à temps plein).

24.2. In the past three months, what was your main source of income?

☐☐ ⇨ Écrire le chiffre correspondant.

25. Think about all your sources of income over the past three months. What was your average monthly income?

$

26. In the past month only, what was your income?

$

27. In the past month, excluding alcohol, how much money do you think you have spent on drugs or other substances like medications for non-medical purposes?

⇨ On parle bien d'argent donné et non de services rendus ou autre manière de « payer ». À titre indicatif, pour les drogues, un quart de poudre, une roche de crack, ou 1/2 point d'héroïne coûte généralement 20$.

$

27.1. Still in the past month and excluding alcohol, how would you estimate the total cost of your drug or other substance use for non-medical purposes, whether it was paid in cash or in exchange for services or in any other way?

⇨ Contrairement à la question précédente, nous parlons ici d'argent donné et de tout autre service rendu ou manière de « payer ».

$ ⇨ ≥ au # 27.

28. In the past month, how much money do you think you have spent on alcohol?

⇨ On parle bien d'argent donné et non de services rendus ou autre manière de « payer ».

$

28.1. Still in the past month, how would you estimate the total cost of your alcohol use, whether it was paid in cash or in exchange for services or in any other way?

⇨ Contrairement à la question précédente, nous parlons ici d'argent donné et de tout autre service rendu ou manière de « payer ».

$ ⇨ ≥ au # 28.

B–MENTAL HEALTH

The following questions deal with feelings you may have had in the past month.

⇨ Montrer les calendriers.

29. In the past month, about how often did you feel tired out for no good reason?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

30. In the past month, about how often did you feel nervous?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time ⇨ Si None of the time, passer au # 32.

31. In the past month, about how often did you feel so nervous that nothing could calm you down?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

32. In the past month, about how often did you feel hopeless?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

33. In the past month, about how often did you feel restless or fidgety?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time ⇨ Si None of the time, passer au #35.

34. In the past month, about how often did you feel so restless you could not sit still?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

35. In the past month, about how often did you feel sad or depressed?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time ⇨ Si None of the time, passer au #37.

36. In the past month, about how often did you feel so depressed that nothing could cheer you up?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

37. In the past month, about how often did you feel that everything was an effort?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

38. In the past month, about how often did you feel worthless?

⇨ Lire les choix de réponse.

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ A little of the time
5 ☐ None of the time

39. In the past three months, have you accidentally overdosed?

0 ☐ No ⇨ Si No, passer au questionnaire de santé mentale
1 ☐ Yes

39.1. How many times? ☐

39.1.1. During these accidental overdoses, which signs or symptoms did you have?

⇨ Nommer toutes les possibilités et cocher celles qui s'appliquent. Dans le cas où il n'y a eu qu'une seule overdose, cocher seulement les choix de la dernière colonne.

			⇨ Si Yes : **Did it happen the last time you accidentally overdosed?**	
	No	Yes	No	Yes
Difficulty breathing	0 ☐	1 ☐	0 ☐	1 ☐
Loss of consciousness	0 ☐	1 ☐	0 ☐	1 ☐
Fell to the ground	0 ☐	1 ☐	0 ☐	1 ☐
Not being able to be woken up by someone else	0 ☐	1 ☐	0 ☐	1 ☐
Convulsions (« faire le bacon »)	0 ☐	1 ☐	0 ☐	1 ☐
Other?	0 ☐	1 ☐	0 ☐	1 ☐

Specify: _____

_____

⇨ Noter même les symptômes qui ne sont pas des overdoses comme : « cogner des clous », « être gelé », faire un « bad trip » ou une psychose.

39.2. When was the last time you accidentally overdosed? ☐☐ / ☐☐ / ☐☐☐☐
DAY MONTH YEAR

39.3. Did you receive medical care (ambulance, emergency room, etc.) the last time you accidentally overdosed?

0 ☐ No
1 ☐ Yes

⇨ Passer au questionnaire de santé mentale.

C– ALCOHOL USE PROFILE

Now I'm going to ask you questions about your alcohol consumption.

40. In your lifetime, have people ever annoyed you by criticising your drinking?

0 ☐ No
1 ☐ Yes

41. In your lifetime, have you ever felt you ought to cut down your drinking?

0 ☐ No
1 ☐ Yes

42. In your lifetime, have you ever felt bad or guilty about your drinking?

0 ☐ No
1 ☐ Yes

43. In your lifetime, have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?

0 ☐ No
1 ☐ Yes

44. In the past three months, have you used alcohol?

0 ☐ No ⇨ Si No, passer à la section suivante.
1 ☐ Yes

44.1. In the past month, how many days have you used alcohol?

☐ days ⇨ Si 0 jour, passer à la section suivante.

45. On average, in the past month, how many drinks did you have each time you had a drink?

⇨ Lire les choix de réponse et montrer la carte.

1 ☐ 1 - 4
2 ☐ 5 - 10
3 ☐ > 10

1 beer = 1 glass of wine = 1,5 once of liquor	= 1 drink
King Can beer (750 ml)	= 2 drinks
Beer Boss (950ml)	= 3 drinks
1,18 litres of beer	= 4 drinks
1 pitcher of beer	= 5 drinks
Bottle of wine (750 ml)	= 6 drinks
Bottle of wine (1 litre)	= 8 drinks
Listerine bottle 1 litre = 26 ounces of liquor	= 17 drinks
40 ounces of liquor	= 27 drinks

46. **For men only**

⇨ Montrer la carte.

In the past month, have you had five drinks or more in one occasion?

0 ☐ No

1 ☐ Yes ⇨ Si Yes, **How many times did it happen?** ☐☐ times

47. **For women only**

⇨ Montrer la carte.

In the past month, have you had four drinks or more in one occasion?

0 ☐ No

1 ☐ Yes ⇨ Si Yes, **How many times did it happen?** ☐☐ times

D– DRUG/PSYCHOACTIVE SUBSTANCE USE PROFILE

⇨ Détacher et compléter le « Tableau de consommation de drogues » qui se trouve à la fin du questionnaire. Inscrire le numéro du participant et le numéro de document sur le tableau.

47.1. In your lifetime, have you ever injected drugs or other substances for non-medical purposes?

⇨ Valider avec les informations du « Tableau de consommation de drogues ».

0 ☐ No
1 ☐ Yes

47.2. In the past three months, have you injected drugs or other substances for non-medical purposes?

⇨ Valider avec les informations du « Tableau de consommation de drogues ».

0 ☐ No
1 ☐ Yes

47.3. In the past month, have you injected drugs or other substances for non-medical purposes?

0 ☐ No
1 ☐ Yes

⇨ Si le participant n'a pas eu d'overdose accidentelle dans les trois derniers mois, passer au # 48.

47.4. The last time you accidentally overdosed, on _____ (voir date au # 39.2)**, which drugs or other substances for non-medical purposes, injected or not, had you taken?**

⇨ Montrer la carte. Noter toutes les drogues et médicaments pour usage non-médical et le mode de consommation correspondant.

Drugs or other substances for non-medical purposes	Mode of consumption

47.5. Had you taken alcohol the last time you accidentally overdosed?

0 ☐ No
1 ☐ Yes

COCAINE CONSUMPTION

I'm going to ask you detailed questions about your drug use in the past month. We will start with cocaine, that is cocaine powder, crack or freebase, which you have taken alone or mixed with other drugs.

⇨ Compléter les colonnes du tableau, une ligne à la fois. Toujours lire les choix de réponse au participant.

⇨ Vérifier la cohérence avec la consommation des trois derniers mois, voir codes 7 et 8 au « Tableau de consommation de drogues ».

48.a) In the past month …	b) How many days a week?	c) In what form?	d) On average, how many times a day did you do it?
… did you inject cocaine? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ Powder 2 ☐ Crack 3 ☐ Freebase	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
… did you smoke cocaine? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ Powder 2 ☐ Crack 3 ☐ Freebase	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
… did you snort cocaine through your nose? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ Powder 2 ☐ Crack 3 ☐ Freebase	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10

⇨ Définir le mode principal de consommation de cocaïne du dernier mois en fonction de la fréquence hebdomadaire la plus élevée (colonne b). S'il y a égalité du nombre de jours par semaine pour **2 modes et plus**, choisir le mode avec la consommation quotidienne la plus élevée (colonne d).

48.1. In the past month, your main way of using cocaine was …

1 ☐ Injected	2 ☐ Smoked	3 ☐ Snorted

HEROIN CONSUMPTION

⇨ Vérifiez la cohérence avec la consommation des trois derniers mois, voir code 10 au « Tableau de consommation de drogues ».

49.a) In the past month …	b) How many days a week?	c) On average, how many times a day did you do it?
… did you inject heroin? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
… did you smoke heroin? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
… did you snort heroin through your nose? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10

OTHER OPIATES CONSUMPTION

⇨ Vérifiez la cohérence avec la consommation des trois derniers mois, voir code 13 au « Tableau de consommation de drogues ».

