

# Substance use and crime

Characteristics of victim and offender roles in a longitudinal study of patients entering substance use treatment

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## **ABSTRACT**

**Background** Criminal activity is detrimental to society on many levels, both economically and socially. In substance using populations, there is a high prevalence of both criminal offending and criminal victimization, and the offender and victim roles overlap to a large extent. It is well documented that criminal activity is reduced following substance use treatment. We know less about factors associated with criminal offending and with ceased crime following substance use treatment. Further, there is little research on how offender-status affects victimization and factors associated with victimization.

**Study aims** The overall aim of this thesis was to gain more knowledge about the extent of criminal offending and victimization among substance users and the associated factors or characteristics. The specific aims were to estimate the prevalence of criminal offending before and after treatment start; to explore factors associated with criminal offending and ceased crime; to estimate the prevalence of victimization and the overlap between victimization and offending; and to explore factors associated with victimization among non-offenders and offenders respectively.

**Methods and materials** This thesis is based on data from the Norwegian Cohort of Patients in Opioid Maintenance Treatment and other Drug Treatment (NorComt), an observational longitudinal study of substance users entering treatment between 2012 and 2015 at 21 treatment centers across Norway. Data was collected in face to face interviews at treatment start (T0, n=548) and one year later (T1, n=341), including demographics, criminal activity for three time-periods (before T0, before T1 and at T1), victimization before T0, substance use, social network, self-control and other psychosocial variables. Adjusted odds ratios (aOR) and 95% confidence intervals were calculated with logistic regression analyses.

**Results** Sixty-four percent had committed at least one crime in the 6 months before T0. There were major reductions in criminal activity over time; compared to T0, the prevalence of crime was reduced to 32% in the 12 months before T1 and 18% at T1. For participants who had continued criminal activity in the period before T1, there was a significant reduction in the average number of criminal acts per month.

At T0, criminal offending was associated with stimulant use (aOR: 1.82), polysubstance use (aOR: 1.16), a primarily substance using social network of family (aOR: 2.38) or friends (aOR: 2.22) and entering inpatient treatment as opposed to Opioid Maintenance Treatment (OMT)

(aOR: 2.47). The likelihood of criminal offending was reduced with older age (aOR: 0.95) and a higher self-control score (aOR: 0.94). At T1, ceased crime was associated with having left a substance using social network (aOR: 2.69) and increases in self-control score (aOR: 1.07). Ceased crime was more likely for those who reported no use of stimulants at T0 and T1 (aOR: 4.35).

Victimization in the 6 months before T0 was reported by 59%. Offenders had a higher prevalence of victimization compared to non-offenders (69% and 43%) and women had a higher prevalence of victimization compared to men regardless of offender-status. Among non-offenders, victimization was associated with stimulant use (aOR: 3.07), polysubstance use (aOR: 1.27), psychological distress (aOR: 1.67) and unstable housing (aOR: 5.41). Among offenders, victimization was associated with intravenous substance use (aOR: 1.90) and having attempted suicide (aOR: 2.08).

**Discussion and conclusion** Crime rates were high before treatment start for this substance using population. However, one year following treatment there was a major reduction in crime prevalence. Before treatment start, we found that not only substance use pattern was associated with crime but also social network and self-control. Consistently with this, those that had left a substance using social network and increased their self-control score were more likely to have ceased their criminal activity one year following treatment start. Targeted interventions are recommended for patients with stimulant use, and both social network and self-control interventions should be implemented and evaluated in substance use treatment.

The prevalence of victimization was also high in this population and there was a substantial overlap between participants who committed crime and were victims of crime in the same time-period. An unstable housing situation was associated with victimization among non-offenders, while markers for more severe substance use and poor mental health were associated with victimization among both non-offenders and offenders. Increasing focus on victimization among substance users, and in particular the offender subgroup, may be important in order to improve outcomes of substance use treatment. Further, there should be a focus on safe and stable housing and mental health care in addition to substance use.



## **SAMMENDRAG (NORWEGIAN SUMMARY)**

**Bakgrunn** Kriminalitet er skadelig for samfunnet, både økonomisk og sosialt. Rusbrukere er ofte involvert i kriminalitet både som utøvere av og offer for kriminalitet, samtidig er det en stor overlapp mellom de to rollene. Reduksjon i kriminalitet etter oppstart i rusbehandling er godt dokumentert. Likevel vet vi mindre om hvilke sosiale, strukturelle og individuelle faktorer som henger sammen med å utføre kriminalitet og med å slutte med kriminalitet etter oppstart i rusbehandling. Vi vet også lite om hvordan egen kriminalitet påvirker utsatthet for kriminalitet og hva som kjennetegner utsatthet.

**Studiens formål** Det overordnede målet med denne avhandlingen var å få mer kunnskap om omfanget av utført kriminalitet og utsatthet for kriminalitet blant rusbrukere, samt hvilke faktorer og kjennetegn som knyttes til dette. De spesifikke målsetningene var å estimere forekomsten av utført kriminalitet før og etter behandlingsstart; å utforske faktorer som er forbundet med å utføre kriminalitet og å ha sluttet med kriminalitet; å estimere forekomsten av utsatthet for kriminalitet og overlappen mellom utfører- og offer-rollene; og å undersøke faktorer som var knyttet til utsatthet for kriminalitet sett i sammenheng med utfører-rollen.

**Material og metode** Denne avhandlingen er basert på data fra Den norske kohort studien av pasienter i legemiddelassistert rehabilitering og annen rusbehandling (NorComt), en longitudinell observasjonsstudie av rusbrukere som startet behandling mellom 2012 og 2015 ved 21 behandlingssentre over hele Norge. Gjennom intervjuer ved behandlingsstart (T0, n=548) og ett år senere (T1, n=341) ble det samlet informasjon om demografi, kriminell aktivitet ved tre tidspunkter, utsatthet for kriminalitet, rusbruk, sosialt nettverk, selvkontroll og andre psykososiale variabler. Justerte oddsratioer (aOR) og 95% konfidensintervaller ble beregnet ved hjelp av logistiske regresjonsanalyser.

**Resultater** I det siste halvåret før T0, hadde 64% utført minst en kriminell handling. Det var store reduksjoner i kriminell aktivitet over tid; sammenlignet med T0, ble forekomsten av kriminalitet redusert til 32% i året før T1 og 18% ved T1. For deltakere som var kriminelt aktive både før og etter behandling var det en betydelig reduksjon i gjennomsnittlig antall kriminelle handlinger per måned.

Ved T0 var utført kriminalitet forbundet med bruk av stimulanter (aOR: 1.82), bruk av flere forskjellige rusmidler (aOR: 1.16), å ha et rusbrukende sosialt nettverk bestående av familie

(aOR: 2.38) eller venner (aOR: 2.22) og inklusjon i døgnbehandling i motsetning til Legemiddelasistert rehabilitering (aOR: 2.47). Forekomsten av utført kriminalitet var lavere ved høyere alder (aOR: 0.95) og ved høyere grad av selvkontroll (aOR: 0.94). Ved T1 var endt kriminalitet assosiert med å ha gått ut av et rusbrukende sosialt nettverk (aOR: 2.69) og en økning i grad av selvkontroll (aOR: 1.07). Endt kriminalitet var mer sannsynlig for de som rapporterte å ikke ha brukt stimulanter hverken ved T0 eller T1 (aOR: 4.35).

Utsatthet for kriminalitet det siste halvåret før T0 ble rapportert av 59%. De som selv utførte kriminalitet ble oftere utsatt for kriminalitet sammenlignet med de som ikke utførte (69% og 43%). Kvinner var mer utsatt for kriminalitet enn menn uavhengig av egen utført kriminalitet. Blant de som ikke utførte kriminalitet var utsatthet for kriminalitet assosiert med bruk av stimulanter (aOR: 3.07), bruk av flere forskjellige rusmidler (aOR: 1.27), mer omfattende psykiske plager (aOR: 1.67) og en ustabil boligsituasjon (aOR: 5.41). Blant de som selv utførte kriminalitet var utsatthet for kriminalitet assosiert med injisering av rusmidler (aOR: 1.90) og å ha forsøkt selvmord tidligere i livet (aOR: 2.08).

**Diskusjon og konklusjon** Kriminalitetsnivået blant deltakerne var høyt før behandlingsstart. Ett år senere var det en betydelig reduksjon i utført kriminalitet. Ikke bare rusbruksmønster var assosiert med kriminalitet før behandlingsstart, men også sosialt nettverk og selvkontroll. I samsvar med dette var det ett år senere mer sannsynlig at de som hadde gått ut av et rusbrukende sosialt nettverk og hadde økt sin selvkontroll også hadde sluttet å utføre kriminalitet. Målrettede tiltak anbefales for pasienter med stimulantbruk og intervensjoner rettet mot sosialt nettverk og selvkontroll bør implementeres og evalueres i behandling.

Det var også en høy forekomst av utsatthet for kriminalitet blant deltakerne, samtidig var det en betydelig overlapp mellom de som utførte kriminalitet og de som var ofre for kriminalitet i den samme tidsperioden. En ustabil boligsituasjon var knyttet til utsatthet blant de som selv ikke utførte kriminalitet, mens markører for mer alvorlig rusmiddelbruk og dårligere psykisk helse var assosiert med utsatthet for kriminalitet uavhengig av egen utført kriminalitet. Et økt fokus på utsatthet for kriminalitet blant rusbrukere, og spesielt blant de som selv utfører kriminalitet, kan være viktig for å bedre utfall av rusbehandling. Videre bør det være fokus på trygge og stabile boforhold og psykisk helsehjelp i behandlingen.

## LIST OF PAPERS

- I. Skjærvø, I., Skurtveit, S., Clausen, T. & Bukten, A. (2017). Substance use pattern, self-control and social network are associated with crime in a substance-using population. *Drug and Alcohol Review*. (2):245-52.
- II. Skjærvø, I., Clausen, T., Skurtveit, S., Abel, K.F. & Bukten, A. (2017). Similarities and differences in victimization risk factors for nonoffending and offending substance users. *Victims & Offenders*.
- III. Skjærvø, I., Bukten, A., Skurtveit, S. & Clausen, T. (submitted). Ceased crime following substance use treatment co-occurs with positive changes in social network and self-control.

## **ABBREVIATIONS**

aOR: Adjusted odds ratio

BSCS: The Brief Self-control Scale

CI: Confidence interval

DSM IV: The Diagnostic and Statistical Manual of mental disorders, 4<sup>th</sup> edition

EMCDDA: European Monitoring Centre for Drugs and Drug Addiction

EuropASI: The European Addiction Severity Index

HSCL-25: The Hopkins Symptom Checklist-25

ICD-10: International Classification of Diseases, 10<sup>th</sup> edition

NorComt: The Norwegian Cohort of Patients in Opioid Maintenance Treatment and Other Drug Treatment

NPR: The Norwegian Patient Registry

OMT: Opioid Maintenance Treatment

OR: Odds ratio

RCT: Randomized controlled trial.

SCL-90: The Symptom Checklist-90

SDS: The Severity of Dependence Scale

SERAF: The Norwegian Centre for Addiction Research

TC: Therapeutic community

WHO: World Health Organization

$\alpha$ : Alpha

Cronbach's  $\alpha$ : Cronbach's alpha

# 1. INTRODUCTION

## Background

Criminal activity is a great burden for society in terms of economical, physical and psychological damages for the victim, adverse consequences for the offender, resources spent on criminal justice system costs and the loss of productive contributions when individuals engage in criminal careers (1). Crime increases worry and reduces wellbeing in communities, also among people who have not been direct victims themselves (2, 3). A high prevalence of both offending and victimization have been documented in substance using populations (4-6) and the debate on how substance use and crime are related has been ongoing for nearly a century (7). Adding complexity to the issue, there is an overlap of offender and victim roles in a number of populations, including substance users (8-15). This means that it is difficult to clearly distinguish between offender and victim roles as today's victim may be tomorrow's offender and vice versa.

With this backdrop, the studies presented in this thesis explore crime and victimization among adult substance users entering comprehensive substance use treatment in Norway. The goal was to contribute to the existing knowledge of the extent of criminal offending and victimization among substance users, how offending and victimization are related to other factors and to each other. Further, the goal was to estimate change in offending following treatment and whether changes in other relevant factors, such as self-control and social network, co-occur with ceased crime.

### 1.1. Prevalence of offending and victimization among substance users

How high-risk substance use is defined and the data available to estimate prevalence varies across countries. Still, some figures that give an impression of the extent of high-risk substance use in Europe and Norway are available. According to a recent report from the EMCDDA, an estimated 1.3 million Europeans have problematic opioid use in terms of injecting, long duration use or regular use (16). The number of injecting substance users in Europe was estimated to be between 750 000 and 1 million (0.23-0.30%) in 2004-2008 (17). In Norway, it has been estimated that between 8 300 and 11 800 persons (0.17-0.24%) were injecting substance users in 2010 (18). The estimate has declined since and was at 8 400

persons (0.16%) in 2014 (19). Although opiates are commonly injected in Norway, there is an increase in injection of amphetamines. In 2002-2004, 20% of injecting substance users had primarily injected amphetamines, while in 2008-2010 this had increased to 35% (18). A more recent study of polysubstance users found that 60% injected amphetamines while 41% injected opioids (20). Recently it has been estimated that there are 11 200 adults (0.33%) with high-risk amphetamine use in Norway (16).

Substance users are disproportionally part of crime statistics and the associated costs, both as victims and offenders (15). Recent criminal offending is typically self-reported by 40-60% of substance users, whether they were entering treatment (4, 5, 21, 22) or were not seeking treatment (4, 23). Corresponding rates are seen in studies using registry data of arrests or convictions (24, 25). The association between substance use and crime is strengthened further by reports of a high prevalence of substance use among prison inmates (26, 27). Previous research has shown that the most common offences committed by substance users are income-generating (such as manufacturing and selling illicit substances, theft and burglary), although traffic violations and violent crime are prevalent as well (22-24).

Victimization experiences, such as violent and sexual victimization (6, 15, 28-30) and property victimization (6, 29), are frequent among substance users. In a study covering four European countries, 68% of substance users reported criminal victimization in a 12 month period, for 42% this included attack, assault or molestation (6). Both substance use and offending behavior have been independently associated with victimization in a general population sample (31). Moreover, victim and offender roles overlap in a number of populations, including adolescents (8, 9, 14), young adults (11), college students (12), psychiatric patients (10), felony offenders (13) and substance using populations (15, 32, 33). Still, in the literature substance users are often described either in terms of their offending or their status as victims. By not taking the victim-offender overlap into account, the relationship between substance use and crime may be oversimplified (34, 35).

## **1.2. Explaining the link between substance use, offending and victimization**

The explanation for the high prevalence of criminal offending in substance using populations has been under scrutiny for nearly a century with contradictory findings (7). Theories on victimization and the victim-offender overlap, although less investigated, are in part similar

to theories of offending. As there is scarce literature on victimization among substance users, relevant findings from other marginalised populations will be included, such as persons with mental illness, homeless persons and offenders.

### **1.2.1. Structural context and social setting**

#### ***Sociodemographics***

Younger age has been associated with offending in general populations (36) and among substance users (5, 21, 23, 37). For victimization, results from one study of substance users showed that being younger was associated with violent victimization, but not property victimization (29).

Gender is an important aspect. Offending is more prevalent among men in both general populations and substance using populations (24, 38). Victimization, on the other hand, is more prevalent among men in general populations (39), while in substance using populations women report more victimization (6, 29, 40).

Marginal housing and homelessness have previously been associated with offending among substance users (23) and with victimization among marginalized populations (41-43), including substance users (30, 44). Low education has been associated with offending in general populations (45). When looking at released offenders, housing and education have been found to be important for successful re-entry into society (46). Low levels of education and marginal housing often characterise substance using populations (47).

#### ***Social network***

There is little research on social network and crime among substance users. One study was identified, where a substance using network was associated with higher crime rates (22). Generally, substance use is associated with social exclusion (44, 48, 49) and social isolation may be a particular challenge for substance using offenders (46). Larger social networks and networks comprising abstainers or recovering persons have been associated with better outcomes of substance use treatment (50), while low social support predicted more severe substance use (50). Similarly, research on offender groups found social support to predict successful discharge from parole (51) and reduced risk of both substance use and criminal activity (52). Further, victimization has been associated with social setting and network, for instance, being in contact with and frequenting the same locations as offenders (53) or

having a social network that mainly consists of substance users (54). Among single mothers, another high-risk group, having no trusted friends was associated with victimization (55).

### ***Routine activities theory***

Routine activities theory is one of the theories that focus on social contexts. The theory posits that the risk for a criminal incident increases when activities and lifestyle causes a likely offender and a likely victim to be in the same place at the same time (53). This theory immediately holds some face validity when considering the high levels of offending and victimization among substance users, the lifestyle that is necessary for most to obtain substances, the social settings with other substance users and offenders, intoxication, marginal housing and more. In support of the relevance of routine activities theory for victimization, offending and the overlap between the two, research has found victim-only and victim-offender groups to have distinct lifestyles and patterns of activity in general adolescent populations (11, 12). In substance using populations, however, the differences between victims, offenders and victim-offenders may not be as easily explained by lifestyle and activity. The illicit nature of substance use and the social exclusion associated with substance use (48, 56) may result in a subculture and lifestyle that results in increased levels of risk-factors for victimization for most members (54). Further, it has been argued that the lifestyle theory for victimization is specific for context and gender; it explains male on male victimization in public locations, but not victimization beyond that (55). For these reasons it becomes important to include individual characteristics in addition to lifestyle and social setting when trying to understand victimization in substance using populations (53).

### **1.2.2. Individual level factors**

#### ***Substance use pattern***

Stimulant use has been associated with both offending (5, 22, 23, 30, 57, 58) and victimization (29, 30, 54). Further, elevated crime rates have been seen in heroin users (5, 22, 24, 57), alcohol users (57) and illicit benzodiazepine users (5). Polysubstance use is common and has also been associated with crime (21, 37, 57, 59-61), as has intravenous substance use (37, 57). Finally, the degree of dependence has been associated with crime, conceptualized as number of diagnostics criteria met according to the DSM IV (21) or psychological dependence according to the severity of dependence (SDS) scale (5, 22).



Substance use could lead to offending in several ways. Dependence on substances could result in a need for crime to finance the substance use (5, 62, 63). The pharmacological effects of the substance, sleep-deprivation caused by the substance or withdrawal from a substance could affect decisions to commit crime. For instance, intake of substances could impair cognitive functioning (64-66) and thus increase the likelihood of opportunistic theft, burglary and violence (67). Similarly, victimization risk could increase when the pharmacological effects result in users being less able to take care of themselves (29).

On the other hand, crime could lead to substance use or escalate the substance use when profits from committed crime are used to buy substances (68), when substances are used to celebrate a successful criminal endeavour (69), when substances are used to increase efficiency or reduce fear, empathy and inhibitions before committing a crime (66, 70), or to reduce negative feelings such as guilt and remorse after the act (66). A parallel to the latter is that victimization can motivate use of substances to alleviate physical pain, emotional distress or fear after experiencing victimization (71-73). Further, results from a large prison study showed that a quarter of the prisoners who had ever used heroin and one in ten of those who had ever used stimulants initiated their use in prison, which indicates that prison is a high-risk environment for introduction to substance use (27).

### ***Self-control***

Self-control is the central concept in Gottfredson and Hirschi's general theory of crime, where low self-control, through reduced consideration of long-term consequences, is proposed to be at the core of deviant behaviour, including both crime and substance use (74). As a result there has been much research on self-control and crime in general and offending populations, however there is little research available for substance using populations. Among substance using offenders, lower self-control has been associated with crime (75). In a study of jail inmates, lower self-control was associated with increased substance use, crime and recidivism to crime (76).

Victimization has also been associated with low self-control in adolescent and young adult populations (8, 9, 77), and in a recent meta-analysis (78). Self-control theories of criminal offending have been expanded to include victimization in studies of students (79) and offending women (80). The association between victimization and low self-control has been

explained in terms of more impulsive or risky behaviour with less consideration of negative outcomes, thus making individuals more vulnerable to victimization (78, 79).

### ***Mental health***

Symptoms of poor mental health, such as anxiety, depression and suicidal behavior, have been associated with victimization among young adults, substance users and criminal offenders (6, 81-84). Poor mental health could lead to substance use as a way to compensate for negative feelings by raising confidence or evoking feelings of pleasure or oblivion. Further, these pharmacological effects of substances could increase risk of victimization or re-victimization (6). On the other hand, victimization could contribute to mental distress, for instance, through feelings of powerlessness and sadness, or trauma (6).

### **1.2.3. Multilevel models**

As there is support for all the above explanations of criminal offending and victimization, one can assume that the relationship between substance use and crime is complex and that the causes are many and intertwined. Substance using populations comprise of persons with wide differences in background, comorbidities and substance use-crime trajectories (85-87). They vary in their functioning, challenges and available resources. The relationship between substance use and crime may be reciprocal (59, 88, 89) or accumulating (as in the “worst of both worlds” hypothesis) (90). The direction of causality can change with time (91) and differ between individuals (65, 92). There are also arguments for a non-causal perspective, where the substance use and crime relationship is seen as one part of a complex picture containing multiple factors on multiple levels (64, 91, 93). Examples of these types of factors are personality traits and disorders, social subcultures and history of traumatic events, but also the factors traditionally considered, such as dependence and the psychopharmacological effects of substances (64). When the strong association between offending and victimization is added to this, the picture becomes complex indeed.

## **1.3. Substance use treatment and offending**

### **1.3.1. Substance use treatment in Norway**

The goal of substance use treatment is to end, reduce or stabilize substance use. However, substance use treatment is also part of reducing substance-related harm in other ways, for instance through focus on physical and mental health, quality of life, nutrition, social

situation and avoidance of illicit activities. In Norway, patients can apply for publicly funded substance use treatment in specialist health care through medical practitioners or social services. The preferred treatments and treatment centres can be listed on the application by the patient. A regional team evaluates applications according to specific criteria: Severity and type of substance use, the patients' age and situation, and the expected benefits and costs of the treatment (94). Based on a holistic evaluation, patients are selected towards appropriate and available treatments. When comprehensive treatment is needed, the most appropriate treatment would usually be inpatient treatment or opioid maintenance treatment (OMT), depending on the patient characteristics and substance use pattern. In 2011, one quarter of patients entering treatment in Norway were categorized as multiple substance users with no specific primary substance. For those who had a primary substance, opiates were the most common among both inpatients and outpatients (including OMT), while amphetamines were the second most common among inpatients (19).

In Norway, there are inpatient facilities that base their work on different methodologies, most relevant for this study are the therapeutic communities (TC) that were first established in the USA in the 1960s and in Norway in 1982 (95). The ideology and structure of the TCs are still based on "community as method", which means that the patients live together in an organized and structured way with a goal of recovery from substance use and re-entry into society (95, 96). The goal of the TCs have always been rehabilitation and abstinence, however, the methods to achieve this have gone through several changes over the years as have the substance using populations in need of treatment (97). The current European version of TC treatment has generally left the harsher behaviour modification methods behind while keeping the fundamentals of the "community ideology", hierarchical structures, self- and mutual help, and feedback. In addition to the influence from milieu-therapy and social learning, empathy, dialogue and inclusion of family therapy are important in many TCs (98).

Inpatient treatment in Norway is usually provided for 9-12 months, often with some aftercare available for 1-3 years after treatment completion although this is not always the case. The aftercare could be in the form of housing in proximity to the treatment centre, availability of staff by phone or on an outpatient basis, or even for the patients to come back

for a short stay to prevent relapse or to reassert stability. For inpatient treatment, there are no specified diagnostic criteria for intake. In 2015 there were 5 361 patients that entered inpatient substance use treatment in Norway (19).

OMT is the most used treatment worldwide for opioid dependence (99). Long acting opioids that can be distributed once a day are given to help the patients achieve and maintain a steady state without withdrawal or symptoms of intoxication (99). OMT is the recommended treatment for opioid dependence according to the World Health Organization's (WHO) guidelines and should be provided together with other psychosocial treatments and interventions, such as psychotherapy and assistance with social needs (99, 100). In Norway, OMT was established as a national program embedded in the general health and social services in 1998. Methadone was the only medication that was offered, there were strict criteria (101) and many patients were discharged due to continued substance use (102). However, following a revision of the Norwegian guidelines in 2010, the treatment became more liberal and more focused on harm reduction in accordance with the WHO guidelines (99, 103, 104). The new Norwegian guidelines recommend buprenorphine-based medication as the first choice due to safety considerations (104). OMT is typically given on an outpatient basis, although for some the first days or weeks of treatment can occur as an inpatient in a detoxification unit. OMT in Norway includes psychosocial aspects in the treatment and is a collaboration between the patient, specialist healthcare, general practitioners and social services (105). The treatment is long-term and may be life-long (106). The only firm criterion for enrolment in OMT is a diagnosis of opioid dependence according to the ICD-10 or the DSM-IV diagnostic criteria (104). There were over 7 000 patients receiving OMT in 2012 and over 7 500 in 2016. The prescription of buprenorphine-based medications versus methadone was 50/50 in 2012 and 60/40 in 2016 (107, 108).

### **1.3.2. Reductions in offending**

In general, OMT and long term inpatient treatment have been found to reduce criminal activity, although individual characteristics of the substance users affect outcomes (109). Research has found reductions in self-reported offending one year after initiation of OMT (4, 110-113) or long-term inpatient treatment, including therapeutic communities (4, 111, 114). The studies varied in whether they asked about criminal offending in 1, 3 or 6 month

periods, and in whether they investigated a change from criminally active to criminally inactive or were more concerned with the reductions in the number of criminal acts. The study by Teesson et al. (4) provides a representative example for heroin users one year after treatment start, with reductions in self-reported criminal offending from 45% to 19% among patients entering maintenance treatment, and from 61% to 27% for patients entering inpatient treatment. Offending is also highly relevant for substance use outcomes, as criminal history has been associated with poorer outcomes of substance use treatment (115) and may be a barrier for rehabilitation (22).

Although it has been put forward that the reductions in crime following treatment come mainly as an effect of reductions in substance use (116), a number of co-occurring lifestyle changes may be driven by the same motivation that inspires treatment-seeking. Reductions in both substance use and crime prevalence have been seen in the period after application for treatment but before actual treatment start (117, 118). Further, the treatment centers will focus on the patients' practical, social and personal prerequisites for positive treatment outcomes in addition to substance use. The identification of criminal history as a potential barrier for substance use treatment (22, 115) underlines the importance of investigating different ways treatment can contribute towards reducing crime in the treatment populations.

#### **1.4. Summary and knowledge gaps**

Both criminal offending and criminal victimization rates are high in substance using populations and a substantial overlap between the victim and offender roles have been demonstrated. Factors associated with offending and victimization are in part similar and in part different. We need to identify at-risk patients in order to reduce the prevalence of criminal offending and victimization as well as the associated costs, but also to reduce the negative effects offending and victimization experiences may have on treatment outcomes. Further, there should be a focus on identifying specific treatment needs and how holistic treatment approaches may reduce prevalence of offending and victimization, and improve treatment outcomes.