50.a) In the past month …	b) How many days a week?	c) On average, how many times a day did you inject it?
… did you inject opiates other than heroin? ⇨ Montrer la carte. Dans le cas de médicaments, indiquer que nous souhaitons *for non-medical purposes*. 0 ☐ No ⇨ Si No, passer au # 51.a). 1 ☐ Yes ⇨ Si Yes, demander : ⇩	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
Which one(s)?		

50.1. In the past month, which opiate, other than heroin, did you inject the most often?

50.2.

50.3. In the past month, on average, how many mg a day of this opiate did you inject?

50.4. In the past month, when you injected _____ ***(nommer les opiacés injectés autres que l'héroïne au # 50.a)*, did it ever happen that the mixture didn't all fit in the syringe?**

⇨ Si le participant a besoin de précision, donner l'exemple d'un hit de dilau 8 mg ou de l'hydro 18 mg.

0 ☐ No ⇨ Si No, passer à 50.5.

1 ☐ Yes ⇨ Si Yes, demander : ⇩

Did you ever shoot up several times because the syringe could not contain all the liquid?

0 ☐ No ⇨ Si No, passer à 50.5.

1 ☐ Yes ⇨ Si Yes, demander : ⇩

Did it happen at least once that you used just one syringe to do it?

⇨ Lire les choix et cocher une seule réponse.

2 ☐ Yes, most of the time / all of the time

1 ☐ Yes, some of the time

0 ☐ No

SUITE - OTHER OPIATES CONSUMPTION

50.5. **In the past month, did you ever inject residues of** _____ ***(nommer les opiacés injectés autres que l'héroïne au # 50.a)*** **from a filter and/or a container?**

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : ⇨ **Had this filter and/or container been used by someone else before you?**
0 ☐ No
1 ☐ Yes

50.6. **In the past month, did it ever happen that you gave someone else your residues of** _____
(nommer les opiacés injectés autres que l'héroïne au # 50.a) **leftover in one of your filters and/or containers?**

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : ⇨ **Had this filter and/or container been used more than once?**
0 ☐ No
1 ☐ Yes

51.a) In the past month …	**b) How many days a week?**	**c) On average, how many times a day did you use it orally or any other way?**
… did you use opiates other than heroin, orally or any other way? ⇨ Montrer la carte. Dans le cas de médicaments, indiquer que nous souhaitons *for non-medical purposes.* 0 ☐ No 1 ☐ Yes ⇨ Si Yes, demander : ⇩	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
Which one(s)?		

51.1. In the past month, which opiate, other than heroin, did you use the most often orally or in any other way?	
51.2.	
51.3. On average, how many mg a day of this opiate did you use orally or any other way?	

SUITE - OTHER OPIATES CONSUMPTION

50.5. **In the past month, did you ever inject residues of** _____ ***(nommer les opiacés injectés autres que l'héroïne au # 50.a)*** **from a filter and/or a container?**

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : ⇨ **Had this filter and/or container been used by someone else before you?**
0 ☐ No
1 ☐ Yes

50.6. **In the past month, did it ever happen that you gave someone else your residues of** _____
(nommer les opiacés injectés autres que l'héroïne au # 50.a) **leftover in one of your filters and/or containers?**

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : ⇨ **Had this filter and/or container been used more than once?**
0 ☐ No
1 ☐ Yes

51.a) In the past month …	**b) How many days a week?**	**c) On average, how many times a day did you use it orally or any other way?**
… did you use opiates other than heroin, orally or any other way? ⇨ Montrer la carte. Dans le cas de médicaments, indiquer que nous souhaitons *for non-medical purposes.* 0 ☐ No 1 ☐ Yes ⇨ Si Yes, demander : ⇩	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
Which one(s)?		

51.1. In the past month, which opiate, other than heroin, did you use the most often orally or in any other way?	
51.2.	
51.3. On average, how many mg a day of this opiate did you use orally or any other way?	

SPEEDBALL CONSUMPTION

⇨ Vérifiez la cohérence avec la consommation des trois derniers mois, voir code 11 au « Tableau de consommation de drogues ».

52.a) In the past month …	b) How many days a week?	c) On average, how many times a day did you do it?
… did you inject speedball, that is, a mix of cocaine and heroin or other opiates in the same syringe? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10

AMPHETAMINES, METHAMPHETAMINES AND OTHER UPPER/SPEED CONSUMPTION

⇨ Vérifiez la cohérence avec la consommation des trois derniers mois, voir code 9 au « Tableau de consommation de drogues ».

53.a) In the past month…	b) How many days a week?	c) On average, how many times a day did you do it?
… did you inject amphetamines, methamphetamines or other upper/speed? ⇨ Montrer la carte. Dans le cas de médicaments, indiquer que nous souhaitons *for non-medical purposes.* 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
… did you smoke amphetamines, methamphetamines or other upper/speed? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
… did you snort amphetamines, methamphetamines or other upper/speed through your nose? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10
... did you use amphetamines, methamphetamines or other upper/speed orally or in any other way? 0 ☐ No 1 ☐ Yes ⇨ Si Yes	1 ☐ Less than 1 day/week 2 ☐ 1 day/week 3 ☐ 2 - 3 days/week 4 ☐ 4 - 6 days/week 5 ☐ Every day	1 ☐ 1 - 3 2 ☐ 4 - 6 3 ☐ 7 - 10 4 ☐ > 10

OTHER DRUGS/PSYCHOACTIVE SUBSTANCES CONSUMPTION

⇨ Remplir par colonne et lire les choix de réponse.

⇨ Vérifier la cohérence avec la consommation des trois derniers mois au « Tableau de consommation de drogues ».

54. In the past month did you use …	Anxiolytics, hypnotics and barbiturates for non-medical purposes	Marijuana (pot, hash, weed)	Hallucinogens (LSD (acid) PCP, mescaline, mush)	Ecstasy	Other drug/substance # 1	Other drug/substance # 2
	⇨ Montrer la carte. Dans le cas de médicaments, indiquer que nous souhaitons l'usage non-médical. 0 ☐ No ⇨ Passer à la colonne suivante 1 ☐ Yes ⇨ Si Yes ⇩	0 ☐ No ⇩ Passer à la colonne suivante 1 ☐ Yes Si Yes ⇩	0 ☐ No ⇩ Passer à la colonne suivante 1 ☐ Yes Si Yes ⇩	0 ☐ No ⇩ Passer à la colonne suivante 1 ☐ Yes Si Yes ⇩	0 ☐ No ⇩ Passer à la colonne suivante 1 ☐ Yes Si Yes ⇩ Specify: _____	0 ☐ No 1 ☐ Yes Si Yes ⇩ Specify: _____
How often did you use it in the past month?	⇦	⇦	⇦	⇦	⇦	⇦
1) Less than 1 day/week 2) 1 day/week 3) 2-3 days/week 4) 4-6 days/week 5) Every day	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐
In the past month …						
… did you inject any?	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes
… did you smoke any?	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes
… did you snort any through your nose?	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes
… did you use it in any other way (orally)?	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes
Specify:						

55. Among all the drugs you have taken in the past month, including cocaine, crack or freebase, alone or mixed with other drugs, which one did you use the most often during this period?

⇨ Indiquer un seul choix.

⇨ Si cannabis, demander :

56. Excluding cannabis, which one did you use most often?

57. In the past month, which consumption methods have you used to take this substance?

⇨ Cocher toutes les possibilités et vérifier la cohérence avec les modes du dernier mois aux # 48.1, 49, 50, 51, 52, 53 et 54.

1 ☐ Injecting
2 ☐ Smoking
3 ☐ Snorting
4 ☐ Orally or other

57.1. In the past month, which consumption methods have you used most often?

⇨ Les questions suivantes s'adressent seulement aux usagers qui se sont injectés dans le dernier mois. Vérifier la cohérence avec le # 47.3. S'il n'y a pas eu d'injection dans le dernier mois, passer au # 65.

58. Referring to the past month, I would like you to think about a typical injection week.

⇨ Laisser le temps à la personne de penser à une semaine typique d'injection.

59. In this typical week, how many days do you inject?

⇨ Lire les choix de réponse.

1 ☐ 1 day a week
2 ☐ 2 days a week
3 ☐ 3 days a week
4 ☐ 4 days a week
5 ☐ 5 days a week
6 ☐ 6 days a week
7 ☐ 7 days a week

60. During these injection days, how many times a day do you inject?

Number of injection(s) during a day: ☐ injection(s)

61. In the past month, have you injected at least once a week, every week?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, écrire 0 au # 62 et calculer le nombre d'injections du dernier mois.

62. In the past month, how many weeks did you spend without injecting?

Number of week(s) without injection: ☐ weeks(s)

⇨ Calculer le nombre d'injections du dernier mois en faisant la multiplication suivante (a x b x c = d) :

Nombre de semaines où il y a eu injection (4 - # 62) :	☐	(a)
X Nombre de jours d'injection durant semaine typique d'injection (# 59) : X	☐	(b)
X Nombre d'injections durant jour d'injection (# 60) : X	☐	(c)
⇨ Écrire ce nombre au # 63.	☐	(d)

63. According to your answers, you have injected a total of ☐ times in the past month. Does that seem correct?

0 ☐ No ⇨ Si No, passer au # 64.
1 ☐ Yes ⇨ Si Yes, passer au # 65.

64. If that number is incorrect, what do you think is the correct total number of times you have injected in the past month?

☐ injections in the past month

65. Have you ever used large quantities of cocaine (powder, crack or freebase), without stopping over a limited period of time, until you had no more or until you were no longer physically capable of consuming any?

0 ☐ No ⇨ Si No, passer au # 70.
1 ☐ Yes

66. Did it happen in the past month?

0 ☐ No ⇨ Si No, passer au # 69.
1 ☐ Yes ⇨ Si Yes, demander : **66.1. Were you using …**

⇨ Cocher toutes les possibilités.

1 ☐ By injecting
1 ☐ By smoking
1 ☐ By sniffing

60. During these injection days, how many times a day do you inject?

Number of injection(s) during a day: ☐ injection(s)

61. In the past month, have you injected at least once a week, every week?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, écrire 0 au # 62 et calculer le nombre d'injections du dernier mois.

62. In the past month, how many weeks did you spend without injecting?

Number of week(s) without injection: ☐ weeks(s)

⇨ Calculer le nombre d'injections du dernier mois en faisant la multiplication suivante (a x b x c = d) :

Nombre de semaines où il y a eu injection (4 - # 62) :	☐	(a)
X Nombre de jours d'injection durant semaine typique d'injection (# 59) : X	☐	(b)
X Nombre d'injections durant jour d'injection (# 60) : X	☐	(c)
⇨ Écrire ce nombre au # 63.	☐	(d)

63. According to your answers, you have injected a total of ☐ times in the past month. Does that seem correct?

0 ☐ No ⇨ Si No, passer au # 64.
1 ☐ Yes ⇨ Si Yes, passer au # 65.

64. If that number is incorrect, what do you think is the correct total number of times you have injected in the past month?

☐ injections in the past month

65. Have you ever used large quantities of cocaine (powder, crack or freebase), without stopping over a limited period of time, until you had no more or until you were no longer physically capable of consuming any?

0 ☐ No ⇨ Si No, passer au # 70.
1 ☐ Yes

66. Did it happen in the past month?

0 ☐ No ⇨ Si No, passer au # 69.
1 ☐ Yes ⇨ Si Yes, demander : **66.1. Were you using …**

⇨ Cocher toutes les possibilités.

1 ☐ By injecting
1 ☐ By smoking
1 ☐ By sniffing

67. How many episodes have you had in the past month?

1 ☐ 1 - 5
2 ☐ 6 - 9
3 ☐ 10 and more

67.1 On average, how long did these episodes usually last?

⇨ Noter l'information en nombre d'heures ☐ Hours

68. Would you say these episodes are periods when you lost control over your consumption?

0 ☐ Never
1 ☐ Some of the time
2 ☐ All of the time

69. Generally speaking, would you say that these episodes when using large quantities of cocaine without stopping, until you had no more or you were not physically capable of taking anymore, involved long periods of time with no sleep?

0 ☐ Never ⇨ Si Never, passer au # 70.
1 ☐ Some of the time
2 ☐ All of the time

69.1. In your lifetime, what was the longest period you went without sleep?

⇨ Noter l'information en nombre d'heures ☐ Hours

70. Concerning your use of cocaine, crack or freebase, you might have short-term or more long-term intentions ...

70.1. Regarding cocaine injection, whether it is powder or crack/freebase, can you tell me which of the following best describes your current situation?

⇨ Lire lentement les choix de réponse et dire au participant de prendre son temps.

1 ☐ I have never injected cocaine

2 ☐ I stopped injecting cocaine more than six months ago

⇨ Demander : **Can you tell me when was the last time you injected cocaine?** ☐

3 ☐ I stopped injecting cocaine less than six months ago

⇨ Demander : **Can you tell me when was the last time you injected cocaine?** ☐

4 ☐ I still inject cocaine but I have decided to stop within the next 30 days

5 ☐ I still inject cocaine but I am seriously considering stopping in the next 6 months

6 ☐ I still inject cocaine and I have no intention of stopping in the next 6 months

70.2. Regarding <u>smoked cocaine</u>, can you tell me which of the following best describes your current situation?

⇨ Lire lentement les choix de réponse et dire au participant de prendre son temps.

1 ☐ I have never smoked cocaine

2 ☐ I stopped smoking cocaine more than six months ago

⇨ Demander : **Can you tell me when was the last time you smoked cocaine?** ☐

3 ☐ I stopped smoking cocaine less than six months ago

⇨ Demander : **Can you tell me when was the last time you smoked cocaine?** ☐

4 ☐ I still smoke cocaine but I have decided to stop within the next 30 days

5 ☐ I still smoke cocaine but I am seriously considering stopping in the next 6 months

6 ☐ I still smoke cocaine and I have no intention of stopping in the next 6 months

70.3. Now, <u>no matter how you used cocaine</u>, can you tell me which of the following best describes your current situation?

⇨ Lire lentement les choix de réponse et dire au participant de prendre son temps.

1 ☐ I stopped using cocaine less than six months ago

⇨ Demander : **Can you tell me when was the last time you used cocaine?** ☐

2 ☐ I still use cocaine but I have decided to stop within the next 30 days

⇨ Impossible si choix 6 coché au # 70.1 et/ou 70.2.

3 ☐ I still use cocaine but I am seriously considering stopping in the next 6 months

⇨ Impossible si choix 6 coché au # 70.1 et/ou 70.2.

4 ☐ I still use cocaine and I have no intention of stopping in the next 6 months

⇨ Voir # 55 et 56, si la drogue principale du dernier mois est la cocaïne, le crack, ou le freebase, passer au # 77.

71. Regarding your use of ☐ ***(main substance in the past month, voir # 55 et 56),*** **you might have short-term or more long-term intentions; can you tell me which of the following best describes your current situation?**

For whatever way you used ☐
(main substance)

1 ☐ I stopped using ☐ ***(main substance)*** less than six months ago

⇨ Demander : **Can you tell me when was the last time you used** _____ **?** ☐
(main substance)

⇨ Choix impossible si la dernière consommation de la substance principale remonte a plus d'un mois.

2 ☐ I still use ☐ ***(main substance)*** but I have decided to stop within the next 30 days

3 ☐ I still use ☐ ***(main substance)*** but I am seriously considering stopping in the next 6 months

4 ☐ I still use ☐ ***(main substance)*** and I have no intention of stopping in the next 6 months

For the next 5 questions, we're going to talk about the drug you have used the most often in the past month, which is

☐ *(voir # 55 et 56)*

⇨ Écrire la substance ci-dessus.

72. In the past month, did you think your use of _____ ***(nommer la substance)*** **was out of control?**

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

73. In the past month, did the prospect of missing _____
(*nommer la substance*) make you anxious or worried?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

74. In the past month, did you worry about your use of (*nommer la substance*)?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

75. In the past month, did you wish you could stop using (*nommer la substance*)?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

76. How difficult would you find it to stop or go without (*nommer la substance*)?

⇨ Lire les choix de réponse.

1 ☐ Not difficult
2 ☐ Quite difficult
3 ☐ Very difficult
4 ☐ Impossible

For the next 5 questions, we're going to talk about your use of cocaïne/crack/freebase in the past month.

77. In the past month, did you think your use of cocaine was out of control?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

78. In the past month, did the prospect of missing cocaine make you anxious or worried?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

79. In the past month, did you worry about your use of cocaine?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

80. In the past month, did you wish you could stop using cocaine?

⇨ Lire les choix de réponse.

1 ☐ Never or almost never
2 ☐ Sometimes
3 ☐ Often
4 ☐ Always or nearly always

81. How difficult would you find it to stop or go without cocaine?

⇨ Lire les choix de réponse.

1 ☐ Not difficult
2 ☐ Quite difficult
3 ☐ Very difficult
4 ☐ Impossible

We are now going to talk about your use of equipment that had already been used by someone else.

⇨ Si pas d'injection dans les trois derniers mois, passer à la directive qui précède le # 89. Vérifier la cohérence avec le « Tableau de consommation de drogues ».

82. In the past three months, when you injected drugs, did you use a <u>syringe</u> that had already been used by someone else?