## 1.5. Aims

The overall aim of the thesis was to investigate the extent of criminal offending and victimization among men and women entering comprehensive substance use treatment in Norway. An important aspect of this was the overlap of the offender and victim roles. Further, the thesis explored the characteristics of offenders and victims. The specific aims were to:

1. Estimate the prevalence of criminal offending before and after treatment start (Paper I and III).
2. Investigate factors associated with criminal offending and ceased criminal offending (Paper I and III).
3. Estimate the prevalence of criminal victimization before treatment start and the overlap between victimization and offending (Paper II).
4. Identify factors associated with criminal victimization for offenders and non-offenders separately (Paper II).

## **2. METHODS**

### **Study overview**

The research included in this thesis is based on data from the NorComt (Norwegian Cohort of Patients in Opioid Maintenance Treatment and Other Drug Treatment, [www.norcomt.no](http://www.norcomt.no)) study. The overarching goal of the NorComt study was to follow patients entering comprehensive substance use treatment and to gain insights into factors affecting treatment outcomes over time.

The NorComt study was funded by the Norwegian Centre for Addiction Research (SERAF). Project leaders at SERAF designed the study in collaboration with clinicians and user organisations, recruited the collaborating treatment centres, gave initial training in the use of the interview and implemented the study. Data collection began late in 2012 (T0). In 2013 and 2014, three PhD-students were recruited to continue work with the data collection (T1) and to write their theses on the NorComt material. The consent form included permission to link the interview data to a number of national registers in the future to obtain longitudinal data on medical prescriptions, crime, treatment and health services, employment and welfare benefits and when relevant, cause of death.

### **2.1. Design**

The NorComt study is an observational, longitudinal, multi-site study. Twenty-one treatment centres across Norway were collaborators, 14 OMT-centres and 7 inpatient centres providing long-term residential treatment. Baseline (T0) data were collected by clinicians at these centres in the period December 2012 to April 2015. "One year" follow-up (T1) data were collected by the research group after 11-18 months (from March 2014 to August 2016). Paper I and II used data from T0 only, resulting in a cross-sectional design. Paper III used data from both T0 and T1 and had a longitudinal design.

### **2.2. Setting**

All OMT centres in Norway are part of the same national program and the 14 centres contributing to NorComt were nationally representative: Oslo, Akershus<sup>1</sup>, Østfold, Hamar, Gjøvik, Lillehammer, Buskerud, Vestfold, Aust-Agder, Vest-Agder, Telemark, Bergen, Nord

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<sup>1</sup> Akershus was represented by the inpatient detoxification unit at Ahus University Hospital, where patients began treatment with OMT medication for a short period before being released to outpatient care.

and Midt. The OMT centres varied greatly in the geographical areas they covered and the size of the populations. Some centres covered cities with general populations ranging from approximately 30 000 to 630 000 people. Other centres covered scarcely populated and widespread geographical areas, for instance, one centre (LAR Nord) was responsible for all of Northern Norway (35% of Norway's landmass).

One of the inpatient treatment centres exclusively treated women, three centres had no age limit (approximately 55 places), two had a lower age limit of 23 years (approximately 35 places) and two had upper age limits of 28 and 35 years (approximately 25 places). Two centres would not accept patients who were simultaneously treated with OMT and simultaneous treatment with OMT was rare among the other centres. Six of the inpatient centres were therapeutic communities, which emphasize self-help and mutual help, responsible concern and structure to achieve personal growth (97, 119, 120): Veksthuset Rogaland, Molde Behandlingscenter, Stiftelsen Sauherad Samtun, Stiftelsen Solliakollektivet, Stiftelsen Renåvangen and Phoenix House Haga. One centre focused on self-help and mutual help, using the 12-step program as a basis (121, 122): Kvinnekollektivet Arken.

Serious substance use is a precondition for being granted OMT or inpatient treatment. All of the collaborating treatment centres treat patients with problematic use of illicit substances, although use of alcohol and prescribed addictive substances co-occur for many. There were no exclusion criteria for participation in the study as long as patients were entering standardized treatment (i.e. patients receiving Naltrexone treatment through OMT centres as part of clinical research were not eligible for participation).

## **2.3. Procedure and participants**

### **2.3.1. T0: Baseline**

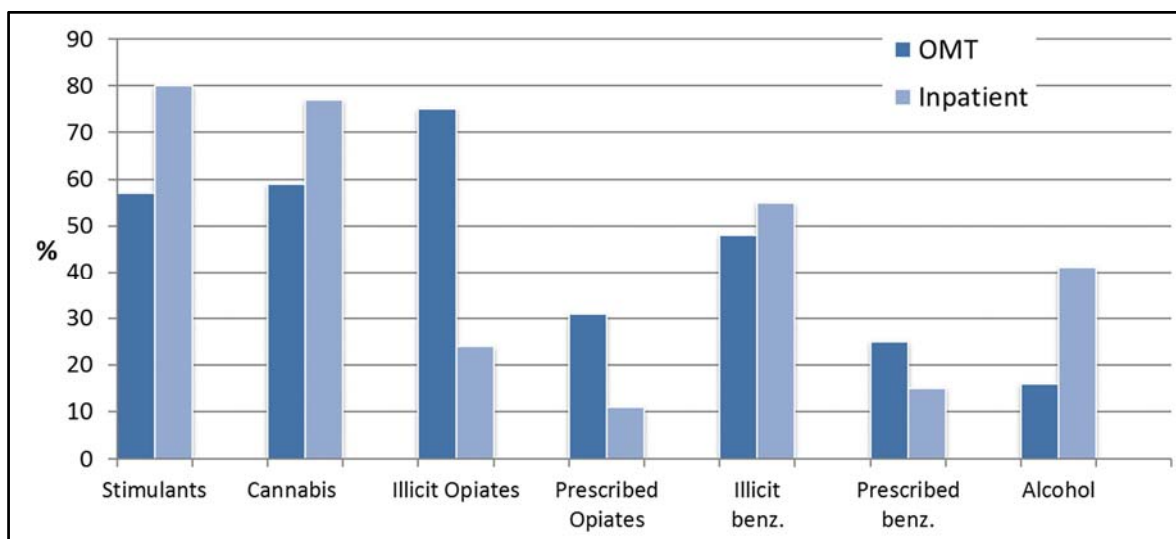
T0 data was collected by clinicians at the collaborating treatment centers using a standardized interview form (Appendix 1). Patients were asked to give written consent for participation in the study and facility staff clarified that non-participation would have no consequences for their treatment. Before and during the collection of data, the research group provided training in use of the interview through seminars, interview guides, and contact by telephone and email. The research group conducted a quality control of completed interview forms as they were received. We attempted to retrieve missing data



that could be collected retrospectively (e.g. personal identification number, age, housing situation at the time of treatment inclusion) and gave feedback on other missing data or mistakes to ensure increased quality of the subsequent data collection. The research group also visited the treatment centers on request to provide further training, information on the study and motivation for the clinicians. The received interview forms were either scanned into a database using ReadSoft Forms software with a manual check or manually punched into the database. The data files were cleaned and checked and the original interview forms were consulted for any responses that were incoherent with other responses or in any way raised a red flag.

T0 interviews were completed within 12 weeks of treatment start. The median time from treatment start to interview was 18 days (OMT: 19 days, inpatient treatment: 17 days). There were some differences in substance use pattern between the OMT and inpatient groups, still, both groups presented with use of a number of different substances (Figure 1). The mean age at treatment inclusion was 34 years (35 for women, 33 for men).

**Figure 1** Types of substances used at baseline (T0) for participants entering OMT and inpatient treatment (n=548).



Of 1415 patients entering treatment in the study period, 746 were considered for inclusion and 548 (73% of those considered) completed participation (Figure 2). Of these, 283 entered OMT (27% women), while 266 entered inpatient treatment (28% women). Inpatient centers approached 49-100% of their patients (mean: 77%), while OMT centers approached 22-98%

(mean: 43%). The proportion of approached patients that actually participated was 68-95% among inpatient centers (mean: 86%) and 29-100% among OMT centers (mean: 65%).

For all non-participants (n=867), we had valid data on age and gender for 86% of inpatients and 64% of OMT patients<sup>2</sup>. There was no difference in gender; however, non-participants had a higher mean age than participants (inpatients: 30.7 and 28.3, p=0.003; OMT patients: 40.7 and 38.5, p=0.013). The inpatient centers with an upper age limit had a higher response rate (90%) compared to the centers with a lower or no age limit (65% and 59%). When age limit was adjusted for, there was no longer an age difference between non-participants and participants. Among OMT patients, the older non-participants comprised mainly those who declined or missed interviews, and those who were considered psychologically unfit for participation (Figure 2). Thus, the age difference may be related to selections made by the clinicians and by the patients' self-selection towards or away from the study.

### **2.3.2. T1: Follow-up**

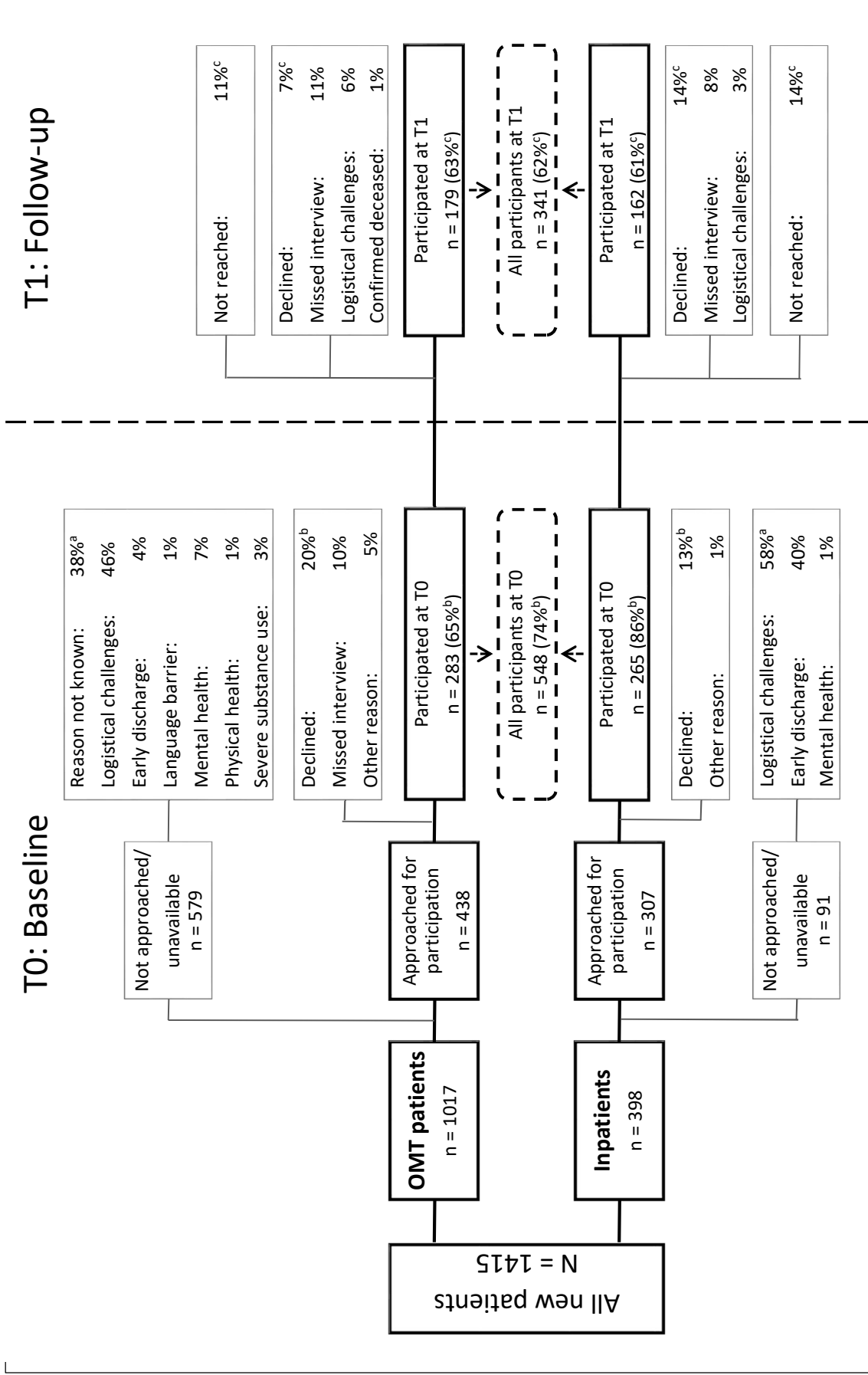
At T0, participants filled out a contact form with their name, address, phone and email. Most participants also provided the contact information for one or more family members and a contact at social services or similar.

At T1, all participants who took part received a universal gift certificate of 300 NOK/€30 and any travel expenses on their behalf were compensated. Interviews were completed by the three PhD-candidates in the research group and two research assistants, using an expanded version of the interview form used at T0 (Appendix 2). The participants were spread wide across Norway and interviewers travelled to meet participants face-to-face. The interviews would take place in public places, such as libraries or cafés, in prison or in the locales of a treatment center, or in the participants' home, according to convenience and the preferences of the participants. For geographical reasons or when the participants preferred it, some interviews were conducted over telephone (n=19). In these cases, the participants were instructed to draw the Likert style response options for scales where the visual presentation of the response options could influence the participant's choices (e.g. the HSCL-25 and the BSCS). To facilitate the inclusion of as many participants as possible at T1,

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<sup>2</sup> 4 OMT centres provided no data on gender and age for their non-participants, thus we compared participants and non-participants from the remaining 10 OMT centres.

**Figure 2:** Flowchart describing inclusion of participants and reasons for non-participation for the NorComt study, at both T0 and T1.



<sup>a</sup> Percentage of those not approached/unavailable. <sup>b</sup> Percentage of those approached for participation. <sup>c</sup> Percentage of those who participated at T0.

the time-window for the follow-up interview was between 11 and 18 months after T0. Repeated attempts were made to reach participants or to reschedule interviews, either until it appeared the participants were not interested or the time-window closed.

Of the 548<sup>3</sup> included at T0, 341 (62%) contributed data at T1 (Figure 2). The median time between T0 and T1 was 14.5 months. Of the 207 lost to follow-up, we were in direct contact with 52% (declined: 28%, missed appointments: 24%) while we were not in contact with the remaining 48% (could not be reached: 32%, logistical challenges on the researcher end: 13%, confirmed deceased: 2%).

There were few differences in baseline characteristics between those included at T1 and those lost to follow up (Table 1). Included participants had a higher prevalence of completing more than mandatory education and of being employed or under education, and a lower prevalence of life-time attempted suicide. There was no difference in whether they had committed crime, although those who were included at T1 had committed a higher number of criminal acts at T0.

In addition, to get an impression of the status of the participants lost to follow-up, we logged general evaluations of their life situation. These evaluations were available for 84 of the 207 lost to follow-up. Evaluations were based on information given by the participants or the interviewers' impression following contact with the participant or the given contacts (family, friends or health personnel). These general evaluations were positive for 48% and negative for 52%.

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<sup>3</sup> Paper I and II report on 549 participants. The double participation of one individual (once as an OMT patient, once as an inpatient) was later discovered and the latter participation was removed resulting in n=548 for Paper III and in additional data presented in this thesis. The error has not affected the study outcomes.

**Table 1** Baseline (T0) characteristics of participants included at follow-up (T1) compared with participants lost to follow-up (n=548).

	Included n=341	Lost to follow-up n=207	p-value <sup>a</sup>
<b>Demographics, n (%) (unless otherwise indicated)</b>			
Women	100 (29)	56 (27)	p = 0.57
Age, mean	34.0	33.3	p = 0.46
Completed more than mandatory education	189 (44)	133 (35)	<b>p = 0.039</b>
Employed/under education	47 (14)	14 (7)	<b>p = 0.011</b>
<b>Substance use pattern</b>			
<b>Substances/medications among the four most used 6 months before treatment, n (%)</b>			
Stimulants	229 (67)	142 (69)	p = 0.73
Alcohol	92 (27)	61 (29)	p = 0.53
Cannabis	222 (65)	148 (71)	p = 0.12
Illicit benzodiazepines	178 (52)	106 (51)	p = 0.82
Prescribed benzodiazepines	69 (20)	42 (20)	p = 0.99
Illicit opiates	170 (50)	106 (51)	p = 0.76
Prescribed opiates	74 (22)	41 (20)	p = 0.60
<b>Other substance use variables, n (%) (unless otherwise indicated)</b>			
Number of substances, mean	4.3	4.6	p = 0.34 <sup>b</sup>
Intravenous use (6 months)	219 (64)	129 (62)	p = 0.65
Severity of Dependence (SDS) score, mean	10.23	10.18	p = 0.85
Previous treatment (≥ 3 months)	293 (88)	176 (86)	p = 0.56
<b>Offending and victimization variables, n (%) (unless otherwise indicated)</b>			
Any committed crime (yes/no)	217 (64)	131 (63)	p = 0.93
Number of criminal acts (6 months), mean	118.3	72.7	<b>p = 0.024<sup>b</sup></b>
Any victimization (yes/no)	205 (60)	118 (57)	p = 0.51
Victimization incidents (6 months), mean	11.1	8.7	p = 0.34
Victim of sexual violence life-time	70 (21)	34 (16)	p = 0.24
<b>Mental health, social and other variables, n (%) (unless otherwise indicated)</b>			
Psychological distress (HSCL-25) score, mean	1.24	1.29	p = 0.52
Ever attempted suicide	124 (36)	101 (50)	<b>p = 0.003</b>
Unstable housing past 4 weeks	26 (22)	41 (20)	p = 0.48
Substance using social network	180 (53)	97 (47)	p = 0.18
Ever served a prison sentence	206 (60)	137 (66)	p = 0.18
Self-control (BSCS) score, mean	37.8	36.9	p = 0.27
Selected for inpatient treatment	162 (48)	103 (50)	p = 0.61

<sup>a</sup> p-values are based on t-tests and chi-square tests. <sup>b</sup> Equal variances not assumed.  
Significant p-values in bold.

## 2.4. Measurements

The defined time-periods participants were asked to base their responses on varied between measures and were given in the description of each measure. At T0, for measures that asked participants to reflect on the past 4 weeks or past 6 months before treatment, the interviewers had been given the instruction to exclude time-periods in controlled environments (detoxification, prison, hospital) immediately prior to the index-treatment. For instance, patients who had received a 2-week detoxification treatment in a controlled environment immediately prior to entering OMT or inpatient treatment would report on the time-period before detoxification.

### 2.4.1. Dependent variables

#### Criminal offending

*The prevalence of criminal offending (yes/no)* was measured for three time-periods: 6 months before T0, 12 months before T1 and at T1. For the first two measures, we asked participants whether they had committed any crime (yes/no) in the respective time-periods. We further asked about five subgroups of crime (acquisitive, substance related, violent, traffic violations and other). As all participants were users of illicit substances, possession and use of illegal substances were excluded although possession and use are formally illegal acts in Norway.

The third measure of prevalence was dichotomized into yes/no (any crime) from the question “How would you describe your criminal activity *now* compared to *before* treatment?” Participants were categorized as criminally active (yes) if they responded “reduced”, “the same” or “increased”. They were categorized as criminally inactive (no) if they responded “no activity anymore” or “not applicable” (no criminal activity in the relevant time-periods). Because the term “now” does not clearly define a time-period, the question was considered to reflect the participants’ subjective evaluations of their current crime status at T1.

*The number of criminal acts* was estimated by asking participants how many times they had committed crime in the 6 months before T0 and the 12 months before T1. Participants were asked about all crime and the five subcategories of crime. Blank responses (T0: 19%) or uninterpretable responses (for instance, “all the time”; T0: 4%) were considered missing (T0:

23% in total). Non-numeric responses with some numerical information (T0: 6%) were interpreted conservatively (for instance, “several hundred” as “200” and “every day during the past 6 months” as “180”). In Paper I we used the raw number of criminal acts for the 6 month period before T0. In Paper III, to be able to compare the number of criminal acts in the 6 months before T0 and the 12 months before T1, we calculated a mean monthly crime rate for each participant by dividing the number of acts by the corresponding number of months. Of the 90 participants that reported crime during both time-periods, 63 (70%) had valid data on the number of criminal acts.

*Change in crime status* was derived from the question on perceived change in criminal activity at T1 compared to T0 (“How would you describe your criminal activity *now* compared to *before* treatment?”). We collapsed responses into three categories: Never crime (“not applicable”), continued crime (“reduced”, “the same” and “increased”) and ceased crime (“no activity anymore”).

### **Criminal victimization**

*The prevalence of any criminal victimization* was estimated for the 6 months before T0. Participants were asked about two subgroups of victimization corresponding to questions used by Statistics Norway in general population surveys (39): Property and violence victimization (with or without leaving visible marks or injuries). If participants had been victims of at least one crime of any type in the past 6 months they were considered “victimized”. Of these, 43% had been victims of both property crime and violent crime.

*The prevalence of life-time sexual violence* was assessed by the question “Have you ever been the victim of sexually motivated violence, abuse or rape, or an attempt at this?”

*The number of victimization incidents* was estimated by asking participants how many times they had been victims of property or violent crime in the past 6 months. The raw numbers for the 6 month period was used in Paper II. Blank or non-interpretable responses (for instance, “many times”) were considered missing (14% in total). Non-numeric responses with some numerical information were interpreted conservatively (for instance, “100+” as “100”).

## **2.4.2. Independent variables**

### **Demographics and current status**

Most variables on demographics and current status were derived from questions taken from the Norwegian Patient Registry's (NPR) questionnaire (123), with the exception of age and gender.

*Age* in years was calculated as the difference between the date of birth and the date of the T0 interview.

*Gender* was given as male or female, we double-checked the given gender against the digit in the personal identification number that indicates gender to identify any errors.

*Stability of living condition* was assessed at T0 and T1: "Had stable living-conditions in the past 4 weeks" (response options: yes/no/unknown).

*Cohabiting with a partner* (yes/no) at T0 was derived from the item "living with" (response options: lives alone/with a partner/with friends/with parents/with children younger than 18/with children older than 18/others/unknown).

*More than 10 years of education completed* (yes/no) was a collapsed variable based on the participant's "highest level of completed education" at T0 (response options: not completed middle or lower secondary school/middle or lower secondary school/high or upper secondary school/vocational education/university or equivalent (3 years)/more than 3 years at university or equivalent/unknown). The mandatory level of education in Norway is middle/lower secondary school (10 years).

*Currently employed/under education* (yes/no) was a collapsed variable from a question on "vocational status" (response options: outside the job market and not under education/full-time work/part-time work/under education/part-time work and under education/unknown).

### **Substance use related variables**

Questions from the NPR questionnaire (123) were used to assess substance use and associated variables at T0 and T1.



*The number of substances used* was reported for the past 6 months at T0 and T1. The raw number from T0 was used in Paper I and II, while in Paper III the *change in the number of substances used* was derived by subtracting the number at T0 from the number at T1 creating a continuous variable reflecting change in polysubstance use.

*Use of specific types of substances* was obtained from a question where participants were asked to list their four most used substances or addictive medications in the past 6 months before T0 and T1. Participants were considered users of a substance if it was among their four most used in the past 6 months and could be categorized as users of up to four substances. Amphetamines, cocaine, other stimulants and crack<sup>4</sup> were combined into the category “stimulants”. Heroin, street buprenorphine, street methadone and other opiates were combined into the category “illicit opiates”. The other substances were alcohol, cannabis, illicit benzodiazepines, prescribed benzodiazepines and prescribed opiates. However, in Paper I, prescribed benzodiazepines and prescribed opiates were combined into the category “prescribed addictive medications”.

*Change in stimulant use* was of particular interest in Paper III. Based on responses at T0 and T1, participants were categorized as having continued use (T0: yes/no, T1: yes), ended use (T0: yes, T1: no) or not used (T0: no, T1: no).

*Intravenous substance use in the past 6 months (yes/no)* at T0 and T1 was based on the intake-method for the four most used substances in the past 6 months, and a supplementary question on whether they had used syringes in the past 4 weeks.

*Life-time prevalence of overdose (yes/no)* was dichotomised from a question asking participants to list the number of overdoses ever experienced for alcohol use, narcotics use, medication use and mixed use.

### **Severity of dependence**

*The Severity of Dependence Scale (SDS)* is a measure of psychological dependence in the past 4 weeks (124). It consists of 5 items scored on a 4-point Likert scale (0-3). The summed score ranges from 0 to 15 (low to high severity of dependence). Participants with more than 1 missing item were excluded (n=2, both missing the entire scale), while for participants with 1

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<sup>4</sup> No participants reported use of crack at T0 or T1

missing item (n=9) we imputed the individual person mean to calculate the sum score. The SDS was devised to measure dependence of specific substances, primarily for research purposes, for example, “Did you think your use of amphetamine was out of control?” For the purpose of this study, the items have been rephrased to measure general substance dependence, for example, “Did you think your use of substances was out of control?” The internal consistency of the scale was acceptable with Cronbach’s  $\alpha = 0.68$ .

### **Treatment**

*Previously received treatment* (before treatment start at T0) was assessed through a question on how many months of substance use treatment they had previously received in their life-time, both on inpatient and outpatient basis. The responses were categorized as having received a minimum of 3 months of treatment, or having received no or less than 3 months of treatment.

*Months in treatment the past year* (before T1) was obtained by asking participants how many months of the past 12 they had received inpatient, OMT or medication free outpatient substance use treatment.

### **Ever served a prison sentence**

Participants were asked whether they had served a prison sentence in their life-time (yes/no) before T0.

### **Self-control**

*The Brief Self Control Scale (BSCS)* consists of 13 items scored on a 5-point Likert scale (1 to 5) (125). The summed score ranges from 13-65 (low to high). Participants with >2 missing items were excluded from analysis (T0: n=2, T1: n=5) and we imputed the individual person mean for participants with no more than 2 missing items (126, 127) (T0: n=19, 16 had 1 missing; T1: n=17, 13 had 1 missing). Internal consistency of the scale was high in this sample with Cronbach’s  $\alpha = 0.83$  at T0 and  $\alpha = 0.84$  at T1. The scores were normally distributed at both T0 and T1. The raw BSCS score from T0 was used in Paper I and II.

*Improvement in self-control (BSCS) score* was calculated by subtracting the score at T0 from the score at T1, resulting in a continuous variable used in Paper III. A negative value reflects the magnitude of reduction in the score and a positive value the magnitude of improvement.

## **Social Network**

*Substance using primary social network* was derived from the question “With whom do you usually spend most of your free time?” from The European version of the Addiction Severity Index (EuropASI) (128). Response options were family or friends, either with or without “problem use of alcohol/ medications/substances”, the fifth option was “I am mostly alone”. Participants spending most of their time with family or friends with problem use of substances were categorized as having a primarily substance using social network (6). In Paper I we made a distinction between substance using friends and substance using family. In Paper II, these two categories were collapsed to a substance using network.