0 ☐ No ⇨ Si No, passer au # 83.
1 ☐ Yes

82.1. In the past month, how many times did you do it?

1 ☐ None ⇨ Si None, passer au # 83.
2 ☐ Once
3 ☐ < 5
4 ☐ 6 - 10
5 ☐ > 10

82.2. In the past month, with whom did you use the same syringe?

⇨ Cocher toutes les possibilités.

* A regular sex partner is someone with whom you have had a relationship for more than three months.

1 ☐ Girlfriend/boyfriend; spouse
2 ☐ Other regular* sex partner
3 ☐ Close friend
4 ☐ Friends/acquaintances
5 ☐ Family members
6 ☐ Drug buddies/"cutter"
7 ☐ Business relations not in categories 1-5 (client, dealer, pimp, etc.)
8 ☐ Strangers
9 ☐ Found equipment
10 ☐ Uncertain
11 ☐ Other, specify: _____

82.3. Among all these people, whose syringe did you use the most?

⇨ Inscrire le numéro ☐☐

82.4. Were these persons HIV positive when you used their syringe?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : **Did you know at that time?**
  0 ☐ No
  1 ☐ Yes
9 ☐ Does not know

82.5. Were these persons HCV positive when you used their syringe?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : **Did you know at that time?**
  0 ☐ No
  1 ☐ Yes
9 ☐ Does not know

83. In the past three months, when you injected drugs, did you use a <u>mixing container like a baggy, a cooker, a spoon, etc.</u> that had already been used by someone else?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander :

83.1. Did it happen in the past month?
0 ☐ No
1 ☐ Yes

84. In the past three months, when you injected drugs, did you use a <u>filter</u> that had already been used by someone else?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander :

84.1. Did it happen in the past month?
0 ☐ No
1 ☐ Yes

85. In the past three months, when you injected drugs, did you use a <u>diluting or rinsing liquid</u> that another person had already used to inject?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander :

85.1. Did it happen in the past month?
0 ☐ No
1 ☐ Yes

86. In the past three months, when you injected drugs, have you shared the drug using a syringe that had already been used by someone else (<u>backloading, frontloading</u>)?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander :

86.1. Did it happen in the past month?
0 ☐ No
1 ☐ Yes

87. In the past three months, did you inject <u>drug residues (wash)</u> from cotton, a filter or a container that had already been used by someone else?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander :

87.1. Did it happen in the past month?
0 ☐ No
1 ☐ Yes

⇨ Si No à toutes les questions du # 83.1 à 87.1, passer à la directive qui précède le # 89.

88. You said that in the past month you have injected drugs …

⇨ Répeter seulement le ou les élément(s) concerné(s).

Using a container that had already been used by someone else (voir # 83.1)
Using a filter that had already been used by someone else (voir # 84.1)
Using a diluting or rinsing liquid that another person had already used to inject (voir # 85.1)
Sharing the drug using a syringe that had already been used by someone else (backloading, frontloading) (voir # 86.1)
Injecting drug residues (wash) from cotton, a filter or a container that had already been used by someone else (voir # 87.1)
Is this correct?

88.1. Whose equipment was it?

⇨ Cocher toutes les possibilités.

* A regular sex partner is someone with whom you have had a relationship for more than three months.

1 ☐ Girlfriend/boyfriend; spouse
2 ☐ Other regular* sex partner
3 ☐ Close friend
4 ☐ Friends/acquaintances
5 ☐ Family members
6 ☐ Drug buddies/"Cutter"
7 ☐ Business relations not in categories 1-5 (client, dealer, pimp, etc.)
8 ☐ Strangers
9 ☐ Found equipment
10 ☐ Uncertain
11 ☐ Other, specify: _____

88.2. How many times did you do it in the past month?

1 ☐ Once
2 ☐ < 5
3 ☐ 6 - 10
4 ☐ > 10

88.3. Were these persons HIV positive when you used their equipment?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : **Did you know at that time?**
  0 ☐ No
  1 ☐ Yes
9 ☐ Does not know

88.4. Were these persons HCV positive when you used their equipment?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : **Did you know at that time?**
  0 ☐ No
  1 ☐ Yes
9 ☐ Does not know

⇨ Si aucune injection à vie au # 47.1, passer à la directive avant # 91.

89. Regarding your injection practices, tell me which of the following best describes your current situation...

⇨ Lire lentement les choix de réponse et dire au participant de prendre son temps.

1 ☐ I have never used a syringe that had already been used by someone else

⇨ Choix impossible si Yes au # 82.

2 ☐ I stopped using syringes that had already been used by someone else more than 6 months ago

⇨ Choix impossible si Yes au # 82.

⇨ Demander : **Can you tell me when was the last time you did it?** ☐

3 ☐ I stopped using syringes that had already been used by someone else less than 6 months ago

⇨ Demander : **Can you tell me when was the last time you did it?** ☐

4 ☐ I still use syringes that have already been used by someone else but I have decided to stop within the next 30 days

5 ☐ I still use syringes that have already been used by someone else but I am seriously considering stopping in the next 6 months

6 ☐ I still use syringes that have already been used by someone else and I have no intention of stopping in the next 6 months

90. ⇨ Lire lentement les choix de réponse et dire au participant de prendre son temps.

⇨ Injection equipment includes container for preparing the drug, filters and diluting or rinsing liquid.

1 ☐ I have never used injection equipment, other than syringes, that had already been used by someone else

⇨ Choix impossible si Yes à une des questions entre # 83 et 87.

2 ☐ I stopped using injection equipment, other than syringes, that had already been used by someone else more than 6 months ago

⇨ Choix impossible si Yes à une des questions entre # 83 et 87.

⇨ Demander : **Can you tell me when was the last time you did it?** ☐

3 ☐ I stopped using injection equipment, other than syringes, that had already been used by someone else less than 6 months ago

⇨ Demander : **Can you tell me when was the last time you did it?** ☐

4 ☐ I still use injection equipment, other than syringes that have already been used by someone else but I have decided to stop within the next 30 days

5 ☐ I still use injection equipment, other than syringes that have already been used by someone else but I am seriously considering stopping in the next 6 months

6 ☐ I still use injection equipment, other than syringes that have already been used by someone else and I have no intention of stopping in the next 6 months

⇨ Si pas de consommation de crack ou freebase dans les trois derniers mois au « Tableau de consommation de drogues », passer à la directive qui précède le # 92.

91. In the past three months, to smoke crack or freebase, have you used equipment that had already been used by someone else?

0 ☐ No ⇨ Si No, passer au # 92.
1 ☐ Yes

91.1. In the past month, how many times did you do it?

1 ☐ None ⇨ Si None, passer au # 92.
2 ☐ Once
3 ☐ < 5
4 ☐ 6 - 10
5 ☐ > 10

91.2. In the past month, with whom did you share this equipment?

⇨ Cocher toutes les possibilités.

* A regular sex partner is one with whom you have a relationship lasting more than three months.

1 ☐ Girlfriend,/boyfriend; spouse
2 ☐ Other sex partners
3 ☐ Close friend
4 ☐ Friends/acquaintances
5 ☐ Family members
6 ☐ "Cutter"/drug buddies
7 ☐ Business relations not in categories 1-6 (client, dealer, pimp, etc.)
8 ☐ Strangers
9 ☐ Found equipment
10 ☐ Uncertain
11 ☐ Other, specify: _____

91.3. Were these persons HIV positive when you used the same crack or freebase equipment?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : **Did you know at that time?**
  0 ☐ No
  1 ☐ Yes
9 ☐ Does not know

91.4. Were these persons HCV positive when you used the same crack or freebase equipment?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, demander : **Did you know at that time?**
  0 ☐ No
  1 ☐ Yes
9 ☐ Does not know

⇨ Si aucune consommation de crack/freebase à vie au « Tableau de consommation de drogues », passer au # 93.

92. Regarding your crack/freebase consumption practices, tell me which of the following best describes your actual situation …

⇨ Lire lentement les choix de réponse et dire au participant de prendre son temps.

1 ☐ I have never used a pipe that had already been used by someone else

⇨ Choix impossible si Yes au # 91.

2 ☐ I stopped using pipes that had already been used by someone else more than 6 months ago

⇨ Choix impossible si Yes au # 91.

⇨ Demander : **Can you tell me when was the last time you did it?** ☐

3 ☐ I stopped using pipes that had already been used by someone else less than 6 months ago

⇨ Demander : **Can you tell me when was the last time you did it?** ☐

4 ☐ I am currently using pipes that had already been used by someone else but I have decided to stop within the next 30 days

5 ☐ I am currently using pipes that had already been used by someone else but I am seriously considering stopping in the next 6 months

6 ☐ I am currently using pipes that had already been used by someone else and I have no intention of stopping in the next 6 months

E – SEXUAL BEHAVIOR

93. In the past three months, have you had vaginal, oral or anal sexual relations with women?

0 ☐ No ⇨ Passer au # 98.
1 ☐ Yes

94. In the past three months, how many female partners have you had?

⇨ A regular sex partner is someone with whom you have had a relationship for more than three months. This relationship must not be in the context of prostitution, where money is exchanged.

⇨ A casual sex partner is someone with whom you have had a relationship for less than three months. This relationship must not be in the context of prostitution, where money is exchanged.

⇨ Lire les choix de réponse et mettre un nombre de **0 à…** dans chaque case.

	Regular partner
	Casual
	Client
	Of whom you were a client (prostitute)

94.1. In the past month, did you have vaginal, oral or anal sexual relations with women?

0 ☐ No ⇨ Passer au # 98.
1 ☐ Yes

95. In the past month, how often did you use a male or female condom with your regular/casual/client female sexual partners or a woman of whom you were a client?

⇨ Remplir les 3 lignes pour les partenaires régulières, puis les 3 lignes pour les occasionnelles, etc.

Types of partners	Sexual relations	Frequency of condom use in the past month			
		8-No sexual relation	0-Never	1-Some of the time	2-Every time
Regular	Vaginal				
	Oral				
	Anal				
Casual	Vaginal				
	Oral				
	Anal				
Client	Vaginal				
	Oral				
	Anal				
Of whom you were a client (prostitute)	Vaginal				
	Oral				
	Anal				

96. In the past month, have you had vaginal, oral or anal sexual relations with HIV-positive women?

0 ☐ No ⇨ Si No, passer au # 97.
1 ☐ Yes
9 ☐ Does not know ⇨ Si Does not know, passer au # 97.

96.1. How often did you use a condom?

0 ☐ Never
1 ☐ Some of the time
2 ☐ Every time

97. In the past month, when you had sexual relations with female partners, how often were you under the influence of any of the following drugs/psychoactive substances?

	0-Never	1-Some of the time	2-Every time	99-Not applicable
Cocaine, crack and freebase				
Main drug use in past month, if not cocaine(_____ , voir # 55 et 56)				
Upper/speed (amphetamines, methamphetamines, others like Ritalin)				
Other drugs and psychoactive substance for non-medical purposes				

98. In the past three months, have you had vaginal, oral or anal sexual relations with men?

0 ☐ No ⇨ Si No, passer au # 103.
1 ☐ Yes

99. In the past three months, how many male partners have you had?

⇨ A regular sex partner is someone with whom you have had a relationship for more than three months. This relationship must not be in the context of prostitution, where money is exchanged.

⇨ A casual sex partner is someone with whom you have had a relationship for less than three months. This relationship must not be in the context of prostitution, where money is exchanged.

⇨ Lire les choix de réponse et mettre un nombre de **0 à…** dans chaque case.

	Regular partner
	Casual
	Client
	Of whom you were a client (prostitute)

99.1. In the past month, did you have vaginal, oral or anal sexual relations with men?

0 ☐ No ⇨ Si No, passer au # 103.
1 ☐ Yes

100. In the past month, how often did you use a male or female condom with your regular/casual/client male sexual partners or a man of whom you were a client?

⇨ Remplir les 3 lignes pour les partenaires réguliers, puis les 3 lignes pour les occasionnels, etc.

Types of partners	Sexual relations	Frequency of condom use in the past month			
		8-No sexual relation	0-Never	1-Some of the time	2-Every time
Regular	Vaginal				
	Oral				
	Anal				
Casual	Vaginal				
	Oral				
	Anal				
Client	Vaginal				
	Oral				
	Anal				
Of whom you were a client (prostitute)	Vaginal				
	Oral				
	Anal				

101. In the past month, have you had vaginal, oral or anal sexual relations with HIV-positive men?

0 ☐ No ⇨ Si No, passer au # 102.
1 ☐ Yes
9 ☐ Does not know ⇨ Si Does not know, passer au # 102.

101.1. How often did you use a condom?

0 ☐ Never
1 ☐ Some of the time
2 ☐ Every time

102. In the past month, when you had sexual relations with male partners, how often were you under the influence of any of the following drugs/psychoactive substances?

	0-Never	1-Some of the time	2-Every time	99-Not applicable
Cocaine, crack and freebase				
Main drug use in past month, if not cocaine(_____ , voir # 55 et 56)				
Upper/speed (amphetamines, methamphetamines, others like Ritalin)				
Other drugs and psychoactive substance for non-medical purposes				

103. What is your sexual orientation or preference?

1 ☐ Heterosexual
2 ☐ Homosexual
3 ☐ Bisexual
4 ☐ Refuses to answer

F – ALCOHOL/DRUG SERVICES AND MENTAL HEALTH

104. In the past three months, have you had to go to a hospital emergency room?

0 ☐ No ⇨ Si No, passer au # 105.
1 ☐ Yes

104.1. How many times have you had to go to the emergency room?

1 ☐ 1
2 ☐ 2 - 5
3 ☐ 6 - 10
4 ☐ > 10

104.2. Why did you have to go to the emergency room?

⇨ Cocher toutes les possibilités

1 ☐ Intoxication/overdose
2 ☐ Suicidal ideation
3 ☐ Other mental health problems: **Specify:** _____
4 ☐ Other reasons : **Specify:** _____

105. Have you ever been in treatment for a drug or alcohol problem?

0 ☐ No ⇨ Si No, passer au # 108.
1 ☐ Yes

105.1. In your lifetime, how much time have you spent in treatment, whatever the treatment?

⇨ Utiliser une seule unité de mesure. Si moins d'un jour, on met 1 jour.

☐ Days
☐ Weeks
☐ Months
☐ Years

106. In the past three months, have you been in treatment for a drug or alcohol problem?

0 ☐ No ⇨ Si No, passer au # 108.
1 ☐ Yes

106.1. What type of treatment?

⇨ Cocher toutes les possibilités

1 ☐ Non-medical detox (withdrawal)
2 ☐ Medical detox (detox unit)
3 ☐ Methadone detox, including intermediate programme (48 days)
4 ☐ Suboxone detox
5 ☐ Methadone substitution
6 ☐ Suboxone substitution
7 ☐ Hospitalisation in acute care unit
8 ☐ Self-help group (AA, NA and others)
9 ☐ Outpatient therapy
10 ☐ Inpatient therapy/therapeutic community
11 ☐ Other : _____
_____
12 ☐ Other hospital services: _____
_____

107. In the past three months, how much time have you spent in treatment, whatever the treatment?

⇨ Utiliser une seule unité de mesure. Si moins d'un jour, on met 1 jour.

☐ Day(s) or
☐ Week(s) or
☐ Month(s)

108. Has a doctor ever diagnosed one or more psychological disorders (e.g. schizophrenia, major depression)?

0 ☐ No
1 ☐ Yes ⇨ Si Yes, **Which one(s)?** _____
_____

109. In the past three months, have you been hospitalized for mental health problems?

0 ☐ No
1 ☐ Yes

110. In the past three months, have you benefitted from a day treatment programme for mental health problems (i.e. a place where you could go during the day on a regular basis for therapy or treatment such as a day hospital or psychosocial club)?

0 ☐ No
1 ☐ Yes

111. In the past three months, have you benefitted from a residential programme for mental health problems (i.e. a place to live provided by a mental health programme such as a supervised apartment, foster family, group home, pavilion or reception centre)?

0 ☐ No
1 ☐ Yes

112. In the past three months, have you consulted with any of the following professionals for mental health problems?

	No	Yes
General practitioner?	0 ☐	1 ☐
Psychiatrist?	0 ☐	1 ☐
Psychologist?	0 ☐	1 ☐
Social worker?	0 ☐	1 ☐
Street/outreach worker, community group counsellor?	0 ☐	1 ☐
Nurse?	0 ☐	1 ☐
Other?	0 ☐	1 ☐

Specify: _____

⇨ The main difference between a psychiatrist and a psychologist is that a psychiatrist is a doctor and can prescribe medications.

113. In the past three months, have you taken any medication for your mental health problems (e.g. Rivotril, Ativan, Halcion, Serax, Xanax, Ritalin, antidepressants, etc.)?

0 ☐ No ⇨ Si No, passer au # 114.
1 ☐ Yes ⇨ Si Yes, **Which one(s)?** _____

_____

113.1. Was the medication prescribed by a doctor?

0 ☐ No ⇨ Si No, valider avec le « Tableau de consommation de drogues » et le # 54. Compléter au besoin et passer au # 114.
1 ☐ Yes
2 ☐ Sometimes Yes/Sometimes No ⇨ Si Sometimes Yes/Sometimes No, valider avec le « Tableau de consommation de drogues » et le # 54. Compléter au besoin.