*Change in primary social network* was determined by categorizing participants according to their responses at T0 and T1. Three categories were used: Continued substance using social network (T0: yes/no, T1: yes), left substance using network (T0: yes, T1: no) and no substance using network (T0: no, T1: no).

## **Mental health**

*The Hopkins Symptom Checklist (HSCL-25)*, a validated 25-item scale derived from the Symptom Checklist-90 (SCL-90) (129), measures psychological distress (depression and anxiety) in the past week. The measure is considered a valid tool for evaluating psychological distress (130-132) and has previously been used in relevant populations, such as alcohol users and polysubstance users (133) and prison inmates (134). Conventionally, responses on the HSCL-25 are given on a 4-point Likert scale, in this study responses were given on a 5-point scale (“not at all” to “very much”) as originally used with the SCL-90 and with the HSCL-25 in other Norwegian studies (135, 136). The participants’ mean score (range 0-4) were used in analyses. Participants with >5 missing items were excluded (n=8, 7 had all items missing). We imputed the individual person mean for participants with no more than 5 missing items (n=21, 15 had 1 missing item). There was a normal distribution of scores on the HSCL-25 with a high internal consistency of Cronbach’s  $\alpha = 0.93$ .

*Attempted suicide (yes/no)* was included as a relevant mental health variable in Paper I and II. The item “attempted suicide” was taken from the NPR questionnaire (123) and had the response options no/yes, by overdose/yes, by other means/both by overdose and other means/unknown. Responses were dichotomized into yes/no.

## **2.5. Analyses strategy**

When comparing offending and non-offending groups (Paper I-III), we decided to use any crime (yes/no) and not differentiate between the types of committed crime. This decision was based on a low level of specialization within types of crime. At T0, the offender group had on average committed 2.4 types of crime each and over 70% had committed more than one type of crime. Only 1% had committed violent crime or traffic violations unaccompanied by other types of crime.

In all papers, bivariate analyses were done using unpaired t-tests and chi-square tests. We estimated odds ratios and adjusted odds ratios using univariate and multivariate logistic regression analyses. The level for statistical significance was 5% for all tests. We used IBM SPSS for statistical analyses (version 22-24).

In Paper I, we investigated different types and frequencies of crime among men and women. We calculated the mean and median number of crimes and the interquartile range for all participants who had reported number of crimes. We did bivariate analyses by gender and offender status for each variable. We presented four regression models to demonstrate how the aORs changed as variables were added to the models. The independent variables were selected based on previous research (5, 21-24, 29, 37, 41, 54, 62, 76, 78, 81, 83), clinical relevance and on the bivariate analyses. In preliminary analyses, we ran the regression models stratified by gender and by type of index-treatment. As similar associations between the independent variables and crime were found, we kept the population as one sample for the logistic regressions, while adjusting for gender and type of index-treatment.

In Paper II, we expected prevalence of victimization to differ depending on offender status and gender, thus descriptions of victimization were stratified accordingly. Further, all significance tests were stratified by offender status. The independent variables for the unadjusted regression analyses were selected based on previous research (29, 41, 54, 78, 81, 83), clinical relevance or on the bivariate analyses. Additionally, we controlled for age, gender, previous treatment and type of index-treatment (inpatient treatment or OMT). Variables that were significant in unadjusted regression analyses were included in the adjusted models. The same procedure was followed to perform additional regression analyses where violence victimization was the dependent variable.

In Paper III, to compare the number of criminal acts per month before T0 and T1, a paired t-test was used. We provided descriptive information for the never crime group as a relevant comparison to the continued and ceased crime groups, however in significance tests we focus only on differences between the ceased and continued crime groups (n=293). In the binary logistic regression, the outcome was whether or not participants in the crime group had continued (0) or ceased (1) their criminal behaviour one year after treatment start. We adjusted for age, gender and months in treatment. To ensure there were no group effects based on the type of index-treatment patients were selected for, preliminary analyses were done for the inpatient group and OMT group separately. All results were in the same direction and we kept the sample as one group of patients entering treatment.



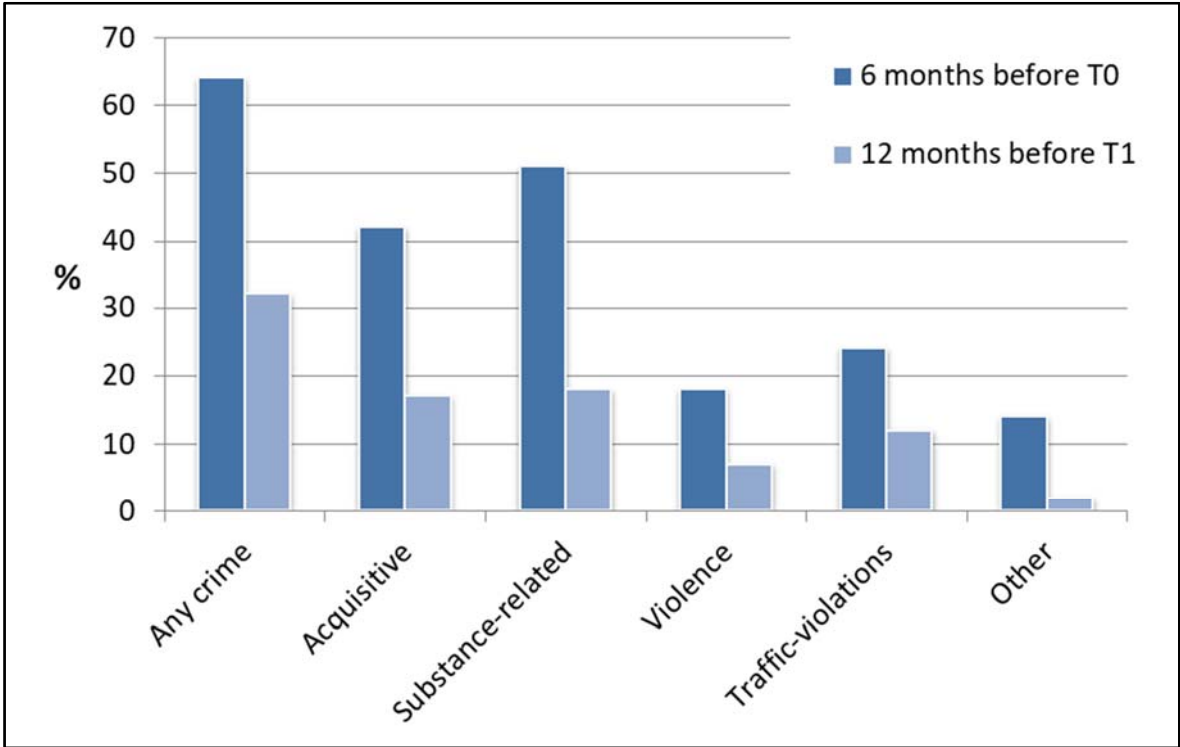
### 3. RESULTS

In this section, the results from Paper I-III and unpublished results are summarized according to the aims of the thesis.

#### 3.1. Prevalence of offending before and after treatment start

In the 6 months before T0, 64% reported criminal activity. The proportion was the same in the complete baseline population (n=548, Paper I) and in the subpopulation that was re-interviewed at follow-up (n=341, Paper III). In the 12 months before T1, 32% reported criminal activity (Figure 3). At T1, current criminal activity one year after treatment start was reported by 18% (Paper III). A larger percentage of men compared to women reported criminal activity 6 months before T0 (66% of men and 56% of women, p=0.018), 12 months before T1 (36% of men and 22% of women, p=0.012) and, not significant, at T1 (21% of men and 12% of women, p=0.07) (unpublished results).

**Figure 3** Percentage of population who had been criminally active (yes/no) 6 months before T0 and 12 months before T1 (n=341)



Criminally active participants had committed on average 2.4 different types of crime in the 6 months before T0 (n=349, Paper I) and 1.7 different types of crime in the 12 months before T1 (n=109, unpublished results). Comparing the 6 months before T0 with the 12 months before T1, there was a reduction across all subcategories of crime (Figure 3) (Paper III).

In the 6 months before T0, the criminally active participants (n=349) had committed a total of 27 124 criminal acts (Paper I). Participants that were criminally active in both time-periods (6 months before T0 and 12 months before T1) with valid data on number of criminal acts (n=63) had on average committed 907 acts per month before T0 (mean: 14.4, median: 4.0), and 281 acts per month before T1 (mean: 4.5, median: 0.4) (p=0.004, Paper III).

### **3.2. Factors associated with offending and ceased offending**

Criminal offending before T0 was associated with stimulant use (aOR 1.82, CI: 1.04-3.17), use of a higher number of different substances (aOR 1.16, CI: 1.04-1.31), and a substance using social network consisting of family (aOR 2.38, CI: 1.10-5.16) or friends (aOR 2.22, CI: 1.32-3.73). Older age (aOR 0.95, CI: 0.92-0.97) and a higher self-control score (aOR 0.94, CI: 0.91-0.97) were associated with reduced risk of crime (Paper I).

Among participants that reported crime at T0, ceased crime at T1 was associated with having left a substance using social network (aOR 2.69, CI: 1.16-6.24) and an increase in their self-control score compared to T0 (aOR: 1.07, CI: 1.03-1.11). Additionally, having reported no use of stimulants at neither T0 nor T1 was associated with ceased criminal activity (aOR: 4.35, CI: 1.58-12.02) (Paper III).

### **3.3. Prevalence of victimization before T0 and the victim-offender overlap**

In the 6 months before T0, 59% reported criminal victimization. Victimization was more prevalent among offenders compared to non-offenders (69% and 43%, p<0.001). Separating further by gender, victimization was most prevalent among offending women, followed by offending men, non-offending women and non-offending men (p<0.001), with the same distribution for property and violence victimization (Figure 4) (Paper II).

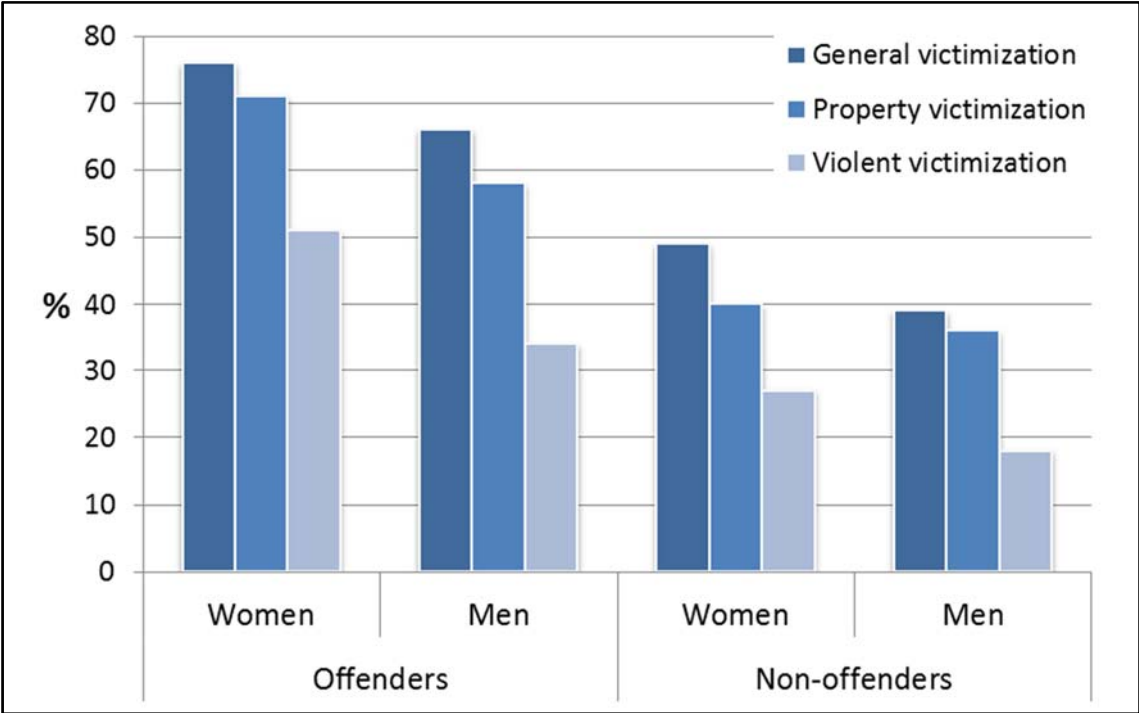
In the 6 months before T0, the criminally victimized participants (n=324) reported 3112 incidents of victimization. The number of victimization incidents was highest among women (offenders: mean 17, median 5; non-offenders: mean 10, median 4) compared with men



(offenders: mean 9, median 3; non-offenders: mean 5, median 2) (Paper II). Among those who reported victimization, repeat victimization, i.e. more than one victimization incident in the 6 month period, was reported by 76% (72% of men and 85% of women, unpublished results).

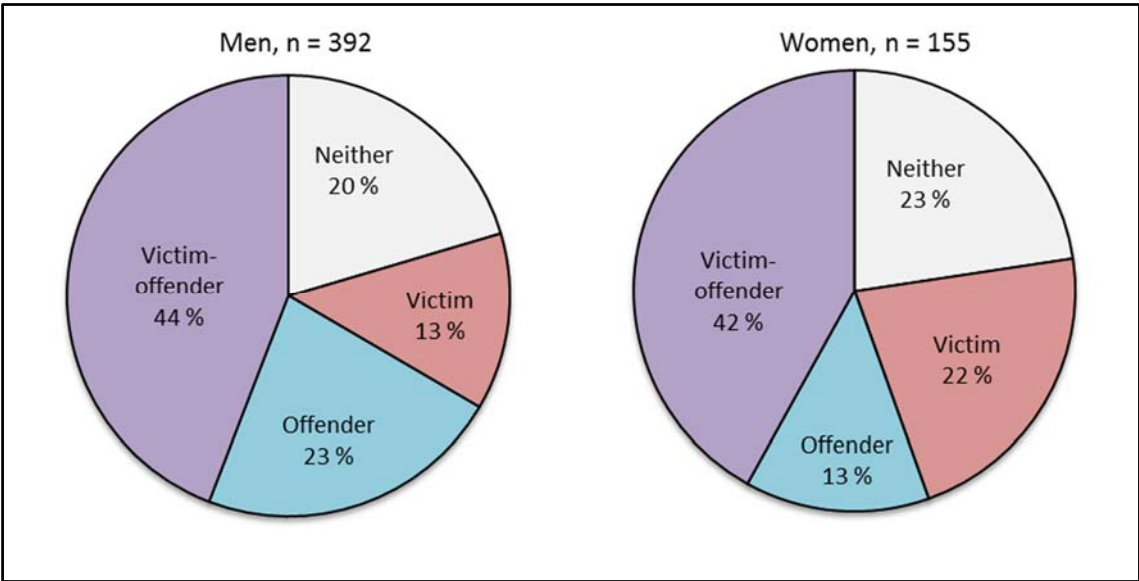
In an additional measure, experiences of life-time sexual victimization was most prevalent among offending women (53%), followed by non-offending women (31%), and offending and non-offending men (9% and 10%) (Paper II).

**Figure 4** Victimization in the 6 months before T0, by offender-status and gender (n=549).



The victim-offender overlap was extensive and similar among both men and women, however, women had a higher prevalence of being victims only, while men had a higher prevalence of being offenders only (Figure 5, based on a 2x4 chi-square test  $p = 0.015$ , unpublished results).

**Figure 5:** Distribution according to victim and offender status, by gender (n=547).



**3.4. Factors associated with victimization according to offender-status**

Among offenders, victimization was associated with intravenous substance use (aOR: 1.90, CI: 1.06-3.40) and having ever attempted suicide (aOR: 2.08, CI: 1.22-3.55). In additional analyses of violence victimization, results were similar with the exception that violence victimization was associated with life-time experience of sexual victimization (aOR: 2.00, CI: 1.03-3.90).

Among non-offenders, victimization was associated with stimulant use (aOR: 3.07, CI: 1.39-6.75), use of a higher number of substances (aOR: 1.27, CI: 1.04-1.56), higher psychological distress (aOR: 1.67, CI: 1.02-2.75) and unstable housing (aOR: 5.42, CI: 1.86-15.73). In additional analyses of violence victimization, results were similar with the exception that violence victimization was strongly associated with having a mainly substance using social network (aOR: 2.70, CI: 1.18-6.14).

## **4. METHODOLOGICAL CONSIDERATIONS**

In this section I will discuss theoretical and practical issues that affect the internal and external validity of the results presented in the thesis. In addition, I will discuss ethical aspects and considerations.

### **4.1. Internal validity**

Internal validity refers to a study's ability to measure what it was meant to measure (137). The main concerns for internal validity are biases. A bias in research refers to systematic errors that can occur at different stages of the research, for instance in the design and planning of the study, during data collection, in how concepts of interest are measured, analysed and presented and when the effects of variables are confounded by other known or unknown factors (138, 139). One can assume bias is present to some degree in all observational research (137, 140) and the real question becomes whether the bias is of such a magnitude that it can obscure valid interpretation of the findings (141).

#### **4.1.1. Study design**

The overall goal of the NorComt study was to evaluate the outcomes of patients entering substance use treatment by comparing their situation before and after treatment start. The interview was designed to be useful in the clinical setting for the benefit of the patients and clinicians, and to facilitate the implementation of the study in routine assessments of new patients. Using a longitudinal, observational design, patients were recruited at inpatient and OMT centres and were interviewed at treatment start (T0) and one year later (T1).

A pilot study, or feasibility study, is a small scale study that tests the methods and procedures before applying them in a larger scale study. The benefits include assessments of participation rates, timeline, budget, capacity at collaborating treatment centres and how well the study measures function during the interview and in data analysis (142, 143). It is also possible to test only aspects of a study, such as the measures used in an interview (144-146). By conducting a pilot study the likelihood of a successful study is increased and the risk of study flaws are reduced (142). Although the NorComt study did not include a full-scale pilot study, the interview was tested on 4-5 volunteer patients in collaboration with clinicians. The goal was to assess how long the interview took to complete, discover issues with interview items and to assess how the interview was received by patients. An interview

guide was developed based on these assessments. Further, the study was based on an earlier cost-effectiveness study conducted in Norway (136, 147), several measures were standardized and validated, and clinicians and user organisations were consulted during the development of the study. Moreover, during data collection, we closely monitored the completed interview forms for inconsistencies and other red flags, and made some small clarifications in the interview form and guides in the early phase of the data collection.

#### **4.1.2. Sample and selection bias**

Any systematic errors that result from selection of participants or how they are lost to follow-up are referred to as selection biases (138, 139). When differences between participants and non-participants are related to central study variables, study validity can be threatened (148).

##### ***Selection towards treatment***

Although the NorComt study had no formal inclusion criteria, implicit criteria are embedded in the selection towards treatment. First, the participants must be treatment-seeking. Second, a medical practitioner, specialist health services or social services must promote or support treatment, and send an application for treatment (105). Third, the evaluating committee must consider the participants' situation to merit comprehensive substance use treatment (OMT or inpatient treatment). Thus substance users who were not motivated for or supported in applying for treatment, who were offered less comprehensive treatment or had their application completely declined were not part of the target population. As the overall aim was to follow patients entering inpatient and OMT treatment, this is essentially not a problem for the study. Still, it is important to be aware of the potential bias in healthcare access (138). On the other hand, the availability of free of charge substance use treatment in Norway considerably reduces the risk of a healthcare access bias due to specific subpopulations not having the means or insurance to pay for treatment themselves (141).

##### ***Selection of collaborating treatment centres***

The selection of collaborating treatment centres was opportunistic. The centres chose to be part of the NorComt study after being approached by the project leaders. Perception of resources, capacity and the expected benefits of the research could influence the decisions

of the centres. However, an effort was made to include a representative selection of treatment centres across the country.

### ***Capacity, resources and implementation at collaborating treatment centres***

The interview was designed to be useful in the clinical setting to facilitate the implementation of the study in routine assessments of new patients. Still, research collaboration is often an increase in work load without added resources for clinicians. The contributing treatment centers varied in capacity, resources and implementation of the research routines. This became apparent in the differences between the centers in the proportion of patients that were approached for participation and in actual participation in the study, and that the main cause for non-participation at T0 was logistical challenges. Lower response rates due to challenges in implementation of routines may be difficult to avoid as data collection through collaborators adds an additional “gatekeeper” between the researchers and the participants (149). Much was done to facilitate, motivate and check up on data collection through phone calls, visits, e-mails and seminar trainings. Streamlining the administrative implementation to a greater extent, for instance through prepackaged interview kits and procedures, could have clarified and reduced administrative work and evened out resource-related differences in response rates.

### ***Selection by the treatment centers and self-selection***

A non-response bias occurs when participants differ from non-participants (138). For instance, study participants are often found to be healthier than non-participants resulting in “the healthy volunteer effect” (150). If willingness to consent and participate are related to any of the variables measured in the study this can result in a self-selection bias (151).

We cannot rule out that non-participants differed from participants on unknown factors relevant for the study outcomes (150). We do know that there was no gender difference, however, non-participants were significantly older compared to participants. Since the prevalence of crime was associated with younger age (Paper I), it is possible that the younger study sample could inflate the estimates of criminal activity. When it comes to the identified associations between the dependent variables and other factors, we have adjusted for age in analyses and expect that any remaining bias effects from age would be moderate.

### ***Sample and selection bias at T1***

Loss to follow-up is common in longitudinal studies and for marginalized populations in particular (152, 153). Estimates of acceptable rates of loss to follow-up vary. A simulation study found follow-up rates of 40% to yield valid results when loss was random, while not even a rate of 80% was sufficient for non-random loss (154). A study of substance users (n=654) secured a 90-100% follow-up rate and then compared the complete cohort with the 60% that were easiest to reach. Differences in findings were small and gradual in spite of an association between follow-up difficulty and substance use outcomes (155).

The follow-up rate of the NorComt study was 62% and we estimate that reasons for loss to follow-up were both random and not random. Most of the non-participants at T1 were not reached (Figure 1). This was largely due to changes in contact information, and low quality information for alternative contacts. Low quality information could for instance reflect smaller personal networks or that interviewers' did not help in filling out the information.

Based on a general evaluation of the life-situation obtained for some of those lost to follow-up, we know that there were both positive and negative situations at T1 associated with loss to follow-up. In the authors' personal experience, some "negative" situations were accidents, illness and reduced mental health state. "Positive" situations were prioritizing time with children, making changes in their lives (for example moving houses) or working.

While comparisons of baseline characteristics may not be sufficient to completely rule out a selection bias (156), it provides some information on the degree of selection bias. At T0, the included participants had the same prevalence of criminal activity (yes/no); however, they had committed a higher number of criminal acts compared to those lost to follow-up. They were more likely to have completed mandatory education, of being employed or under education, and had a lower prevalence of life-time suicide attempts. In general, it is difficult to speculate on how the above differences between those included and those lost to follow-up could affect the findings. However, the few differences detected at T0 reduce concern for a major selection bias.

### **4.1.3. Information bias**

Information bias refers to systematic errors during data collection (138). These errors can be a result of the interview setting, the self-report methods or the validity of the measures used

in the interview. When an information bias is systematically present in a subgroup of the study population it can cause biased results; when randomly distributed in a study population it may obscure real differences and weaken associations between variables (137).

Self-report methods may be especially vulnerable to information bias compared to official records, registries or biological measures. On the other hand, self-report allows collection of more detailed information (157, 158) which makes self-report studies well suited for detecting correlations and associations, and controlling for confounders (157, 159). Further, self-reported substance use and criminal activity has acceptable validity compared to official records and biological measures (158, 160, 161), also among substance users (162).

#### ***4.1.3.1. Information bias in the interview setting***

The social setting of an interview can result in several types of bias, typically unintentional and difficult to eliminate. These types of bias can be anchored with the interviewer, the participant or occur in the interaction between the two.

##### **Interviewer and confirmation bias**

An interviewer bias can occur when the interviewer's demographics, experience, personality traits, presentation of the study and study-questions and nonverbal cues influence how the participants respond (163-165). The interviewer is more likely to affect responses to subjective and personal questions, or questions requiring further probing (163). Related, a confirmation bias, or observer expectation bias, is a result of the interviewer's preconceived ideas or expectations influencing the interpretation of the participant's response (166) or the degree of probing to ensure a common understanding (137, 140). At T0, a systematic interviewer bias is not likely with an estimated 75-100 different interviewers (164). At T1, the use of five interviewers could increase the impact of any interviewer bias (167). The risk of interviewer and confirmation bias can be reduced through training of interviewers, protocols and standardized interaction (140, 168). Interviewers at T0 and T1 were trained and summary sheets about the study, the interview and consent were provided, reducing the risk of interviewer bias.

##### **Social desirability bias**

A social desirability bias occurs when participants consciously or non-consciously present themselves in a way they prefer or believe the interviewer will prefer (169, 170). This is

relevant for the NorComt study as the risk of social desirability bias is increased in face to face interviews (171, 172) and when participants are not anonymous (173). At T1, participants would not meet the interviewers again, while at T0 the interviewer was part of the treatment centre. Further, an unconventional form of the social desirability bias, an exaggeration of negative aspects of their situation, could occur at T0 to justify the need for treatment and secure empathy. It is difficult to assess the effects of social desirability on the study results, however, substance using populations generally give reliable information in research settings (162), leaving little cause to suspect major systematic bias.

### **Memory errors, cognitive impairment and intoxication**

In any individual, memory is imperfect and what is remembered may be an estimate (174). Substance use may lead to both acute and persistent cognitive impairments which may cause further difficulties with memory (175-177). Cognitive impairment or memory errors could in particular impact questions about lengthy time-periods or periods with intoxication. Further, cognitive impairment or current intoxication can obscure important qualifiers, such as “in the past year” or “with the exception of”. Biases caused by memory errors or misinterpretation of questions become problematic when overrepresented in a subgroup of the population. This could be the case in substance using populations where more severe substance use and a poorer overall situation could be related to symptoms of cognitive impairment (178). However, we have no reason to believe such errors would be systematic, thus the result of this type of errors would be a weakening of associations.

When intoxication was suspected, interviewers would end the interview if it became apparent that participants were not following the questions or responses did not seem legit. A typical interview took 1-2 hours and participants could become tired. In fact, some did not complete all items for this reason. Fatigue can result in habituation, where participants respond similarly to questions resembling each other, or random or neutral responding to conserve energy (179). Interviewers attempted to be sensitive towards the participants’ needs and offered breaks if they appeared fatigued.

#### ***4.1.3.2. Reliability and validity of measures***

Reliability refers to a measure’s stability and internal consistency (145). A stable measure gives consistent results for the same individual within short time intervals (test-retest



reliability). Internal consistency refers to how well items that were meant to measure the same concept correlate, for example in a scale (145). Validity depends on how well a measure reflects what it was intended to measure, as well as the measure's responsiveness to change (145, 180).