113.2. Did you take it as prescribed by the doctor, that is following the dose and frequency recommended?

1 ☐ Always
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ Never

⇨ Ces choix sont équivalents à un usage non-médical. Valider avec le « Tableau de consommation de drogues » et le # 54. Compléter au besoin.

G – HIV AND HCV STATUS

The following questions are about blood tests you might have had to test for HIV and HCV infections and for which you could get the results.

114. Have you ever been tested for HIV either with a blood test or by having your finger pricked?

0 ☐ No ⇨ Si No, passer au # 117.
1 ☐ Yes
9 ☐ Does not know ⇨ Si Does not know, passer au # 117.

115. When was your most recent HIV test?

1 ☐ Past month
2 ☐ More than a month ago, but less than 3 months ago
3 ☐ More than 3 months ago, but less than 6 months ago
4 ☐ More than 6 months ago, but less than 12 months ago
5 ☐ More than 12 months ago
9 ☐ Does not know

116. What was the result of that last test?

1 ☐ Positive ⇨ Si coché, demander :

116.1. In the past three months, have you consulted with any of the following professionals?

⇨ Cocher toutes les possibilités.

1 ☐ General practitioner/physician/doctor
2 ☐ Nurse
3 ☐ Other, specify: _____

0 ☐ Negative
2 ☐ Undetermined
3 ☐ Waiting for results
4 ☐ Did not pick up results
5 ☐ Refuses to answer

116.2. Did you have a test to measure the viral load, that is, to find out if the HIV virus is active?

0 ☐ No ⇨ Si No, passer au # 117.
1 ☐ Yes

116.3. What was the result of the viral load test?

0 ☐ < 50 copies of ARN VIH/ml
1 ☐ ≥ 50 copies of ARN VIH/ml
9 ☐ Does not know

116.4. When was the HIV viral load test done?

1 ☐ Past month
2 ☐ More than a month ago, but less than 3 months ago
3 ☐ More than 3 months ago, but less than 6 months ago
4 ☐ More than 6 months ago, but less than 12 months ago
5 ☐ More than 12 months ago
9 ☐ Does not know

117. Have you ever had a blood test for Hepatitis C virus (HCV) either with a blood test or by having your finger pricked?

0 ☐ No ⇨ Si No, passer à la section « Informations sur l'entrevue ».
1 ☐ Yes
9 ☐ Does not know ⇨ Si Does not know, passer à la section « Informations sur l'entrevue ».

118. When did you have your most recent HCV blood test?

1 ☐ Past month
2 ☐ More than a month ago, but less than 3 months ago
3 ☐ More than 3 months ago, but less than 6 months ago
4 ☐ More than 6 months ago, but less than 12 months ago
5 ☐ More than 12 months ago
9 ☐ Does not know

119. What was the result of that last test?

1 ☐ Positive ⇨ Si coché, demander :

119.1. In the past three months, have you consulted with any of the following professionals?

⇨ Cocher toutes les possibilités.

1 ☐ General practitioner/physician/doctor
2 ☐ Nurse
3 ☐ Other, specify: _____

0 ☐ Negative
2 ☐ Undetermined
3 ☐ Waiting for results
4 ☐ Did not pick up results
5 ☐ Refuses to answer

119.2. Did you have a test to measure the viral load, that is, to find out if the HCV virus is still present and active?

0 ☐ No ⇨ Si No, passer à la section « Informations sur l'entrevue ».
1 ☐ Yes

119.3. What was the result of the viral load test?

0 ☐ Positive
1 ☐ Negative
9 ☐ Does not know

119.4. When was the HCV viral load test done?

1 ☐ Past month
2 ☐ More than a month ago, but less than 3 months ago
3 ☐ More than 3 months ago, but less than 6 months ago
4 ☐ More than 6 months ago, but less than 12 months ago
5 ☐ More than 12 months ago
9 ☐ Does not know

INFORMATIONS SUR L'ENTREVUE

Date de l'entrevue : ☐ / ☐ / ☐
JOUR MOIS ANNÉE

Heure de l'entrevue : _____

Durée de l'entrevue : _____ min.

Lieu de l'entrevue : _____

Intervieweur :

3☐ CATHERINE 6☐ ALEXANDRE B. 7☐ CORALIE 9☐ ISABELLE B. 5☐ Autre : _____

Commentaires du participant :

Commentaires de l'intervieweur quant aux conditions de l'entrevue (incompréhension, impatience, agressivité, etc.) :

Appréciation par l'intervieweur de la véracité des réponses données par le participant :

1☐Réponses très plausibles 2☐Réponses moyennement plausibles 3☐Réponses peu plausibles

Signature de l'intervieweur : _____

TABLEAU DE CONSOMMATION DE DROGUES

In your lifetime, have you ever used one or any of the following substances?

⇨ Lire les choix de réponse et remplir toutes les cases pertinentes, une ligne à la fois.

Code	Have you ever used … ⇨ Cocher toutes les possibilités.	Age the 1st time?	Have you used it in the past 3 months?	Injection in the past 3 months?	Ever injected?	If injected, age 1st injection?
1	Marijuana (pot, hash, weed)		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
2	Ecstasy		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
3	Ketamine		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
4	GHB		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
5	Hallucinogen such as LSD (acid) PCP, mescaline, mush		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
6	Solvents – liquid (Listerine, Aqua Velva), inhalation (gas, glue, paint, paint stripper, poppers, etc.)		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
7	Cocaine powder		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
8	Crack/freebase		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
9	Uppers, amphetamine, methamphetamines or other type such as Ritalin ⇨ Montrer la carte.		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	

Code	Have you ever used … ⇨ Cocher toutes les possibilités.	Age the 1st time?	Have you used it in the past 3 months?	Injection in the past 3 months?	Ever injected?	If injected, age 1st injection?
10	Heroin – white, beige or brown 0 ☐ No 1 ☐ Yes		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
11	Speedball (heroin or other opiates + coke) 0 ☐ No 1 ☐ Yes		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
12	ethadone for non-medical purposes 0 ☐ No 1 ☐ Yes		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
13	Other opiates for non-medical purposes ⇨ Montrer la carte. 0 ☐ No 1 ☐ Yes		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
14	Anxiolytics or hypnotics for non-medical purposes ⇨ Montrer la carte. 0 ☐ No 1 ☐ Yes		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
15	Barbiturates for non-medical purposes ⇨ Montrer la carte. 0 ☐ No 1 ☐ Yes		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
16	Other drugs and substances such as medication taken for non-medical purposes ⇨ Voir # 113. 0 ☐ No 1 ☐ Yes ⇩ ⇨ Si Yes, compléter pour chacune des drogues et substances.					
	Specify: _____		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
	Specify: _____		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	
	Specify: _____		0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	0 ☐ No 1 ☐ Yes	

APPENDIX 3: Mental health questionnaire

C :	CND :

VERSION : 11 août 2011

QUESTIONNAIRE DE SANTÉ MENTALE

VERSION ANGLOPHONE

T0

Recherche sur le développement d'approches novatrices de prévention du VIH et du VHC chez les usagers de cocaïne souffrant de problèmes de santé mentale

I will now ask you some questions about your mental health.

I wish inform you that the questions are from questionnaires used worldwide.

SECTION O

Now I want to ask you about some other behaviors when you were a child or teenager.

CD4A15 O1. Did you skip school **a lot** without permission?
NO .....(GO TO O2)..... 1
YES..... 5

A. How old were you when you started skipping school? IF DK: Were you 12 or younger? IF YES, CODE 01 IN AGE. IF NO, CODE 95.
___/___ AGE

CD4A13 O2. Did you **often** stay out much later at night than you had permission to?
NO .....(GO TO O3)..... 1
YES..... 5

A. How old were you when you started staying out late at night without permission? IF DK: Were you 12 or younger? IF YES, CODE 01 IN AGE. IF NO, CODE 95.
___/___ AGE

CD4A14 O3 Did you ever run away from home and stay away at least overnight?
NO ..... (GO TO O4) 1
YES..... 2

A. Did you do that more than once?
NO 1
VOLUNTEERS:
ONLY TO AVOID ABUSE 3
YES.....(GO TO O4)..... 5

B. Did you return to live at home again after you ran away?
NO 5
YES..... 1

CD4A12 O4. When you were a child or teenager, did you find or steal someone else's credit card and use it, or did you ever forge a check?
NO 1
YES .....(GO TO O5)..... 5

CD4A12 A. Did you sometimes shoplift-that is, take things worth 10$ or more from a store without paying for them?
NO 1
YES .....(GO TO O5)..... 5

CD4A12 B. Did you **often** take things from someone's unlocked car or that were in someone's yard or on their porch?
NO 1
YES .....(GO TO O5)..... 5

CD4A12 C. Did you **often** take money or other things without permission from someone's purse or wallet?
NO 1
YES..... 5

CD4A10 O5. Did you ever break into a locked car, house, school, or store?
NO 1
YES..... 5

CD4A6	O6.	When you were a child or teenager, did you ever grab someone's purse or wallet or threaten to hurt them if they didn't give you their money, jewelry, jacket, or shoes?	NO ..... 1 YES..... 5
CD4A11	O7.	Did you sometimes play tricks on people or tell them lies to make them give you something or do what you wanted?	NO ..... 1 YES.....(GO TO O8)..... 5
		A. Did you sometimes get out of doing what you were supposed to do by lying or fooling people?	NO ..... 1 YES..... 5
CD4A1	O8.	Would you **often** pick on smaller children or threaten or tease those who were too scared to fight you?	NO ..... 1 YES..... 5
CD4A7	O9.	As a child or teenager, did you ever get someone to do sexual things with you by force or threatening them?	NO ..... 1 YES..... 5
CD4A8	O10.	When you were a child or a teenager, did you ever set a fire in order to cause damage or hurt someone?	NO ..... 1 YES..... 5
CDA9	O11.	Did you sometimes deliberately damage property like a car or building, in other ways than setting it on fire?	NO ..... 1 YES..... 5
	O12.	Were you in quite a few physical fights when you were a child or teenager?	NO .....(GO TO O13)..... 1 YES..... 2
CD4A2		A. Were you sometimes the one who started them?	NO ..... 1 YES..... 5
CD4A3	O13.	Did you ever use a weapon-like a gun, knife, stick, or bottle-or threaten someone with a weapon?	NO ..... 1 YES..... 5
CD4A4	O14.	Did you ever physically hurt someone on purpose-when you weren't fighting?	NO ..... 1 YES..... 5
CD4A5	O15.	Did you hurt animals on purpose-to amuse yourself (not when you were hunting or getting rid of pests in the house)?	NO ..... 1 YES..... 5
EXIT_CD	O16.	HOW MANY 5'S ARE CODED IN O1-O15?	NONE .....(GO TO A17)..... 1 1 OR 2.....(GO TO O18)..... 3 3 OR MORE 5

CD4A O17. You said you did a number of things when you were a youngster, things like (ITEMS CODED 5 IN O1-O15). Was there a time when you did 3 or more of these things within the same 12 month period?

NO 1
YES 5

CD4RE O18. REC: When was the last time you did any of those things?

___/___ MONTH ___/____ AGE

IF IN THE CURRENT MONTH, CODE MONTH = 00 AND GO TO CUR.

IF NOT IN LAST 12 MONTHS, CODE MONTH = 66, ENTER AGE, AND GO TO ONS.

OTHERS CODE ACTUAL MONTH AND GO TO CUR.

CD4CR IF O16 CODED 3, GO TO ONS.
CUR: Have you done several of these things in the last 12 months?
(SEVERAL = 3 OR MORE)

NO 1
YES 5

CD4ON ONS :How old were you the first time you did any of those things?

___/___ AGE

CD4B CD4IM O19. Did the things you did like (SX CODED 5 in 01-015) get you into trouble... READ EACH AND CODE IN COL. I.

		I EVER		II LAST YEAR	
		NO	YES	NO	YES
a)	with the police?	1	5	1	5
b)	at school or work?	1	5	1	5
c)	with your parents?	1	5	1	5
d)	with people your age?	1	5	1	5

e) IF NO 5 CODED IN COL. I OR IF 018 REC MONTH CODED 66, GO TO O20.
In the last 12 months, did these behaviors cause you trouble (ITEMS CODED 5 IN COL. I) CODE IN COL. II.

CD4TNW O20 IF O18 REC MONTH CODED 66, GO TO B. Have you wanted to talk to a doctor or health professional about any of these behaviors in the last 12 months?

NO.....(GO TO B).....1
YES.....5

CD4TNY A. Did you do it?

NO.....1
YES.....(GO TO A17).....5

CD4TN B. Have you ever talked to a doctor or other health professional about any of these behaviors?

NO.....1
YES.....5

À UTILISER POUR QUESTIONS P3 ET P21

A17 What is you current marital status? Married, widowed, separated, divorced, or never married?

MARRIED 1
WIDOWED 2
SEPARATED 3
DIVORCED 4
NEVER MARRIED 5

A21 Have you ever lived with someone as though you were married?

NO 1
YES 5

SECTION P

		CIRCLE NUMBERS ON SECTION P TALLY SHEET AS NOTED.	
		The next questions are about your behavior **since your 15th birthday**. Some of them are like the ones I asked you about before, but now we are only talking about **after** your 15th birthday.	
	P1.	Since age 15, have you been in physical fights?	NO ..... (GO TO P2) ..... 1 YES 5
AS4A4		A. Were you sometimes the one who hit first?	NO .... 1 YES .....(CIRCLE TALLY P1A) 5
AS4A4	P2.	Have you sometimes used a stick, knife, gun, bottle, or bat to hurt someone?	NO OR ONLY AS REQUIRED BY JOB ..... 1 YES (CIRCLE TALLY P2 AND GO TO P3) 5
AS4A4		A. Have you sometimes threatened someone with one of those things?	NO OR ONLY AS REQUIRED BY JOB.. 1 YES....(CIRCLE TALLY P2A)..... 5
AS4A4	P3.	IF NEVER MARRIED (A17 = 5) AND NEVER LIVED AS MARRIED (A21 = 1), GO TO P4. Have you more than once hit your (husband/wife/partner) or thrown things that could have hurt (him/her)?	NO ..... (GO TO P4) ..... 1 VOLUNTEERS: ONLY ONCE (GO TO P4) ..... 2 YES 5
AS4A4		A. Were you sometimes the one to do this first?	NO .... 1 YES .....(CIRCLE TALLY P3A) 5
AS4A4	P4.	Have you more than once spanked, hit, or shaken a child hard enough so that there were bruises or pain the next day? I'm going to ask you now about doing things that people might think would be dangerous for you or for others.	NO .... 1 YES ..... (CIRCLE TALLY P4)..... 5
AS4A5	P5.	Since the AIDS epidemic began, have you sometimes had unprotected sex, that is without a condom, with someone who you thought could have the disease?	NO .... 1 YES ..... (CIRCLE TALLY P5)..... 5
AS4A5	P6.	Have you ever had sexual intercourse with at least 10 different people in a single year?	NO .... 1 YES ..... (CIRCLE TALLY P6)..... 5

	P7.	Have you ever owned a gun or had access to one?	NO ..... (GO TO P8)..... 1 YES 5
AS4A5		A. Has anyone been shot accidentally by you or with your gun?	NO .... 1 YES ..(CIRCLE TALLY P7A AND GO TO P12)..... 5
AS4A5		B. Since you were 15, have you more than once fired a gun to scare someone?	NO .... 1 YES ..(CIRCLE TALLY P7B AND GO TO P12)..... 5
AS4A5	P8	Have you **often** taken chances when driving a car, motorcycle, or other vehicle-like speeding through city streets?	NO .... 1 YES ... (CIRCLE TALLY P8 AND GO TO P12)..... ..... 5 NEVER DROVE....(GO TO P11) 6
	P9.	Have you been the driver in an auto accident where someone was seriously hurt or a car was not drivable after the accident?	NO ..... (GO TO P10)..... 1 YES 5
AS4A5		A. Did that happen more than once?	NO .... 1 YES .....(CIRCLE TALLY P9A) 5
AS4A5	P10.	Have you **often** driven when you were high or drowsy on alcohol or drugs?	NO .... 1 YES .. (CIRCLE TALLY P10 AND GO TO P12)..... 5
AS4A5	P11.	Have you sometimes left a child under 6 without a grownup or teenager to look after them? (30 minutes and more)	NO .... 1 YES ..... (CIRCLE TALLY P11)..... 5
AS4A1	P12.	Since you were 15, have you stolen things or money by holding someone up, or breaking into a car, house, or building, taking things from stores or construction sites, or stealing in any other way?	NO .... 1 YES ..... (CIRCLE TALLY P12)..... 5
AS4A1	P13.	Have you sometimes made money **illegally**, perhaps by selling things you knew were stolen, selling drugs, prostitution, providing false IDs, or any other way?	NO .... 1 YES ..... (CIRCLE TALLY P13)..... 5
AS4A1	P14.	Since age 15, have you sometimes **intentionally** destroyed or harmed someone's home or car, or a building, perhaps by breaking windows or spraying it with paint or setting it on fire?	NO .... 1 YES ..... (CIRCLE TALLY P14)..... 5
AS4A1	P15.	Have you ever intentionally annoyed or frightened someone by repeatedly following them or phoning them or showing up at their house?	NO .... 1 YES ..... (CIRCLE TALLY P15)..... 5
AS4A2	P16.	Now I want to ask you about ways in which you might have tried to con or fool someone. Have you sometimes pretended you were sick or injured to collect insurance, worker's compensation, or disability pay?	NO .... 1 YES .. (CIRCLE TALLY P16 AND GO TO P19)..... 5