### **Criminal offending and victimization**

In the dichotomous variables, one single incident resulted in categorization as criminally active or victimized. As it may be difficult to remember whether an incident occurred within the specified time-periods (180), this could lead to some misclassifications. However, we have no reason to expect any misclassifications to be systematically skewed in one direction.

Further, it may be problematic to group participants with one or two criminal acts across several months together with participants who committed crime daily. We know that a smaller proportion of criminally active substance users often are responsible for a disproportionate amount of crime (5, 24). This was also found in the NorComt sample (Paper I). We decided not to categorize into low and high crime groups as the measure of number of criminal acts suffered from a larger proportion of missing data. The same issues were present to a lesser extent for the question on number of victimization incidents.

Another matter was that the questions used to assess prevalence of criminal activity (yes/no) either referred to time-periods of different length (6 and 12 months) or was differently worded, which made direct comparisons difficult. Similarly, the number of criminal acts in periods of different length cannot be directly compared; this was solved by calculation monthly averages. The third prevalence variable where participants self-reported change in criminal activity from T0 to T1 was used both as an additional estimate of prevalence ("at T1") and when comparing continued and ceased crime groups (Paper III).

### **Substance use pattern**

To reduce repetition for participants, we assessed substance use with the NPR questionnaire (123), a routine questionnaire for patients entering treatment. Participants listed their four most used substances or prescribed medications. This measure raises some minor methodological concerns. First, the concept "most used" can refer to frequency, quantity or time spent under the influence, resulting in subjective interpretations of the question (169). Second, we only asked about four substances. The difference in use between a participant's

4<sup>th</sup> and 5<sup>th</sup> most used substance could be insignificant; still, the participant would be classified as a user of the 4<sup>th</sup> and not of the 5<sup>th</sup>. Similarly, two participants may list their identical use of a substance as their 2<sup>nd</sup> and 5<sup>th</sup> most used depending on how many other substances they used. Third, listing licit and illicit substances together may be problematic. The licit substances take up “spaces” and allow fewer illicit substances to be reported. This could result in one participant being categorized as a user of an illicit substance while another participant with the same use was not. Nevertheless, it must be said that these issues were not present for most participants and we expect the effects to have minor influence on the results. We obtained detailed data on substance use and assume that the most influential substances were identified for each participant. A list of four substances allowed adjustment for polysubstance use, which is a strength not present in studies that focus only on the main substance of abuse.

The severity of dependence scale has been validated for use with individual substances (124). By changing the scale to reflect general substance dependence the scale becomes difficult to conceptualize, as we do not know whether the score reflects average dependence of all substances used or whether high or low dependence on particular substances inflated or deflated the score. Still, we believe the SDS provides useful information and supplements the other measures of substance use pattern.

### **Self-control**

Although much explored, the self-control concept suffers from ambiguity (181, 182) and the use of widely different measures from single construct scales (such as the BSCS used in the present study), scales constructed of several subscales, to behavioural measures (such as delay discounting) (183, 184). The BSCS reflects impulse control and self-discipline/restraint (185, 186) and it has been argued that the BSCS maintains content validity (it represents the important facets of self-control) while avoiding criterion contamination (including facets that measure something else) (76). In this sample, scores were normally distributed at T0 and the mean BSCS score was comparable to samples of undergraduate students and jail inmates (76, 125), but lower than a general adult community sample (187). We see this as a strong indicator of the instruments validity in our study sample.

As mentioned earlier, the context of the interview and the perceived interest of the researchers can affect the participant's interpretation of questions (172). When recruited from substance use treatment, participants may evaluate their self-control based on their substance use-related behavior. This could be the case for some items, such as "sometimes I can't stop myself from doing something, even if I know it is wrong" and "I am good at resisting temptation", while less likely for others, such as "I say inappropriate things" or "I am able to work effectively toward long-term goals". In most instances, substance use-related self-control would perhaps be similar to the general self-control, as the substance use could be considered a core behavior for the participants.

#### **4.1.3.3. Variable selection and model building**

The NorComt data includes a wide selection of variables with little loss of statistical power due to missing values. The balancing act of including relevant variables and excluding irrelevant or unnecessary variables from statistical models can be challenging. Model selection has even been referred to as "an art" because there are no clearly superior methods (139). For the research to be relevant, it is important to adjust for confounding factors (141). At the same time, a model with too many variables and insufficient power may yield unreliable estimates and uncertain interpretations (139).

In paper I, analysing the entire sample together (n=548) provided sufficient statistical power to include all relevant variables and confounders for the research question. For example, all types of substances were included regardless of significance in univariate analyses. In paper II, the sample was stratified into offender and non-offender groups. The smaller n in each group reduced power and resulted in inclusion of only variables that were significant in univariate analyses in addition to age and gender. In paper III we used follow-up data available for n=341 participants and included two of three subcategories in adjusted analyses (n=293). Thus we limited the article to further explore the significant variables from adjusted analysis in paper I, age, gender and one variable related to treatment.

#### **4.1.3.4. Significance testing**

A null hypothesis in research refers to the assumption that there is no effect, for instance, no difference between groups or no association between variables (188, 189). A probability value (P-value) reflects the probability of observing the study result, or a more extreme

result, if the null hypothesis is true (190). Thus, the lower the P-value is, the stronger the evidence against the null hypothesis. When evaluating evidence against the null hypothesis, two types of error can occur. A Type I error (false positive) occurs when the null hypothesis is rejected even though it is true: an effect is found in the study population, but does not exist in the target population (137). A Type II error (false negative) occurs when the null hypothesis is maintained even though it is false: a study fails to find an effect that is actually present in the target population. Using a threshold for statistical significance ( $\alpha$ ) is an objective way of deciding when to reject the null hypothesis. In many research fields the conventional  $\alpha$  level is 0.05 which gives a 1 in 20 probability of a false positive (190, 191). However, it has been suggested that with the multitude of significance tests being performed and the publication bias favouring research with significant findings, this  $\alpha$  level does not sufficiently protect from false positive results (192). Of 20 studies where 19 find no effect and 1 finds a false positive effect, the study with the false finding will likely be published, while the other 19 studies remain unpublished. To reduce false positive findings, a lowering of the conventional  $\alpha$  level has been suggested (192). Others are against strict  $\alpha$  levels and argue that the evidence against the null-hypothesis is a continuous function of the P-value, which should be interpreted in light of other information. They warn that lack of statistical significance should not be confused with a lack of theoretical or practical significance (191). These perspectives should be kept in mind when interpreting P-values.

In the current analyses the conventional 0.05  $\alpha$  level has been used both as a threshold for significance and for inclusion in multivariate analyses. The set  $\alpha$  level was not corrected for multiple tests (193) even though multiple testing may increase the risk for Type I errors (139). When the number of tests needed to select a model is not known beforehand such correction is difficult (139). That said, the variables chosen for testing towards the models were selected based on previous research, clinical relevance and researcher evaluation of likely relationships, which again decreases the risk of Type I errors (139).

#### **4.1.4. Confounding factors**

Confounding occurs when one or more other factors are part of an association between two factors without being mediators of the effect (141, 148), resulting in a blurring of the relationship (137). We can adjust for confounders that are known and measured, but it is

difficult to rule out all confounding factors in an observational design and it is difficult to assess the extent of influence of unknown confounders on the study results.

In the present studies we have adjusted for potential confounders in analyses and stratification ensured variables associated with victimization were not confounded by offender-status (Paper II). However, data on all potential confounders were not available. For instance, the association between younger age and criminal activity (Paper I) could be confounded by unmeasured factors, such as sociodemographic events and maturation (194-196). Cognitive impairments are prevalent among substance users and could affect criminal behaviour (178), as well as other variables in the study. Nevertheless, a wide selection of variables allowed adjustment for factors often not available in other studies and we do not expect confounders to have a major impact on the presented results.

#### **4.2. External validity**

Research findings have external validity when they are meaningful beyond the specific study population (137). The study should at the least be representative of its target population, which is achieved by avoiding severe selection bias. Further, generalizability to similar populations and other countries is often sought. External validity depends on internal validity (137, 138). Still, the two types of validity often have a negative correlation. Narrow criteria for participation gives a less diverse study sample which reduces the risk of confounders and increases internal validity. Simultaneously, the external validity may be reduced as it is difficult to generalize from highly specific samples (137).

The representativeness of the sample may be more important for generalization of prevalence estimates of criminal offending and victimization, while the associations identified in adjusted analyses may be more easily generalized to other populations (197). For instance, although there is evidence that crime prevalence is lower among substance users who are treatment-seeking compared to those who are not (117), there is little reason to believe stimulant use would be differently associated to crime in these two groups. Generalizing from severely dependent users to recreational users, however, would be problematic as these two groups differ in many ways. Thus, the properties of the population one wishes to generalize to must always be included in the assessment of generalizability.

An important observation of the generalizability of cohort studies was made by Boffetta (198). Human populations are dynamic and change for a number of reasons, thus a sample may lose its representativeness over time. It is not unconceivable that future policy changes in substance use treatment or other factors that affect substance use, such as availability of different substances, could change the representativeness of this study population. The point made by Boffetta (198) was that we cannot control these changes in target populations and their circumstances. As a result, external validity may be difficult to determine and should perhaps not always be sought at the cost of internal validity. Further, this point encourages local and repeated research to evaluate substance use treatment and its outcomes.

We cannot rule out that the difference in age between participants and non-participants at T0 or differences in setting across countries could affect the external validity of the findings. Still, we believe the findings are representative for patients entering OMT and inpatient treatment in Norway and that the findings are meaningful for similar populations in countries with similar treatment policies and health care systems.

### **4.3. Ethical considerations**

The ethics in research on substance using populations are fundamentally the same as in other populations, with focus on autonomy, avoidance of harm, and expected benefits (199). The vulnerability of substance using populations should be taken into consideration as social exclusion, stigma and mental health issues are prevalent (44, 49, 200, 201). The NorComt study was approved by the Norwegian regional ethics committee (ref: 2012/1131/REK).

#### **4.3.1. Autonomy**

Participation was voluntary and it was made clear that declining would not affect the treatment provided. Patients may still have found it difficult to refuse participation at T0 as they may have wanted to please the clinicians or to show cooperation.

At T1, participation was compensated with a ≈€/£30 gift card and travel expenses were covered. Compensation of research participants can reduce the degree of voluntary consent, in particular for persons in financial need (199). However, substance users rarely have monetary gain as their only motivation for participation (202) and their main motivation is

expected benefits for themselves and others (203). This mirrors the experience of the T1 interviewers; participants usually consented before the gift card was mentioned.

#### **4.3.2. Adverse consequences**

Interview studies are generally expected to have a low risk of adverse consequences for participants (199). The main ethical concern for participation was related to negative effects of sensitive questions. The interview covers among other things illicit substance use, criminal activity and victimization, physical and mental health, suicide and the quality of relationships with friends, family and children. For some, participation could be an exercise in exposing negative sides of themselves and their situation. Particularly at T0 where all participants were at a stage where comprehensive treatment was warranted and at T1 for participants where there had been no or negative development. It was emphasized that participants could choose not to respond to items or to withdraw from the study at any time. Sensitivity and respect towards participants were important themes for the researchers and were discussed throughout the project.

At T0, negative reactions to the interview themes could be followed up by the clinicians. At T1, when interviews were conducted by researchers, we cannot rule out that some participants were left with negative thoughts or emotions following the interview. Sensitivity towards the participants' needs was a difficult balancing act. For instance, if a participant confirmed a recent attempted suicide, the researcher should not probe unnecessarily into the topic beyond the interview questions, at the same time compassion and attempting to ensure the participant's safety would be important. If necessary, the interviewer could give information on or assist in contacting support and emergency agencies.

Confidentiality and privacy are important aspects (199). Individual level information was not shared beyond the research group with the exception of T0 data being available for the treatment centres. Privacy was important for T1 interviews conducted in public places to avoid being overheard and ensure participants were comfortable with the setting.

At T0, strain and additional research-related work for clinicians could reduce resources available for treatment of patients, in particular for the OMT centres. The lower participation rates from some centres may reflect a choice to prioritize treatment of patients above

research participation. Minimizing strain on collaborating clinics is important for this reason and was attempted in collaboration with clinicians at the implementation of the study.

#### **4.3.3. Expected benefits of research**

The structured interview was developed to make the interview useful in assessment of new patients at T0. Aspects of the patients' history covered by the interview may be clinically relevant. For instance, two interviewers at T0 reported that male patients had talked about experiences of sexual abuse in a clinical setting for the first time as a result of a direct question in the interview. At T0, having a clinician available for further discussion and who could refer the participants to appropriate counselling if necessary, was an ethical strength and potential benefit for the participants. At T1, researchers could not discuss topics further although they could facilitate contact with other agencies when necessary.

Participants should benefit from any new knowledge the research provides. At T1, they were given a card containing the study's website where study findings were reported. Realistically, the website probably has not had much traffic from the research participants. Still, the participants may benefit from the new knowledge communicated to the clinicians and any future clinical implementations this research has and will contribute to.

The interview had the potential for being a positive experience. The interviewers' impression at T1 was that this applied to most. It was an opportunity to share expert knowledge with researchers, to contribute towards the community and give feedback on the treatment they had received. Towards the end of the T1 interview, participants evaluated whether a number of areas in their lives now were "worse", "the same" or "better" compared to before treatment. For those who found themselves repeatedly responding "better", the extent of change and improvement in the past year were emphasized and provided a positive ending of the interview. Of course, this could have the opposite effect on participants who experienced no change or changes towards the negative, but almost all participants had experienced improvements in some aspects of their lives. Interviewers would attempt to summarize and leave the participants with a feeling of a job well done and an understanding of the importance of their contribution to research.



## 5. DISCUSSION OF RESULTS

### 5.1. Prevalence of offending

Nearly two thirds of participants reported criminal activity in the 6 months before baseline, one third in the 12 months before follow-up, while one fifth reported current criminal activity at follow-up.

The crime rate of 64% in the 6 months before baseline was comparable to what has previously been found in self-report studies of crime in 1-3 month periods before treatment start (4, 5, 21, 22). There was low specialization within types of crime; over two thirds of the criminally active had committed more than one type of crime. This is typical, as low criminal specialization is common not only among substance users, but offenders in general (204). For nearly all, income-generating crime was among the types of crime committed. A similar distribution of types of crime has been seen in other substance using populations (23, 24) and may partly reflect the need to finance substance use. Traffic violations were reported by two thirds in the 6 months before baseline. Although we have no details on the traffic violations, a previous study of substance users in Norway found that driving without a valid license and driving under the influence were the most common reasons for convictions for traffic violations (24). Violent crime had been committed by one third of participants, which appears high compared to other studies that find a prevalence of 10-15%. However, these other studies investigated a 1 month period (22, 23) compared to 6 months in the present study. We have no data on the circumstances for the violent offences, however, previous research has found that violent crime among substance users often is related to the street code and the subculture associated with illicit substance use (66, 205).

In the 12 months before follow-up, 32% reported committed crime, which is a reduction by half compared to the 6 months before baseline. Even among those who were criminally active in both time-periods, the average number of monthly criminal acts was significantly reduced. This supports previous findings that substance use treatment have important benefits in reducing criminal activity among substance users (4, 25, 110-112, 114, 206-209).

A third measure of crime prevalence assessed current crime at follow-up. One fifth of participants categorized themselves as currently criminally active at this time-point, demonstrating an additional reduction in crime rates one year after treatment start.

Comparable reductions in crime have been seen in a 3-year follow-up study where criminal activity was assessed for the previous month. In that study, crime rates were high before treatment start, a large reduction was seen 3 months after treatment start, after which rates remained fairly stable until a further reduction was seen 24 months after treatment start (21). These findings and those of the present study suggest that a relatively immediate cessation of crime when entering substance use treatment can be expected for many patients, but that there may also be a benefit over time, perhaps because treatment stabilization, therapeutic processes or changes in life-situation can take time to achieve.

## **5.2. Factors associated with offending and ceased offending**

Criminal offending in the 6 months before baseline was associated with stimulant use, polysubstance use, a substance using social network, low self-control and younger age. Ceased criminal activity at follow-up was more likely among participants who had not used stimulants in the periods covered by the study, participants who left a substance using social network and participants with improvements in their self-control score.

### **Structural contexts and social setting**

Younger age was associated with crime in the 6 months before baseline (Paper I) and has consistently been associated with increased likelihood of crime in other studies of substance users (5, 21, 23, 37). The association between younger age and crime may be partly explained by a general desistance of crime with increasing age (210), perhaps following maturation or increased stability. However, neither younger nor older age was associated with ceased crime at follow-up (Paper III), indicating that although younger age was associated with crime at baseline, other factors were more important for crime outcomes one year later.

In our study population, there was a higher prevalence of crime among men, however, being male was not associated with crime in adjusted analyses (Paper I). Male gender has been associated with crime in previous studies of substance users (21, 24), but not in all (23, 37). This could mean that although offending is more prevalent among men, gender is not necessarily an important characteristic of offending substance users when other social and individual factors are taken into account, such as severity of use.

There are some indicators that housing situation, education and employment are important in relation to crime among substance using and offending populations (23, 46), however, these factors were not associated with criminal activity in this sample (Paper I). This could reflect the relative homogeneity of the sample when it comes to poorer social and structural conditions, for instance, only 11% were employed or under education.

Social exclusion is common among substance users (44, 48, 49) and obtaining a social network without substance use is considered an important part of substance use treatment (50). We found that having a social network mainly consisting of other substance users was associated with crime in the 6 months before baseline (Paper I), while having left such a network was associated with ceased crime at follow-up (Paper III). This is in line with previous findings of an association between having a substance using social network and crime (22), and also findings that an abstinent network or a network with high social support was associated with better treatment outcomes (50). There are similar findings in offending populations; a higher quality of the network in terms of social support has been associated with reduced risk of substance use and criminal activity (51, 52). In this context, it is possible that the division of the social network into substance using or not substance using in the present study may serve as a proxy for lower and higher quality social support in the network.

#### **Individual level factors**

Stimulant use was associated with offending before baseline when controlling for a number of other substances and substance use factors (Paper I). Further, participants who reported no stimulant use in the study period were more likely to have ceased their criminal activity at follow-up compared to those with continued stimulant use (Paper III). This supports previous associations found between stimulant use and crime in substance using populations (5, 23, 58, 211), although not all studies have found this association (21). The potential reasons for the stimulant-crime relationship are many. Use of amphetamines, which are the most commonly used stimulants in this sample, can cause irritability, agitation and aggression, increased vigilance, fearful delusions and paranoid states, disorientation and confusion, as well as compulsive behaviours (67). These changes in behaviour caused by the pharmacological effects of amphetamines could affect violent offending in particular, but

also general offending. Increased risk-taking and sensation seeking (212), impulsivity and disinhibition (212, 213), and impaired decision making (214) has been seen in subgroups of stimulant users and could affect the levels of criminal activity. One study of chronic stimulant users and chronic heroin users found poor quality decision making only among the stimulant users (215), suggesting that there may be a particular relationship between stimulant use and decision making. These traits or behaviours could be part of the explanation of the stimulant-crime association, whether the traits emerge as an acute or degenerative effect of the stimulant use, or were present before initiation of the stimulant use. Overall, our findings from baseline and follow-up suggest stimulant use is persistently related to offending over time, which could mean that stimulant users may need targeted treatment interventions to improve both substance use and crime outcomes (211).

In the unadjusted analyses, cannabis and illicit benzodiazepines were associated with crime at baseline, while illicit opiate use appeared to have a protective effect. These substances however were no longer significant when controlling for other substance use factors (Model 1 and 2 in Table 3, Paper I). This underlines the importance of including and controlling for a number of substance use measures in research, even when they are not significant in univariate analyses, as they are part of a larger picture of the individual's pattern of substance use and other behaviours.

Polysubstance use was associated with offending at baseline (Paper I). We also saw a marked reduction in number of substances used among those who had ceased crime at follow-up compared to the continued crime group, however, not significant when adjusting for other variables (Paper III). Polysubstance use has been associated with crime in a number of previous studies (21, 37, 59-61) and may reflect a more severe pattern of substance use with higher risk of psychological comorbidity, health problems and impairment in cognitive functioning (216). Offenders have reported using substances for courage before committing crime or to reduce anxiety or to celebrate after committing crime (66, 69, 70). Considering that different substances are used to induce different effects, it is possible that the use of substances for crime-related purposes contributes to the association between polysubstance use and crime. Further, polysubstance use may for some reflect a more opportunistic use of whichever substances are available (216), while for others it may reflect an increase in

overall use. The latter scenario could lead to an increased need for crime to finance the substance use.

Higher severity of dependence was associated with crime at baseline in unadjusted analyses and in analyses controlling for other substance use factors, however, when self-control was included in the model, severity of dependence was no longer significantly associated with crime (Model 1, 2 and 3 in Table 3, Paper I). This could mean that a measure of psychological dependence, such as the SDS, can serve as a mediator for parts of the effect of self-control on crime among substance users, or that the two concepts are closely related in other ways. The latter is not unlikely as a loss of control of substance use is part of the ICD-10 definition of substance dependence.

We found lower levels of self-control to be associated with crime at baseline (Paper I), and an increase in self-control score was associated with a higher likelihood of having ceased crime at follow-up (Paper III). This supports the central role self-control has been given in criminology and substance use theories (74).

Self-control has been implicated as an important part of explaining substance use and dependence (217-219). There is evidence that levels of self-control can predict risk for substance use. Lower self-control in early years increases the risk for substance use at a later time (220), while higher self-control lowers the effects of other risk-factors for substance use, such as negative life-events and peer substance use (221). There is also evidence that use of substances can disrupt the underlying brain circuits that are responsible for self-control (218), thus substance use in itself can decrease self-control. In the present substance using population, where we would expect levels of self-control to be generally low considering the association between self-control and substance use, we still find a strong and clear association between low self-control and crime.

A number of interventions that target and increase self-control have shown promise in diverse populations (222, 223), including problem alcohol users (224). Among jail inmates, self-control training has been associated with reduced likelihood of re-arrest for those who received training compared to those who did not one year after release (23% and 55%) and three years after release (47% and 60%) (225). Even practicing small acts of inhibition has

been found to improve overall self-control (226). Although substance use treatment methods most likely target self-control functions in some form already (for instance through cognitive behavioural therapy), we suggest that specific self-control training be implemented and assessed more deliberately in treatment programs. Awareness of and improvement of self-control would be of particular benefit in these populations due to its connection to both substance use and crime.

### **Treatment**

Patients selected for inpatient treatment had an increased likelihood of crime at baseline compared to those selected for OMT, also in the full model adjusting for age, substance use, self-control and more (Paper I). This difference in risk of crime may reflect how patients are selected for the different treatments or factors that influence their treatment preferences. The inpatients were on average 10 years younger, had higher rates of stimulant use and polysubstance use and had lower self-control scores. Although these factors were controlled for in adjusted analysis, it is possible that the accumulation of identified risk-factors for crime, in addition to unknown factors that differ between the treatment groups, increased the likelihood of crime among patients selected for inpatient treatment.

We found no association between time in treatment and ceased crime at follow-up (Paper III), however, this could be due to relatively similar treatment durations among the subgroups. Previous research is inconsistent, some studies have found an effect of time in treatment (227, 228), while other studies have not (4). It can be difficult to assess the level and quality of treatment received and completed in a population where interruptions, re-entries, change of treatment form and receiving more than one type of treatment simultaneously are common.

### **5.3. Prevalence of victimization and the victim-offender overlap**

Any victimization in the 6 months before baseline was reported by over half of the participants and nearly one third reported violence victimization. Victimization was more prevalent in offenders compared to non-offenders, and in women compared to men. Repeat victimization was common among both genders.

Compared to a general population survey in Norway (n=6393) (39), the prevalence of property victimization and violence victimization was 8 and 16 times higher in our sample

(Paper II). We found rates of victimization that were comparable to previous reports among substance users (6, 15, 29). Both offender status and gender appears to influence the proportion of victimization and the number of incidents. More victimization was reported by offenders compared to non-offenders, and women compared to men, leaving offending women as the group that had both the highest prevalence of victimization and had experienced the highest level of repeat victimization (Paper II). When looking at violence victimization in particular, this was reported by half of offending women one third of offending men, one fourth of non-offending women and one fifth of non-offending men. This falls in line with previous findings of offenders experiencing more violence compared to non-offenders (29) and women substance users experiencing more violence compared to men (229).

An additional measure of life-time sexual victimization showed high prevalence among both genders. Over half of offending women reported sexual victimization, followed by nearly one third of non-offending women and one in ten of offending and non-offending men (Paper II). High prevalence of sexual victimization has previously been reported in substance using (28, 230) and offending populations (231).

As expected, there was an extensive overlap between criminal activity and criminal victimization (Paper II). Four out of five participants had been involved in crime either as victims or offenders in the 6 month period. Over half of these had been both victims and offenders. This underlines the degree to which crime is present in the lives of substance users, and how it can be difficult to discern between offending and victimized substance users as the members of each group frequently crossover to the other.

#### **5.4. Factors associated with victimization**

Victimization was associated with markers for severe substance use and markers for poor mental health among both non-offenders and offenders. Unstable housing was a particular risk factor for victimization among non-offenders.

#### **Structural contexts and social setting**

We found no association between younger age and victimization (Paper II). As there is an elevated risk of victimization in substance using populations, it is possible that the age effect seen in general populations is less distinctive for substance users.

Unstable housing was associated with victimization among non-offenders (Paper II), supporting previous findings among substance users (6, 30). It is important to note that the reason why we found this association only among non-offenders was that the prevalence of unstable housing was substantially lower among non-victimized non-offenders (6%) compared to the three other groups (21-28%; Table 2, Paper II). Although no statistics are available, it is not uncommon in Norway that persons completing or leaving substance use treatment, or released from prison, are provided public housing in apartment blocks where persons with substance use and other psychosocial challenges are collocated. Substance users living in these types of apartment buildings have reported sale of illicit substances in the building and difficulty avoiding other substance users that seek a place to “crash” (232). As an effect, this type of housing may not provide sufficient protection to avoid victimization and may even increase the risk in some cases. Our findings imply that provision of safe and stable housing may be an important aspect of preventing victimization and should be a focus for treatment providers and their collaborators (30).

We could not conclude that there was an association between a substance using social network and victimization (Paper II). According to routine activities theory, associating with other substance users would be a likely risk-factor for victimization. It is possible that it is not necessarily the time spent with other substance users in itself that influences the level of victimization, but rather the need to seek out insecure settings to obtain illicit substances (29). It is also possible that having any kind of social network can be protective depending on characteristics beyond substance use.

#### **Individual level factors**

Stimulants were the only specific type of substances to be associated with victimization before baseline (Paper II). There may be a number of explanations for this association. Stimulant users may socialize with or seek out other stimulant users. Considering that stimulant use was associated with offending (Paper I), socializing with other stimulant users may result in exposure to offenders and increase the risk for victimization, in line with routine activity theory (53). Additionally, doses of stimulants are used frequently which could result in recurrent contacts with potential offenders (29). It is also possible that victimization could be a direct result of the pharmacological effects of stimulants (29). As



mentioned in the discussion of the association between stimulant use and offending, amphetamine use can cause agitation, aggression, disorientation and confusion (67), impaired decision-making (214) and increased risk-taking (212). These behaviours could contribute to increased vulnerability to victimization.

Stimulant use and polysubstance use were associated with victimization only among non-offenders (Paper II), while both were associated with offending (Paper I). It is possible that the difference in association between these two factors and victimization among offenders and non-offenders is more a result of the high prevalence of stimulant and polysubstance use among offenders concealing an effect on victimization, instead of there being a “real” difference in these risk-factors dependent on offender status.

Intravenous use of substances was associated with victimization among offenders only (Paper II). Intravenous use has previously been associated with victimization among substance users (29) and can be seen as a marker for more severe substance use (233). Increased severity of use can reduce the ability to protect oneself or ones property (234), or avoid risky settings, which could cause the association with victimization (29).

Self-control was not associated with victimization in our analyses (Paper II) even though the concept of self-control is considered central for victimization in some theories (79, 80). In adolescents, low self-control was more strongly associated with offending than victimization when both were simultaneously used as dependent variables in the same model (14). Further, a meta-analysis found the association between self-control and victimization to be moderated when controlling for deviant behavior such as offending and substance use (78). This could be part of the reason why we found no strong association in our analyses. Additionally, as discussed in the methodological considerations, how self-control is measured varies, which could explain differences in findings.

Higher mental distress in the form of anxiety and depression symptoms was associated with victimization among non-offenders, while ever having attempting suicide was associated with victimization among offenders (Paper II). Increased mental distress and suicide attempts have been associated with violence or property victimization among substance users (6), offenders (81) and adolescents (84). In a longitudinal study, there was evidence of

causal connections in both directions, where victimization could lead to increased mental distress, but also where mental distress could lead to increase in or repeated victimization (6). Adding to this, previous victimization is a reliable predictor of future victimization (84, 235). In a general population study, the highest risk for victimization was among substance using women who had previously been victimized (236). Substance use treatment may benefit from identifying and addressing victimization among patients and ensuring that appropriate and holistic treatment is provided, including focus on mental health aspects.

## **6. SUMMARY AND CLINICAL IMPLICATIONS**

Prevalence of offending was high before treatment start; however, there was a substantial reduction one year following treatment. Factors associated with criminal offending were stimulant use, polysubstance use, a substance using social network, lower self-control score and younger age. Ceased criminal activity was associated with no use of stimulants, and positive changes in social network and self-control.

There was a high prevalence of victimization before treatment start, which to a large extent overlapped with criminal offending. Factors associated with victimization were related to more severe substance use, poorer mental health and unstable housing.

The high prevalence of both offending and victimization among substance users, and the overlap between the two roles has great clinical relevance. The most important implication is that professionals need to be aware not only that most substance users are involved in crime as victims or offenders, but also of the associated structural, social and individual characteristics. Further, knowledge about the victim-offender overlap is important for clinicians, correctional workers and policy makers as it means, for instance, that a large number of patients in substance use treatment and inmates in correctional services may be in need of victim care and support.

More specifically, screening for offending, victimization and the associated characteristics could allow application of tailored treatment. For instance, it may be important to target stimulant and polysubstance use, in particular among OMT patients where opiate use often is the focus of treatment. Individually adapted treatments could improve outcomes for the individual while simultaneously reducing costs of imprisonment, future victimization and even welfare by reducing negative mental health effects and improving employability.

Considering that unstable housing and a substance using social network were associated with criminal victimization and offending respectively, the issues of available and safe housing and whether housing options are collocated with other substance users are also important. Further, as building new networks is difficult, there should be a focus on the patient's opportunity and ability to build a network without substance use. This could be

through facilitating and supporting activities with social contexts, such as education, work or leisure activities.

Finally, it is important to be aware that criminal offending, although more prevalent among men, was nearly as prevalent among women. Similarly, women experienced victimization to a substantially larger degree than men in this sample, although the prevalence of recent victimization as well as life-time sexual violence was very high among substance using men compared to the general population. This suggest there is a need for interventions for offending and victimization among both genders, and also that gender specific interventions may be important when considering that the burden of victimization is higher among women.

## 7. FUTURE RESEARCH

As the prevalence of offending and victimization in substance using populations has been well established, future research should focus on clinical implications and interventions to reduce offending and victimization. Although allocating patients to treatment and no treatment in a randomized controlled trial (RCT) can be ethically challenging, the RCT framework could be used for assessing new components of treatment where some patients receive specific interventions while others receive treatment as usual.

I: We found that markers for more severe substance use were associated with offending and victimization. For offending, specifically designed studies should investigate whether this association, not to substance use in itself, but to more severe use, is driven by dependence-factors increasing the need for crime, or by criminal activity increasing the need for more diverse and extensive substance use. For victimization, whether victimization experiences drive more severe substance use is an important question. This would clarify to what degree a focus on offending and victimization in substance use treatment could be a part of reducing substance use and improving outcomes. It is likely that the causal pattern differs for different individuals, thus flexible interventions that fit varied trajectories could be developed. As longitudinal studies are costly and design of questionnaires or interviews that capture complex relationships is difficult, qualitative or mixed methods could be a good starting point for this type of investigation.

II: Whether complete abstinence is necessary to reduce crime, or a reduction or stabilization of substance use is sufficient, is relevant when considering the goals of provided treatment (i.e. abstinence-oriented treatment versus harm-reduction and stabilization). Future studies should investigate crime outcomes in relation to changes in frequency of use and doses used, in addition to polysubstance use and specific substance types.

III: Future research on social network and crime among substance users should include measures of both substance use and criminal activity in the network, and should aim to assess the quality of the network in terms of support, prosocial qualities and other influences. This would give a better understanding of which characteristics of the network are associated with crime, whether it is the substance use in itself or other aspects.

IV: Studies investigating self-control interventions should take great care when selecting an outcome measure for self-control as many are available. If possible, validity of the self-control assessment could be improved by combining a measure such as the BSCS with a measure of actual consequence-related behaviour, such as delay discounting or gambling tasks.

V: Observational studies with detailed information about received treatment could help identify which treatment factors are most important for outcomes. Relevant aspects of treatment would be treatment quality and quantity, including treatment goals, motivation, interruptions, degree of completion, components of the treatment and the quality of the patient-clinician relationship.

## REFERENCES

1. McCollister KE, French MT, Fang H. The cost of crime to society: new crime-specific estimates for policy and program evaluation. *Drug Alcohol Depend.* 2010;108(1-2):98-109.
2. Mens NS. Towards an understanding of 'fear' as an intangible cost of crime. *International Review of Victimology.* 2007;14(2):219-35.
3. Nilsson A, Estrada F. Victimization, inequality and welfare during an economic recession: a study of self-reported victimization in Sweden 1988–99. *British Journal of Criminology.* 2003;43(4):655-72.
4. Teesson M, Ross J, Darke S, Lynskey M, Ali R, Ritter A, et al. One year outcomes for heroin dependence: findings from the Australian Treatment Outcome Study (ATOS). *Drug Alcohol Depend.* 2006;83(2):174-80.
5. Stewart D, Gossop M, Marsden J, Rolfe A. Drug misuse and acquisitive crime among clients recruited to the National Treatment Outcome Research Study (NTORS). *Criminal Behaviour and Mental Health.* 2000;10(1):10-20.
6. Stevens A, Berto D, Frick U, Kerschl V, McSweeney T, Schaaf S, et al. The Victimization of Dependent Drug Users Findings from a European Study, UK. *European Journal of Criminology.* 2007;4(4):385-408.
7. White HR, Gorman DM. Dynamics of the drug-crime relationship. *Criminal justice.* 2000;1(15):1-218.
8. Flexon JL, Meldrum RC, Piquero AR. Low Self-Control and the Victim–Offender Overlap A Gendered Analysis. *Journal of Interpersonal Violence.* 2015;31(11):2052-76.
9. Jennings WG, Higgins GE, Tewksbury R, Gover AR, Piquero AR. A longitudinal assessment of the victim–offender overlap. *Journal of Interpersonal Violence.* 2010;25(12):2147-74.
10. Silver E, Piquero AR, Jennings WG, Piquero NL, Leiber M. Assessing the violent offending and violent victimization overlap among discharged psychiatric patients. *Law Hum Behav.* 2011;35(1):49-59.
11. TenEyck M, Barnes J. Exploring the Social and Individual Differences Among Victims, Offenders, Victim-Offenders, and Total Abstainers. *Victims & Offenders.* 2017:1-18.
12. Mustaine EE, Tewksbury R. Comparing the lifestyles of victims, offenders, and victim-offenders: A routine activity theory assessment of similarities and differences for criminal incident participants. *Sociological Focus.* 2000;33(3):339-62.
13. Mulford CF, Blachman-Demner DR, Pitzer L, Schubert CA, Piquero AR, Mulvey EP. Victim offender overlap: Dual trajectory examination of victimization and offending among young felony offenders over seven years. *Victims & Offenders.* 2016:1-27.
14. Posick C. The overlap between offending and victimization among adolescents: Results from the second international self-report delinquency study. *Journal of Contemporary Criminal Justice.* 2013;29(1):106-24.
15. French MT, McCollister KE, Alexandre PK, Chitwood DD, McCoy CB. Revolving roles in drug-related crime: The cost of chronic drug users as victims and perpetrators. *Journal of Quantitative Criminology.* 2004;20(3):217-41.
16. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *European Drug Report: Trends and developments 2017.* Lisbon: EMCDDA;2017.
17. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *The state of the drugs problem in Europe: Annual Report 2010.* Lisbon: EMCDDA; 2010.
18. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *The Drug Situation in Norway 2012: Annual Report to the European Monitoring Centre for Drugs and Drug Addiction.* Lisbon: EMCDDA; 2013.
19. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *Country Drug Report Norway 2017.* Lisbon: EMCDDA;2017.

20. Gjersing L, Bretteville-Jensen AL. Patterns of substance use and mortality risk in a cohort of 'hard-to-reach' polysubstance users. *Addiction*. 2017.
21. Marel C, Mills KL, Darke S, Ross J, Slade T, Burns L, et al. Static and dynamic predictors of criminal involvement among people with heroin dependence: findings from a 3-year longitudinal study. *Drug Alcohol Depend*. 2013;133(2):600-6.
22. Best D, Hernando R, Gossop M, Sidwell C, Strang J. Getting by with a little help from your friends: the impact of peer networks on criminality in a cohort of treatment-seeking drug users. *Addict Behav*. 2003;28(3):597-603.
23. Oteo Perez A, Benschop A, Blanken P, Korf DJ. Criminal involvement and crime specialization among crack users in the Netherlands. *Eur Addict Res*. 2015;21(2):53-62.
24. Bukten A, Skurtveit S, Stangeland P, Gossop M, Willersrud AB, Waal H, et al. Criminal convictions among dependent heroin users during a 3-year period prior to opioid maintenance treatment: a longitudinal national cohort study. *J Subst Abuse Treat*. 2011;41(4):407-14.
25. Lind B, Chen S, Weatherburn D, Mattick R. The Effectiveness Of Methadone Maintenance Treatment In Controlling Crime An Australian Aggregate-Level Analysis. *British Journal of Criminology*. 2005;45(2):201-11.
26. Cooper J, Jarrett M, Forrester A, Forti M, Murray RM, Huddy V, et al. Substance use and at-risk mental state for psychosis in 2102 prisoners: the case for early detection and early intervention in prison. *Early Intervention in Psychiatry*. 2016. doi:10.1111/eip12343.
27. Boys A, Farrell M, Bebbington P, Brugha T, Coid J, Jenkins R, et al. Drug use and initiation in prison: results from a national prison survey in England and Wales. *Addiction*. 2002;97(12):1551-60.
28. McKeganey N, Neale J, Robertson M. Physical and sexual abuse among drug users contacting drug treatment services in Scotland. *Drugs: Education, Prevention, and Policy*. 2005;12(3):223-32.
29. McElrath K, Chitwood DD, Comerford M. Crime victimization among injection drug users. *Journal of Drug Issues*. 1997;27(4):771-83.
30. Neale J, Bloor M, Weir C. Problem drug users and assault. *International Journal of Drug Policy*. 2005;16(6):393-402.
31. Sampson RJ, Lauritsen JL. Deviant lifestyles, proximity to crime, and the offender-victim link in personal violence. *Journal of research in crime and delinquency*. 1990;27(2):110-39.
32. Darke S, Torok M, Kaye S, Ross J, McKetin R. Comparative rates of violent crime among regular methamphetamine and opioid users: offending and victimization. *Addiction*. 2010;105(5):916-9.
33. McCoy HV, Messiah SE, Yu Z. Perpetrators, Victims, and Observers of Violence Chronic and Non-Chronic Drug Users. *Journal of Interpersonal Violence*. 2001;16(9):890-909.
34. Reingle JM. Victim-Offender Overlap. In: Miller MJ, ed. *The Encyclopedia of Theoretical Criminology*. Chichester: Wiley; 2014. p. 911.
35. Lauritsen JL, Sampson RJ, Laub JH. The link between offending and victimization among adolescents. *Criminology*. 1991;29(2):265-92.
36. Piquero AR, Farrington DP, Blumstein A. The criminal career paradigm. *Crime and justice*. 2003;30:359-506.
37. Kinner SA, George J, Campbell G, Degenhardt L. Crime, drugs and distress: patterns of drug use and harm among criminally involved injecting drug users in Australia. *Aust N Z J Public Health*. 2009;33(3):223-7.
38. Elonheimo H, Gyllenberg D, Huttunen J, Ristkari T, Sillanmäki L, Sourander A. Criminal offending among males and females between ages 15 and 30 in a population-based nationwide 1981 birth cohort: results from the FinnCrime Study. *J Adolesc*. 2014;37(8):1269-79.
39. Statistics Norway. Tabell: 04621: Utsatthet og uro for lovbrudd, etter type lovbrudd, kjønn og alder (prosent) 2017. Available from: <https://www.ssb.no/statistikkbanken/SelectVarVal/Define.asp?MainTable=Kriminal1&KortNavnWeb=vold&PLanguage=0&checked=true>.



40. Titus JC, Dennis ML, White WL, Scott CK, Funk RR. Gender differences in victimization severity and outcomes among adolescents treated for substance abuse. *Child Maltreatment*. 2003;8(1):19-35.
41. Kushel MB, Evans JL, Perry S, Robertson MJ, Moss AR. No door to lock: victimization among homeless and marginally housed persons. *Arch Intern Med*. 2003;163(20):2492-9.
42. Hiday VA, Swartz MS, Swanson JW, Borum R, Wagner HR. Criminal victimization of persons with severe mental illness. *Psychiatr Serv*. 1999;50(1):62-8.
43. Cook SL, Smith SG, Tusher CP, Raiford J. Self-reports of traumatic events in a random sample of incarcerated women. *Women & Criminal Justice*. 2005;16(1-2):107-26.
44. March JC, Oviedo-Joekes E, Romero M. Drugs and social exclusion in ten European cities. *Eur Addict Res*. 2005;12(1):33-41.
45. Zhang H, Peterson MP. A spatial analysis of neighbourhood crime in Omaha, Nebraska using alternative measures of crime rates. *Internet Journal of Criminology*. 2007;31:1-31.
46. Graffam J, Shinkfield A, Lavelle B, McPherson W. Variables affecting successful reintegration as perceived by offenders and professionals. *Journal of Offender Rehabilitation*. 2004;40(1-2):147-71.
47. Galea S, Nandi A, Vlahov D. The social epidemiology of substance use. *Epidemiol Rev*. 2004;26(1):36-52.
48. Neale J. Homelessness, drug use and hepatitis C: a complex problem explored within the context of social exclusion. *International Journal of Drug Policy*. 2008;19(6):429-35.
49. Cole J, Logan T, Walker R. Social exclusion, personal control, self-regulation, and stress among substance abuse treatment clients. *Drug Alcohol Depend*. 2011;113(1):13-20.
50. Tracy EM, Biegel DE. Personal social networks and dual disorders: A literature review and implications for practice and future research. *Journal of Dual Diagnosis*. 2006;2(2):59-88.
51. Bahr SJ, Harris L, Fisher JK, Harker Armstrong A. Successful reentry: What differentiates successful and unsuccessful parolees? *Int J Offender Ther Comp Criminol*. 2010;54(5):667-92.
52. Spohr SA, Suzuki S, Marshall B, Taxman FS, Walters ST. Social support quality and availability affects risk behaviors in offenders. *Health & justice*. 2016;4(1):2.
53. Pratt TC, Turanovic JJ. Lifestyle and routine activity theories revisited: the importance of "risk" to the study of victimization. *Victims & Offenders*. 2016;11(3):335-54.
54. Koo DJ, Chitwood DD, Sánchez J. Violent victimization and the routine activities/lifestyle of active drug users. *Journal of Drug Issues*. 2008;38(4):1105-37.
55. Estrada F, Nilsson A. Exposure to Threatening and Violent Behaviour Among Single Mothers The Significance of Lifestyle, Neighbourhood and Welfare Situation. *British journal of criminology*. 2004;44(2):168-87.
56. Young JB, Lee. The War on Drugs: a war on drug users? *Drugs: education, prevention and policy*. 2000;7(4):409-22.
57. Hakansson A, Berglund M. Risk factors for criminal recidivism - a prospective follow-up study in prisoners with substance abuse. *BMC Psychiatry*. 2012;12:111.
58. Enns B, Krebs E, DeBeck K, Hayashi K, Milloy M, Richardson L, et al. The costs of crime associated with stimulant use in a Canadian setting. *Drug Alcohol Depend*. 2017;180:304-10.
59. Newcomb MD, Galaif ER, Carmona JV. The drug-crime nexus in a community sample of adults. *Psychol Addict Behav*. 2001;15(3):185.
60. Herbeck DM, Brecht M-L, Lovinger K, Raihan A, Christou D, Sheaff P. Poly-drug and marijuana use among adults who primarily used methamphetamine. *J Psychoactive Drugs*. 2013;45(2):132-40.
61. Betts KS, Chan G, McIlwraith F, Dietze P, Whittaker E, Burns L, et al. Differences in polysubstance use patterns and drug - related outcomes between people who inject drugs receiving and not receiving opioid substitution therapies. *Addiction*. 2016;111(7):1214-23.
62. Lo CC, Stephens RC. The role of drugs in crime: insights from a group of incoming prisoners. *Subst Use Misuse*. 2002;37(1):121-31.
63. Felson RB, Staff J. Committing economic crime for drug money. *Crime & Delinquency*. 2017;63(4):375-90.

64. Facchin F, Margola D. Researching lived experience of drugs and crime: A phenomenological study of drug-dependent inmates. *Qual Health Res.* 2016;26(12):1627-37.
65. Bennett T, Holloway K. The Causal Connection Between Drug Misuse and Crime. *British Journal of Criminology.* 2009;49(4):513-31.
66. Havnes IA, Clausen T, Brux C, Middelthon AL. The role of substance use and morality in violent crime - a qualitative study among imprisoned individuals in opioid maintenance treatment. *Harm reduction journal.* 2014;11:24.
67. Boles SM, Miotto K. Substance abuse and violence: A review of the literature. *Aggression and violent behavior.* 2003;8(2):155-74.
68. Collins JJ, Hubbard RL, Rachal J. Expensive Drug Use and Illegal Income: A Test of Explanatory Hypotheses. *Criminology.* 1985;23(4):743-64.
69. Menard S, Mihalic S, Huizinga D. Drugs and crime revisited. *Justice Quarterly.* 2001;18(2):269-99.
70. Cromwell PF, Olson JN, Avary DAW, Marks A. How drugs affect decisions by burglars. *Int J Offender Ther Comp Criminol.* 1991;35(4):310-21.
71. Salomon A, Bassuk SS, Huntington N. The relationship between intimate partner violence and the use of addictive substances in poor and homeless single mothers. *Violence Against Women.* 2002;8(7):785-815.
72. Logan T, Walker R, Cole J, Leukefeld C. Victimization and substance abuse among women: contributing factors, interventions, and implications. *Rev Gen Psychol.* 2002;6(4):325.
73. Sussman S, Dent CW. One-year prospective prediction of drug use from stress-related variables. *Subst Use Misuse.* 2000;35(5):717-35.
74. Gottfredson MR, Hirschi T. *A general theory of crime*: Stanford University Press; 1990.
75. Packer G, Best D, Day E, Wood K. Criminal thinking and self-control among drug users in court mandated treatment. *Criminology & Criminal Justice.* 2009;9(1):93-110.
76. Malouf ET, Schaefer KE, Witt EA, Moore KE, Stuewig J, Tangney JP. The brief self-control scale predicts jail inmates' recidivism, substance dependence, and post-release adjustment. *Personality and social psychology bulletin.* 2014;40(3):334-47.
77. Turanovic JJ, Pratt TC. "Can't stop, won't stop": Self-control, risky lifestyles, and repeat victimization. *Journal of quantitative criminology.* 2014;30(1):29-56.
78. Pratt TC, Turanovic JJ, Fox KA, Wright KA. Self - control and victimization: A meta - analysis. *Criminology.* 2014;52(1):87-116.
79. Schreck CJ. Criminal victimization and low self-control: An extension and test of a general theory of crime. *Justice Quarterly.* 1999;16(3):633-54.
80. Stewart EA, Elifson KW, Sterk CE. Integrating the general theory of crime into an explanation of violent victimization among female offenders. *Justice Quarterly.* 2004;21(1):159-81.
81. You S, Swogger MT, Cerulli C, Conner KR. Interpersonal Violence Victimization and Suicidal Ideation: An Examination in Criminal Offenders. *Crisis.* 2011;32(5):240.
82. Wolff N, Shi J. Contextualization of physical and sexual assault in male prisons: Incidents and their aftermath. *Journal of correctional health care.* 2009;15(1):58-77.
83. Vaughn MG, Fu Q, DeLisi M, Beaver KM, Perron BE, Howard MO. Criminal victimization and comorbid substance use and psychiatric disorders in the United States: results from the NESARC. *Ann Epidemiol.* 2010;20(4):281-8.
84. Ruback RB, Clark VA, Warner C. Why are crime victims at risk of being victimized again? Substance use, depression, and offending as mediators of the victimization–revictimization link. *Journal of interpersonal violence.* 2014;29(1):157-85.
85. Clark DB, Jones BL, Wood DS, Cornelius JR. Substance use disorder trajectory classes: diachronic integration of onset age, severity, and course. *Addict Behav.* 2006;31(6):995-1009.
86. Beseler C, Jacobson KC, Kremen WS, Lyons MJ, Glatt SJ, Faraone SV, et al. Is there heterogeneity among syndromes of substance use disorder for illicit drugs? *Addict Behav.* 2006;31(6):929-47.

87. Sullivan CJ, Hamilton ZK. Exploring careers in deviance: A joint trajectory analysis of criminal behavior and substance use in an offender population. *Deviant Behavior*. 2007;28(6):497-523.
88. Inciardi JA, Pottieger AE. Drug use and street crime in Miami: an (almost) twenty-year retrospective. *Subst Use Misuse*. 1998;33(9):1839-70.
89. Nordstrom BR, Dackis CA. Drugs and crime. *Journal of Psychiatry and Law*. 2011;39(4):663-87.
90. Walters GD. Recidivism and the "worst of both worlds" hypothesis: Do substance misuse and crime interact or accumulate? *Criminal justice and behavior*. 2015;42(4):435-51.
91. Simpson M. The relationship between drug use and crime: A puzzle inside an enigma. *International Journal of Drug Policy*. 2003;14(4):307-19.
92. Byqvist S, Olsson B. Male drug abuse, criminality and subcultural affiliation in a career perspective. *J Psychoactive Drugs*. 1998;30(1):53-68.
93. Seddon T. Explaining the drug-crime link: Theoretical, policy and research issues. *J Soc Policy*. 2000;29(1):95-107.
94. Helsedirektoratet. Prioriteringsveileder Tverrfaglig spesialisert rusbehandling (Guide for priorities within interdisciplinary substance use treatment). Helsedirektoratet; 2012. Available from: [www.helsedirektoratet.no/retningslinjer/tverrfaglig-spesialisert-rusbehandling-tsb](http://www.helsedirektoratet.no/retningslinjer/tverrfaglig-spesialisert-rusbehandling-tsb).
95. Ravndal E. Research in the concept - based therapeutic community - its importance to European treatment research in the drug field. *International Journal of Social Welfare*. 2003;12(3):229-38.
96. Vanderplasschen W, Colpaert K, Autrique M, Rapp RC, Pearce S, Broekaert E, et al. Therapeutic communities for addictions: a review of their effectiveness from a recovery-oriented perspective. *The Scientific World Journal*. 2013;2013.
97. Broekaert E, Kooyman M, Ottenberg DJ. The "new" drug-free therapeutic community: challenging encounter of classic and open therapeutic communities. *J Subst Abuse Treat*. 1998;15(6):595-7.
98. Broekaert E, Vandeveldel S, Soye V, Yates R, Slater A. The third generation of therapeutic communities: the early development of the TC for addictions in Europe. *Eur Addict Res*. 2006;12(1):1-11.
99. World Health Organization (WHO). Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence. World Health Organization; 2009. Report No.: 9241547545.
100. Amato L, Minozzi S, Davoli M, Vecchi S, Ferri M, Mayet S. Psychosocial combined with agonist maintenance treatments versus agonist maintenance treatments alone for treatment of opioid dependence. *Cochrane Database Syst Rev*. 2008;4.
101. Helse- og Omsorgsdepartementet. Retningslinjer for legemiddelassistert rehabilitering av narkotikamisbrukere (Guidelines for medication assisted treatment of substance users). Helse- og Omsorgsdepartementet; 2000. Available from: <https://www.regjeringen.no/no/dokumenter/l-352000-Erstatter-l-2598/id446841/?q=l-25/98>.
102. Waal H. Hvilken praksis har LAR-sentrene for utskrivning. SKR report no 2/20042004. p. 1-23.
103. Skretting A, Rosenqvist P. Shifting focus in substitution treatment in the Nordic countries. *Nordic Studies on Alcohol and Drugs*. 2010;27(6):581-98.
104. Helsedirektoratet. Nasjonal retningslinje for legemiddelassistert rehabilitering ved opioidavhengighet (National guideline for medication assisted treatment for opioid dependence). Helsedirektoratet; 2010. Available from: <http://www.helsebiblioteket.no/retningslinjer/nasjonal-retningslinje-for-legemiddelassistert-rehabilitering-ved-opioidavhengighet>
105. Waal H. Merits and problems in high-threshold methadone maintenance treatment. *Eur Addict Res*. 2007;13(2):66-73.
106. McLellan AT, Lewis DC, O'brien CP, Kleber HD. Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA*. 2000;284(13):1689-95.
107. Waal H, Bussesund, K., Clausen, T., Håseth, A. and Lillevold, P.H. Statusrapport 2012: LAR som det vil bli fremover? Oslo: Norwegian Centre for Addiction Research; 2013.