AS4A2	P17.	Have you sometimes used an alias-that is, given a false name-so you couldn't be identified as the one who did something annoying or illegal?	NO ..... 1 YES .....(CIRCLE TALLY P17 AND GO TO P19) 5
AS4A2	P18.	Have you sometimes pretended to have education or work experience you didn't have or (IF EVER MARRIED: pretended you were not married when you were or) told other lies to make money or get a date or get something else you wanted?	NO ..... 1 YES ..... (CIRCLE TALLY P18) 5
AS4A3	P19.	Now I want to ask you about doing things on impulse without making plans, or changing your plans frequently. Have you had times when you had no fixed address at all, or moved around to different places?	NO OR ONLY ON VACATION ..... 1 YES ..... (CIRCLE TALLY P19) 5
AS4A3	P20.	Have you walked off more than one job without giving notice?	NO ..... 1 YES ..... (CIRCLE TALLY P20) 5
AS4A3	P21.	IF NEVER MARRIED (A17 = 5) AND NEVER LIVED AS MARRIED (A21 = 1), GO TO A :	
		Have you ever left you (wife/husband/partner) without warning-perhaps because you got interested in someone else or just felt bored or tied down?	NO ..... (GO TO P22) ..... 1 YES .....(CIRCLE TALLY P21 AND GO TO P23) 5
		A. Have you ever had a close sexual relationship that lasted for some months?	NO ..... (GO TO P22) ..... 1 YES 5
AS4A3		B. Did you ever leave that person without warning or put that relationship at risk because you couldn't resist being attracted to others?	NO ..... 1 YES .....(CIRCLE TALLY P21B AND GO TO P23) 5
AS4A3	P22.	Have you often moved out of an apartment or house shortly after you moved in because you changed your mind about it?	NO ..... 1 YES ..... (CIRCLE TALLY P22) 5
		Now I'd like to ask you about problems with meeting obligations and keeping your promises.	
AS4A6	P23.	Have you had a lot of trouble with debts, like having things repossessed, or being chased by collection agencies, or not being able to pay your rent?	NO ..... 1 VOLUNTEERS:....ONLY ONCE ..... 2 YES ..... (CIRCLE TALLY P23) 5
AS4A6	P24.	Since you first left school, have there been years when you did not work for several months, when you were not too physically ill to work, you had not retired, and you were not staying home to care for relatives or children?	NO ..... 1 NEVER WORKED FOR PAY (GO TO P28) ..... 2 YES ..... (CIRCLE TALLY P24) 5
AS4A6	P25.	Have you **several times** quit your main job, without having enough savings to live on until you found another job? (SEVERAL = 3 OR MORE)	NO ..... 1 VOLUNTEERS:....ONLY ONCE ..... 2 YES.....(CIRCLE TALLY P25 AND GO TO P27)..... 5

AS4A6	P26.	Have you sometimes skipped child support payments or other support payments that you had agreed to take care of?	NO ..... 1 YES ..... (CIRCLE TALLY P26) 5
AS4A6	P27.	Have you **often** been late to work or **often** not shown up at all on days when you weren't sick and didn't have any emergency?	NO ..... 1 YES ..... (CIRCLE TALLY P27) 5
AS4A6	P28.	Have you sometimes borrowed $20 or more and not paid it back?	NO ..... 1 YES ..... (CIRCLE TALLY P28) 5
EXIT_AS	P29.	HOW MANY COLUMNS ON TALLY SHEET P CONTAIN A CIRCLED NUMBER?	NONE ..... (GO TO P37) ..... 1 1 ..... 3 2 OR MORE 5
	P30.	ARE THERE ANY STARRED ITEMS CIRCLED ON TALLY SHEET P?	NO ..... (GO TO P33) ..... 1 YES 5
	P31.	You said you (STARRED ITEMS CIRCLED ON TALLY SHEET). After you did things like that, were you sorry about having hurt or upset the people involved?	NO ..... 5 THEY WERE NOT HURT OR UPSET .... 3 YES 1
AS4A7		A. Did you feel any of the person was just getting what he/she deserved?	NO ..... 1 YES 5
AS4A7		B. Had the person treated you badly?	NO ..... 1 YES 5
AS4A7		C. Do you think people would have done the same or worse to you if you hadn't done it to them?	NO ..... 1 YES ..... 5 .....
AS4A7		D. Were they the kind of people you have no use for?	NO ..... 1 SOME WERE ..... 3 YES 5
AS4A7	P32.	ARE ANY ITEMS **WITHOUT** STARS CIRCLED ON TALLY SHEET P?	NO ..... (GO TO P34) ..... 1 YES 5

AS4A7 P33. Do you regret having done any of the other things you told me about like
(BEHAVIORS WITHOUT STARS CIRCLED ON SECTION P TALLY SHEET)?

NO ..... (GO TO P34) 5
YES 1

AS4A7 A. Why do you regret having done them?
RECORD EXAMPLE AND CODE.

EXAMPLE : _____

_____

PRACTICAL CONSEQUENCES ONLY: E.G., GOT INTO TROUBLE, OTHERS RETALIATED 5
EMPATHY: SOMEONE ELSE SUFFERED 1
MORALITY: BAD, UNFAIR, WRONG... 2
OTHER..... 3

B. IF P33A CODED 1 OR 2 :
Have you tried to make up for what you did?

IF YES : How ? _____
_____

NO ..... (GO TO P34) 5
YES 1

AS4ON P34. REC: When was the last time you did any of these things like
(SX CIRCLED ON TALLY SHEET)?

___/___ MONTH ___/___ AGE

AS4RE IF PRESENT IN THE CURRENT MONTH, CODE MONTH = 00 AND GO TO SUBA. IF NOT IN LAST 12 MONTHS, CODE MONTH = 66, AND GO TO SUBA.

SUBA: Did you do these things only if you had been drinking or taking drugs?

NO 1
YES ..... (GO TO ONS) 5

SUBB: Did you **sometimes** do them when you had been drinking or using drugs?

NO 1
YES 5

ONS: How old were you when you first did any of these things at all?

___/___ AGE

AS4CR

CUR: IF REC MONTH CODED 66, GO TO P35B.

In the last 12 months, have you done several of the things you told me about? For example, in the last 12 months have you-

BEGIN WITH FIRST QUESTION CIRCLED IN A COLUMN ON TALLY SHEET. AT FIRST " YES ", CODE 5 FOR THAT COLUMN, AND GO TO NEXT COLUMN. IF A COLUMN HAS NO CIRCLED NUMBER OR NONE OF THOSE CIRCLED OCCURRED IN LAST YEAR, CODE 1, AND GO TO NEXT COLUMN.

COLUMNS WITH A POSITIVE IN LAST 12-MONTHS

	A	B	C	D	E	F
NO	1	1	1	1	1	1
YES	5	5	5	5	5	5

AS4TNW P35. Was there any time in the last 12 months when you wanted to talk to a doctor or other health professional about your doing any of the things?

NO ..... (GO TO B) 1
YES 5

AS4TNY A. Did you do it?

NO 1
YES ..... (GO TO P36) 5

AS4TN B. Have you ever talked to a doctor or other health professional about these behaviors?

NO 1
YES 5

AS4IMY P36. IF P34 REC MONTH CODED 66, GO TO A.

Did doing any of these things we talked about cause problems for you with family, friends, or work in the last 12 months?

NO 1
YES ..... (GO TO B) 5

AS4IM A. Did doing these things ever cause problems for you with family, friends or work?

NO ..... (GO TO P37) 1
YES 5

B. Did doing these things ever cause **serious** problems for you with family, friends, or work for a **month** or longer?

NO 1
YES 5

AS4IM	P37.	Have you ever been arrested?	NO .....(END) ..... 1 YES 5
		A. How old were you the first time?	___/___ AGE
		B. How old were you the next time?	___/___ AGE
		IF NEVER AGAIN, CODE 00 IF AGE MORE THAN 17, GO TO D.	
		C. Have you been arrested since your 18th birthday?	NO .....(END) ..... 1 YES 5
AS4IMY		D. Were you arrested in the last 12 months?	NO .... 1 YES 5
		E. Were you ever convicted?	NO .....(END) ..... 1 YES 5
		F. Did you serve time?	NO .....(END) ..... 1 YES 5
		G. How long did you serve in all? IF LESS THAN 1 MONTH, CODE 01 IN # MONTHS	___/___ OR ___/___ # MONTHS .....# YEARS
AS4IMY		H. Have you been in jail or prison in the last 12 months?	NO .... 1 YES 5

⇨ Retourner au questionnaire T0 et passer à la section « Profil de consommation d'alcool. »