108. Waal H, Bussesund K, Clausen T, Skeie I, Håseth A, P. L. The annual OMT status survey for 2016. Statusrapport 2016-Er kvalitetsforbedring nå viktigere enn kapasitetsutvikling? Oslo: Norwegian Centre for Addiction Research; 2017.
109. Holloway KR, Bennett TH, Farrington DP. The effectiveness of drug treatment programs in reducing criminal behavior: a meta-analysis. *Psicothema*. 2006;18(3):620-9.
110. Gossop M, Marsden J, Stewart D, Rolfe A. Patterns of improvement after methadone treatment: 1 year follow-up results from the National Treatment Outcome Research Study (NTORS). *Drug Alcohol Depend*. 2000;60(3):275-86.
111. Gossop M, Marsden J, Stewart D, Rolfe A. Reductions in acquisitive crime and drug use after treatment of addiction problems: 1-year follow-up outcomes. *Drug Alcohol Depend*. 2000;58(1-2):165-72.
112. Gryczynski J, Kinlock TW, Kelly SM, O'Grady KE, Gordon MS, Schwartz RP. Opioid agonist maintenance for probationers: patient-level predictors of treatment retention, drug use, and crime. *Subst Abus*. 2012;33(1):30-9.
113. Hutchinson SJ, Taylor A, Gruer L, Barr C, Mills C, Elliott L. One - year follow - up of opiate injectors treated with oral methadone in a GP - centred programme. *Addiction*. 2000;95(7):1055-68.
114. Gossop M, Marsden J, Stewart D, Rolfe A. Treatment retention and 1 year outcomes for residential programmes in England. *Drug Alcohol Depend*. 1999;57(2):89-98.
115. Turan R, Yargic I. The relationship between substance abuse treatment completion, sociodemographics, substance use characteristics, and criminal history. *Subst Abus*. 2012;33(2):92-8.
116. McIntosh J, Bloor M, Robertson M. The effect of drug treatment upon the commission of acquisitive crime. *Journal of Substance Use*. 2007;12(5):375-84.
117. Bukten A, Roislien J, Skurtveit S, Waal H, Gossop M, Clausen T. A day-by-day investigation of changes in criminal convictions before and after entering and leaving opioid maintenance treatment: a national cohort study. *BMC Psychiatry*. 2013;13(1):262.
118. Rosengren DB, Downey L, Donovan DM. "I already stopped": abstinence prior to treatment. *Addiction*. 2000;95(1):65-76.
119. Bunt GC, Muehlbach B, Moed CO. The therapeutic community: an international perspective. *Subst Abus*. 2008;29(3):81-7.
120. De Leon G. The therapeutic community: Toward a general theory and model. *NIDA Res Monogr*. 1994;144:16-53.
121. Chappel JN, DuPont RL. Twelve-step and mutual-help programs for addictive disorders. *Psychiatr Clin North Am*. 1999;22(2):425-46.
122. Lile B. Twelve step programs: An update. *Addictive Disorders & Their Treatment*. 2003;2(1):19-24.
123. Helsedirektoratet. Veileder for registrering i tverrfaglig spesialisert behandling for rusmiddelmisbruk (TSB): Rapportering til Norsk pasientregister (Guide for record-keeping in interdisciplinary substance use treatment). Helsedirektoratet: 2012. Available from: [www.helsedirektoratet.no/retningslinjer/registrering-og-rapportering-i-tverrfaglig-spesialisert-behandling-tsb](http://www.helsedirektoratet.no/retningslinjer/registrering-og-rapportering-i-tverrfaglig-spesialisert-behandling-tsb).
124. Gossop M, Darke S, Griffiths P, Hando J, Powis B, Hall W, et al. The Severity of Dependence Scale (SDS): psychometric properties of the SDS in English and Australian samples of heroin, cocaine and amphetamine users. *Addiction*. 1995;90(5):607-14.
125. Tangney JP, Baumeister RF, Boone AL. High self - control predicts good adjustment, less pathology, better grades, and interpersonal success. *J Pers*. 2004;72(2):271-324.
126. Konttinen H, Haukkala A, Sarlio-Lähteenkorva S, Silventoinen K, Jousilahti P. Eating styles, self-control and obesity indicators. The moderating role of obesity status and dieting history on restrained eating. *Appetite*. 2009;53(1):131-4.
127. Swing EL, Gentile DA, Anderson CA, Walsh DA. Television and video game exposure and the development of attention problems. *Pediatrics*. 2010;126(2):214-21.

128. Kokkevi A, Hartgers C. EuropASI: European adaptation of a multidimensional assessment instrument for drug and alcohol dependence. *Eur Addict Res.* 1995;1(4):208-10.
129. Derogatis LR, Lipman RS, Rickels K, Uhlenhuth EH, Covi L. The Hopkins Symptom Checklist (HSCL): a self - report symptom inventory. *Behav Sci.* 1974;19(1):1-15.
130. Veijola J, Jokelainen J, Läksy K, Kantojärvi L, Kokkonen P, Järvelin M-R, et al. The Hopkins Symptom Checklist-25 in screening DSM-III-R axis-I disorders. *Nordic journal of psychiatry.* 2003;57(2):119-23.
131. Tinghög P, Carstensen J. Cross-cultural equivalence of HSCL-25 and WHO (ten) Wellbeing index: findings from a population-based survey of immigrants and non-immigrants in Sweden. *Community Ment Health J.* 2010;46(1):65-76.
132. Nettelbladt P, Hansson L, Stefansson C-G, Borgquist L, Nordström G. Test characteristics of the Hopkins Symptom Check List-25 (HSCL-25) in Sweden, using the Present State Examination (PSE-9) as a caseness criterion. *Soc Psychiatry Psychiatr Epidemiol.* 1993;28(3):130-3.
133. Landheim AS, Bakken K, Vaglum P. Impact of comorbid psychiatric disorders on the outcome of substance abusers: a six year prospective follow-up in two Norwegian counties. *BMC Psychiatry.* 2006;6(1):44.
134. Friestad C, Hansen ILS. Mental Health Problems among Prison Inmates: the Effect of Welfare Deficiencies, Drug Use and Self - Efficacy. *Journal of Scandinavian Studies in Criminology and Crime Prevention.* 2005;6(2):183-96.
135. Lund IO, Skurtveit S, Sarfi M, Bakstad B, Welle-Strand G, Ravndal E. A 2-year prospective study of psychological distress among a national cohort of pregnant women in opioid maintenance treatment and their partners. *Journal of Substance Use.* 2013;18(2):148-60.
136. Melberg HO, Lauritzen GO, Ravndal E. Hvilken nytte, for hvem og til hvilken kostnad? En prospektiv studie av stoffmisbrukere i behandling (What benefit, for whom and to what cost? A prospective study of drug abusers in treatment). Rapport nr. 4. Statens Institutt for Rusmiddelforskning (SIRUS); 2003.
137. Grimes DA, Schulz KF. Bias and causal associations in observational research. *The Lancet.* 2002;359(9302):248-52.
138. Delgado-Rodríguez M, Llorca J. Bias. *J Epidemiol Community Health.* 2004;58(8):635-41.
139. Kleinbaum DG. Epidemiologic methods: the "art" in the state of the art. *J Clin Epidemiol.* 2002;55(12):1196-200.
140. Pannucci CJ, Wilkins EG. Identifying and avoiding bias in research. *Plast Reconstr Surg.* 2010;126(2):619.
141. Gerhard T. Bias: Considerations for research practice. *Am J Health Syst Pharm.* 2008;65(22).
142. Thabane L, Ma J, Chu R, Cheng J, Ismaila A, Rios LP, et al. A tutorial on pilot studies: the what, why and how. *BMC Med Res Methodol.* 2010;10(1):1.
143. Turner JR. The role of pilot studies in reducing risk on projects and programmes. *International Journal of Project Management.* 2005;23(1):1-6.
144. Van Teijlingen E, Hundley V. The importance of pilot studies. *Nurs Stand.* 2002;16(40):33-6.
145. Kimberlin CL, Winetrstein AG. Validity and reliability of measurement instruments used in research. *Am J Health Syst Pharm.* 2008;65(23):2276-84.
146. Collins D. Pretesting survey instruments: an overview of cognitive methods. *Qual Life Res.* 2003;12(3):229-38.
147. Lauritzen GO, Ravndal E, Larsson JL. Gjennom 10 år. En oppfølgingsundersøkelse av narkotikabrukere i behandling (Through 10 years. A follow-up study of substance users in treatment. Statens Institutt for Rusmiddelforskning (SIRUS); 2012.
148. Rothman KJ. *Epidemiology: an introduction.* New York: Oxford University Press Inc.; 2002.
149. Van Teijlingen ER, Rennie AM, Hundley V, Graham W. The importance of conducting and reporting pilot studies: the example of the Scottish Births Survey. *J Adv Nurs.* 2001;34(3):289-95.

150. Greenland S. Response and follow-up bias in cohort studies. *Am J Epidemiol.* 1977;106(3):184-7.
151. Marcus B, Schütz A. Who are the people reluctant to participate in research? Personality correlates of four different types of nonresponse as inferred from self - and observer ratings. *J Pers.* 2005;73(4):959-84.
152. Kleschinsky JH, Bosworth LB, Nelson SE, Walsh EK, Shaffer HJ. Persistence pays off: Follow-up methods for difficult-to-track longitudinal samples. *Journal of Studies on Alcohol and Drugs.* 2009;70(5):751-61.
153. McKenzie M, Tulsy JP, Long HL, Chesney M, Moss A. Tracking and follow-up of marginalized populations: a review. *J Health Care Poor Underserved.* 1999;10(4):409-29.
154. Kristman V, Manno M, Côté P. Loss to follow-up in cohort studies: how much is too much? *Eur J Epidemiol.* 2004;19(8):751-60.
155. Hansten ML, Downey L, Rosengren DB, Donovan DM. Relationship between follow-up rates and treatment outcomes in substance abuse research: more is better but when is "enough" enough? *Addiction.* 2000;95(9):1403-16.
156. Vestbo J, Rasmussen FV. Baseline characteristics are not sufficient indicators of non-response bias follow up studies. *J Epidemiol Community Health.* 1992;46(6):617-9.
157. Junger-Tas J, Marshall IH. The self-report methodology in crime research. *Crime and justice.* 1999:291-367.
158. Chaiken JM, Chaiken MR, Peterson JE. Varieties of criminal behavior. Rand Report no. R-2814-NIJ. Santa Monica, Calif.: 1982.
159. Thornberry TP, Krohn MD. The self-report method for measuring delinquency and crime. *Criminal justice.* 2000;4(1):33-83.
160. Weiss RD, Najavits LM, Greenfield SF, Soto JA, Shaw SR, Wyner D. Validity of substance use self-reports in dually diagnosed outpatients. *Am J Psychiatry.* 1998;155(1):127-8.
161. Johnson BD, Taylor A, Golub A. Research Note: How Accurate are Arrestees' Self-Reports of Their Criminal Justice Histories? *Justice Research and Policy.* 2005;7(1):81-101.
162. Darke S. Self-report among injecting drug users: a review. *Drug Alcohol Depend.* 1998;51(3):253-63.
163. Johannes CB, Crawford SL, McKinlay JB. Interviewer effects in a cohort study: Results from the Massachusetts Women's Health Study. *Am J Epidemiol.* 1997;146(5):429-38.
164. Davis RE, Couper MP, Janz NK, Caldwell CH, Resnicow K. Interviewer effects in public health surveys. *Health Educ Res.* 2009;25(1):14-26.
165. Miyazaki AD, Taylor KA. Researcher interaction biases and business ethics research: Respondent reactions to researcher characteristics. *Journal of Business Ethics.* 2008;81(4):779-95.
166. Sackett DL. Bias in analytic research. *J Chronic Dis.* 1979;32(1-2):51-63.
167. Davis P, Scott A. The effect of interviewer variance on domain comparisons. *Survey Methodology.* 1995;21:99-106.
168. Powell MB, Hughes-Scholes CH, Sharman SJ. Skill in interviewing reduces confirmation bias. *Journal of Investigative Psychology and Offender Profiling.* 2012;9(2):126-34.
169. Podsakoff PM, MacKenzie SB, Lee J-Y, Podsakoff NP. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J Appl Psychol.* 2003;88(5):879.
170. Krumpal I. Determinants of social desirability bias in sensitive surveys: a literature review. *Quality & Quantity.* 2013;47(4):2025-47.
171. Richman WL, Kiesler S, Weisband S, Drasgow F. A meta-analytic study of social desirability distortion in computer-administered questionnaires, traditional questionnaires, and interviews. *J Appl Psychol.* 1999;84(5):754.
172. Schwarz N. Self-reports: How the questions shape the answers. *Am Psychol.* 1999;54(2):93.
173. McBride KJ. IE scores of drug-abusing offenders: The influence of social desirability. *Criminal Justice and Behavior.* 1982;9(2):177-83.

174. Tourangeau R. Remembering what happened: Memory errors and survey reports. *The science of self-report: Implications for research and practice*. 2000;29:47.
175. Simon SL, Domier C, Carnell J, Brethen P, Rawson R, Ling W. Cognitive impairment in individuals currently using methamphetamine. *The American Journal on Addictions*. 2000;9(3):222-31.
176. Verdejo-García A, Bechara A, Recknor EC, Perez-Garcia M. Executive dysfunction in substance dependent individuals during drug use and abstinence: an examination of the behavioral, cognitive and emotional correlates of addiction. *J Int Neuropsychol Soc*. 2006;12(3):405-15.
177. Lundqvist T. Cognitive consequences of cannabis use: comparison with abuse of stimulants and heroin with regard to attention, memory and executive functions. *Pharmacology Biochemistry and Behavior*. 2005;81(2):319-30.
178. Hagen E, Erga AH, Hagen KP, Nesvåg SM, McKay JR, Lundervold AJ, et al. Assessment of executive function in patients with substance use disorder: A comparison of inventory-and performance-based assessment. *J Subst Abuse Treat*. 2016;66:1-8.
179. Lavrakas PJ. *Encyclopedia of survey research methods*. London: Sage Publications; 2008.
180. Schwarz N, Oyserman D. Asking questions about behavior: Cognition, communication, and questionnaire construction. *American Journal of Evaluation*. 2001;22(2):127-60.
181. Piquero AR, Rosay AB. The reliability and validity of Grasmick et al.'s self-control scale: A comment on Longshore et al. *Criminology*. 1998;36(1):157-74.
182. Arneklev BJ, Grasmick HG, Tittle CR, Bursik RJ. Low self-control and imprudent behavior. *Journal of Quantitative Criminology*. 1993;9(3):225-47.
183. Duckworth AL, Kern ML. A meta-analysis of the convergent validity of self-control measures. *Journal of Research in Personality*. 2011;45(3):259-68.
184. Tittle CR, Ward DA, Grasmick HG. Self-control and crime/deviance: Cognitive vs. behavioral measures. *Journal of Quantitative Criminology*. 2003;19(4):333-65.
185. Morean ME, DeMartini KS, Leeman RF, Pearlson GD, Anticevic A, Krishnan-Sarin S, et al. Psychometrically improved, abbreviated versions of three classic measures of impulsivity and self-control. *Psychol Assess*. 2014;26(3):1003.
186. Maloney PW, Grawitch MJ, Barber LK. The multi-factor structure of the Brief Self-Control Scale: Discriminant validity of restraint and impulsivity. *Journal of Research in Personality*. 2012;46(1):111-5.
187. Hamilton KR, Sinha R, Potenza MN. Self-reported impulsivity, but not behavioral approach or inhibition, mediates the relationship between stress and self-control. *Addict Behav*. 2014;39(11):1557-64.
188. Feinstein AR. P-values and confidence intervals: two sides of the same unsatisfactory coin. *J Clin Epidemiol*. 1998;51(4):355-60.
189. Harrell Jr FE. Introduction. *Regression Modeling Strategies*: Springer; 2015. p. 1-11.
190. Goodman S,. A dirty dozen: twelve p-value misconceptions. *Semin Hematol*. 2008;45:135-40
191. Nickerson RS. Null hypothesis significance testing: a review of an old and continuing controversy. *Psychol Methods*. 2000;5(2):241.
192. Sterne JA, Smith GD. Sifting the evidence—what's wrong with significance tests? *Phys Ther*. 2001;81(8):1464-9.
193. Shaffer JP. Multiple hypothesis testing. *Annu Rev Psychol*. 1995;46(1):561-84.
194. Lauritsen JL. The age-crime debate: Assessing the limits of longitudinal self-report data. *Soc Forces*. 1998;77(1):127-54.
195. Hansen K. Education and the crime - age profile. *British Journal of Criminology*. 2003;43(1):141-68.
196. Sweeten G, Piquero AR, Steinberg L. Age and the Explanation of Crime, Revisited. *Journal of Youth and Adolescence*. 2013;42(6):921-38.

197. Nilsen RM, Vollset SE, Gjessing HK, Skjaerven R, Melve KK, Schreuder P, et al. Self - selection and bias in a large prospective pregnancy cohort in Norway. *Paediatr Perinat Epidemiol*. 2009;23(6):597-608.
198. Boffetta P. Internal and external validity of cohort studies. *Ann Agric Environ Med*. 2011;18(2):283-4.
199. Fry CL, Hall W, Ritter A, Jenkinson R. The ethics of paying drug users who participate in research: A review and practical recommendations. *Journal of Empirical Research on Human Research Ethics*. 2006;1(4):21-35.
200. Hartwell S. Triple stigma: Persons with mental illness and substance abuse problems in the criminal justice system. *Criminal Justice Policy Review*. 2004;15(1):84-99.
201. Sloboda Z. *Epidemiology of drug abuse*: Springer; 2005.
202. Fry C, Dwyer R. For love or money? An exploratory study of why injecting drug users participate in research. *Addiction*. 2001;96(9):1319-25.
203. Barratt MJ, Norman JS, Fry CL. Positive and negative aspects of participation in illicit drug research: implications for recruitment and ethical conduct. *International Journal of Drug Policy*. 2007;18(3):235-8.
204. Simon LM. Do criminal offenders specialize in crime types? *Applied and preventive psychology*. 1997;6(1):35-53.
205. McBride DC, McCoy CB. The drugs-crime relationship: An analytical framework. *The Prison Journal*. 1993;73(3):257-78.
206. Sun H-M, Li X-Y, Chow EP, Li T, Xian Y, Lu Y-H, et al. Methadone maintenance treatment programme reduces criminal activity and improves social well-being of drug users in China: a systematic review and meta-analysis. *BMJ open*. 2015;5(1):e005997.
207. Marsch LA. The efficacy of methadone maintenance interventions in reducing illicit opiate use, HIV risk behavior and criminality: a meta - analysis. *Addiction*. 1998;93(4):515-32.
208. Bukten A, Skurtveit S, Gossop M, Waal H, Stangeland P, Havnes I, et al. Engagement with opioid maintenance treatment and reductions in crime: a longitudinal national cohort study. *Addiction*. 2012;107(2):393-9.
209. Vormaa H, Sokero P, Aaltonen M, Turtiainen S, Hughes LA, Savolainen J. Participation in opioid substitution treatment reduces the rate of criminal convictions: evidence from a community study. *Addict Behav*. 2013;38(7):2313-6.
210. Sampson RJ, Laub JH. Life - Course Desisters? Trajectories Of Crime Among Delinquent Boys Followed To Age 70. *Criminology*. 2003;41(3):555-92.
211. Stavseth MR, Røislien J, Bukten A, Clausen T. Factors associated with ongoing criminal engagement while in opioid maintenance treatment. *J Subst Abuse Treat*. 2017;77:52-56.
212. Leland DS, Paulus MP. Increased risk-taking decision-making but not altered response to punishment in stimulant-using young adults. *Drug Alcohol Depend*. 2005;78(1):83-90.
213. Carrol EN, Zuckerman M. Psychopathology and sensation seeking in "downers," "speeders," and "trippers": A study of the relationship between personality and drug choice. *Int J Addict*. 1977;12(4):591-601.
214. Bechara A, Dolan S, Denburg N, Hindes A, Anderson SW, Nathan PE. Decision-making deficits, linked to a dysfunctional ventromedial prefrontal cortex, revealed in alcohol and stimulant abusers. *Neuropsychologia*. 2001;39(4):376-89.
215. Rogers RD, Everitt B, Baldacchino A, Blackshaw A, Swainson R, Wynne K, et al. Dissociable deficits in the decision-making cognition of chronic amphetamine abusers, opiate abusers, patients with focal damage to prefrontal cortex, and tryptophan-depleted normal volunteers: evidence for monoaminergic mechanisms. *Neuropsychopharmacology*. 1999;20(4):322-39.
216. Connor JP, Gullo MJ, White A, Kelly AB. Polysubstance use: diagnostic challenges, patterns of use and health. *Current opinion in psychiatry*. 2014;27(4):269-75.



217. Kalivas P, Volkow N, Seamans J. Unmanageable motivation in addiction: a pathology in prefrontal-accumbens glutamate transmission. *Neuron*. 2005;45(5):647-50.
218. Baler RD, Volkow ND. Drug addiction: the neurobiology of disrupted self-control. *Trends Mol Med*. 2006;12(12):559-66.
219. Simons JS, Dvorak RD, Batién BD, Wray TB. Event-level associations between affect, alcohol intoxication, and acute dependence symptoms: Effects of urgency, self-control, and drinking experience. *Addict Behav*. 2010;35(12):1045-53.
220. Masse LC, Tremblay RE. Behavior of boys in kindergarten and the onset of substance use during adolescence. *Arch Gen Psychiatry*. 1997;54(1):62-8.
221. Wills TA, Ainette MG, Stoolmiller M, Gibbons FX, Shinar O. Good self-control as a buffering agent for adolescent substance use: An investigation in early adolescence with time-varying covariates. *Psychol Addict Behav*. 2008;22(4):459.
222. Duckworth AL, Grant H, Loew B, Oettingen G, Gollwitzer PM. Self - regulation strategies improve self - discipline in adolescents: Benefits of mental contrasting and implementation intentions. *Educational Psychology*. 2011;31(1):17-26.
223. Friese M, Hofmann W, Wiers RW. On taming horses and strengthening riders: Recent developments in research on interventions to improve self-control in health behaviors. *Self and Identity*. 2011;10(3):336-51.
224. Walters GD. Behavioral self-control training for problem drinkers: A meta-analysis of randomized control studies. *Behav Ther*. 2001;31(1):135-49.
225. Ronan G, Gerhart JI, Dollard K, Maurelli KA. An analysis of survival time to re-arrest in treated and non-treated jailers. *J Forens Psychiatry Psychol*. 2010;21(1):102-12.
226. Muraven M. Building self-control strength: Practicing self-control leads to improved self-control performance. *J Exp Soc Psychol*. 2010;46(2):465-8.
227. French MT, Zarkin GA, Hubbard RL, Rachal JV. The effects of time in drug abuse treatment and employment on posttreatment drug use and criminal activity. *Am J Drug Alcohol Abuse*. 1993;19(1):19-33.
228. Zarkin GA, Dunlap LJ, Bray JW, Wechsberg WM. The effect of treatment completion and length of stay on employment and crime in outpatient drug-free treatment. *J Subst Abuse Treat*. 2002;23(4):261-71.
229. McKeganey N, Neale J, Robertson M. Physical and sexual abuse among drug users contacting drug treatment services in Scotland. *Drugs: education, prevention and policy*. 2005;12(3):223-32.
230. Dansky BS, Saladin ME, Brady KT, Kilpatrick DG, Resnick HS. Prevalence of victimization and posttraumatic stress disorder among women with substance use disorders: Comparison of telephone and in-person assessment samples. *Int J Addict*. 1995;30(9):1079-99.
231. McClellan DS, Farabee D, Crouch BM. Early victimization, drug use, and criminality a comparison of male and female prisoners. *Criminal justice and behavior*. 1997;24(4):455-76.
232. Vassenden A, Bergsgard, N. A. and Lie, T. Botetthet og integrering blant rusavhengige kommunale leietakere. 2012.
233. Schneider R, Burnette ML, Ilgen MA, Timko C. Prevalence and correlates of intimate partner violence victimization among men and women entering substance use disorder treatment. *Violence Vict*. 2009;24(6):744-56.
234. Goldstein PJ. The drugs/violence nexus: A tripartite conceptual framework. *Journal of drug issues*. 1985;15(4):493-506.
235. Ousey GC, Wilcox P, Brummel S. Déjà vu all over again: Investigating temporal continuity of adolescent victimization. *Journal of Quantitative Criminology*. 2008;24(3):307-35.
236. Kilpatrick DG, Acierno R, Resnick HS, Saunders BE, Best CL. A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. *J Consult Clin Psychol*. 1997;65(5):834.



# APPENDICES



Tiltaksnr	Løpenr
<input type="text"/>	<input type="text"/>

# Norsk oppfølgingsstudie av opioid-avhengige i behandling (NorComt)

## Intervjuskjema

### Behandlingsoppstart

Samarbeid mellom SERAF, regionale LAR-sentre og  
rusbehandlingsinstitusjoner

SERAF 2012

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## Liste over tiltaksnummer

- 01 = LAR Vestfold
- 02 = LAR Vest-Agder
- 03 = Helse Bergen
- 04 = LAR Nord
- 05 = SPA, Oslo
- 06 = LAR Telemark
- 07 = LAR Buskerud
- 09A = LAR Hamar (Innlandet)
- 09B = LAR Gjøvik (Innlandet)
- 09C = LAR Lillehammer (Innlandet)
- 10 = Veksthuset Rogaland
- 11 = Samtun Sauherrad
- 12 = Arken
- 13 = Sollia
- 14 = Tyrili 1 (Høvringen)
- 15 = Tyrili 2 (Frankmotunet)
- 16 = Tyrili 3 (Tyrilihaugen)
- 17 = Tyrili 4 (Tyrilitunet)
- 18 = Tyrili 5 (Kampen)
- 19 = Tyrili 6 (Tyrili Sør)
- 20 = Veksthuset Molde
- 21 = LAR Midt
- 22 = LAR Akershus
- 23 = LAR Aust-Agder
- 24 = Renåvangen
- 25 = LAR Fredrikstad (Østfold)
- 26 = LAR Moss (Østfold)
- 27 = LAR Sarpsborg (Østfold)
- 28 = LAR Askim (Østfold)
- 29 = LAR Halden (Østfold)

## Bare for LAR-tiltak

### LAR-medisiner i dag

	Dose mg/dag
Subutex / buprenorfin	.....
Subuxone	.....
Metadon	.....
Annet	.....

### Utleveringsordning LAR-medisin

LAR-senter	<input type="checkbox"/>
Apotek	<input type="checkbox"/>
Fastlege	<input type="checkbox"/>
Hjemmesykepleier	<input type="checkbox"/>
Annet: .....	<input type="checkbox"/>

### Henteordning for LAR-medisin

	Antall dager per uke
Observert inntak	.....
Ta med hjem-dosering	.....

### Kontrolltiltak mht rusmiddelinntak

	Antall ganger per uke
Urinprøvekontroller	.....
Spyttprøvekontroller	.....
Sporadiske spytt/urinprøvekontroller	<input type="checkbox"/> Nei <input type="checkbox"/> Ja





Fødselsnummer		
<input type="text"/>	<input type="text"/>	<input type="text"/>
Kjønn		
<input type="text"/>	1 = Mann 2 = Kvinne	
Dato for start kartlegging (NPR)		
<input type="text"/>	<input type="text"/>	<input type="text"/>
dag	måned	år
Dato for første behandlingsdag (for LAR-pasienter første dag med LAR medisin)		
<input type="text"/>	<input type="text"/>	<input type="text"/>
dag	måned	år
Behov for tolk		
<input type="text"/>	1 = Ja 2 = Nei	
Fødeland og etnisk bakgrunn		
1 = Norge	7 = Sør- og Mellom-Amerika (inkl. Mexico)	
2 = Norden utenom Norge	8 = Nord-Amerika	
3 = Vest-Euroopa utenom Norden	9 = Oceania	
4 = Øst-Europa	99 = Ukjent	
5 = Asia (inkl. Tyrkia)		
6 = Afrika		
<input type="text"/>	<input type="text"/>	<input type="text"/>
Fødeland	Mors fødeland	Fars fødeland
Sivilstatus		
<input type="text"/>	0 = Ikke oppgitt 1 = Aldri gift 2 = Gift 3 = Enke / enkemann 4 = Separert 5 = Skilt 6 = Registrert partner 7 = Separert partner 8 = Skilt partner 9 = Gjenlevende partner	
Høyeste fullførte utdanning		
<input type="text"/>	1 = Ikke avsluttet grunnskole 2 = Grunnskole 3 = Videregående skole/gymnas/yrkesskoleutdanninger 4 = Faglig yrkesutdanning 5 = Treårig høyskole/universitet 6 = Mer enn treårig høyskole/universitet 9 = Ukjent	

Yrkesstatus	
<input type="text"/>	1 = Utenfor arbeidsmarkedet og ikke under utdanning 2 = Heltidsjobb 3 = Deltidsjobb 4 = Under utdanning 5 = Deltidsjobb og under utdanning 9 = Ukjent
Viktigste inntekt siste 4 uker	
<input type="text"/>	1 = Lønnet arbeid 2 = Forsørget 3 = Arbeidsledighetstrygd 4 = Syke-/rehabiliteringspenger 5 = Atføringspenger 6 = Uførepensjon 7 = Alderspensjon 8 = Sosial stønad 9 = Annet 10 = Ukjent 11 = Studielån/stipend 12 = Stønad til enslig forsørger
Bor sammen med (NPR) (flere valg mulig)	
<input type="checkbox"/>	1 = Bor alene
<input type="checkbox"/>	2 = Bor i parforhold
<input type="checkbox"/>	3 = Bor sammen med venner
<input type="checkbox"/>	4 = Bor sammen med foreldre
<input type="checkbox"/>	5 = Bor sammen med barn under 18 år
<input type="checkbox"/>	6 = Bor sammen med barn over 18 år
<input type="checkbox"/>	7 = Bor sammen med andre
<input type="checkbox"/>	9 = Ukjent
Boligforhold siste 4 uker (NPR)	
<input type="text"/>	1 = Ingen bolig 2 = Hospits/hybelhus/hotell 3 = Institusjon 4 = Egen privat bolig 5 = Privat bolig eid av annen 6 = Annet
Hatt en stabil bosituasjon siste 4 uker	
<input type="text"/>	1 = Ja 2 = Nei 9 = Ukjent

Barn (NPR)			
<b>Antall egne barn uansett alder og bosituasjon (NPR)</b> <input type="checkbox"/>			
<b>Alder og bosituasjon for barn under 18 år (NPR)</b>			
	0-6 år	7-12 år	13-17 år
Hjemmeboende barn (egne), angi antall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hjemmeboende barn (andres), angi antall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Tiltak for barn under 18 år (ikke NPR)</b>			
	1 = Ikke behov	2 = Bør iverksettes	3 = Er iverksatt
			9 = Ukjent
Hjemmeboende barn (egne), angi antall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hjemmeboende barn (andres), angi antall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graviditet (NPR)			
<input type="checkbox"/>	1 = Ja 2 = Nei 9 = Ukjent		
<input type="checkbox"/>	<input type="checkbox"/>	<b>Antall uker gravid</b> (Eks.: 1 uke = 01; 2 uker = 02; 10 uker = 10)	
Vedvarende somatiske sykdommer eller skader (NPR)			
<input type="checkbox"/>	1 = Ja 2 = Nei 9 = Ukjent		
Testet for blodsmittevirus?			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 = Ja 2 = Nei 9 = Ukjent
<b>Hepatitt B</b>	<b>Hepatitt C</b>	<b>HIV</b>	
Egen kunnskap om blodsmittevirus			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 = Ja 2 = Nei 9 = Ukjent om pasienten vet
<b>Hepatitt B</b>	<b>Hepatitt C</b>	<b>HIV</b>	

Psykiske vansker/lidelser (NPR)		
<b>Siste 4 uker</b>	<b>Tidligere i livet</b>	(begge kolonnene må besvares for hvert spørsmål) 1 = Ja    2 = Nei    9 = Ukjent
<input type="checkbox"/>	<input type="checkbox"/>	Hatt alvorlige depresjoner
<input type="checkbox"/>	<input type="checkbox"/>	Hatt alvorlig angst
<input type="checkbox"/>	<input type="checkbox"/>	Hatt vrangforestillinger/hallusinasjoner
<input type="checkbox"/>	<input type="checkbox"/>	Blitt forskrevet medisiner for et eller annet psykisk/følelsesmessig problem
<input type="checkbox"/>	<input type="checkbox"/>	Hatt alvorlige tanker om å ta livet av seg
Forsøk på selvmord		
<input type="checkbox"/>	1 = Nei 2 = Ja, ved overdose 3 = Ja, på annen måte 4 = Både ved overdose og på annen måte 9 = Ukjent	
Mottatt profesjonell hjelp for psykiske vansker/lidelser		
<input type="checkbox"/>	1 = Ja 2 = Nei 9 = Ukjent	
Type tidligere behandling rus		
<input type="checkbox"/>	1 = Kun avrusning (institusjon eller poliklinisk) 2 = Poliklinisk vedlikeholdsrehabilitering (LAR) 3 = Annen poliklinisk behandling, inkludert dagtilbud 4 = Døgnbehandling ut over avrusning 5 = Poliklinisk-(LAR eller annen) og døgnbehandling (inkludert avrusning) 6 = Behandling utenfor rusinstitusjon/rustiltak 8 = Ikke tidligere behandlet 9 = Ukjent	
Tid siden siste behandling rus		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Angi antall måneder siden siste behandling</b> (Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144)		
000 = Vært i behandling, men ukjent når sist		
Antall rusmidler brukt siste 6 måneder		
<input type="checkbox"/>	<input type="checkbox"/>	<b>Angi antall rusmidler</b> (Eks.: 1 rusmiddel = 01; 2 rusmidler = 02; 10 rusmidler = 10)
00 = Ingen 99 = Ukjent		

## Rusmiddel-/medikamentprofil siste 6 måneder (før kontrollert miljø)

	Type rusmiddel/medikament(NPR) (Bruk koden nedenfor)	Inntaksmåte (NPR) (Bruk koden nedenfor)	Hvor ofte brukt siste 4 uker (NPR) (Bruk koden nedenfor)	Alder brukt første gang (NPR)	Hvor lenge problemfylt bruk (Antall år)
<b>Mest brukte rusmiddel/ medikament</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>2. mest brukte</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>3. mest brukte</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>4. meste brukte</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
0 = Ingen 1 = Alkohol 2 = Cannabis 3 = Heroin/Opium 4 = Metadon, buprenorfin, andre opiater/opioder forskrevet i LAR- program 5 = Metadon, buprenorfin, andre opiater/opioder forskrevet utenfor LAR-program 6 = Metadon, buprenorfin, andre opiater/opioder ervertet uten at forskrevet av lege 7 = Benzodiazepiner forskrevet av lege	8 = Benzodiazepiner ikke forskrevet av lege 9 = Andre vanedannende medikamenter 10 = Amfetamin 11 = Kokain 12 = Crack 13 = Andre sentralstimulerende midler 14 = LSD og likn. 15 = Ecstasy 16 = Løsemidler 17 = Rødsprit o.l 18 = Annet 99 = Ukjent	1 = Drikker/spiser 2 = Injiserer 3 = Røyker 4 = Sniffer 8 = Annet 9 = Ukjent	1 = Ikke brukt 2 = Sjeldnere enn 1 gang i uken 3 = Omtrent ukentlig 4 = 2-4 dager i uken 5 = 5-6 dager i uken 6 = Daglig 9 = Ukjent	99 = Ukjent	00 = Ikke 01 = Et år eller mindre 99 = Ukjent

### Brukt sprøyter før?

1 = Ja  
2 = Nei  
9 = Ukjent

### Alder første sprøytebruk

**Angi alder i år**

00 = Aldri brukt sprøyter  
99 = Ukjent

### Sprøytebruk siste 4 uker (NPR)

1 = Ikke brukt sprøyte  
2 = Sjeldnere enn 1 gang i uken  
3 = Omtrent ukentlig  
4 = 2-4 dager i uken  
5 = Daglig eller nesten daglig  
9 = Ukjent

### Antall ganger overdose hele livet

#### Antall for hvert av stoffområdene

Alkohol

Narkotika

00 = Ingen ganger  
99 = Ukjent

Medikament

Kombinasjon

## Behandlingserfaring

Hvor mange måneder til sammen har du vært i døgnbehandling uten LAR i ditt liv?

(Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144)

Hvor mange måneder til sammen har du vært i døgnbehandling med LAR i ditt liv?

(Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144)

Hvor mange måneder til sammen har du vært i poliklinisk behandling uten LAR i ditt liv?

(Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144)

Hvor mange måneder til sammen har du vært i poliklinisk behandling med LAR i ditt liv?

(Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144)

Hva er ditt behandlingsmål med dette behandlingsopplegget?

1 = Rehabilitering med rusfrihet

2 = Stabilisering med bedre rusmestring

Ønske for varighet av behandling?

(Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144, Livslang = 999)

## Kontrollert miljø

I løpet av de siste 30 dagene før denne behandlingen, har du vært innlagt i det vi kan kalle et «kontrollert miljø»?

1 = Nei

2 = Fengsel

3 = Behandlingsinstitusjon for rusmiddelmissbrukere

4 = Somatisk sykehus

5 = Psykiatrisk sykehus/klinikk

6 = Bare avrusning/avgiftning

7 = Annet kontrollert miljø, spesifiser: .....

Var dette miljøet/behandling med LAR?

Nei

Ja

## Sosialt nettverk siste 6 måneder (før kontrollert miljø)

Hvem er du mest sammen på fritiden vanligvis?

(Lengeværende kjæresteforhold defineres som familie/minst 1 år)

1 = Familie uten nåværende problemer med alkohol/stoff/medikamenter

2 = Familie med nåværende problemer med alkohol/stoff/medikamenter

3 = Venner uten nåværende problemer med alkohol/stoff/medikamenter

4 = Venner med nåværende problemer med alkohol/stoff/medikamenter

5 = Er mest alene

### Utsatthet for kriminalitet siste 6 måneder (før kontrollert miljø)

	Siste 6 mnd		
	Nei	Ja	Ant ganger
Har du blitt frastjålet personlige ting som penger, mobiltelefon eller andre ting?	<input type="checkbox"/>	<input type="checkbox"/>	
Har du blitt utsatt for vold som førte til synlige merker eller skader på kroppen?	<input type="checkbox"/>	<input type="checkbox"/>	
Har du blitt utsatt for vold som ikke førte til synlige merker eller skader på kroppen?	<input type="checkbox"/>	<input type="checkbox"/>	
Har du noen gang blitt utsatt for seksuelt motivert vold, overgrep eller voldtekt, eller forsøk på dette?	<input type="checkbox"/>	<input type="checkbox"/>	

### Egen kriminalitet siste 6 måneder (før kontrollert miljø)

	Siste 6 mnd		
	Nei	Ja	Ant ganger
Har du vært involvert i kriminelle handlinger? (unntatt egen bruk og besittelse)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Herunder vinningskriminalitet?	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Narkotikaforbrytelser? (unntatt egen bruk og besittelse)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Voldskriminalitet?	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Trafikk kriminalitet?	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Annen kriminalitet?	<input type="checkbox"/>	<input type="checkbox"/>	

### LAR-medisin og kriminalitet hele livet

	Nei	Ja	Ikke aktuelt	Ønsker ikke å svare
Har du noen gang omsatt/delt ditt eget LAR medikament?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har du noen gang kjøpt illegalt LAR-medikament?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Soning hele livet

	Nei	Ja	Ant ganger	Dersom soning, ant måneder totalt
Har du sonet dom i fengsel?	<input type="checkbox"/>	<input type="checkbox"/>		

## SCL – 25. Hvor mye har du vært plaget av: (den siste uka)

(samme spørsmål i SCL-90)

	0	1	2	3	4
<i>Sett en ring rundt det svaret som passer deg best.</i>	Ikke i det hele tatt	Litt	Moderat	Ganske mye	Veldig mye
1. Hodepine	0	1	2	3	4
2. Skjelving	0	1	2	3	4
3. Matthet eller svimmelhet	0	1	2	3	4
4. Nervøsitet, indre uro	0	1	2	3	4
5. Plutselig frykt uten grunn	0	1	2	3	4
6. Stadig redd eller engstelig	0	1	2	3	4
7. Hjerterbank, hjerteslag som løper avgårde	0	1	2	3	4
8. Følelse av å være anspent, oppjaget	0	1	2	3	4
9. Anfall av angst eller panikk	0	1	2	3	4
10. Så rastløs at det er vanskelig å sitte stille	0	1	2	3	4
11. Mangel på energi, alt går langsommere enn vanlig	0	1	2	3	4
12. Lett for å klandre seg selv	0	1	2	3	4
13. Lett for å gråte	0	1	2	3	4
14. Tanker om å ta ditt liv	0	1	2	3	4
15. Dårlig matlyst	0	1	2	3	4
16. Søvnproblemer	0	1	2	3	4
17. Følelse av håpløshet med tanke på fremtiden	0	1	2	3	4
18. Nedtrykt, tungsindig	0	1	2	3	4
19. Følelse av ensomhet	0	1	2	3	4
20. Tap av seksuell lyst og interesse	0	1	2	3	4
21. Følelse av å være lur i en felle eller fanget	0	1	2	3	4
22. Mye bekymret eller urolig	0	1	2	3	4
23. Uten interesse for noe	0	1	2	3	4
24. Følelse av at alt er et slit	0	1	2	3	4
25. Følelse av å være unyttig	0	1	2	3	4

**Somatisk helse. Hvor mye har du vært plaget av: (siste 6 måneder) (før kontrollert miljø)**

Sett en ring rundt det svaret som passer deg best.	0	1	2	3	4	Kronisk lidelse?	
	Ikke i det hele tatt	Litt	Moderat	Ganske mye	Veldig mye	(minst 3 mnd i løpet av siste halvår før inntak)	
						Ja	Nei
Fordøyelsesplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Diare	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Forstoppelse	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Luftveisplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Eksem	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Hudinfeksjoner	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Leddsmerter	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Hodepine	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Brystsmerter	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Svimmelhet	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Nedsatt hukommelse	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Synsforstyrrelser	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Urinveisplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Kjønnsykdommer	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Blodpropp	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Tann/tannkjøttplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>

**Har du noen av de nevnte sykdommer per i dag?**

	Ja	Nei	Ukjent/ vet ikke	Hvis Ja, har du i løpet av de siste 6 mnd fått behandling for din(e) sykdom(mer)?	
				Ja	Nei
				Diabetes	<input type="checkbox"/>
Høyt blodtrykk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hjertesykdom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KOLS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Astma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitt B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitt C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leverchirrose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HIV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kreft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Livskvalitet før oppstart i behandling (før kontrollert miljø)

Sett en ring rundt det svaret som passer deg best.

		0	1	2	3	4
	Ikke aktuelt	Meget dårlig	Dårlig	Verken god/t eller dårlig	God/t	Meget god/t
Hvordan synes du selv din fysiske helse var før behandling?		0	1	2	3	4
Hvordan synes du selv din psykiske helse var før behandling?		0	1	2	3	4
Hvordan var ditt forhold til deg selv før behandling?		0	1	2	3	4
Hvordan var ditt forhold til dine venner før behandling?		0	1	2	3	4
Hvordan var ditt forhold til din partner før behandling?	<input type="checkbox"/>	0	1	2	3	4
Hvordan var din evne til å være glad i andre mennesker før behandling?		0	1	2	3	4
Hvordan fungerte du seksuelt før behandling?		0	1	2	3	4
Hvordan fungerte du sosialt før behandling?		0	1	2	3	4
Hvordan var din arbeidsevne før behandling?		0	1	2	3	4
Hvordan synes du kvaliteten på livet ditt var før behandling?		0	1	2	3	4
Hvordan var kontakten med din familie før behandling?		0	1	2	3	4
Hvordan var kontakten med egne barn før behandling?	<input type="checkbox"/>	0	1	2	3	4



## Mål på psykologisk avhengighet siste 4 uker

<i>Som du opplevde det mht til rusmidler siste måned før du begynte i behandling (avrusning er behandling).</i>	0	1	2	3
	Aldri	Noen ganger	Ofte	Alltid
Tenkte du at ditt forbruk av rusmidler var ute av kontroll?	0	1	2	3
Gjorde tanken på å ikke ta rusmidler at du følte deg engstelig eller bekymret?	0	1	2	3
Har ditt forbruk av rusmidler bekymret deg?	0	1	2	3
Skulle du ønske du kunne klare å slutte?	0	1	2	3
	Ikke i det hele tatt	Litt vanskelig	Vanskelig	Umulig
Hvor vanskelig synes du det var å stoppe? (gjelder ikke LAR-medisiner)	0	1	2	3

## Selvkontroll

<i>Nedenfor skal du vurdere påstandene etter hvor godt de passer for deg.</i>	0	1	2	3	4
	Passer ikke det hele tatt	Litt	Moderat	Ganske mye	Passer svært godt
Jeg er flink til å motstå fristelser	0	1	2	3	4
Jeg synes det er vanskelig å endre dårlige vaner	0	1	2	3	4
Jeg er lat	0	1	2	3	4
Jeg sier upassende ting	0	1	2	3	4
Jeg gjør enkelte ting som er morsomt, selv om det ikke er bra for meg	0	1	2	3	4
Jeg motstår ting som er dårlig for meg	0	1	2	3	4
Jeg skulle ønske jeg hadde mer selvdisciplin	0	1	2	3	4
Folk vil si jeg har jerndisciplin	0	1	2	3	4
Ønsket om å ha det gøy forhindrer meg noen ganger i å få jobben gjort	0	1	2	3	4
Jeg har konsentrasjonsvansker	0	1	2	3	4
Jeg klarer å jobbe effektivt mot langsiktige mål	0	1	2	3	4
Enkelte ganger klarer jeg ikke å stoppe meg selv i å gjøre noe jeg vet er galt	0	1	2	3	4
Jeg handler ofte uten å ha vurdert alle alternativene	0	1	2	3	4

### Generelle matvaner siste 4 uker før inntak til behandling (før kontrollert miljø)

Hvor mange måltider spiste du per dag?

Hvor mange varme måltider spiste du vanligvis per dag?

Hvor mange mellommåltider (snack) spiste du per dag?

Hvor mange brødmåltider spiste du vanligvis per dag?

Med hvem spiste du vanligvis dine måltider?

1 = Alene

2 = Med familie

3 = Med venner

4 = Med andre

### Generelle matvaner siste 4 uker før inntak til behandling (før kontrollert miljø)

	0	1	2	3
<i>Sett en ring rundt det svaret som passer deg best.</i>	Aldri	Sjelden	Av og til	Ofte
Hvor ofte spiste du tilberedt mat som ble servert på for eksempel suppestasjoner/institusjon/værested?	0	1	2	3
Hvor ofte spiste du «fast food» (hamburgere, pizza, pølser etc) som et hovedmåltid?	0	1	2	3
Hvor ofte spiste du halvfabrikatmat (frossenpizza, supper etc) som du varmet selv?	0	1	2	3
Hvor ofte lagde du/familiemedlem varme hjemmelagde måltider som du spiste?	0	1	2	3
Hvor ofte mottok du «matposer» fra for eksempel Frelsesarmeen?	0	1	2	3
Benyttet du deg av kosttilskudd	0	1	2	3

### Tobakksvaner siste 6 måneder før behandling (før kontrollert miljø)

Røyket du tobakk?

1 = Ja  
2 = Nei

Brukte du snus?

1 = Ja  
2 = Nei

Hvis ja, hvor mange sigaretter daglig?

Hvis ja, antall dager per boks?

### Dopingmidler siste 6 måneder før behandling (før kontrollert miljø)

Brukte du dopingmidler?

1 = Ja  
2 = Nei

Hvis ja, hvor mange ganger per uke?

Hvis ja, hvilken type dopingmidler?

Anabole steroider     Andre: .....

Hvis ja, brukte du sprøyter?

1 = Ja  
2 = Nei

### Fysisk trening siste 6 måneder før behandling (før kontrollert miljø)

Drev du med fysisk trening, enten organisert eller i privat regi?

1 = Ja  
2 = Nei

Hvis ja, hva slags trening? .....

Hvis ja, hvor mange dager per uke?

### Høyde og vekt

Selvrapportert vekt i kilo

--	--	--

Selvrapportert høyde i cm

--	--	--

Hvordan vurderer du din egen vekt i dag?

For lav     Passe     For høy

Deltagelse i denne studien innebærer at vi vil forsøke å få høre hvordan det har gått med deg igjen etter noe tid (1-5 år). For at vi skal kunne komme i kontakt med deg ved oppfølgingstidspunktene, må vi ha oppdatert kontaktinformasjon.

*Vi ber også om at du i tillegg til egen informasjon oppgir minst 2 andre kontaktpersoner som vet hvor du stort sett befinner deg. Vi har erfaring fra at mange skifter adresse, og telefonnummer i oppfølgingstiden. Vi trenger derfor informasjon fra tilleggskontaktene for å kunne nå deg.*

## Kontaktinformasjon for pasienten:

Navn:

Adresse:

Telefonnr 1:

Telefonnr 2:

Telefonnr 3:

E-mail:

Din kontakt i kommunen:

## Kontaktperson 1

Relasjon/rolle: familie, behandler, venn, annet .....

Navn:

Adresse:

Telefonnr 1:

Telefonnr 2:

E-mail:

## Kontaktperson 2

Relasjon/rolle: familie, behandler, venn, annet .....

Navn:

Adresse:

Telefonnr 1:

Telefonnr 2:

E-mail:

Tiltaksnr

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Løpenr

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## Norsk oppfølgingsstudie av opioid-avhengige i behandling (NorComt)

1. oppfølgingsintervju  
for døgn- og LAR klienter

Inklusjonskriterier: 12 måneder etter første intervju.  
(ikke «veteraner»)

## Intervjuskjema

Samarbeid mellom SERAF, regionale LAR-sentre og  
rusbehandlingsinstitusjoner

SERAF 2014

**Kontaktpersoner:**

Edle Ravndal:

Thomas Clausen:

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[thomas.clausen@medisin.uio.no](mailto:thomas.clausen@medisin.uio.no)

## Liste over tiltaksnummer

- 01 = LAR Vestfold
- 02 = LAR Vest-Agder
- 03 = Helse Bergen
- 04 = LAR Nord
- 05 = SPA, Oslo
- 06 = LAR Telemark
- 07 = LAR Buskerud
- 09A = LAR Hamar (Innlandet)
- 09B = LAR Gjøvik (Innlandet)
- 09C = LAR Lillehammer (Innlandet)
- 10 = Veksthuset Rogaland
- 11 = Samtun Sauherrad
- 12 = Arken
- 13 = Sollia
- 14 = Tyrili 1 (Høvringen)
- 15 = Tyrili 2 (Frankmotunet)
- 16 = Tyrili 3 (Tyrilihaugen)
- 17 = Tyrili 4 (Tyrilitunet)
- 18 = Tyrili 5 (Kampen)
- 19 = Tyrili 6 (Tyrili Sør)
- 20 = Veksthuset Molde
- 21 = LAR Midt
- 22 = LAR Akershus
- 23 = LAR Aust-Agder
- 24 = Renåvangen
- 25 = LAR Fredrikstad (Østfold)
- 26 = LAR Moss (Østfold)
- 27 = LAR Sarpsborg (Østfold)
- 28 = LAR Askim (Østfold)
- 29 = LAR Halden (Østfold)

## Hvis i LAR

### LAR-medisiner i dag

	Dose mg/dag
Subutex / buprenorfin	.....
Subuxone	.....
Metadon	.....
Annet	.....

### Utleveringsordning LAR-medisin

LAR-senter	<input type="checkbox"/>
Apotek	<input type="checkbox"/>
Fastlege	<input type="checkbox"/>
Hjemmesykepleier	<input type="checkbox"/>
Annet: .....	<input type="checkbox"/>

### Henteordning for LAR-medisin

	Antall dager per uke
Observert inntak	.....
Ta med hjem-dosering	.....

### Kontrolltiltak mht rusmiddelinntak

	Antall ganger per uke
Urinprøvekontroller	.....
Spyttprøvekontroller	.....
Sporadiske spytt/urinprøvekontroller	<input type="checkbox"/> Nei <input type="checkbox"/> Ja





Fødselsnummer	
<input type="text"/>	<input type="text"/>
Kjønn	
<input type="checkbox"/>	1 = Mann 2 = Kvinne
Dato for start kartlegging (NPR)	
<input type="text"/>	<input type="text"/>
dag	måned
<input type="text"/>	<input type="text"/>
	år
Behov for tolk	
<input type="checkbox"/>	1 = Ja 2 = Nei
Sivilstatus, per i dag	
<input type="checkbox"/>	0 = Ikke oppgitt 1 = Aldri gift 2 = Gift 3 = Enke / enkemann 4 = Separert 5 = Skilt 6 = Registrert partner (samboer) 7 = Separert partner 8 = Skilt partner 9 = Gjenlevende partner
Høyeste fullførte utdanning, per i dag	
<input type="checkbox"/>	1 = Ikke avsluttet grunnskole 2 = Grunnskole 3 = Videregående skole/gymnas/yrkesskoleutdanninger 4 = Faglig yrkesutdanning 5 = Treårig høyskole/universitet 6 = Mer enn treårig høyskole/universitet 9 = Ukjent

Yrkesstatus, per i dag	
<input type="checkbox"/>	1 = Utenfor arbeidsmarkedet og ikke under utdanning 2 = Heltidsjobb 3 = Deltidsjobb 4 = Under utdanning 5 = Deltidsjobb og under utdanning 9 = Ukjent
Viktigste inntekt siste 4 uker	
<input type="checkbox"/>	1 = Lønnet arbeid 2 = Forsørget 3 = Arbeidsledighetstrygd 4 = Syke-/rehabiliteringspenger 5 = Atføringspenger 6 = Uførepensjon 7 = Alderspensjon 8 = Sosial stønad 9 = Annet 10 = Ukjent 11 = Studielån/stipend 12 = Stønad til enslig forsørger
Bor sammen med (NPR), per i dag (flere valg mulig)	
<input type="checkbox"/>	1 = Bor alene
<input type="checkbox"/>	2 = Bor i parforhold
<input type="checkbox"/>	3 = Bor sammen med venner
<input type="checkbox"/>	4 = Bor sammen med foreldre
<input type="checkbox"/>	5 = Bor sammen med barn under 18 år
<input type="checkbox"/>	6 = Bor sammen med barn over 18 år
<input type="checkbox"/>	7 = Bor sammen med andre
<input type="checkbox"/>	9 = Ukjent
Boligforhold siste 4 uker (NPR)	
<input type="checkbox"/>	1 = Ingen bolig 2 = Hospits/hybelhus/hotell 3 = Institusjon 4 = Egen privat bolig 5 = Privat bolig eid av annen 6 = Annet
Hatt en stabil bosituasjon siste 4 uker	
<input type="checkbox"/>	1 = Ja 2 = Nei 9 = Ukjent

## Barn (NPR), per i dag

Antall egne barn uansett alder og bosituasjon (NPR)

### Alder og bosituasjon for barn under 18 år (NPR)

	0-6 år	7-12 år	13-17 år
Hjemmeboende barn (egne), angi antall	<input type="text"/>	<input type="text"/>	<input type="text"/>
Hjemmeboende barn (andres), angi antall	<input type="text"/>	<input type="text"/>	<input type="text"/>

### Tiltak for barn under 18 år (ikke NPR)

	Ikke behov	Bør iverksettes	Er iverksatt	Ukjent
Hjemmeboende barn (egne), angi antall	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Hjemmeboende barn (andres), angi antall	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

## Graviditet (NPR), per i dag

1 = Ja  
2 = Nei  
9 = Ukjent

**Antall uker gravid**  
(Eks.: 1 uke = 01; 2 uker = 02; 10 uker = 10)

## Testet for blodsmittevirus siste år?

Hepatitt B

Hepatitt C

HIV

1 = Ja  
2 = Nei  
9 = Ukjent

## Psykiske vansker/lidelser (NPR) siste 4 uker

### Siste 4 uker

(begge kolonnene må besvares for hvert spørsmål)  
1 = Ja 2 = Nei 9 = Ukjent

Hatt alvorlige depresjoner

Hatt alvorlig angst

Hatt vrangforestillinger/hallusinasjoner

Blitt forskrevet medisiner for et eller annet psykisk/følelsesmessig problem

Hatt alvorlige tanker om å ta livet av seg

## Forsøk på selvmord siste år

1 = Nei  
2 = Ja, ved overdose  
3 = Ja, på annen måte  
4 = Både ved overdose og på annen måte  
9 = Ukjent

## Mottatt profesjonell hjelp for psykiske vansker/lidelser siste år

1 = Ja  
2 = Nei  
9 = Ukjent

## Antall rusmidler brukt siste 6 måneder

**Angi antall rusmidler**  
(Eks.: 1 rusmiddel = 01; 2 rusmidler = 02;  
10 rusmidler = 10)

00 = Ingen  
99 = Ukjent

## Rusmiddel-/medikamentprofil siste 6 måneder

	Type rusmiddel/medikament(NPR) (Bruk koden nedenfor)	Inntaksmåte (NPR) (Bruk koden nedenfor)	Hvor ofte brukt siste 4 uker (NPR) (Bruk koden nedenfor)	Alder brukt første gang (NPR)	Hvor lenge problemfylt bruk (Antall år)
<b>Mest brukte rusmiddel/ medikament</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>2. mest brukte</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>3. mest brukte</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>4. meste brukte</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
0 = Ingen 1 = Alkohol 2 = Cannabis 3 = Heroin/Opium 4 = Metadon, buprenorfin, andre opiater/opioder forskrevet i LAR- program 5 = Metadon, buprenorfin, andre opiater/opioder forskrevet utenfor LAR-program 6 = Metadon, buprenorfin, andre opiater/opioder ervert uten at forskrevet av lege 7 = Benzodiazepiner forskrevet av lege	8 = Benzodiazepiner ikke forskrevet av lege 9 = Andre vanedannende medikamenter 10 = Amfetamin 11 = Kokain 12 = Crack 13 = Andre sentralstimulerende midler 14 = LSD og likn. 15 = Ecstasy 16 = Løsemidler 17 = Rødsprit o.l 18 = Annet 99 = Ukjent	1 = Drikker/spiser 2 = Injiserer 3 = Røyker 4 = Sniffer 8 = Annet 9 = Ukjent	1 = Ikke brukt 2 = Sjeldnere enn 1 gang i uken 3 = Omtrent ukentlig 4 = 2-4 dager i uken 5 = 5-6 dager i uken 6 = Daglig 9 = Ukjent	99 = Ukjent	00 = Ikke 01 = Et år eller mindre 99 = Ukjent

### Brukt sprøyter siste år?

1 = Ja  
2 = Nei  
9 = Ukjent

### Sprøytebruk siste 4 uker (NPR)

1 = Ikke brukt sprøyte  
2 = Sjeldnere enn 1 gang i uken  
3 = Omtrent ukentlig  
4 = 2-4 dager i uken  
5 = Daglig eller nesten daglig  
9 = Ukjent

### Antall ganger overdose siste år

#### Antall for hvert av stoffområdene

Alkohol

Narkotika

00 = Ingen ganger  
99 = Ukjent

Medikament

Kombinasjon

## Kontrollert miljø

I løpet av de siste 30 dagene har du vært innlagt i det vi kan kalle et «kontrollert miljø»?

1 = Nei

2 = Fengsel

3 = Behandlingsinstitusjon for rusmiddelmissbrukere

4 = Somatisk sykehus

5 = Psykiatrisk sykehus/klinikk

6 = Bare avrusning/avgiftning

7 = Annet kontrollert miljø, spesifiser: .....

Var dette miljøet/behandling med LAR?

Nei

Ja

## Kjæledyr

Har du eget kjæledyr?

Nei  Hund  Katt  Fugl  Hest  Annet, spesifiser: .....

Dersom ja, hva er de viktigste grunnene til at du har eget kjæledyr?

Min beste venn

Har alltid hatt dyr

Føler trygghet

Ingen spesiell grunn

Liker dyr

Vet ikke

Enklere relasjon med dyr enn mennesker

Annet, spesifiser: .....

## Sosialt nettverk siste 6 måneder

Hvem er du mest sammen på fritiden vanligvis?

(Lengeværende kjæresteforhold defineres som familie/minst 1 år)

1 = Familie uten nåværende problemer med alkohol/stoff/medikamenter

2 = Familie med nåværende problemer med alkohol/stoff/medikamenter

3 = Venner uten nåværende problemer med alkohol/stoff/medikamenter

4 = Venner med nåværende problemer med alkohol/stoff/medikamenter

5 = Er mest alene

Hvor mange av dem du er mest sammen med er jevnlig involvert i kriminalitet (unntatt egen bruk og besittelse)

Ingen  De færreste  Omtrent halvparten  De fleste  Alle  Vet ikke / vil ikke svare

Utsatthet for kriminalitet siste år			
	Siste år		
	Nei	Ja	Ant ganger
Har du blitt frastjålet personlige ting som penger, mobiltelefon eller andre ting?	<input type="checkbox"/>	<input type="checkbox"/>	
Har du blitt utsatt for fysisk vold som førte til synlige merker eller skader på kroppen?	<input type="checkbox"/>	<input type="checkbox"/>	
Har du blitt utsatt for fysisk vold som ikke førte til synlige merker eller skader på kroppen?	<input type="checkbox"/>	<input type="checkbox"/>	
Har du blitt utsatt for trusler?	<input type="checkbox"/>	<input type="checkbox"/>	
	Siste året		
Har du noen gang <b>det siste året</b> blitt utsatt for seksuelt motivert vold, overgrep eller voldtekt, eller forsøk på dette?	<input type="checkbox"/>	<input type="checkbox"/>	

Hvem utførte kriminaliteten mot deg ved siste hendelse?			
<input type="checkbox"/> Ukjent person	<input type="checkbox"/> Bekjent/venn	<input type="checkbox"/> Person som brukte makt i sitt arbeid	
<input type="checkbox"/> Familie/partner	<input type="checkbox"/> Andre	<input type="checkbox"/> Vil ikke svare	

Egen kriminalitet det siste året			
	Siste år		
	Nei	Ja	Ant ganger
Har du vært involvert i kriminelle handlinger? (unntatt egen bruk og besittelse)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Herunder vinningskriminalitet? (alle typer tyveri, bedrageri, innbrudd, heleri)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Narkotikaforbrytelser? (unntatt egen bruk og besittelse, gjelder narkotika og doping, solgt, smuglet, tilvirket, annet)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Voldskriminalitet? (Med vilje påført andre fysisk smerte/skade)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Trafikk kriminalitet? (Kjørt ruspåvirket, uten førerkort, for fort, annet)	<input type="checkbox"/>	<input type="checkbox"/>	
Hvis Ja: Annen kriminalitet?	<input type="checkbox"/>	<input type="checkbox"/>	

LAR-medisin og kriminalitet det siste året				
	Nei	Ja	Ikke aktuelt	Ønsker ikke å svare
Har du siste år omsatt/byttet ditt eget LAR-medikament?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har du siste år gitt bort/delt ditt eget LAR-medikament?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har du siste år blitt frastjålet ditt eget LAR-medikament?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har du siste år kjøpt illegalt LAR-medikament?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Soning det siste året				
	Nei	Ja	Ant ganger	Dersom soning, ant måneder totalt
Har du sonet dom i fengsel siste år?	<input type="checkbox"/>	<input type="checkbox"/>		

## SCL – 25. Hvor mye har du vært plaget av: (den siste uka)

(samme spørsmål i SCL-90)

	0	1	2	3	4
<i>Sett en ring rundt det svaret som passer deg best.</i>	Ikke i det hele tatt	Litt	Moderat	Ganske mye	Veldig mye
1. Hodepine	0	1	2	3	4
2. Skjelving	0	1	2	3	4
3. Matthet eller svimmelhet	0	1	2	3	4
4. Nervøsitet, indre uro	0	1	2	3	4
5. Plutselig frykt uten grunn	0	1	2	3	4
6. Stadig redd eller engstelig	0	1	2	3	4
7. Hjerterbank, hjerteslag som løper avgårde	0	1	2	3	4
8. Følelse av å være anspent, oppjaget	0	1	2	3	4
9. Anfall av angst eller panikk	0	1	2	3	4
10. Så rastløs at det er vanskelig å sitte stille	0	1	2	3	4
11. Mangel på energi, alt går langsommere enn vanlig	0	1	2	3	4
12. Lett for å klandre seg selv	0	1	2	3	4
13. Lett for å gråte	0	1	2	3	4
14. Tanker om å ta ditt liv	0	1	2	3	4
15. Dårlig matlyst	0	1	2	3	4
16. Søvnproblemer	0	1	2	3	4
17. Følelse av håpløshet med tanke på fremtiden	0	1	2	3	4
18. Nedtrykt, tungsindig	0	1	2	3	4
19. Følelse av ensomhet	0	1	2	3	4
20. Tap av seksuell lyst og interesse	0	1	2	3	4
21. Følelse av å være lur i en felle eller fanget	0	1	2	3	4
22. Mye bekymret eller urolig	0	1	2	3	4
23. Uten interesse for noe	0	1	2	3	4
24. Følelse av at alt er et slit	0	1	2	3	4
25. Følelse av å være unyttig	0	1	2	3	4

## Somatisk helse. Hvor mye har du vært plaget av: (siste 6 måneder)

Sett en ring rundt det svaret som passer deg best.	0	1	2	3	4	Kronisk lidelse?	
	Ikke i det hele tatt	Litt	Moderat	Ganske mye	Veldig mye	(minst 3 mnd i løpet av siste halvår)	
						Ja	Nei
Fordøyelsesplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Diare	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Forstoppelse	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Luftveisplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Eksem	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Hudinfeksjoner	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Leddsmerter	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Hodepine	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Brystsmerter	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Svimmelhet	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Nedsatt hukommelse	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Synsforstyrrelser	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Urinveisplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Kjønnsykdommer	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Blodpropp	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>
Tann/tannkjøttplager	0	1	2	3	4	<input type="checkbox"/>	<input type="checkbox"/>

## Har du noen av de nevnte sykdommer per i dag?

	Ja	Nei	Ukjent/ vet ikke	Hvis Ja, har du i løpet av de siste 6 mnd fått behandling for din(e) sykdom(mer)?	
				Ja	Nei
				Diabetes	<input type="checkbox"/>
Høyt blodtrykk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hjertesykdom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KOLS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Astma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitt B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hepatitt C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leverchirrose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HIV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kreft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Nåværende livskvalitet

Sett en ring rundt det svaret som passer deg best.

		0	1	2	3	4
	Ikke aktuelt	Meget dårlig	Dårlig	Verken god/t eller dårlig	God/t	Meget god/t
Hvordan synes du selv din fysiske helse er?		0	1	2	3	4
Hvordan synes du selv din psykiske helse er?		0	1	2	3	4
Hvordan er ditt forhold til deg selv?		0	1	2	3	4
Hvordan er ditt forhold til dine venner?		0	1	2	3	4
Hvordan er ditt forhold til din partner?	<input type="checkbox"/>	0	1	2	3	4
Hvordan er din evne til å være glad i andre mennesker?		0	1	2	3	4
Hvordan fungerer du seksuelt?		0	1	2	3	4
Hvordan fungerer du sosialt?		0	1	2	3	4
Hvordan er din arbeidsevne?		0	1	2	3	4
Hvordan synes du kvaliteten på livet ditt er?		0	1	2	3	4
Hvordan er kontakten med din familie?		0	1	2	3	4
Hvordan er kontakten med egne barn?	<input type="checkbox"/>	0	1	2	3	4



## Mål på psykologisk avhengighet siste 4 uker

<i>Som du opplever det mht til rusmidler siste måned.</i>	0	1	2	3
	Aldri	Noen ganger	Ofte	Alltid
Tenker du at ditt forbruk av rusmidler er ute av kontroll?	0	1	2	3
Gjør tanken på å ikke ta rusmidler at du føler deg engstelig eller bekymret?	0	1	2	3
Bekymrer ditt forbruk av rusmidler deg?	0	1	2	3
Skulle du ønske du kunne klare å slutte?	0	1	2	3
	Ikke i det hele tatt	Litt vanskelig	Vanskelig	Umulig
Hvor vanskelig synes du det er å stoppe? (gjelder ikke LAR-medisiner)	0	1	2	3

## Selvkontroll

<i>Nedenfor skal du vurdere påstandene etter hvor godt de passer for deg.</i>	0	1	2	3	4
	Passer ikke det hele tatt	Litt	Moderat	Ganske mye	Passer svært godt
Jeg er flink til å motstå fristelser	0	1	2	3	4
Jeg synes det er vanskelig å endre dårlige vaner	0	1	2	3	4
Jeg er lat	0	1	2	3	4
Jeg sier upassende ting	0	1	2	3	4
Jeg gjør enkelte ting som er morsomt, selv om det ikke er bra for meg	0	1	2	3	4
Jeg motstår ting som er dårlig for meg	0	1	2	3	4
Jeg skulle ønske jeg hadde mer selvdisciplin	0	1	2	3	4
Folk vil si jeg har jerndisciplin	0	1	2	3	4
Ønsket om å ha det gøy forhindrer meg noen ganger i å få jobben gjort	0	1	2	3	4
Jeg har konsentrasjonsvansker	0	1	2	3	4
Jeg klarer å jobbe effektivt mot langsiktige mål	0	1	2	3	4
Enkelte ganger klarer jeg ikke å stoppe meg selv i å gjøre noe jeg vet er galt	0	1	2	3	4
Jeg handler ofte uten å ha vurdert alle alternativene	0	1	2	3	4

## Generelle matvaner siste 4 uker

Hvor mange måltider spiser du per dag?

Hvor mange varme måltider spiser du vanligvis per dag?

Hvor mange mellommåltider (snack) spiser du per dag?

Hvor mange brødmåltider spiser du vanligvis per dag?

Med hvem spiser du vanligvis dine måltider?

1 = Alene

2 = Med familie

3 = Med venner

4 = Med andre

## Generelle matvaner siste 4 uker

	0	1	2	3
<i>Sett en ring rundt det svaret som passer deg best.</i>	Aldri	Sjelden	Av og til	Ofte
Hvor ofte spiser du tilberedt mat som blir servert på for eksempel suppestasjoner/institusjon/værested?	0	1	2	3
Hvor ofte spiser du «fast food» (hamburgere, pizza, pølser etc) som et hovedmåltid?	0	1	2	3
Hvor ofte spiser du halvfabrikatmat (frossenpizza, supper etc) som du varmet selv?	0	1	2	3
Hvor ofte lager du/familiemedlem varme hjemmelagde måltider som du spiser?	0	1	2	3
Hvor ofte mottar du «matposer» fra for eksempel Frelsesarmeen?	0	1	2	3
Benytter du deg av kosttilskudd?	0	1	2	3

## Tobakksvaner siste 6 måneder

Røyker du tobakk?

1 = Ja  
2 = Nei

Bruker du snus?

1 = Ja  
2 = Nei

Hvis ja, hvor mange sigaretter daglig?

Hvis ja, antall dager per boks?

## Dopingmidler siste 6 måneder

Bruker du dopingmidler?

1 = Ja  
2 = Nei

Hvis ja, hvor mange ganger per uke?

Hvis ja, hvilken type dopingmidler?

Anabole steroider     Andre: .....

Hvis ja, bruker du sprøyter?

1 = Ja  
2 = Nei

## Fysisk trening siste 6 måneder

Driver du med fysisk trening, enten organisert eller i privat regi?

1 = Ja  
2 = Nei

Hvis ja, hva slags trening? .....

Hvis ja, hvor mange dager per uke?

## Høyde og vekt

Selvrapportert vekt i kilo

--	--	--

Selvrapportert høyde i cm

--	--	--

Hvordan vurderer du din egen vekt i dag?

For lav     Passe     For høy

## ADHD – selvrapporterings skjema for voksne-V1.1 (ASRS-V1.1)

<i>Kryss av for den ruten som best beskriver hvordan du har følt og oppført deg de siste 6 månedene.</i>	0	1	2	3	4
	Aldri	Sjelden	I blant	Ofte	Svært Ofte
Hvor ofte har du problemer med å avslutte en oppgave etter at de interessante delene er unnagjort?	0	1	2	3	4
Hvor ofte er det vanskelig for deg å få orden på ting når du skal utføre en oppgave som krever organisering?	0	1	2	3	4
Hvor ofte har du problemer med å huske avtaler eller forpliktelser?	0	1	2	3	4
Når du har en oppgave som krever at du tenker nøye igjennom det du skal gjøre, hvor ofte unngår eller utsetter du å begynne på den?	0	1	2	3	4
Hvor ofte sitter du og fikler med noe når du må sitte lenge i ro?	0	1	2	3	4
Hvor ofte føler du deg overdrevet aktiv og tvunget til å gjøre noe, som om du var drevet av en indre motor?	0	1	2	3	4

## Spørsmål om ADHD

	Nei	Ja
Har du noen gang lurt på om du har ADHD?	<input type="checkbox"/>	<input type="checkbox"/>
Har du noen gang vært utredet for ADHD?	<input type="checkbox"/>	<input type="checkbox"/>
Har du etter en utredning fått en ADHD diagnose?	<input type="checkbox"/>	<input type="checkbox"/>
Er du medisinert for ADHD?	<input type="checkbox"/>	<input type="checkbox"/>

### Rusbehandling siste år

(Eks.: 1 mnd = 01; 12 mndr = 12)

	Antall måneder	Fullført etter planen
Hvor mange måneder til sammen har du vært i døgnbehandling uten LAR siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>
Hvor mange måneder til sammen har du vært i døgnbehandling med LAR siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>
Hvor mange måneder til sammen har du vært i poliklinisk behandling uten LAR siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>
Hvor mange måneder til sammen har du vært i poliklinisk behandling med LAR siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>

### Behandling psykisk/somatisk helse siste år

(Eks.: 1 mnd = 01; 12 mndr = 12)

	Antall måneder	Fullført etter planen
Hvor mange måneder til sammen har du vært i poliklinisk behandling psykisk helse siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>
Hvor mange måneder til sammen har du vært i døgnbehandling psykisk helse siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>
Hvor mange måneder til sammen har du vært i poliklinisk behandling for somatikk (spesifikk lidelse) siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>
Hvor mange måneder til sammen har du vært i døgnbehandling for somatikk (sykehus e.l.) siste år?	<input type="text"/> <input type="text"/>	<input type="checkbox"/>

### Behandlingsavbrudd siste år (indexbehandling)

Hvor mange avbrudd fra LAR har du hatt siste år?  
(Med avbrudd menes minst 30 dagers opphold fra LAR-medisiner)

Ikke aktuelt

Hvor mange avbrudd fra døgnbehandling har du hatt siste år?  
(Med avbrudd menes utskrevet fra institusjon)

Ikke aktuelt

### Årsaker til avbrudd siste avbruddsepisode

LAR		Døgnbehandling	
<input type="checkbox"/> Ufrivillig utskrevet	<input type="checkbox"/> Frivillig behandlingsavbrudd	<input type="checkbox"/> Ufrivillig utskrevet	<input type="checkbox"/> Frivillig behandlingsavbrudd

### Årsak til siste behandlingsavbrudd (flere valg mulig)

<input type="checkbox"/> Rusmisbruk	<input type="checkbox"/> Ønske om nedtrapping og avslutning av LAR-medisin (planlagt)
<input type="checkbox"/> Manglende behandlingsnytte	<input type="checkbox"/> Bivirkninger av LAR-medisin
<input type="checkbox"/> Trusler og/eller vold mot pasient/ansatt	<input type="checkbox"/> Misnøye med regler og rammer under behandlingen
<input type="checkbox"/> Ønske om annen behandling	<input type="checkbox"/> Annet
<input type="checkbox"/> Misnøye med medikament (LAR eller annet)	

### Behandling/oppfølging i dag

Er du i behandling i dag?

- Nei
- Poliklinisk med LAR
- Poliklinisk uten LAR
- Døgn med LAR
- Døgn uten LAR

Hva er ditt behandlingsmål med dette behandlingsopplegget?

- 1 = Rehabilitering med rusfrihet
- 2 = Stabilisering med bedre rusmestring

Ønske for varighet av behandling?

(Eks.: 1 mnd = 001; 12 mndr = 012; 12 år = 144, Livslang = 999)

Vet ikke

Oppfølging fra hjelpeapparatet siste 6 mnd (flere valg er mulig)

<input type="checkbox"/> Individuell plan	<input type="checkbox"/> Ansvarsgruppemøter
<input type="checkbox"/> Bistand mht bolig	<input type="checkbox"/> Bistand kurs; skole, utdanning
<input type="checkbox"/> Bistand mht jobb	<input type="checkbox"/> Bistand sosiale aktiviteter
<input type="checkbox"/> Oppfølging somatisk helse	<input type="checkbox"/> Oppfølging psykisk helse
<input type="checkbox"/> Oppfølging ernæring	<input type="checkbox"/> Oppfølging fysisk aktivitet/trening
<input type="checkbox"/> Oppfølging LAR-medisin	<input type="checkbox"/> Forskrevet benzodiazepin
<input type="checkbox"/> Oppfølging økonomi	<input type="checkbox"/> Oppfølging hos fastlege

I forhold til tiden **før** du begynte i behandling, hvordan vurderer du **nå**

	Bedre	Som før	Dårligere	Uaktuelt	
Boligforhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sosiale relasjoner til venner/familie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Deltagelse i rusfrie nettverk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Psykiske helse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kroppslige helse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ernæringsstatus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samlet vurdering av livssituasjon/kvalitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Ikke lenger	Mindre	Som før	Større/mer	Uaktuelt
Samlet rusmiddelforbruk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bruk av alkohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bruk av benzodiazepiner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bruk av opioider (inkl heroin) (ikke LAR-medisin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bruk av cannabis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bruk av andre illegale rusmiddel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deltagelse i kriminell aktivitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utsatthet for kriminalitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grad av oppfølging fra hjelpeapparatet/helsevesen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Behov for ytterligere behandling for rusproblem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Godt	Både og	Dårlig		
Hvordan har behandlingen fungert i forhold til dine forventninger?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Samlet sett hvor fornøyd er du med behandlingen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

BEHANDLING



RUSBRUK



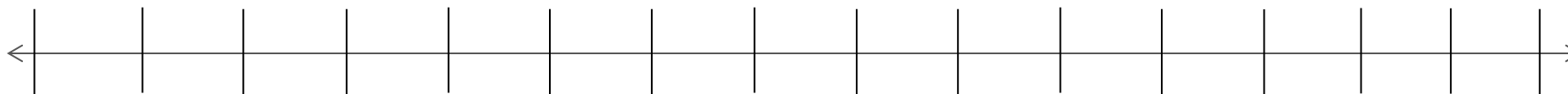
BOFORHOLD



AKTIVITET/ARBEID



Viktige livshendelser (+/-)





Var det noe du savnet i behandlingen?

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.....  
.....  
.....

Det er en mulighet for at vi igjen ønsker å komme i kontakt med deg for oppfølgingsintervju i løpet av de neste 5 årene. For at vi skal kunne komme i kontakt med deg ved oppfølgingstidspunktene, må vi ha oppdatert kontaktinformasjon.

*Vi ber også om at du i tillegg til egen informasjon oppgir minst 2 andre kontaktpersoner som vet hvor du stort sett befinner deg. Vi har erfart at mange skifter adresse, og telefonnummer i oppfølgingstiden. Vi trenger derfor informasjon fra tilleggskontaktene for å kunne nå deg.*

## Kontaktinformasjon for pasienten:

Navn:

Adresse:

Telefonnr 1:

Telefonnr 2:

Telefonnr 3:

E-mail:

Din kontakt i kommunen:

## Kontaktperson 1

Relasjon/rolle: familie, behandler, venn, annet .....

Navn:

Adresse:

Telefonnr 1:

Telefonnr 2:

E-mail:

## Kontaktperson 2

Relasjon/rolle: familie, behandler, venn, annet .....

Navn:

Adresse:

Telefonnr 1:

Telefonnr 2:

E-mail: