

# Violence and diversion of prescribed opioids among individuals in opioid maintenance treatment

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A complementary methods study of violent crime convictions in a national cohort and qualitative interviews among prisoners

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*“...the greatest glory in living lies not in never falling, but in rising every time we fall.”*

Nelson Mandela, 1998



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# Summary

## Background

Opioid dependence is linked to crime, morbidity and mortality, directly through drug overdoses and indirectly via drug-related mortality, accidents, suicides and violence. Violence in general is a major health concern worldwide. Opioid maintenance treatment, OMT, is found to reduce mortality, morbidity and criminal behaviour, but less is known about the effect of OMT on violent crime. A possible negative consequence of OMT is diversion of methadone and buprenorphine and rising overdose deaths related to these medications among individuals not enrolled in OMT. The aim of this thesis is to study violent crimes prior to, during and after OMT in a national cohort and to generate new knowledge about OMT-enrolled individuals' experiences and understandings of being both violent and non-violent offenders, the role of substances in such crimes as well as their understandings and motivations related to diversion of prescribed opioids.

## Materials and methods

Two complementary data collection methods have been used. Violent convictions were investigated by use of cross-registry methods for a complete longitudinal national OMT-cohort of 3221 individuals with an observation period of 9 years and a qualitative study among 12 imprisoned, OMT-enrolled individuals. 28 semi-structured interviews were thematically analyzed with a reflexive and interactive approach.

## Findings

Violent crime rates were significantly reduced during OMT compared with before treatment. The rate of convictions for violent crime during OMT was halved among those who remained in treatment. The reduction was less pronounced for those who left treatment: for this group, the rate of violent convictions after OMT was higher than before treatment. The risk of convictions for violent and non-violent crime during OMT was highest for those with violent convictions prior to treatment.

In the qualitative part of the study, it was found that substances and, in particular, high-dose benzodiazepines were deliberately used to induce temporary 'antisocial selves' capable of transgressing individual moral codes and performing non-violent and violent criminal acts, mainly to support costly heroin use prior to OMT. During OMT, impulsive and uncontrolled substance use just prior to the violent acts that the participants were imprisoned for was reported. Benzodiazepines were also used to reduce memories of and alleviate the guilt associated with having committed violent crimes. The study participants maintain moral standards, engage in complex moral negotiations, and struggle to reconcile their moral transgressions. They were found to exhibit a considerable amount of self-control, self-regulation and/or self-initiation of external control related to intake of methadone and buprenorphine in various settings. Their acquired norm of sharing with others in a drug using community was carried along when entering OMT. Several had developed strategies to avoid selling or giving of methadone or buprenorphine to others. Giving one's opioid prescriptions

to an individual in withdrawal, was seen as an act of helping. Individuals enrolled in OMT might thus be trapped between practicing norms of helping and sharing and adhering to treatment regulations.

### **Conclusions**

Opioid dependent individuals with violent convictions should have access to OMT. Treatment providers should identify individuals with histories of violent behavior. The situation that precede and motivate violent behavior and the potential role of substances prior to and after such crimes should be explored with the patient in question. What appears as a severe antisocial personality disorder may be partly explained by substance use. Treatment providers should explore the living conditions and social lives of individuals applying for and enrolled in OMT. To following OMT guidelines may entail breaking a personal and drug culture norm of sharing and helping by means of providing OMT medications to those in need. Opioid-dependent couples should be encouraged to apply for and enroll in OMT at the same time, if both are motivated for starting treatment. Some individuals might know what particular configurations of internal and external control they need in order to achieve their own treatment goals in OMT. An individual's experience and ability to execute self-control and self-regulation with regard to drug taking may be seen as a resource throughout the course of treatment.

## List of papers

- Paper I: Havnes, I., Bukten, A., Gossop, M., Waal, H., Stangeland, P., & Clausen, T. (2012). Reductions in convictions for violent crime during opioid maintenance treatment: A longitudinal national cohort study. *Drug Alcohol Depend*, *124*(3), 307-310.
- Paper II: Havnes, I. A., Clausen, T., Brux, C., & Middelthon, A.-L. (2014). The role of substance use and morality in violent crime – a qualitative study among imprisoned individuals in opioid maintenance treatment. *Harm Reduction Journal* *11*(24).
- Paper III: Havnes, I. A., Clausen, T., & Middelthon, A.-L. (2014). Execution of control among 'non-compliant' imprisoned individuals in opioid maintenance treatment. *International Journal of Drug Policy*, *25*(3):480-485.
- Paper IV: Havnes, I. A., Clausen, T., & Middelthon, A.-L. (2013). 'Diversion' of methadone or buprenorphine: 'harm' versus 'helping'. *Harm Reduction Journal*, *10* (24).

## Abbreviations

ASPD	Antisocial Personality Disorder
DSM-IV and V	Diagnostic and Statistical Manual of Mental Disorders, by the American Psychiatric Association
HCR-20	Violence assessment instrument with 10 historical, 5 clinical and 5 risk management factors
ICD-10	International Classification of Diseases-10, by the World Health Organization
M.I.N.I.	Mini International Neuropsychiatric Interview
OMT	Opioid Maintenance Treatment
SCID II	Structural Clinical Interview for DSM-IV Axis II Personality Disorder
TCO-symptoms	Perceived Threat-Control-Override-symptoms

## Study background

My motivation for conducting research within the fields of opioid addiction, violent behavior and diversion of prescribed opioids has developed and evolved over several years. I gained some insight into the nature of opioid dependence, over-dose problems and co-morbidity among heroin users while working at Oslo's pre-hospital emergency ward during a time when opioid maintenance treatment, OMT was rarely available in Norway (1999). Patients who recovered from opioid overdoses most often rejected offers of admission for further treatment or supportive housing in favor of pursuing their next dose of heroin. Severe somatic disorders were often diagnosed among opioid-dependent individuals and informal 'opioid substitution schemes' could sometimes be organized when in-patient treatment was needed. But, individuals maintained the right to reject hospital admission and those who exercised this right could explain their decisions with regard to a stronger fear of withdrawal than of somatic worsening.

Later, when specializing in psychiatry, I had treatment responsibilities for some OMT-enrolled individuals with concurrent mental disorders in need of treatment. In these cases, the patients expressed how hard it was to function well socially and find 'a place in society' after many years of heroin use and criminal behavior.

I was positioned as a constituted senior consultant a few weeks after the occurrence of a well-known Norwegian crime case in which six individuals were attacked on a tram in Oslo, one of whom died and four of whom were seriously injured. The offender was found to be psychotic during the murder. He had been released from a psychiatric ward one week prior and the responsible hospital and psychiatrist received massive critique both throughout the media and from health officials for lacking routines and releasing a psychotic individual without a treatment plan (Hånes, 2007). Following this serious crime case, the acute psychiatric ward that I worked on experienced more admissions than normal. I found it challenging and difficult to perform violence risk assessment under these circumstances, with little time and resources, and I also lacked experience and knowledge within this field.

I later chose to work in a forensic psychiatric department, among knowledgeable staff and where I received practical experience with and education in violence risk assessment and management. In this department, all patients were diagnosed with severe mental disorders, and most with concurrent substance use disorders. A few were enrolled in OMT. Almost all had problems with violent behavior and many had been psychotic while committing a violent crime and were in coercive treatment. Part of the department's responsibility was to ensure that the patients received adequate treatment while, at the same time, protecting society from violent behavior. I experienced a need for increased knowledge within this field and applied for a PhD position for the already established project titled 'Crime and OMT' at the Norwegian Centre for Addiction Research (SERAF), University of Oslo. I was offered a combined position as PhD researcher and psychiatrist at – and funded by – Oslo University Hospital, where I also took part in a study examining methadone-related deaths in Norway, which found that approximately 80% of the deceased

were not enrolled in OMT at the time of overdose and death, thus confirming the need to better understand and control diversion of OMT medications (Bernard et al., 2012).

Both violent behavior and diversion of one's prescribed opioids may harm other individuals. As I see it, external control measures in OMT are of importance to ensure medically safe treatment. Still, the planning, development and implementation of OMT should, among other factors, be based on as full an understanding as possible of the realities of the people its measures are meant to meet. The aim of this PhD-project was thus to study the effect of OMT on violent crime convictions in an OMT cohort and to gain an increased understanding of violent crimes and diversion and non-prescribed use of methadone and buprenorphine among individuals enrolled in OMT.

# 1 Introduction

This thesis addresses the question of whether opioid maintenance treatment (OMT) had an effect on violent convictions in a complete OMT cohort and explores imprisoned, OMT-enrolled individuals' experiences and understandings of being both violent and non-violent offenders, as well as their understandings of and motivations for non-prescribed opioid use and diversion of prescribed opioids.

In this chapter, an overview of the harms associated with opioid dependence, possible associations between substance use and violent crime, the known effect of OMT on the harms associated with opioid dependence and possible negative consequences of OMT, such as diversion of prescribed opioids, will be provided.

## 1.1 Opioid dependence

Opioid dependence is linked to increased morbidity, mortality, crime and severe social consequences for both individuals and societies. Worldwide, 16 million individuals (0.4 % of the population aged 15-64) are estimated to use opioids<sup>1</sup>. The global prevalence of opioid use remains stable compared to the 2008 estimates, but Africa appears to have emerged as a target for trafficking (UNODC, 2012). In Europe, 1.3 million individuals are problem opioid users<sup>2</sup> (EMCDDA, 2014). The most common routes of administering heroin, in particular, are smoking and intravenous injection. Injecting practices in Europe vary from 6% among opioid users in the Netherlands to 100% in Lithuania (EMCDDA, 2014). In Norway, nearly 90% of the estimated 8600-12600 problem opioid users inject the drug (Bretteville-Jensen & Amundsen, 2009).

Use of narcotic substances, and, in particular, opioids, is linked to increased mortality, directly through drug overdoses and indirectly via drug-related accidents, suicides and violence (Clausen, Anchersen, & Waal, 2008; Degenhardt, Larney, Randall, Burns, & Hall, 2014). Overdose is identified as the main cause of premature death among injecting drug users. Concomitant use of other central nervous system depressants, such as alcohol and benzodiazepines, increases the risk of fatal overdose (EMCDDA, 2014). In Europe, the mean number of overdose deaths per one million inhabitants between 15-64 years of age is 17. Estonia is reported to have 191 overdose deaths per one million inhabitants and, for Norway, the number is 76 (EMCDDA, 2014). Furthermore, injecting drug users have high rates of morbidity that also contribute to the high mortality rate among drug users (Clausen et al.,

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<sup>1</sup> The general term *opioids* refers to naturally-derived opiates from the opium poppy (morphine and codeine), semi-synthetic derivatives (heroin and buprenorphine) and fully synthetic opioids (methadone and phentanyl). The substances included in the category of opioids are referred to in the general statistics by United Nations Office on Drugs and Crime, UNODC, and the European Monitoring centre for Drugs and Drug Addiction, EMCDDA.

<sup>2</sup> Problem opioid use refers to 'injecting drug use or long duration or regular use of opioids' (EMCDDA, 2014).

2008; Degenhardt et al., 2014). Sharing of needles and syringes increases the transmission risk for viruses such as hepatitis B and C and HIV (EMCDDA, 2014; UNODC, 2012) and is also associated with other potentially life-threatening, somatic consequences (Skeie, Brekke, Lindbæk, & Waal, 2008).

There is also a well-researched association between substance use and crime (Bennett & Holloway, 2009; Kinner, George, Campbell, & Degenhardt, 2009). Although criminal behavior involving acquisitive offences is frequently found among dependent opioid users (Best, Sidwell, Gossop, Harris, & Strang, 2001; Bukten et al., 2011), violent offences appear to be less common (Farabee, Joshi, & Anglin, 2001; Haynes, 1998; Kinner et al., 2009; Stewart, Gossop, Marsden, & Rolfe, 2000).

## **1.2 Factors associated with violent crime**

Violence is defined as «*actual, attempted, or threatened infliction of bodily harm on another person*» (Webster, Douglas, Eaves, & Hart, 1997; Douglas, Hart, Webster, & Belfrage, 2013). Violence is a major health problem worldwide due to deaths, injuries and non-fatal health consequences, resulting in considerable costs for societies, violence victims and witnesses (Krug et al., 2002) and victimizers (Gilligan, 1996, p. 7).

Violence is understood as an «*enormously complex and multilayered construct*», and violent behavior cannot be attributed to any single factor. A complexity of individual and environmental factors are involved (Raine, 2013).

Factors associated with violence have been widely researched in the last two decades and a clinical assessment tool, HCR-20 (Douglas et al., 2013), is found to work comparably well across continents, for both men and women and in in-patient, outpatient and correctional settings (Douglas et al., 2014). Violence risk management emphasizes the roles of motivators, destabilizers, and disinhibitors in violent behavior (Douglas et al., 2013; Douglas et al., 2014) and the instrument measures historical risk factors, clinical risk factors and future risk management factors<sup>3</sup>. Here, a short overview will be provided of five risk factors of importance for this study: history of problems with violent behavior, other antisocial behavior, major mental disorder, personality disorder and substance use.

Research indicates that those who engage in violent behavior early in life are at increased risk of committing violence later in life. The younger one is at the time of the first violent act and the more serious, varied and frequent the violence has been, the higher the present-day violence risk is understood to be (Douglas et al., 2013; Guy & Wilson, 2007). Other antisocial behavior also increases violence risk, particularly when it begins at an early age, continues

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<sup>3</sup> HCR-20 version 3 - Historical factors: history of problems with violent behavior, other antisocial behavior, relationships, employment, substance use, major mental disorder (MMD), personality disorder, traumatic experiences, violent attitudes and treatment response. Clinical factors: recent problems with insight, violent ideation or intent, symptoms of MMD, instability and treatment response. Risk management factors: future problems with treatment plans, living situation, personal support, treatment response and stress.



across developmental stages, is of a serious character<sup>4</sup>, includes multiple victims and occurs in multiple contexts (Douglas et al., 2013; Guy & Wilson, 2007).

Personality disorders are typically diagnosed when «*problems in behavior, emotions, and thinking patterns are stable over time, begin early in life, and have led to dysfunction in multiple contexts*» (Paris, 2013). Personality disorders of the antisocial type, according to the DSM-V (APA, 2013) and ICD-10 (WHO, 1993), «*attend to features of dominance, antagonism, instability, hostility*». Antisocial personality disorders are associated with increased violence risk and, in particular, among individuals with traits like callousness and lack of empathy, which are often associated with psychopathy<sup>5</sup> (Coid & Ullrich, 2010; Coid, Ullrich, & Kallis, 2013; Fridell, Hesse, Jæger, & Kühlhorn, 2008). Individuals with antisocial personality disorder characterized by impulsivity are also found to have increased violence risk (Bjørnkly, 2013). Other personality disorders, such as borderline personality disorder, which is characterized by affective instability and a pattern of impulsive behavior, are also found to increase violence risk (Allen & Links, 2012). Personality disorders are frequently found in substance-using populations (Landheim, Bakken, & Vaglum, 2003, 2006; Langås, Malt, & Opjordsmoen, 2012) and, in particular, among prisoners (Fazel & Baillargeon, 2011; Fazel & Danesh, 2002).

A history of a major mental disorder «*characterized by disturbances of cognition or affect*» and, in particular, psychotic disorders with previous and/or present paranoid symptoms, are also found to increase violence risk (Douglas et al., 2013). Violence becomes more likely when individuals with delusions «*feel threatened, and when their internal controls are compromised*» (Bjørnkly & Havik, 2003; Nederlof, Muris, & Hovens, 2011). These symptoms are known as perceived threat-control-override (TCO) symptoms. As central stimulants, and, in particular, amphetamines, may induce psychosis with TCO symptoms (Bramness et al., 2012; Medhus, Mordal, Holm, Mørland, & Bramness, 2013), this phenomenon may suggest a link between use of central stimulants and violence. Cannabis use is associated with psychotic experience and persecutory ideation (Freeman et al., 2013) and may therefore, theoretically, also produce TCO symptoms and be related to violent behavior.

Substance use problems are found to be related to increased violence risk (Arseneault, Moffitt, Caspi, Taylor, & Silva, 2000). Of importance here is when the substance use started, as use during childhood and adolescence is associated with higher violence risk during adulthood. Other factors of importance when assessing violence risk are use of multiple

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<sup>4</sup> Antisocial behavior other than violence includes «any actual, attempted, or planned violation of the rights, safety, or well-being of others that constitute a violation of explicit social norms». Serious problems include «other antisocial behavior that results in severe (potential) personal or social harm, or in the imposition of severe legal or other consequences on one or two occasions; or a clear pattern of other antisocial behavior that results in at least moderate individual or social harm, or in the imposition of at least moderate legal or other consequences»(Douglas et al., 2013).

<sup>5</sup> Psychopathy is not a formal diagnosis in the ICD-10 or DSM-V, but is conventionally regarded as a severe form of antisocial/dissocial personality disorder and can be clinically assessed using the Psychopathy Checklist, PCL (Hare et al., 1990; Hare, Hart, & Harpur, 1991).

substances (Fosse, Olsen, & Bjørkly, 2013), heavy and chronic use, use in controlled settings and worsening dependence and increased use over time (Douglas et al., 2013).

### 1.3 Drugs and violence

The possible link between substance use and violence has received attention throughout research. Goldstein (Goldstein, 1985, 1998) has suggested a tripartite framework for conceptualizing the connection between drugs and violence, which consists of systemic, economic compulsive and psychopharmacological violence. *Systemic violence* refers to the aggressive patterns of interaction within the system of drug distribution and use (Bourgois, 1998, 2010; Goldstein, 1985, 1998; Sandberg, 2008). *Economic compulsive* violence refers to economically-oriented, intentional violent crime that generates financial support for costly drug use (Goldstein, 1985; Gossop, Trakada, Stewart, & Witton, 2005; Tims & Ludford, 1984). *Psychopharmacological violence* is perpetrated while under the influence of substances, such as during states of acute intoxication and drug-induced psychosis and paranoia, as well as during withdrawal.

Alcohol, the most-researched substance, is associated with aggression and violent behavior (Boles & Miotto, 2003; Haggård-Grann, Hallqvist, Långström, & Möller, 2006; Kuhns & Clodfelter, 2009; Lundholm, Haggård, Möller, Hallqvist, & Thiblin, 2012), although no direct causality is found. Psychopharmacologically induced violence has been associated with the influence of stimulants like amphetamines/methamphetamines (Cartier, Farabee, & Prendergast, 2006; McKetin et al., 2014) and cocaine/crack cocaine (Chermack & Blow, 2002; MacDonald, Erickson, Wells, Hathaway, & Pakula, 2008). Psychosis is induced more commonly by amphetamines than by cocaine/crack cocaine, and chronic and frequent use of amphetamines (McKetin et al., 2014) is related to violence. Disinhibitory reactions associated with benzodiazepines, such as hyperactivity, hostility, agitation and loss of impulse control, have been reported among individuals with impulse control problems (Bramness, Skurtveit, & Morland, 2006; Paton, 2002). High-dose benzodiazepine use is found to be a high-risk factor for interpersonal violence in a remand prison population (Lundholm et al., 2012). Cannabis in moderate doses is found to temporarily inhibit violent behavior, but, when taken in high doses or in a potent form, is associated with paranoid ideation (Boles & Miotto, 2003).

The possible association between opioid dependence and violence is less researched. Self-reported violent crime among methamphetamine and heroin users in Australia showed no difference in lifetime history of committing violent crime (Darke, Torok, Kaye, Ross, & McKetin, 2010). Opioid use depresses activity and therefore temporarily inhibits violent behavior during intoxication, but the physical discomfort and agitation of withdrawal can result in violent behavior (Boles & Miotto, 2003). Heroin is linked to *economically compulsive violence* and *systemic violence* (Goldstein, 1998).

## **1.4 Opioid maintenance treatment**

Use of illicit opioids is the main reason for seeking drug treatment in Europe. The availability of OMT with methadone or buprenorphine in Europe varies from treatment availability for less than 10% to 55% of all opioid-dependent individuals (EMCDDA, 2014). Throughout much of the world, OMT is largely unavailable, with both individual and structural barriers negatively affecting treatment availability (Chatterjee, 2008).

Methadone is a long-acting, synthetic opioid that was first used in the USA in the 1960s, by Dole and Nyswander and for the purpose of replacing short-acting heroin in a group of problem opioid users, resulting in reduced cravings and euphoria, lowered criminality and increased social functioning (Dole & Nyswander, 1965, 1980). High-dose buprenorphine was introduced in the late 1990s as an alternative to methadone in OMT. The partial agonist buprenorphine has a ceiling effect when used without other depressants like alcohol and benzodiazepines, which reduces the risk of respiratory depression and fatal overdose. OMT is found to have positive treatment outcomes, such as reduced opioid use (Amato et al., 2005), mortality (Clausen et al., 2008; Degenhardt et al., 2011; Stenbacka, Leifman, & Romelsjo, 1998), morbidity (Skeie, 2012) and criminal behavior (Bukten et al., 2012; Degenhardt et al., 2013; Gossop, Stewart, Browne, & Marsden, 2003; Gossop et al., 2005; Mattick, Kimber, Breen, & Davoli, 2008).

### **1.4.1 Norwegian OMT**

Norway first introduced OMT as a national program in 1998. The number of individuals in treatment rapidly increased and, by the end of 2013, 7055 individuals were enrolled, thus constituting an OMT coverage rate for problem opioid users of about 50% (EMCDDA, 2014). Methadone was the only medication available in 1998. Buprenorphine was introduced in 2002 (Riksheim, Gossop, & Clausen, 2014) and, in 2013, more than 60% of the Norwegian OMT population received buprenorphine (Waal, Bussesund, Clausen, Håseth, & Lillevold, 2014).

The Norwegian OMT program was initially designed as a relatively high-threshold treatment and was available as a national program intended to reach a population of severely-dependent heroin users who were not benefiting from other types of treatment. The initial inclusion criteria in 1998 were a minimum age of 25, 10+ years of opioid dependence and previous experience with abstinence-oriented treatment. Individuals with severe mental or physical disorders or positive HIV status were prioritized (Waal, 2007). In 2004, individuals in OMT gained patient rights (Skretting & Rosenquist, 2010). Norwegian OMT is based on a system of cooperation between specialized OMT centers, social service centers and general practitioners, and user involvement is emphasized. New national guidelines were implemented in 2010, at which time the admission criteria lessened, requiring only an opioid dependence diagnosis, and the treatment focus expanded to include both individualized rehabilitation and harm reduction (Helsedirektoratet, 2010).

In 2003, 60% of the individuals who ended treatment were involuntarily discharged for either continued drug use, inadequate improvement or violent behavior (Moen, Hansen, & Waal, 2004). This proportion gradually decreased after the new treatment guidelines were implemented in 2010, and involuntary discharge became an option only when continuation of OMT was regarded as harmful from a medical point of view or impossible to administer in a safe way (Helsedirektoratet, 2010). In these cases, patients are to be offered other forms of treatment, such as detoxification in an institution, alternative medication, long-term institutional treatment or outpatient treatment.

The national guidelines restrict prescription of benzodiazepines for individuals in OMT (Helsedirektoratet, 2010), since benzodiazepine use is associated with negative treatment outcomes, such as poor psychosocial (Darke, Swift, Hall, & Ross, 1993) and cognitive functioning (Lintzeris & Nielsen, 2010) and overdose (Bernard et al., 2012; Shah, Lathrop, & Landen, 2005). 40% of patients in Norwegian OMT were found to have been prescribed benzodiazepines legally during a two-year period (Bramness & Kornør, 2007), and the yearly status report found that 42% of all individuals in OMT had used benzodiazepines, in either prescribed or illicit forms, during the last 4 weeks (Waal et al., 2014).

#### **1.4.2 OMT in prison**

When OMT was introduced, treatment became available only just prior to prison release. But, this has gradually changed and imprisoned, opioid-dependent individuals, including those serving long sentences, may now enter the national OMT program. For individuals who are already enrolled in OMT when imprisoned, treatment is continued (Helsedirektoratet, 2010).

*“Benefits of prison OMT are similar to those in community settings. OMT presents an opportunity to recruit problem opioid users into treatment, to reduce illicit opioid use and risk behaviours in prison and potentially minimize overdose risks on release”*  
(Hedrich et al., 2012).

In Norway, in 2011, 766 prisoners were registered as enrolled in OMT while imprisoned and, in 2012, the number was 922 (Helsedirektoratet, 2013). Some may be registered in several prisons, as prisoners are often moved between prisons. Furthermore, an individual may also be imprisoned several times during one year. So, the total number of imprisoned OMT-enrolled individuals each year is probably lower. According to the yearly status report, nearly 700 individuals (10%) in the OMT population had been arrested or incarcerated as remand or convicted prisoners in 2013 (Waal et al., 2014).

#### **1.5 Diversion of OMT medications**

We now turn to possible negative consequences of OMT. Prescription drug diversion can be defined from a legal or a clinical point of view. Legally, it is

*«the unlawful channeling of regulated pharmaceuticals from legal sources to the illicit marketplace, and it can occur along all points in the drug delivery process – from the*

*original manufacturing site, to the wholesale distributor, the physician's office, institutions where pharmaceuticals are dispensed, the retail pharmacy, or the patient»* (Inciardi, Surratt, Kurtz, & Burke, 2006; Inciardi, Surratt, Kurtz, & Cicero, 2007).

Bell (2010), on the other hand, emphasizes the clinical view in OMT and sees diversion as several processes in which *«medication is being diverted from its use as prescribed»*:

*«Diversion is here taken to refer to several processes – the supply of a medication prescribed for one person being given or traded to someone else; the use by injection of medication dispensed for by mouth; and the stockpiling of medication dispensed to be taken daily».*

In this thesis, which aspires to increase understanding of criminal behavior among individuals enrolled in OMT, I will use this clinical definition of diversion and relate to the concept as implying diverted use of medication by means of illegal selling or giving of one's prescribed opioids and legal, though non-compliant, use.

### **1.5.1 Giving or selling of prescribed opioids**

According to the Norwegian law, use, possession and storage of methadone and buprenorphine prescribed to another person and selling or giving prescribed narcotic drugs to others are considered illegal acts. Illicit dealings with *drugs* are covered by the Norwegian General Civil Penal Code ("The Norwegian Penal Code"), with the exception of use and possession of minor quantities of drugs, which is penalized through the Act on Medicinal Products. The term *drugs* is defined by a detailed national list comprising all narcotic drugs and psychotropic substances, including methadone and buprenorphine ("The Norwegian Medical Act").

The illegal practice of redistributing one's legally prescribed opioid medications may be associated with serious adverse consequences: increased incidence of addiction and fatal overdoses (Bell, 2010). Such methadone-related deaths are reported worldwide (EMCDDA, 2014; UNODC, 2012). For example, approximately 50% of methadone-related deaths in Australia (Sunjic & Zador, 2009) and about 80% in Norway (Bernard et al., 2012; Gjersing et al., 2013) occurred among individuals outside of OMT programs. Fatal overdoses related to methadone have been dominating the overdose deaths in Denmark for many years (Skretting & Rosenquist, 2010) and methadone-related deaths are reported as rising in Denmark, Sweden and Norway (EMCDDA, 2014). The risk of fatal buprenorphine overdose is considerably lower (Bell, Trinh, Butler, Randall, & Rubin, 2009), but buprenorphine-related overdoses are also reported as rising and are linked to concomitant use of benzodiazepines and other substances (Seldén, Ahlner, Druid, & Kronstrand, 2012; Wikner et al., 2014). A major concern is linked to injecting use (Alho, Sinclair, Vuori, & Holopainen, 2007; Yokell, Zaller, Green, & Rich, 2011). In Europe, 10% of the individuals in OMT were found to be dependent on synthetic opioids at the time of treatment enrollment, and the sources of the

substances are suggested to be diversion, production and smuggling (EMCDDA, 2014). In Finland, for example, illicit buprenorphine was found to be the most commonly used drug among injecting drug users (Alho et al., 2007) and, as a result of this phenomenon, buprenorphine as a mono-formulation was replaced with the combination of buprenorphine-naloxone in Finland and Malaysia, due to the lower risk of injection (Yokell et al., 2011).

The motives for using methadone and buprenorphine outside of treatment are quite diverse and reportedly include self-treatment, detoxification and avoidance of withdrawal symptoms (Mitchell et al., 2009; Roche, McCabe, & Smyth, 2008), experiencing euphoria (Aitken, Aitken, Higgs, & Hellard, 2008), monetary and safety reasons (Fountain, Strang, Gossop, Farrel, & Griffiths, 2000) and lack of available heroin (Bell, 2010). Moreover, an Indian study (Solomon et al., 2010) found that illegal buprenorphine use was motivated by a lower risk of police harassment than that which is associated with heroin use. Furthermore, illegal methadone use has also been reported among individuals both denied and denying treatment (Mitchell et al., 2009).

The reported motivations among persons who divert their OMT medications are also diverse and consist of selling to others in order to support one's own economy (Duffy & Baldwin, 2012; Fountain, Strang, Gossop, Farrel, & Griffiths, 2002), as well as *giving* to friends and acquaintances as a social resource (Duffy & Baldwin, 2012; Harris & Rhodes, 2012).

### **1.5.2 Non-compliant use of prescribed opioids in OMT**

*Non-compliant use* of one's legal medication means that doses are stockpiled, alternative doses taken and/or alternative routes of administration used (Bell, 2010). However, these are not illegal practices, as defined by the law. There may be harmful and possibly lethal consequences<sup>6</sup> related to non-prescribed use of prescribed opioids (Bernard et al., 2012; Wikner et al., 2014). However, non-compliant practices may sometimes give a better effect and reduce the risk of using illicit drugs, as seen from the user's perspective. Adding illicit opioid medication to the prescribed dose is considered to be an option by some individuals who experience their dose as insufficient (Duffy & Baldwin, 2012; Roux et al., 2008) and, for others, using a lower, or split, dose is a way of reducing adverse effects (M. Harris & Rhodes, 2012; Haskew, Wolff, Dunn, & Bearn, 2008). Taking a lowered dose may also be motivated by the desire to feel some effect of heroin (Fountain et al., 2000). Moreover, some individuals in OMT regularly take lower doses of their prescribed medications to stockpile that which remains (Harris & Rhodes, 2012), and this is seen as a safeguard in case of illness or if the opioid prescription dispensing is for some other reason missed. The authors point to

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<sup>6</sup> In Norway, several deaths suspected to be related to povidon-poisoning were found among methadone users. Methadone Martindale contained large amounts of high-molecular povidon that was not harmful when taken orally, but that was harmful when taken by route of intravenous injection. The Norwegian Medicines Agency withdrew Methadone Martindale from the market in 2014 because of suspected non-compliant use being related to these deaths and, a few months later, it was also withdrawn from the European market (EMA, 2014; SLV, 2014).

this phenomenon as having harm reduction potential and being a protective strategy to reduce situations of withdrawal and injecting behavior. Furthermore, giving one's opioid prescriptions to friends and associates is seen as a social resource (Duffy & Baldwin, 2012; Duffy & Mackridge, 2014; Harris & Rhodes, 2012). Duffy and Baldwin found diversion to take place between friends and associates without money involved, suggesting «*a considerable altruistic element or the expectations of reciprocation in the future*».

## **2 Aims of the study**

The overall objective of this study was to investigate violent crimes prior to, during and after OMT in a national cohort, to generate new knowledge about why some individuals in OMT continue to engage in violent and non-violent criminal behavior during OMT and to contribute to improved opioid maintenance treatment delivery. To acquire both the magnitude of and in-depth information about the relationship between OMT and crime, both quantitative and qualitative methods were applied.

The specific aims of the quantitative part were to:

1. Investigate the frequencies and patterns of violent crime prior to, during and after OMT, and examine the relationship between violent crime prior to OMT and the risk of violent crime during treatment.

In the qualitative study among OMT-enrolled individuals in prison, the specific aims were to:

2. Generate new knowledge about the role of substances in violent crime prior to and during OMT.
3. Generate new knowledge about non-prescribed use of methadone and buprenorphine prior to and during OMT and experiences of internal and external control related to prescribed opioids during OMT.
4. Generate new knowledge about practices of and motivations for methadone and buprenorphine diversion in OMT.



## **3 Material and methods**

### **3.1 Complementary methods**

In this research, two main, complementary data collection methods have been used to study criminal behavior among OMT-enrolled individuals. Violent convictions were investigated by use of cross-registry methods for a complete, longitudinal, national, OMT cohort. An exploratory, qualitative study was designed to provide insight into the social and situational contexts of and motivations for criminal behavior among a group of imprisoned, OMT-enrolled individuals. In this section, the methodology of the quantitative cross-registry study will be described. The methods used in the exploratory, qualitative study will be described in section 4.

### **3.2 Study design – cohort study**

The cohort was comprised of all persons ( $n=3221$ ) who were admitted to the national OMT program in Norway from 1997 through 2003. Participants were included in the study at the time of OMT admission. Crime data included criminal events that had taken place during the 3-year period prior to OMT enrollment. The observation period for the study was from January 1, 1995 to December 31, 2003, comprising a total of 9 years. For the 61 individuals who started OMT in the last part of 1997, 2 to 3 years of prior crime data was included because the crime registry was incomplete until 1995 (see 6.1.3, Methodological considerations). The study investigated violent crime during 3 different time periods: 3 years prior to the start of treatment, during treatment and after treatment.

### **3.3 The cohort**

Prior to and during the 1997-2003 treatment period, 4204 individuals applied for OMT, 3789 were accepted and 415 either did not fulfill the treatment criteria or withdrew their applications. Of the 3789 found eligible, 3221 individuals started OMT (Figure 1) and 568 were on a waiting list and had not started treatment by the last date of observation, December 31, 2003. The study cohort consisted of the 3221 persons who started OMT. Of these, 68% ( $n=2176$ ) were men and 32% ( $n=1045$ ) were women. The mean age at entry to OMT was 37.7 years (SD 6.6) for men and 35.5 years (SD 6.6) for women.

All but 61 individuals in the cohort ‘contributed’ with 3 years each of observation of criminal events prior to treatment start. 61 individuals contributed with between 2 and 3 years prior to OMT, as mentioned. Each individual contributed with individually varying time in and after treatment, measured in days for each individual and summed up in years for the cohort for each time period. The total observation time for the cohort was 17,399 person years. This included 9663 person years during the 3 years prior to OMT, 6447 person years during OMT, and 1289 person years after OMT. About two thirds (63.5%) of the cohort remained in treatment throughout the observation period, whereas 36.5% of the cohort (785 men, 390 women) dropped out of treatment on at least one occasion. 135 individuals died during or after treatment and, for these, the last date of observation was censored at the date of death.

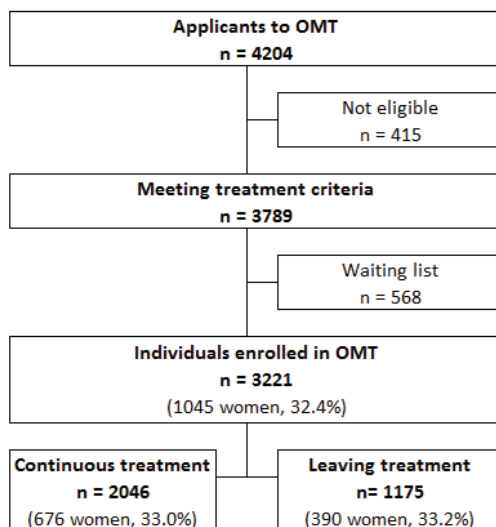


Figure 1. The Norwegian OMT cohort, treatment period 1997-2003.

### 3.4 National OMT research registry

All regional OMT centers in Norway provided lists of all patients who had started OMT. These individuals made up the cohort, with dates of OMT start and end and including cases of multiple treatment periods during the observation period. These lists were combined into a national OMT registry available for research purposes, and the following information was included: age, gender and registered dates for treatment start and end. The high quality and accessibility of electronic public registries in Norway permitted a cross-registry study between this national OMT cohort and the Norwegian crime registry, and changes during treatment could be evaluated.

Data from the national OMT and crime registries were linked by Statistics Norway in December 2007, using the unique 11-digit identification number assigned by the Norwegian state to all residents. This data set provided the following data: age, gender, convictions, date and type of crime and time in treatment (Figure 2).

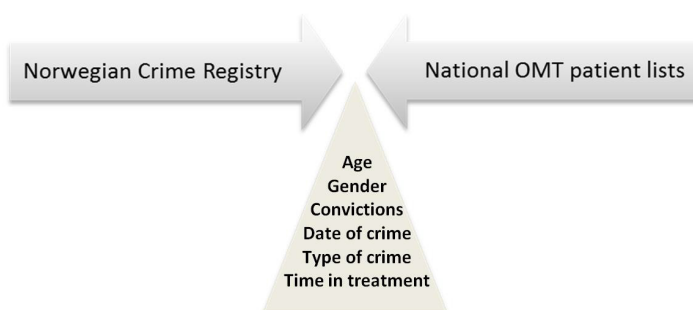


Figure 2. Registry linkage study, data provided.

### 3.5 The Norwegian Crime Registry

The Norwegian crime statistics from 1995-2003 provide data on date of crime, penal code and one of four prosecuting decisions: formal charge leading to conviction, formal charge leading to acquittal, fine and other (age below 15 years, insanity and other forms of waiver of prosecution). Only formal charges leading to *convictions* were included in the analysis.

About 600 penal codes are included in the crime registry and each code has information about the type of offence and is linked to a paragraph in the penal law ("The Norwegian Penal Code"). The crime registry has grouped all 600 offences into 10 major categories: economic offences, other offences for profit, *offences of violence*, sexual offences, offences of narcotics, damage to property, environmental offences, work environment offences, traffic offences and other offences (Thorsen, Lid, & Stene, 2009).

For the OMT cohort, each offence was assigned a crime code and individuals in the cohort could be convicted of several crimes on the same day. Use and possession of drugs is understood as a natural part of opioid dependence and, therefore, all convictions for use and possession of drugs were excluded from the analysis. All other drug offences, such as drug trafficking and dealing in larger quantities, defined according to the penal law, were included.

### 3.6 Measures - violent and non-violent offences

The main measure in this study was that of a formal, violent crime conviction. The study used a clinical definition of violence – namely, «*an intentional attempt, threats, or actual or intended infliction of bodily injury or harm on another person*» (Webster et al.,1997).

Furthermore, sexual violence was defined as an attempt to compel a person to engage in a sexual act against the person's will or if the person was unable to consent, regardless of whether or not the act was completed (Boer, Hart, Kropp, & Webster, 1997), and was also included.

The offences listed as violent crimes in the crime statistics that were included in the clinical definition of violence:

- Crime against public authorities – *assaulting a public servant*
- Crime involving public danger – *arson*
- Crime against personal liberty – *threats, duress and limitation of liberty, other*
- Crime of violence against the person – *assault, wounding or inflicting bodily harm, inflicting grievous bodily harm, unintentionally inflicting bodily harm, attempted murder, murder, manslaughter, other*

In addition, we have included

- Sexual crimes
- Economically motivated violent acts – such as robbery and aggravated robbery

All other offence types (acquisitive crime, sale and distribution of narcotics, road traffic offences and other offences) were recorded for the cohort and defined as *non-violent crimes*. The categories convictions of violent crimes, non-violent crimes and no crimes were used to establish different exposure groups to calculate the risk for being convicted of violent and non-violent crime during OMT.

### **3.7 Statistical analyses**

Violent crime rates were calculated as convictions per 100 person years with 95% confidence intervals (CI). Rates per 100 person years can be interpreted as a simple percentage of all person years in each observation period. Rates were calculated for women and men, separately, and for those remaining in and leaving treatment.

Rate ratio with 95% CI was used to show change of crime rates over time (Kirkwood & Sterne, 2003).

Relative risk with 95% CI (Kirkwood & Sterne, 2003) was used to measure the differences in risk of convictions for violent and non-violent crimes during OMT.

### **3.8 Ethical considerations**

The crime study was approved by the Regional Committee for Medical Research Ethics, the Norwegian Directorate of Health, the Police Directorate, the Norwegian Social Science Data Services and the Norwegian Correctional Service Region East.

The linking of the data sets was not done by the researchers in the OMT crime group. The 11-digit identification numbers were only available to Statistics Norway, which linked the registries. The data set available for research was anonymous. No complete listing of all criminal convictions for single individuals or small groups with 'special crime characteristics' have been published.

## 4 Material and method, the qualitative study

### 4.1 Flexible and interactive qualitative design

In this study we have utilized a flexible and interactive research model, as described by Maxwell (Maxwell, 2013, p. 3):

*«...you can't just develop (or borrow) a logical strategy in advance and then implement it faithfully. You need, to a substantial extent, to construct and reconstruct, your research design...»*

Given this model, the research questions were first developed while designing the study and were gradually modified or expanded in response to the knowledge and insights that were gained while conducting and analyzing the interviews.

### 4.2 Initial inclusion criteria posed methodological and ethical challenges

The original study design was to conduct one-time interviews with about 20 OMT patients under police arrest, regarding how they experienced the circumstances prior to the arrest and their experience of and motivation for committing a crime during OMT. One ethical and practical challenge was the question of whether or not it would be possible to be informed about potential study participants during the short time that they were under arrest and, particularly, if there would be adequate time for providing verbal and written information about the study and ensuring *“that the potential subject has understood the information”* and seeking *“the potential subject’s freely-given informed consent, preferably in writing”* (WMA, 2013). Furthermore, being under arrest could imply that many of the possible research participants could be intoxicated or under the influence of substances and, therefore, not necessarily in a state to give informed consent. It was also possible that individuals arrested during weekends would have missed OMT medication doses, and it is considered unethical to conduct interviews with individuals experiencing some degree of withdrawal symptoms.

In addition, there were methodological reasons for not including individuals under arrest. The possibility for repeat interviews to member-check (Maxwell, 2013, p. 126) was considered important, and this was not possible within the context of arrest when the arrestees would be released within 48 hours. A more *convenient sampling* approach would be to include only individuals serving a sentence; then, repeat interviews would be possible and it would be easier to recruit individuals to the study. But, individuals with severe addiction problems serving sentences may have recall bias with regard to both crime dated several years back and being sentenced for several cases both prior to and during OMT, and the court processes and defense strategies may influence interpretations of retrospective events. All of this may result in qualitative data of a lower quality.

The ethical evaluations and methodological considerations just described suggested that potential study participants in custody as remand prisoners<sup>7</sup> would more likely be in a state to give informed consent and have time to consider if they really wanted to participate in the study, while also being in a better position to recall recent events and circumstances (Kvale & Brinkmann, 2009). The possibility for conducting repeat interviews was also of importance when deciding upon the recruitment strategy for the study. The inclusion criteria were therefore changed:

Inclusion criteria for study participation were that all participants were of or above legal age, in a state to provide voluntary, informed consent and suspected of a criminal offence leading to imprisonment while enrolled in OMT. A short time span was set between the criminal offence leading to their imprisonment and the first interview in order to minimize recall bias and avoid including individuals convicted for several cases dating back in time and possibly also prior to OMT. Hence, the sample was predominantly comprised of remand prisoners. Exclusion criteria were active symptoms of severe mental disorder. No individuals were found unfit to participate in the study.

### **4.3 Prison as setting**

The proportion of prisoners with substance use problems has been increasing in recent decades, and the proportion of prisoners who use drugs within the prison setting has also increased (Stöver & Michels, 2010). Prisoners in 12 countries, including Scandinavia, were compared with the general population and it was found that the prisoners were “*several times more likely to have psychosis and major depression and about ten times more likely to have antisocial personality disorders*” (Fazel & Danesh, 2002; Fazel, Doll, & Långström, 2008). In Norway, 94% of prisoners were male and 6% were female when measured in the beginning of 2012 (SSB, 2014). The Norwegian prison population, as a group, is found to have serious and co-occurring problems in several areas, such as low education, substance use problems, low income, housing problems, unemployment and mental health problems (Skardhamar, 2002). 60–70% of these prisoners reported illegal drug use prior to incarceration (Ødegård, 2008) and nearly 1 of 4 used opioids (Friestad & Skog Hansen, 2004). About 50% of prisoners in Norwegian prisons are severe drug users in need of treatment (Lobmaier, Berman, Gossop, & Ravndal, 2013). According to the OMT status report, about 700 individuals in OMT were either arrested or imprisoned in 2013 (Waal et al., 2014).

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<sup>7</sup> The legal definition of *remand in custody* is the committal to prison in connection with investigations of a *suspected* offender. Remand prisoners are individuals not yet convicted but remanded in custody and awaiting legally enforceable judgment. The key conditions for remand, according to the Norwegian law and the Council of Europe, are: *reasonable suspicion that he or she committed an offence and that there are substantial reasons for believing that, if released, he or she would either abscond, or commit a serious offence, or interfere with the course of justice, or pose a serious threat to public order (COE, 2006).*

In the qualitative part of this study, OMT-enrolled prisoners were interviewed in *Oslo Prison* and *Bredtveit Prison*. *Oslo Prison* has a capacity of 392 inmates and is the largest male prison in Norway (Kriminalomsorgen, 2014b). The prison has three departments with high security standards. The majority of inmates receiving OMT, including those convicted and on remand, are placed in one unit in which the prison staff are professionally interested and educated in substance use problems and OMT. The department is situated close to the health department, as to ease medically safe, daily dispensing of OMT medications. Inmates not in OMT may be placed in the OMT department according to availability. *Bredtveit Prison* is one of 3 national institutions for female prisoners. The prison has a capacity of 64 inmates – detained, convicted or on remand. The prison consists of one high security department and one department with a lower security level (Kriminalomsorgen, 2014a). OMT enrolled prisoners may be placed in both departments.

#### 4.4 Pre-understanding

*“Traditionally, what you bring to the research from your background and identity has been treated as a bias, something whose influence needs to be eliminated from the design, rather than a valuable component of it.”* (Maxwell, 2013, p. 44)

Pre-understanding is a valuable component of and potential threat to research. It may be an important source of study motivation and knowledge for research question development. It may also inform the analysis and assessment of study implications. If a researcher fails to consciously recognize and reflect upon his or her pre-understandings and how these are dealt with during the research process, it may be possible that the findings reflect the pre-understanding of the researcher (Maxwell, 2013, p. 124).

With regard to my pre-understandings, opioid dependence, violence and other forms of criminal behavior are thematic fields that I have knowledge about from a professional point of view, as described in the study background section. I have carried with me the ways in which victims of violence may experience fear and mental and physical health problems, as well as the ways that individuals who have committed serious violent crime while in a psychotic state may suffer following their offences. Through treatment responsibility for patients with violent behavior, I possess knowledge of how some individuals with very low levels of empathy may justify or experience no apparent reactions to having caused other individuals harm. Furthermore, I have had treatment responsibilities for OMT-enrolled individuals with mental health problems and have experienced that treatment regulations and the control system can also give rise to illicit drug use as a means of coping with treatment and the control system<sup>8</sup>.

During the study, I engaged in a ceaseless process of self-reflection in an effort to use my pre-understanding as a valuable resource and avoid that it became my *blind spot* or led me

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<sup>8</sup> One patient always tested positive for amphetamine and, after some time, this person explained that amphetamines were used to enable him to meet weekly with the team of treatment providers, and, therein, to be able to take the initiative to travel, discuss his life situation and handle the process of urine sampling.

in a certain direction toward *preset findings*. During the research project, research questions, methods, analysis, findings and clinical implications were regularly discussed with supervisors and other co-authors and colleagues within the research field. This will be discussed further in the methodological considerations section 6.3.2.

#### **4.4.1 Researcher positions during the study**

During the study, I had a combined position as a PhD fellow at the University of Oslo's Norwegian Centre for Addiction Research (SERAF) and as a psychiatrist at an Oslo University Hospital, with responsibility for clinical supervision of treatment for patients enrolled in OMT with episodes of violent behavior. I took part in a study investigating all registered methadone-related deaths in Norway over a 7 year period, which found that approximately 80% of those who died were not enrolled in OMT at time of death (Bernard et al., 2012). These findings were of importance for the development of the research questions and interview topics, as they suggested a clear need for better understanding and reducing diversion of OMT medications. Furthermore, I also participated in regular, biannual meetings with the leaders of all the Norwegian regional OMT centers and obtained insight into the challenges and problems associated with Norwegian OMT from the perspective of health authorities and treatment providers.

The interaction between the research duties and those of the other tasks just described had its advantages and disadvantages. I found it positive, and especially for the study's background and horizon, to access problematic aspects of OMT from the perspectives of different sources – patients, treatment staff (in-patient and out-patient), leaders of OMT regional centers and health authorities. This also linked the research questions of the qualitative study to actual problems in the clinical field. But, it could sometimes be challenging to simultaneously occupy several positions and to take into consideration the views of different sources when conducting qualitative research among imprisoned individuals in OMT.

#### **4.5 Conceptual framework**

The conceptual framework for the study is influenced by theoretical knowledge and work experience within the fields of general practice, addiction medicine and psychiatry and, in particular, forensic psychiatry and the clinical violence risk assessment and management that takes place therein, as described in the study background and introduction section 1.2.

The *biosocial model* described and used to understand antisocial and violent behavior by Raine (Raine, 2013, p. 276) suggests that genes, environment, social and biological factors can predispose individuals to aggression and violence. Brain processes can be grouped into three main processes: cognitive (thinking), affective (emotions) and motor (behaviors). Biological and social risk factors can be linked to dysregulation of these three brain processes - cognitive (e.g. planning/organization, decision-making, self-reflection), affective (e.g. moral judgment, guilt, embarrassment, empathy) and motor (e.g. response inhibition, behavioral impulsivity). Biological factors do not act alone, and social risk factors are thus regarded as



equally important (Raine, 2013, p. 268). Substance use can theoretically affect cognitive, affective and motor brain processes.

A conceptual framework that elaborates upon biological, environmental and social factors is violence risk assessment (see 1.2). Each case and person is treated individually and stereotypical factors are thereby avoided. This is an individual-centered approach focusing on an understanding of relevant risk factors in violent behavior and emphasizing the roles of *motivators*, *destabilizers* and *disinhibitors*.

By exploring *motivators* - what was attempted and what were the perceived gains?, *disinhibitors* - how did the individual overcome internal inhibitions against violent behavior?, and *destabilizers* - what factors impaired or disturbed decision making? – in both clinical work and research, it is possible to increase the understanding of the phenomenon (Douglas et al., 2013; Douglas et al., 2014; Hart & Logan, 2011).

#### **4.6 Preparation for the qualitative study**

Research approvals were obtained for the study as described with regard to ethical considerations in section 3.8. In addition, research approval was obtained from the Directorate of Norwegian Correctional Service, Region East and the prison directors in both prisons. There were few OMT-enrolled prisoners in Bredtveit Prison. Two meetings were held with prison health staff to provide information about the study, since the prison's health department would inform and invite potential study participants. Meetings with prison staff were not held, but written information about the study was given to the prison director and department heads.

In Oslo, prison meetings were held with the prison director and leaders and staff of both the health and OMT departments. Verbal and written information about the study was given to all meeting participants. During these meetings, the staff all contributed with their experiences and views on substance use, crime and OMT among prisoners. The management in Oslo Prison granted daytime prison access and provided a prison key for use during data gathering.

Furthermore, two meetings were held with volunteering OMT-enrolled prisoners serving sentences in the OMT unit. The prisoners were asked to give feedback on the planned study among remand prisoners. Ten persons (6 in the first meeting and 4 in the second) volunteered to participate. The prisoners were positive towards the study and the planned topics (OMT and crime), and their main feedback was that it was important to provide space for discussing experiences with OMT, such as the external control system, and that reduced levels of drug use, as opposed to abstinence, while enrolled in OMT are often registered as failures instead of improvements.

#### **4.7 Recruitment procedure**

Guidelines for prisoner involvement in research are regulated by the Office for Human Research Protections (OHRP, 2003) to ensure that participation is voluntary and

independent of conviction terms and that all information collected by researchers is handled confidentially. These guidelines were used when planning the recruitment for the qualitative study. The first contact between the researcher and the imprisoned study participant was established on a voluntary basis, after information about the study had been given by correctional or health prison staff.

*Oslo Prison* – The chief prison officer at the OMT unit informed me by phone when a remand prisoner in the OMT program arrived at the unit. Prior to calling, he had informed the prisoner about the study and asked if the prisoner wanted to meet the researcher to receive additional verbal and written information about the study.

*Bredtveit Prison* – There were few OMT-enrolled prisoners serving sentences and even fewer remand prisoners during the study period. Information about new OMT-enrolled, remand prisoners in Bredtveit Prison was retrieved through regular phone calls and meetings with the health department. When information about a potential study participant was given, contact was made with prison staff. Prison staff informed the prisoners briefly and an appointment was made if the prisoner agreed to meet the researcher. Four potential participants agreed to meet the researcher, but only one had been given information about the study prior to the meeting. To ensure that the women participated voluntarily, they were informed about the study orally and in writing. In addition, they were given time to think about the study prior to the first interview. The first interview took place the following day or later. One woman decided not to participate with one of the reasons listed below.

Over a data collection time period of 16 months, 16 potential study participants agreed to receive information about the study from the researcher. One individual was released on short notice and no meeting was held with the researcher. Another individual wanted to participate in the study and signed the consent form, but withdrew the consent after receiving information about a pending court case. The last two prisoners chose not to participate because they did not want to discuss negative life experiences or sensitive matters. 12 individuals were thus included in the study and none dropped out or withdrew.

#### **4.8 Sample**

Twelve individuals, nine men and three women between 22 and 50 years of age, participated in the study. Nine were remand prisoners and several were convicted during the period of interviewing. Some were categorized as repeat offenders by the police and a few were on the VIC list<sup>9</sup> and had their cases tried in court shortly after imprisonment. The three participants who were serving sentences at the time of the first interview were either *repeat*

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<sup>9</sup> Detention in custody on remand was actively used by the police and court in Oslo on a group of nearly 100 individuals considered to be high-level, repeat offenders understood to be responsible for a large part of «everyday crime» in Oslo and put on a “Very Important Criminal” list that is intended to reduce or stop crime. When the individuals on this list get caught, even for less serious crime, they are put in custody and quickly tried, often within a week. If they are convicted, the sentence has to be served immediately (Elliot, 2009).

*offenders* convicted shortly prior to the interview, persons recently reinstated in prison due to having broken the conditions of parole or persons serving sentences for a crime committed during OMT. Several participants were convicted during the study period. Four of the participants had been released from prison shortly prior to being reinstated in prison when they were included in the study. At the time of the first interview, the study participants had previously served between 1.5 to 20 years in prison. In addition, some of the participants had also served some of their sentences in drug treatment institutions.

All of the participants had been convicted of drug-related crimes prior to participating in the study and ten were formerly convicted of violent crimes. There were eight cases of remand imprisonment for suspected violent crimes alone or in combination with non-violent offences. These violent offences ranged from threats to severe interpersonal violence: threats and physical violence towards family members and staff in the treatment system, threats and physical violence against police officers during arrest, grievous robberies, severe interpersonal violence and interpersonal violence resulting in death.

The participants had all been opioid dependent and poly-drug users for about 10 years or more prior to being enrolled in OMT. At the time of the first interview, time in OMT varied from a few months to nearly 10 years. At the time of imprisonment and prior to participating in the study, half of the sample was homeless and a few individuals were employed either full-time or part-time. All participants had tight control regimes of their OMT medication and daily or almost daily dispensing arrangements prior to imprisonment (Paper III). All of the participants described economic problems<sup>10</sup> and low income, and the majority were in need of regular support from the social welfare system.

All participants had experience with abstinence-oriented addiction treatment in institutions. Some had received this treatment for long periods and some had experienced frequent but shorter treatment periods for detoxification. Most of the study participants reported that they had not been hospitalized in psychiatric hospitals, and those who did report this experience related it to previous episodes of drug-related psychosis or serious life crises.

#### **4.9 Data gathering**

Altogether, 28 semi-structured interviews, each lasting about one hour, were carried out. Ten participants were interviewed between two and four times each and the two remaining participants were interviewed only once due to being released from the remand wing on short notice. The interviews were scheduled so as to avoid interfering with the inmates' activities, such as exercise, work, school, meals, meetings, visits and appointments with the health department or lawyers. If such activities took place when the interview was planned, either the interviewer waited or a new appointment was made. The interviews took place in one of the visitor rooms in Bredtveit Prison. In Oslo Prison, the interviews mainly took place in offices in the health department.

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<sup>10</sup> Some of the participants also expressed to have debts from the drug market and there were examples of a large debt gained when imprisoned prior to being enrolled in OMT.

#### 4.10 The interviews

The interviews were designed to be dialogical and loosely semi-structured. In the interviews, pre-set questions were not prepared. How themes and questions were formulated depended on the history of each individual and the course of the interview. An initial topic guide that covered the following thematic fields was used:

- experiences with OMT
- addiction treatment history
- substance use and criminal history
- life situations before imprisonment and understandings of the crime(s) that led to imprisonment
- experiences and understandings of acquiring, using, selling and giving methadone/buprenorphine prior to and during OMT
- understandings of non-violent and violent crime
- understandings of substance use and its role in non-violent and violent crime
- mental and physical health

When research interviews are «*conceived as a dialogue, the implication is that the researcher and subject are egalitarian partners...*», which may be practically difficult to manage due to the possible power asymmetry in such interview situations (Kvale & Brinkmann, 2009, p. 33):

*«The interviewer has scientific competence, he or she initiates and defines the interview situation, determines the interview topics, poses questions and decides which answers to follow up, and also terminates the conversation.[...] In the research interview an instrumentalization of the conversation takes place. A good conversation is no longer a goal in itself, but a means for providing the researcher with descriptions, narratives, text – to interpret and report according to his or her research interests»*

Measures were taken to reduce the power asymmetry during the interviews. When meeting outside the prison cell and walking together to the health department (in the male prison), the prisoners chose subjects they were interested in and these often became themes in the interviews. In the interviews, open questions were used and the prisoners decided what they felt was important in their life stories. The interviewer opened up for, facilitated and asked for suggestions for discussion of other relevant themes and continuously ensured that the study participants were willing to continue discussing the actual theme. Both the interviewees and the interviewer changed subjects during the interviews and the participants asked medical questions and questions regarding OMT.

Furthermore, Kvale and Brinkmann discuss types of interview questions (Kvale & Brinkmann, 2009, p. 134) and how they can be used to increase the interview quality. For this study, since some of the themes were potentially sensitive or could be experienced by the participants as difficult to discuss, the types of interview questions were chosen carefully in every interview situation and with each individual. Hence, the interview guide did not have a

ready-made set of questions. The first interview always started with an open question regarding experiences with OMT. *Structured questions* were often used to launch a new topic and possibly also to ask permission to do so (e.g. 'Now I would like to introduce a new topic – experiences with OMT medication prior to treatment, is that OK with you?'). Then, *introductory questions* could be asked (e.g. 'Can you tell me about so-called *illegal* use of methadone or buprenorphine?'). *Follow-up* and *probing questions* were often used (e.g. 'You say that it is easy to buy methadone bottles on the street, can you say something about how it happens?'). *Specifying questions* (e.g. 'How did you use methadone prior to OMT?') and *direct questions* (e.g. 'Have you ever redistributed your OMT medications?') could be utilized at the end of each thematic field discussed. *Indirect questions* (e.g. 'Why do you think people use their OMT medications in non-prescribed ways?') were sometimes used and followed by further questioning. Confrontational or manipulative interview techniques or rapid switching of themes to elicit information that the study participants were reluctant to provide were never used.

Other techniques were also used. I sought to narrativise topics (Hollway & Jefferson, 2012, p. 34) in order to facilitate nuanced, detailed and concrete accounts of the participants' experiences, from their own perspectives. Furthermore, vignettes were used in some cases to access normative responses on sensitive subjects and as an alternative to asking direct questions (Green & Thorogood, 2013, p. 115).

#### **4.10.1 Repeat interviews, member-checking, vocabulary**

Repeat interviews with 10 of the participants provided possibilities for following participants and themes over time. Furthermore, they made it possible to follow-up emerging phenomena and also cross-check these phenomena with multiple participants as the research process progressed. Additionally, if a prisoner did not want to discuss a particular theme during an interview, he or she was given a possibility to do so in the next interview. Time between interviews allowed both the participants and me to reflect upon the questions and topics discussed in the first interview(s) and made it possible for me to take part in the reflective process of the study participants.

During the interviews in prison, I was clearly an outsider in all aspects of the word. I am highly educated and my knowledge of substance use is derived from professional experience and interpreted through the lens of a general practitioner and psychiatrist. I do not use street language or medical jargon - neither as a health professional with patients nor as a researcher with study participants. Rather, I strive to use neutral, common language. However, my vocabulary as the interviewer and that of the participants often differed, especially when the subject was illicit substance use and non-prescribed use of psychotropic medications. This sometimes caused laughter, but it could also be a way of acknowledging the competence of the other person. One example of this phenomenon was when I was *member-checking/member validating* (Green & Thorogood, 2013; Kvale & Brinkmann, 2009; Maxwell, 2013) the information one participant had provided in an earlier interview about how buprenorphine was used in prison prior to OMT enrollment:

Interviewer: *Then you said you tried Subutex in prison and that you injected it and that you also...(short hesitation)... 'snorted' it...* (the participant smiled)

Participant: *What is the scientific term, then? (laughter)*

Interviewer: *...Nasal inhalation (laughter)..., but I thought I couldn't say that...*

In the following sentences, the participant used the expression *nasal* or *nasal inhalation* instead of *snorting* a few times and smiled while doing it. The participant then carefully explained how buprenorphine had been used and the speed and type of effect experienced. Furthermore, follow-up interviews enabled participants to correct misinterpretations of what was said and discussed in previous interviews.

#### **4.11 Violence as a sensitive subject during the interviews**

Talking about crimes and violence can give negative inter-personal, moral and legal connotations (Bjørkly, 2001, p. 54). The interview subject may experience a negative emotional response and feelings of self-contempt. This may also be the case for other sensitive topics, such as traumatic events and the negative aspects of life when dependent on illegal opioids. The participants could exaggerate, under-communicate and, of course, decide that they did not want to talk about or discuss certain topics. The purpose of the interviews was not to elicit details about the crime itself, but to explore their understandings and articulations of their life situations prior to imprisonment, their experiences of violent or non-violent crimes and their understandings of the role of substances and other factors in such crimes.

Non-violent and violent crime as a subject during the interviews could be restricted to ensure that participants did not reveal information that they could not or did not want share and to ensure that they did not experience negative reactions or harm during or after the interviews. These restrictions could originate from 1) the state attorney, 2) the study participant and 3) observations of the study participant by the researcher during the interview. Examples related to violence as an interview topic will be given.

##### ***Restrictions by the state attorney***

One individual had restraining orders due to ongoing investigation of a serious violent crime. The interviews were allowed on the condition that the violent crime itself was not discussed in detail. This limitation was not a hindrance for discussing the life situation of the participant and how drugs were used prior to the violent crime, individual moral codes related to violent crime and post-crime processing of moral transgressions.

##### ***Restrictions set by the study participant***

Study participants could *directly* or *indirectly* express that they did not want to discuss certain topics. Here, one example of each will be provided:

In the first interview, one individual explains how several illicit drugs were used intensely over a period of time prior to being taken into custody as a remand prisoner suspected of a violent crime and was asked:

*«Do you remember what you did?»*

The response was clear:

*«Yes, but I don't really want to talk about it»*

We continued to talk about how drugs were used prior to the violent crime that led to imprisonment. In two subsequent interviews, the participant was given the opportunity to give some more information about the inter-personally violent event. The *direct* response was that this was not a topic the participant wanted to discuss further in these interviews.

There was also a case in which an individual was asked about possible experiences as a victim of violence. The individual gave a facial expression of disgust and the tone of voice expressed that such experiences were rather unlikely, as they would have indicated weakness:

*«If I have been exposed to violence?»*

That was clearly a question the participant did not like or want to answer. The response was to talk about violence towards others, being an *indirect* form of not answering:

*«No, I can't say that I've had a lot of violence 'on me'....I've been in quite a lot of fights and things like that. I've been violent. I am really good at it. Or (laughter)...good and good, it depends on who's looking.»*

### **Observations of physical and verbal reactions – by the researcher**

Facial expressions, body language, tone of voice, pausing, hesitation and physical reactions were observed closely during the interviews to ensure that the interviews and sensitive topics did not cause negative reactions or possible harm for the interview subjects. I will here provide an example in which violent behavior as a topic resulted in an observable physical and expressed emotional reaction. During the first interview, one individual explained to have had a position as a 'torpedo'<sup>11</sup> and had participated in violent behavior within drug culture on several occasions. This participant had also experienced threats and physical violence many times and said that the best thing to do was to approach the one threatening and decide how to settle the conflict between the two involved:

*“... 'This has to stay between the two of us and we will settle it'... If that doesn't do it, then you have to... yes, you have to scare the hell out him. Then he will be more afraid of you than you are of him.”*

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<sup>11</sup> Torpedo = debt collector

Then I observed sweating on the forehead and the face of the participant suddenly became pale, and the prisoner paused and continued with a lowered voice:

*“.....When I talk about this, my hands get warm, when I talk about such things.”*

The participant was asked if it felt uncomfortable and responded:

*“No, not uncomfortable, but some images and thoughts come to my mind...”*

It was, no doubt, talking about the subject’s former experience with violent behavior that evoked physical reactions and reactivated memories. Instead of exploring these images or his experiences of ‘how to scare others’ as a form of self-protection, I decided to change the subject due to his reaction. When the subject was changed and also after the interview, the participant looked and behaved normally, expressed to feel good and was positive towards being interviewed again.

During the interviews, there were cases in which I registered and observed that the interview subjects hesitated, did not respond or gave a non-verbal impression that they did not want to talk about certain subjects, or at least did not want to go into detail. This was often followed by a change of subject, but, sometimes, the question was rephrased first or the participant was asked if he or she wanted to change the subject. The study participants did also change subjects during the interview.

#### **4.12 Why did the prisoners want to participate in the study?**

In section 4.7, reasons for non-participation are described. Several of the participants expressed that they wanted to take part in this research project because they wanted to share some of their life stories, especially about experiences with the OMT system and how it influenced their lives or not.

Some of the participants expressed that participating in the study made them feel that their lived experiences, views, articulations and opinions were of importance and could be used to inform clinicians, police and others. The fact that their lived experiences were the basis of a research project also made some of the participants feel important, as some of them expressed it. Some were positively surprised when we met for the second interview, and they experienced that their views, experiences and articulations had been analyzed between the interviews and were the basis for the next. Some expressed that a motivation for participating in the interviews was to show that there are nuances in life, as exemplified by Tom:

*«It is OK to explain how it is....that it [life both prior to and during OMT/prison] is not always a bed of roses or always hell»*

Furthermore, the participants expressed positive attitudes towards having a *neutral* person visiting them. Most of the participants did not have visitors. All described problematic relationships with their relatives and most did not inform their relatives about being taken



into custody as remand prisoners. It was emotionally difficult for some to deal with the negative reactions of family members as well as their own despair while imprisoned for a serious crime. For some, the interviews could be a break from a monotonous situation in prison. Remand prisoners have the right, but are not obliged, to work and have regular daily activities. They could thus spend almost all of their time in their cells. A few explained that they were curious about the study after having heard about it from other study participants.

As described, several wanted to contribute to society and hoped that clinicians and others could learn from their experiences, as is also described in other studies (Middelthon, 2005). It should also be noted that some of the participants were concerned about the quality and possible results of the interviews. Ståle provides an example of exactly this, as he worried about whether or not his interview contributions could be used in the research project:

*«Did you get the information you needed, at least some?»*

It was also important to Ulf that the interviews would result in clinically useful research, and he also used the opportunity to give something back and personalize his good wishes:

*«I hope you get a good grade»*

#### **4.13 Analysis**

The analytical process was not limited to a certain phase, but began during data collection (Figure 3) and was integrated throughout the *research process* (Coffey & Atkinson, 1996, p. 6; Maxwell, 2013, p. 104; Pope, Ziebland, & Mays, 2000). Regular meetings were held with the qualitative project supervisor, for the sake of engaging in an ongoing analysis throughout the entire research process.

The initial phase of the analytical process began by reflecting during and immediately after each interview (Kvale & Brinkmann, 2009, p. 195), listening to the audiotapes and working-through and rewriting notes from the interviews that were not audio taped. Impressions and thoughts were reported to and discussed with coauthors in regular meetings. Furthermore, the interview data were transcribed and reread while listening to the audio recordings prior to deleting them (4.16). The transcribed interviews were a basis for joint reflection and discussion between the researchers, which continued until a point of agreed consensus about coding and identification of emerging themes. The interview data were managed in NVivo and coded into main organizational themes (*life situation prior to imprisonment, experiences with OMT, non-prescribed use of prescribed opioids in OMT, the situation leading to imprisonment, mental health, physical health, criminal history, substance use history, substance use related to crimes, experiences with use of methadone/buprenorphine prior to OMT*) and sub-thematic categories for further analysis of emerging themes.

Based on this analytical process, the interview topic guide was regularly revised for new participants and individual topic guides were developed for subsequent interviews with already included participants. Repeat interviews were conducted as dialogic member-checking (Green & Thorogood, 2013; Kvale & Brinkmann, 2009), to further explore findings

from the first interview(s) and to facilitate cross-case analysis by presenting one or several cases based on findings from interviews with other respondents.

Content coding was also done for the thematic fields presented in the papers – “What was said by the participants?” Initial coding strategies were followed by descriptions of concepts, experiences and beliefs as seen by the study participants. This was done in joint discussion with co-authors who all had different professional backgrounds and experiences that ensured that several perspectives were taken into consideration in the analytical process.

Data were compared within and between categories and between study participants. When having longitudinal data for one individual, it was possible to compare data with earlier interview(s) and, to some extent, follow a timeline about, for example, the process of down-regulating one’s opioid medication in prison (paper III) and the development of mental health problems while imprisoned (4.14.1).

To avoid analyzing data out of its context, in all stages of the research process, including the final stage of writing the papers, the analytical categories and transcript excerpts were reread in the original transcripts. Analysis and discussions regarding emerging themes happened in regular meetings with coauthor(s). The data was brought into dialogue with the theoretical framework throughout the analytical process.

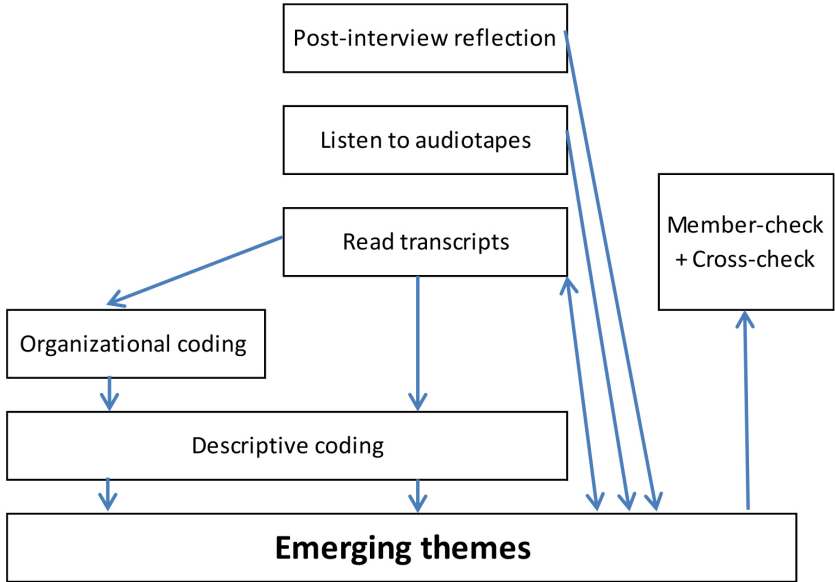


Figure 3. Emerging themes as identified and examined through an ongoing analytical process

When analyzing how the participants expressed and explained substance use in relation to both violent and non-violent crimes, one important emerging theme was understandings of

individual moral codes related to (violent) criminal behavior and the use of substances to transgress individual moral codes prior to the crime and afterwards to cope with emotional post-crime processing of moral transgressions. This theme, which is explored in paper II, emerged midway through the research process, was implemented in the interview guide and became an important part of the interviews and analysis.

The concept of *pharmacological agency* is another example of a theme that emerged during the course of this research process. Internal to the pharmacological agency of the participants, a surveillance of the processes associated with the use of substances – and methadone and buprenorphine in particular – both prior to and during OMT, was found. Among the phenomena monitored by these participants was the effect that the substance may have on their body and emotions, the needs and cravings of their bodies, the ways that they handled or struggled to handle these complex relations and how it all played out in different relations, situations and contexts. The concept of pharmacological agency is discussed shortly in the discussion of paper III and will be further elaborated upon and published as part of the surplus material (4.17).

The following are among the most prominent emerging themes explored in the qualitative study and presented in further detail in papers II, III and IV:

- Moral principles related to (violent) crime (Paper II)
- Substance use to alter perceptions of reality and behavior prior to crime (Paper II)
- Substance use to overcome moral principles prior to crime (Paper II)
- Post-crime processing of (violent) crimes, including use of substances (Paper II)
- Impulsive and uncontrolled substance use related to violence (Paper II)
- Temporary change of social context by use of illicit OMT medications (Paper III)
- Achievement of control in OMT by initiating external control measures (Paper III)
- Temporary and situational adaptation of illicit drug use in OMT (Paper III)
- Organizational control of OMT in prison experienced as stigmatization (Paper III)
- Self-regulation of OMT medication in prison (Paper III)
- Pharmacological agency (Paper III)
- Avoidance of diversion of one's prescribed opioid in OMT (Paper III and IV)
- Giving of one's prescribed opioid to another person as an act of helping (Paper IV)
- Experiences of navigating different norm systems when entering OMT (Paper IV)

#### **4.14 Possible risks and benefits for the participants**

The study participants were in a vulnerable position as prisoners enrolled in treatment for opioid dependence, and most of the study participants were remand prisoners not (yet) convicted at the time of the first interview. Sensitive issues about criminal behavior and treatment experiences were discussed during the interviews. It was a risk for the participants that, during and after the interviews, negative emotions could arise and lead to

anxiety and distress, as well as feelings of exploitation and misrepresentation. Later, in the publishing process, identification of the participants in oral presentations or research papers could be another risk for the participants (Richards & Schwartz, 2002), and sharing sensitive and personal aspects of their lives, such as criminal behavior and non-compliance with OMT, could, in the worst-case scenario, lead to consequences of a legal character and a more restrictive treatment regimen if the researcher broke confidentiality (Corbin & Morse, 2003). Measures were taken to avoid these possible risks throughout the recruitment, data gathering, analysis and publication processes.

On the other hand, it can be a positive experience for study participants to talk with another, non-judgmental person who is genuinely interested in their experiences and viewpoints (Kvale & Brinkmann, 2009). Others have pointed out that participating in qualitative interviews may have several benefits: to express personal feelings with a sense of relief, to experience self-acknowledgement and feelings of validation, integrity and worth and to experience a sense of purpose by sharing experiences that may lead to increased understanding among treatment providers. During and after the interviews, participants may gain a new perspective about their situation and increased self-awareness. Participation may lead to empowerment by telling a story and being heard, some may also experience some degree of healing by sharing difficult experiences and it may be a positive experience to provide a voice for the *voiceless* who have not been able to tell their stories (Hutchinson, Wilson, & Wilson, 1994). Corbin and Morse (2003) conclude that:

*“Essential to preventing participant distress is the researcher’s interviewing skills and a code of ethics. When research is conducted with sensitivity and guided by ethics, it becomes a process with benefits to both participants and researchers”*

#### **4.14.1 Experiences of mental health problems while taking part in the study**

One of the participants had used central stimulants for several days in a row prior to imprisonment and suffered from moderate to severe depressive symptoms shortly after being taken into custody. During the first interview, the study participant described worrying about and fearing that the present depressive symptoms would last forever. Since the prisoner had described an intensive use of central stimulants over a short period of time prior to being imprisoned, I suggested that the depressive symptoms could be related to this drug use and told the prisoner that this was common, that treatment helped and that the condition did not last forever. At the end of the first interview the participant said: «*You gave me some hope*». At the time of the second interview, the participant was in treatment and, during the last interview, when we reviewed the previous interviews, the individual had forgotten how hard it was to experience depressive symptoms during the first weeks of imprisonment. This is an example of how it may be a positive experience for a participant to participate in a qualitative interview study, as this individual also experienced the interviews as beneficial apart from being given a voice.

#### 4.14.2 Diagnostic interviews - a possible risk?

The study was originally planned to map mental disorders among the study participants by using the MINI 5.0 (Lecrubier et al., 1997) and SCID II (Spitzer, Williams, Gibbon, & First, 1989) assessments. According to these plans, the results were to be given to the study participants, who could then decide if they wanted to share these with treatment providers in OMT, the prison health services or their general practitioners.

The first interview subject in prison was positive towards a diagnostic interview after the in-depth interview. At the end of the interviews, the prisoner said that the motivation was to get a written diagnose of anxiety with a recommendation for prescription benzodiazepines. The next participant was in treatment for violent behavior, had been in contact with the mental health system for several years and had been assessed thoroughly. Another participant had previously been hospitalized for a longer time period due to violent behavior and a mental disorder, had just been assessed by the prison mental health service and was not suffering psychotic symptoms. But, the participant, during the first in-depth interview, explained how humiliating it had been to go through a forensic psychiatric examination, which made me realize that I could possibly cause some degree of harm to the study participants by performing the diagnostic interviews.

I also found it challenging to switch *hats* from a researcher to a clinician. How could I use the information from the diagnostic interview in the qualitative research interview, was it possible? Could I be both at the same time? In structured diagnostic interviews, the purpose and mode of questioning differs from that of exploratory, in-depth interviews. Methodologically I realized that I could not combine these and utilize information from the qualitative and diagnostic interviews in the same manner, and most of the structured questions regarding personality disorders and *antisocial behavior* did not allow for taking the context into account. A semi-structured interview is not the same as a strictly-structured clinical diagnostic interview (Kvale & Brinkmann, 2009, p. 39, p. 147) and these two methods, therefore, could not be combined in the qualitative analysis.

Furthermore, during the first qualitative interview with a participant who revealed suicidal plans<sup>12</sup>, it was clear to me that this individual suffered from symptoms of moderate to severe depression. To conduct the diagnostic interview seemed meaningless and I focused instead on securing treatment. I asked the subject for permission to inform the prison staff to book an appointment with health staff. This was accepted. The same procedure was followed with another individual presenting moderate to severe depressive symptoms. Both received treatment. Furthermore, several individuals started or continued ADHD assessments while imprisoned and a short diagnostic interview was of no aid in that process.

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<sup>12</sup> Remand prisoners have a high suicide risk. In a review of suicides in prison populations in 12 Western countries, including Norway, Sweden and Denmark, it was found that the suicide rate was three times higher than in the general population. Risk factors for suicide in prison in a study of almost 5000 suicides were found to be: «recent suicidal ideation, being accommodated in a single cell, a history of attempted suicide, evidence of mental disorder and detainee or remand status» (Fazel, Cartwright, Norman-Nott, & Hawton, 2008).

I came to the conclusion, after discussing ethical and methodological issues with fellow researchers and supervisors, that continuing to map diagnoses could possibly harm some of the individuals and would be of little use for accessing health services, as this was already available in the prison health system for those needing it. Furthermore, continued mapping of diagnoses of remand or convicted prisoners would be a different study – is there a difference between diagnoses of OMT-enrolled prisoners and individuals in OMT outside of prison? A quantitative design would be needed to answer this research question, as the findings from the qualitative study, including mapping the possible diagnoses of the study participants, could not shed light on such a research aim.

To conclude, the study participants benefited minimally from the diagnostic interviewing and faced potential harm from it, it is considered unethical to collect data that is not going to be used in the research (WMA, 2013) and, finally, it would have been methodologically incorrect to analyze structured, diagnostic interview data as qualitative data.

#### **4.15 Risk for the researcher?**

Taking measures to protect study participants was prioritized while designing and conducting the study. However, researchers may also confront physical and emotional risks while studying sensitive topics (Green & Thorogood, 2013, p. 83). A study among qualitative health researchers having studied sensitive topics suggests that there is a need to consider «safety issues in designing research projects that deal with physical and emotional risks» (Dickson-Swift, James, Kippen, & Liamputtong, 2008, 2009). Philippe Bourgois conducted a long-term ethnographic study of social marginalization and found that the «extreme settings full of human tragedy, such as the streets of East Harlem, are psychologically overwhelming and can be physically dangerous» (Bourgois, 2010, p. 14). Furthermore, researchers assume an emotional risk when meeting prisoners who «conceal a tumult of unplumbered anger, frustration, fear, and outrage at their imprisonment» (Bosworth, Campbell, Demby, Ferranti, & Santos, 2005). The emotional risks of conducting ethnographic studies in prison with stigmatized and vulnerable individuals are discussed by Jewkes (Jewkes, 2012, 2014).

Although the present study was not an ethnographic prison study and a rather short amount of time was spent with the imprisoned study participants, there were potential violent and emotional risks for me as a researcher and measures were taken to avoid these. Risks of threats and physical violence were dealt with in the Oslo Prison by the prison staff informing me if the prisoner had been agitated and providing me with an alarm as part of prison security rules. Furthermore, I looked for signs of discomfort, agitation and aggression when I walked and talked with the prisoners from their cells to the health department (where most of the interviews took place) and could then evaluate the state of the prisoner. This was not possible in Bredtveit Prison. However, during the interviews, I observed verbal and non-verbal signs of discomfort and could rephrase questions, change themes or end the interview.

I will give an example of a situation in which a few of the planned precautions were used. On one evening occasion, I suddenly found myself inside a cell with a remand prisoner who had a history of several violent offences. The cell door was locked.

It was after office hours and no offices were available for the interview due to security reasons. The prisoner wanted to share his story before he was released the following morning. The cell door was supposed to be open when I was in the cell, since it could not be opened from the inside and I did not have keys to the cell doors (only to the doors between all departments). I had, as always, the prison alarm and keys on the belt, but knew that it would take some time before prison staff would show up if I used it. Prison staff had closed the door immediately after I entered the cell and I did not regard knocking on the door to get the prison staff to open the cell, without even talking to the prisoner first, as a good start to the interview. The prisoner, in this case, was calm, polite, welcoming and also very embarrassed about the small cell and how he lived in prison. I was offered the only chair and a disposable cup of coffee made with instant powder and water boiled in the cell. He sat on the bed next to the toilet and the tape recorder was placed on the bed between us. He wanted to share his experiences about being enrolled in OMT.

Apart from that short moment between hearing the door lock and starting the interview, I felt physically safe during the study. But, listening to stories about traumatic events could sometimes evoke emotions. However, I had experience and training as a mental health professional, which enabled me to deal with such matters. What I found to be more challenging was to register the emotional state of anger, frustration, fear and despair that several of the remand prisoners and, in particular, the few who had symptoms of mental disorders in need of treatment (see 4.14.1) expressed. For me, knowing that I could possibly improve their health situations if I was a health professional in the prison system, but not from my position as researcher, was the emotional burden that I experienced during this study. I reflected upon these matters with fellow researchers and supervisors.

#### **4.16 Audiotape/note-taking and anonymity**

All but one individual accepted that the interviews were audio taped. The one individual who preferred note-taking expressed that it would be difficult to talk freely about illegal activities while being taped and that he feared that the police or prison staff could access the information revealed in the interview. None of the other participants expressed concerns about being audio taped and little attention was paid to the recorder when it was placed in the room where the interviews took place.

In this study, ensuring anonymity was emphasized throughout the entire research process. The interviews were anonymized in the transcription process to ensure that no identifiable information was included, meaning that names were exchanged with pseudonyms and names of individuals, places and institutions (prisons, hospitals, treatment institutions) were either changed or replaced with capital letters (e.g. X, Y, Z). Furthermore, in the case of identifiable hobbies or other special information, more general terms were used (e.g.

«parachuting» could be replaced with «extreme sports»). The audio taped interviews were deleted shortly after transcription, as described in the written information to the study participants and in the application to the regional committee. In the process of publishing the results in research papers, extra awareness was given to ensuring anonymity by not including information that could be identified by police, prison staff, prison health staff, OMT staff, general practitioners, fellow prisoners and other individuals in OMT or in the drug-using community. Therefore, demographic information is sparse or vague and detailed information about illegal activities have not been included in the papers or thesis.

#### **4.17 Dissemination of findings**

Papers I, II, III and IV are all published. Surplus material from the interviews is planned to inspire scientific articles on the following themes: ethical issues, health issues, the concept of pharmacological agency, ambivalence towards OMT and experiences of the transition from heroin dependence to *system-dependence*. Findings from the study have also been integrated into teaching at the University of Oslo, Oslo University Hospital and Buskerud University College and have also been presented at different research groups at the University of Oslo, in national meetings for leaders of the regional OMT centers and at national and international conferences.

#### **4.18 Ethical considerations**

The qualitative part of the study was approved by the Regional Committee for Medical Research Ethics, the Norwegian Social Science Data Services and the Norwegian Correctional Service Region East. All participants in the qualitative study provided voluntary and written informed consent. The study participants were not paid to participate in the study.

*Ethical considerations have been at the forefront of the entire qualitative research process and have been thoroughly discussed in chapter 4. Due to ethical (and methodological) considerations, the initial inclusion criteria (4.2) were changed to ensure that the participants could provide informed consent. Prison guidelines for research were implemented in recruitment procedures to ensure voluntary meeting with the researcher and that the participants gave informed consent only after having had enough time to consider study participation (4.7). The interview topics could be sensitive and measures were taken to avoid harm to the participants, such as using the interview techniques described in 4.10. Violence and other criminal behavior are typically sensitive subjects. In this study, the participants themselves could restrict discussion of these matters and, if I observed signs of discomfort during the interviews, I could also change the subject, as described in 4.11, to protect the participants.*

Possible risks and benefits for the participants have been discussed (4.14) and mapping of mental disorders among the participants was discontinued due to the possible risks it posed to some (4.15). Furthermore, it could have also compromised research ethics as the results of such diagnostic mapping would not contribute relevant data of use for the qualitative analysis. Possible physical and emotional risks for the researcher have also been dealt with



in section 4.16. Extra awareness was directed to ensuring anonymity throughout the research process and with regard to the recording of data, transcription of interviews, deletion of audio recordings and publishing of results (4.17).

## 5 Main findings

### 5.1 Paper I

Havnes, I., Bukten, A., Gossop, M., Waal, H., Stangeland, P., & Clausen, T. (2012). Reductions in convictions for violent crime during opioid maintenance treatment: A longitudinal national cohort study. *Drug Alcohol Depend*, 124(3), 307-310.

Among the 3221 individuals who started OMT, 2.5% of the nearly 21,000 convictions prior to OMT were for violent crimes, constituting a total of 517 convictions. 295 participants had at least one conviction for a violent offence prior to OMT: 258 men (12% of men) had 461 convictions (mean 1.8, range 1-12) and 37 women (3.5% of women) had 56 convictions (mean 1.5, range 1-4). More serious offences involving interpersonal violence were found in 47 cases (10.2%) among men, of which 46 cases were for grievous bodily harm and 1 for murder. Women had 5 of these more serious cases (10.0%): 3 cases of grievous bodily harm and 2 murders. The two most common offences were threats and assaults: men had 317 cases (69.8%) and women had 31 cases (55.4%). Economically motivated violent crime accounted for 65 cases (14.1%) among men and 17 cases (30.4%) among women.

Pre-treatment violence rates were reduced to about 40 % during OMT for women (Figure 1). For men remaining in treatment, pre-treatment violent crime rates were halved during OMT. Those who left OMT had a less marked reduction during treatment and the males had a higher rate of violent crime after treatment compared to the pre-treatment rates (Figure 2).

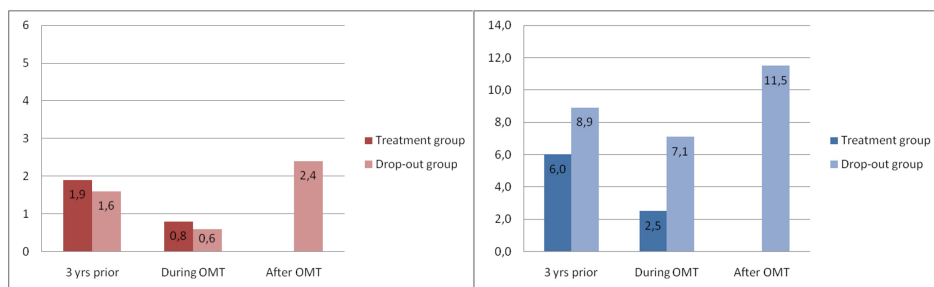


Figure 1. Rates of convictions for violent crime: women<sup>a</sup>.

Figure 2. Rates of convictions for violent crime: men<sup>a</sup>.

<sup>a</sup>Rates are shown per 100 person years among women (figure 1) and men (figure 2) who were retained in treatment and among those who left treatment 3 years prior to OMT, during OMT, and after OMT.

The relative risk of convictions for both violent and non-violent crime during treatment was highest for the group with violent convictions prior to treatment.

## 5.2 Paper II

Havnes, I. A., Clausen, T., Brux, C., & Middelthun, A.-L. (2014). The role of substance use and morality in violent crime – a qualitative study among imprisoned individuals in opioid maintenance treatment. *Harm Reduction Journal*, 11(24).

The participants in this study engage in complex moral negotiations and maintain moral standards. Prior to OMT, the majority of the participants had experienced that, in a state of withdrawal, their desperation interfered with their ability to uphold moral principles. Substances and, in particular, high-dose benzodiazepines were used to prior to performing non-violent and violent criminal acts to support costly heroin use. When *planning (violent) crimes*, several participants reported being aware of an ability to induce temporary antisociality by lowering inhibitions and *deliberately seeking* a certain change to become callous, unempathetic and hostile by taking high-dose benzodiazepines. This strategic drug intake was informed by knowledge and experience gained from years of monitored substance use and enabled them to transgress individual moral codes to commit violent and non-violent crimes.

While enrolled in OMT, substance use was explained to be impulsive in character, though still contributing to violent behavior and, in particular, to the violent act they were imprisoned for. In this context, *impulsive*, high-dose benzodiazepine use alone or in combination with central stimulants and/or alcohol is reported to reinforce certain individual characteristics, such as impulsivity, and to lower inhibitions, possibly resulting in a violent response to experiences of injustice that one would not react to if not intoxicated. Yet, to conduct a (violent) criminal act does not necessarily imply that one is without moral principles. The study participants struggle to reconcile their moral transgressions and benzodiazepines were also used to reduce memories of and alleviate the guilt associated with having committed violent crimes.

Several of the participants in this study had experienced episodes of impulsive and uncontrolled drug use that, for some, led to blackouts during which morally off-limits acts were committed. Afterwards and while imprisoned, they reported struggling to understand and reconcile their moral transgressions. This situation could also threaten their sense of self and, while imprisoned and isolated as remand prisoners, could lead them to the brink of breakdown.

When enrolled in OMT and imprisoned for a crime, this might constitute a situation of feeling *double* shame and guilt for criminal behavior prior to OMT-enrollment and also for the actual case(s) they were imprisoned for while enrolled in OMT.

### 5.3 Paper III

Havnes, I. A., Clausen, T., & Middelthon, A.-L. (2014). Execution of control among 'non-compliant' imprisoned individuals in opioid maintenance treatment. *International Journal of Drug Policy* 25 (3):480-485.

Before enrollment in OMT, the study participants had all used of methadone and buprenorphine for various lengths of time and at various frequencies. This often led to a personal preference for one medication over the other, and not necessarily the one offering the most sedation, when entering OMT and based on experienced effects and side effects. Initial use of illegal OMT medications mostly took place outside of institutions, but it did also occur in treatment and correctional institutions. It happened by chance for some but was, for most individuals, motivated by a lack of heroin access and a wish to learn more about the potential effects of the substances. A controlled intake of illicit OMT medications was used to design long- or short-term stabilization schemes outside of OMT, with the short-term stabilization schemes enabling adaptation to a temporarily changed context – for example, from daily life as a heroin dealer to spending some time with family.

To experience a sense of influence and autonomy in relation to decisions about the level of control in OMT was important for the participants. Non-prescribed use of OMT medication among participants with weekly and daily dispensing regimens was reported, such as taking less methadone on a regular basis to stockpile the surplus to give away or constitute a very high dose to *get high* on occasions, injecting methadone daily, and selling or exchanging the prescribed opioids to obtain illicit substances. Some participants took control over harmful behavior by initiating external control measures in the treatment system.

Organizational control of an OMT department in prison could be experienced to lead to a higher degree of stigmatization than outside of prison, from non-OMT prisoners, prison staff and prison health staff. Others found it to be positively associated with less demand to divert OMT medication. The possibilities for execution of control are limited when simultaneously enrolled in OMT and imprisoned, and, in particular, as remand prisoners awaiting court proceedings. Self-regulation of buprenorphine was described as regular induction of withdrawal by taking less of the medication than prescribed. This was done to experience a «legal» moment of intensified bodily relaxation when finally taking the medication as prescribed, hence providing some sense of control over the situation.

Among the study participants, a surveillance of the processes associated with use of methadone and buprenorphine in different situations, relations and contexts, was found. Those who took part in this study demonstrated considerable self-control, self-regulation and/or self-initiation of external control measures prior to and during OMT, and this may be seen as a resource during the course of treatment.

## 5.4 Paper IV

Havnes, I. A., Clausen, T., & Middelthun, A.-L. (2013). 'Diversion' of methadone or buprenorphine: 'harm' versus 'helping'. *Harm Reduction Journal*, 10(1), 24.

Prior to imprisonment, all participants had been subjected to tightly controlled OMT medication regimes, and this made it difficult to either sell, exchange or give their OMT medications to others. Only one individual reported selling or exchanging one weekly methadone dose for a small dose of heroin, and several had developed strategies to avoid selling their OMT medications. Among these were: avoiding potential buyers, maintaining a secretive status as enrolled in OMT and asking family members for help with monetary problems.

Prior to being included in OMT, their criminal behavior was mostly motivated by obtaining the next dose of heroin and avoiding withdrawal, and all of the participants possessed bodily knowledge of withdrawal. Therefore, the participants, when enrolled in OMT, could understand the condition of another human being in withdrawal and several who reported giving their opioid prescriptions to friends and acquaintances regarded this as 'helping' and 'giving' for which they did not expect anything in return, as opposed to exchanging or selling.

For couples, acts of *helping* took on particular significance. The participants described two settings of responsibility for obtaining heroin prior to OMT: the couple either had mutual financial responsibility for buying heroin or the woman was mainly responsible for buying heroin for both, with income earned through crime or selling sex. There was one case in which a couple had different OMT statuses: one was enrolled in OMT with daily prescribed medication and the other was selling sex to buy heroin. This situation was experienced and described as painful for both – for the woman, this was due to being exposed to violence, humiliation and withdrawal and, for her partner, it was difficult to know and see this but be unable to share his OMT medication with her. Another participant was clear about the opinion that this situation involves unsolvable and unbearable moral dilemmas.

When a heroin-dependent individual is included in OMT, he or she might have to navigate norms of different social systems: the treatment system, with external control measures and possibilities for 'sanctions' for what is perceived as 'diversion', and drug-using communities, which often entail civil and informal execution of what is perceived as 'sharing and giving'. The logics upon which these systems are based – namely, 'harm' and 'helping' respectively – might work against each other. OMT enrollment can hence place someone in a position in which he or she violates his or her norms of helping and sharing in order to follow treatment regulations.

## 6 Methodological considerations

Descriptive research methods regarding criminal behavior can be divided into 3 main categories<sup>13</sup>: indirect methods, direct verbal or written descriptions from victims/perpetrators and direct observation. Each category has different limitations. In this thesis, both indirect and direct methods have been used - quantitative methodology by use of official crime statistics and qualitative methods by use of verbal descriptions from prisoners suspected of violent and non-violent crime. A *mixed methods* study can be defined broadly and:

*“would involve mixing within a single study; a mixed method program would involve mixing within a program of research and the mixing might occur across a closely related set of studies”* (Johnson, Onwuegbuzie, & Turner, 2007).

As the data were not collected from the same time period and hence not being closely related, the term *complementary methods* study (Borland, 2001) is used for this thesis where a deeper understanding of violence as a phenomenon was obtained by using both quantitative and qualitative research. It is argued that use of qualitative and quantitative methods together:

*“provides strengths that offset the weaknesses of both quantitative and qualitative research.[..] One might argue that quantitative research is weak in understanding the context or setting in which people talk. Also, the voiced of the participants are not directly heard in quantitative research.[..] Qualitative research makes up for these weaknesses. On the other hand, qualitative research is seen as deficient because of the personal interpretations made by the researchers, the ensuing bias created by this, and the difficulty in generalizing findings to a large group because of the limited number of participants studied”* (Creswell & Clark, 2007).

In this section, the concepts of validity and generalizability/transferability will be discussed and the following two questions will be explored with regard to each methodology:

Validity – *How trustworthy are the results?*

Generalizability/transferability – *Can the findings be applied to a larger population or a different context?*

### 6.1 Cohort study - validity

#### 6.1.1 Design

The national cohort database was a prospective cohort, meaning that, from inclusion in the cohort at the date of application to OMT, treatment data were registered prospectively until

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<sup>13</sup> For studies on violence and aggression, one can add the following two methods: psychological tests of aggression/personality dimensions and field experiments in natural settings (Björkly, 2001).

either the end of observation on December 31, 2003 or the date of death. The crime data included data from both time periods prior to OMT treatment entry and for individually varying follow-up periods during and after treatment. The study design allowed for only a limited number of variables to be included in the treatment cohort data file. Therefore, only registry-based, basic data were included. Hence, potential confounding variables, such as detailed information about substance use and mental health factors (see 1.2) that are important risk factors for violent behavior, were not included.

This is a complete national cohort from when OMT was introduced in Norway and it offers a longitudinal investigation over a period of 9 years, including, in total, 17,399 person years. The individual-level and cross-registry design include information about all convictions and no patients were lost to follow-up.

Conviction as a measure does not include all violent offences committed, but eliminates problems with recall, exaggeration and concealment of illegal activities that may be a limitation in self-report studies mapping the total amount of violent crimes. Surveys among victims of violence are considered more reliable (Walby, Allen, & Britain, 2004) when trying to estimate the real number of violent offences in a population. Though 'convictions' does not refer to the actual number of violent crimes, it is an official measure of the cases that have been through the legal system and resulted in convictions, and it can be seen as a key indicator of performance within the criminal justice system in Norway and in other countries. Convictions of violent crime can therefore be used as a measure when estimating the effect of OMT.

### **6.1.2 Selection bias**

With a large study population, the overall effect of random errors will typically be small. However, systematic errors may affect the data independent of sample size. Systematic errors can be divided into selection and information bias. In this study, a complete national cohort of opioid-dependent individuals enrolled in OMT was included. This means that selection bias was not considered to be a major problem when studying convictions of violent crime as an outcome during and after OMT in this national sample. Still, the «drop-out group» is a selected group in the study that had lower treatment effect than the group remaining in treatment (see figure 1 and 2 in 5.1)

### **6.1.3 Information bias**

#### *OMT research registry*

Age and gender are information that are linked to the personal identification number and should therefore be correct. The registered treatment information was dates for treatment start and end. During the observation period, treatment start and end were registered as the first and last days of medication, respectively.

### *Crime statistics*

Crime statistics are influenced and shaped by the following: legislative change, formal recording rules, recording behavior of the police and reporting trends of the public (Reiner, Morgan, & Maguire, 2007, p. 258).

With time, societal views on certain behaviors may change and new social phenomena can lead to changes in the penal law. Through legislative change, behavior previously defined as criminal may be legalized, definitions of offences may be changed and new offences may be created (Andenæs, 2004) During the study period, there were few penal law changes related to violence in Norway. In the year 2000, sexual crimes were redefined and the definition of rape was broadened (Thorsen et al., 2009), but there were very few such cases in the cohort and this legislative change is not believed to affect the study outcome. Furthermore, there was no evidence suggesting changed reporting practices of the public of importance for this study.

### *Recording behavior of the police*

The recording behavior of the Norwegian police underwent complete change during the 1980s, when they stopped reporting individual crime cases to Statistics Norway and assumed responsibility themselves for recording reported offences. In 1994, according to the new national directive, all single-occasion offences that could result in charges required separate registrations (Thorsen et al., 2009). Therefore, an individual might be registered with several convictions on the same day – for example, for drug offences and violence against a public officer when resisting arrest by means of physical force. This change of practice led to an increased recording of offences. For this reason, and for the sake of eliminating the effect of this change on the crime statistics, no crime data prior to 1995 was included in the study. By using only formal convictions as a data source, the crime cases have been through the legal system and registered with a conviction. The conviction is often registered from months to years after the actual offence took place, but by collecting crime statistics for several years following the crimes registered in this study, the crime registries included all convictions as data linkage with crime statistics took place in 2007, four years after last date of observation. Double-registered cases were deleted after a new database system was introduced in 2002, and this led to a reduction of official crime statistics for 1993-2001, but this was done prior to the data sampling of this study.

Furthermore, the police have a formal framework for how to record crimes, but, over time, they may be influenced by social, political and institutional factors. So-called ‘hiding’ of offences by not recording them to increase the clear-up rate and ‘creating of offences’ by recording minor offences in large numbers to get more resources are both discussed by Reiner, Morgan and Maguire (2007, p. 258) and may also influence crime statistics (Loveday, 2000). Furthermore, operational priorities, such as the degree of police patrolling, may also affect the crime statistics and offences discovered by the police that entail an offender and legal proof may lead to more convictions. Police recording practices may lead to changes in both a negative and positive direction in the crime statistics, but there have not been major



changes of police recording practices during the study period that could lead to major information bias, as far as the authors are aware (paper I).

#### **6.1.4 Confounding factors**

Confounding factors are factors that may affect the exposure and outcome association by influencing the outcome and/or by being systematically connected to the exposure variable.

There are several possible confounding factors on individual levels that we do not have information about and that may be associated with increased violence risk and violent crime, such as: substance use prior to, during and after OMT, mental health status and presence of paranoid TCO symptoms (1.3) and individual psychological characteristics, such as antisocial personality traits. These are factors that may be associated with increased violence risk (see 1.2) prior to and during OMT, as well as with treatment-seeking behavior, and that therefore possibly influence the effect of OMT on violent convictions during OMT in unknown directions.

Furthermore, substance use during OMT and violent behavior could possibly lead to involuntary termination of the treatment program. During the study period from 1998-2003, about 415 individuals (60% of all who ended treatment) were involuntarily discharged (Waal, 2004). Since the reasons for involuntary discharge (violence, substance use, diversion or no treatment effect) were not registered, we do not know if those who ended involuntarily were overrepresented among those who were convicted of violent crime. It is likely that the *post-treatment group* is a negative selection with higher violent crime rates and that this led to involuntary treatment discharge.

Furthermore, we had no information about periods with low violent and non-violent criminal behavior risk, such as periods of institutionalization in addiction treatment institutions, hospitals or prisons. During the study period, OMT was offered in prison for remand prisoners with short sentences. Treatment criteria required previous abstinence-oriented treatment and, for persons serving long sentences, having only a short time period left until release. Therefore, it is more likely that the individuals in the cohort were institutionalized prior to and after, rather than during, OMT. We may thus have tended towards an underestimation of the effect of OMT compared with periods prior to and after treatment.

During the study period, the waiting time between treatment application and start varied from several months to years (Bukten et al., 2011) and, during this waiting period, non-medical interventions could take place, such as securing better housing conditions and motivating the participants to reduce use of heroin and other substances. These non-medical interventions may have reduced the risk for crime during the waiting period and prior to starting medications, hence possibly reducing the treatment effect observed during the treatment period that was defined by first and last day of medication. This is a possible confounding factor as some of the reduction of violent and non-violent crimes took place during the months prior to treatment for the study cohort (Bukten et al., 2011).

To conclude, the possible information biases and confounding factors mentioned here have likely been at play, and as the factors are unmeasured, we have no means of controlling for these biases other than the stratified analyses (i.e. by gender and pre-treatment crime levels) that were done. As the effect measures are crude rates of violent crime, it may be that more advanced modeling, including time-dependent covariates, would have resulted in lower effect estimates (Røislien, Clausen, Gran, & Bukten, 2014). Nevertheless, the findings of this study are considered rather robust and show a pattern of treatment effect on violent convictions that is in line with the treatment effect found in other studies (Gossop et al., 2005; Hubbard, Craddock, & Anderson, 2003; Tims & Ludford, 1984).

## **6.2 Cohort study - generalizability**

In a quantitative study, random sampling and correct statistical procedures may allow the findings to be generalized to a larger population, both nationally and internationally. This cross-registry study was a complete national cohort with an observation period of 9 years.

Before we attempt to generalize the findings from the cross-registry study to the present OMT population in Norway, it is necessary to know that the OMT cohort studied may be different from the present OMT population, as our data was current as of 2003. The study cohort consisted of the first group of opioid-dependent individuals in Norway who received the relatively high-threshold OMT available at that time. It is possible that the individuals who were enrolled in treatment had a higher degree of motivation since OMT was available for few opioid-dependent individuals at that time (Waal, 2007). At that time, the waiting period between treatment application and start was also longer (from several months to years) (Bukten et al., 2011) than now (from days to weeks)(Waal et al., 2014), and, as described, non-medical interventions could take place in this waiting period, such as securing better housing conditions and motivating the participants to reduce use of heroin and other substances. This may be of importance for differences in the treatment outcomes for the study cohort and present OMT populations.

New treatment guidelines were implemented in 2010 (Helsedirektoratet, 2010), and this may affect the outcomes from treatment in a negative direction. By switching from high-threshold and restrictive treatment (Waal, 2007) to treatment regulations that include low-threshold treatment criteria, possibilities for harm reduction treatment and individuals enrolled in treatment as patients with 'rights to treatment' may result in present-day OMT-enrolled individuals being less motivated and at increased risk for dropping out. Therefore, one may speculate and suggest that it is possible that OMT-enrolled individuals in the new treatment program might have less treatment effect with regard to violent convictions, but the extent of this potentially lowered effect is unknown and it is important to note that the treatment goal for individuals in the present OMT population is either harm reduction or rehabilitation. It is possible that the harm reduction group may experience less treatment effect compared to the rehabilitation group, as continued substance use in the harm reduction group may be associated with increased violence during OMT. There is reason to

believe that both groups will have better treatment effect with regard to violence and other crime while enrolled in rather than outside of treatment.

Furthermore, ending treatment involuntarily for individuals who did not comply with treatment regulations – such as those who continued substance use or behaved violently during treatment - was possible with the old treatment guidelines for the studied cohort, but this is not, to the same extent, the case with the new guidelines. The proportions of involuntary discharges among those ending treatment have been reduced from 60% during the study period (Waal, 2004) to 10-20% currently (Waal et al., 2014), and this may lead to more convictions of violent and non-violent crime during OMT and a lower effect size of the present OMT-cohort.

In addition, buprenorphine was introduced in 2002 and, at that time, only 16% of OMT patients received buprenorphine (Riksheim et al., 2014). So, the vast majority of the participants in the study cohort received methadone, which has a slightly more depressant effect and is associated with a higher retention rate than buprenorphine (Mattick et al., 2008). 63% of the present-day OMT population receive buprenorphine (Waal et al., 2014), and the switch from methadone to buprenorphine may result in a less ‘calming’ effect of the medication. Therefore, it is possible that the present-day OMT population will have more convictions of violence while enrolled in treatment compared to the study cohort.

Furthermore, the treatment effect size found in this study may not be transferable to settings in other countries due to different treatment policies, health care systems, OMT organization and drug-use patterns. However, the findings from this study are similar to findings from international studies that show a reduction of both violent and non-violent crime during OMT (Gossop et al., 2005; Hubbard et al., 2003; Stenbacka, Leifman, & Romelsjo, 2003; Teesson et al., 2008; Tims & Ludford, 1984). There is therefore reason to believe that the general findings and main effects can be generalized to the present OMT context in Norway and might also reflect, to a significant extent, the realities in other treatment settings and among OMT populations in other countries.

### **6.3 Qualitative study – validity**

We now turn to the qualitative study. In qualitative research, many perspectives exist regarding the concept of validity and the ways in which it can be defined, described and established (Creswell, 2007, p. 203). Maxwell (2013, p. 123) writes that:

*“...validity, as a component of your research design, consists of your conceptualization of these [validity] threats and the strategies you use to discover if they are plausible in your actual research situation, and to deal with them if they are plausible”*

Validity was in focus when designing and conducting this study. Kvale and Brinkmann (Kvale & Brinkmann, 2009, p248) describe validity in qualitative research as *craftsmanship* during

seven stages of the entire research process. These stages have been described thoroughly in Chapter 4: thematizing (1) designing (4.1), interviewing (4.10), transcribing (4.17), analyzing (4.13), validation (4.10.1) and reporting of results (papers II, III and IV). Therefore, these stages will not be repeated here, but important validity threats that need to be accounted for will be extracted from these seven stages and discussed with regard to ‘transparency’, ‘subjectivity’ (researcher bias) and ‘reflexivity’.

### **6.3.1 Transparency**

*“Transparency relates to the explicitness of the methods used, and how clearly they are outlined for the reader...”* (Green and Thorogood, 2013, p. 220). Of importance is to be as descriptive and open as possible about choices that were made throughout the research process to ensure that the reader can follow the processes and evaluate if the decisions made were plausible or not.

In the Methods section 4, emphasis has been placed on describing why new decisions were made during the research process and how ethical considerations have been managed with regard to inclusion criteria, sampling procedure, the interviews and the analytical process. Even though it is not possible to replicate a qualitative study, transparency enables the reader to follow the research process and understand how and why important considerations and choices were made. Transparency is also a way of increasing the validity of qualitative research.

### **6.3.2 Researcher position**

*Researcher bias* is often related to researcher subjectivity in qualitative research and can be understood as *“the selection of data that fit the researcher’s existing theory, goals or preconception and the selection of data that ‘stand out’ to the researcher”* (Maxwell, 2013, p. 124).

This is a serious validity threat if a researcher only finds what he or she is ‘*looking*’ for. Pre-understanding, as described in the qualitative methods section (4.4), is an understanding based on the personal, theoretical, practical and professional experience and values that the researcher brings into the research. This can be both positive and negative. For many researchers, this may motivate the study, provide valuable knowledge and operate as a lens used to interpret the data. But, it can also be a way of misunderstanding the data by taking information for granted or by making the researcher «blind» to important data.

In this study, I possessed knowledge based on work experience, as described in section 4.4 and with regard to the study background. This knowledge influenced my expectations. For example, I expected to find that drug use was related to continuous crime during OMT, but not how. In line with the methadone-related deaths study (Bernard et al., 2012), I looked for and expected to find that hazardous and potentially life threatening use of methadone or buprenorphine was common prior to treatment. The findings in paper III were far more diverse than the stereotypical expectations and preconceptions I possessed prior to

interviewing the study participants. During the study period, to minimize the *researcher bias*, self-reflection on my role as a researcher was a continuous process. However, I knew that I could have preconceptions that I was not aware of and, by working in a multidisciplinary research team, the other team members thoroughly reflected upon the material from diverse perspectives and helped identify at least some of the issues that I was blind to during the data collection period, analytical process and writing phase. To have a multidisciplinary research team was of importance to minimize the researcher bias.

### **6.3.3 Reflexivity**

*«The fact that the researcher is part of the world he or she studies – is a powerful and inescapable influence; what the informant says is always influenced by the interviewer and the interview situation» (Maxwell, 2013, p.125).*

The facts that the interviews took place in prison settings, were conducted by a mental health practitioner and addressed sensitive topics all may have influenced the participants' retrospective reflections, their decisions to share particular experiences and their understandings of these events and their consequences (Schlosser, 2008). It is impossible to eliminate the «researcher» effect in qualitative studies. To avoid leading interviews in a certain direction, I planned and reflected upon the interviews both alone and with co-researchers. With regard to the interview techniques, as described in section 4.10, I often used open questions and strived to avoid leading questions.

Some of the topics discussed in the interviews were of particular professional interest for me. For example, I may have communicated concern about rising numbers of methadone deaths and this may have influenced the participants both to share and under-report experiences with illicit OMT mediations. This may have been the case for other themes as well. But, as described in section 4.11 regarding violence as a topic during the interviews, there were ethical reasons for not exploring some of the themes further, even if doing so could have led to rich data and served my research interests.

Furthermore, to maximize validity, there were two analysts on papers III and IV and three analysts on paper II. Member-checking was done with most of the participants in repeat interviews. A systematic and comprehensive analysis of the data set was conducted and data was compared within and between cases. The findings are presented with rich descriptions in papers II-IV and were also compared to other studies. Furthermore, empirical findings were also discussed with research colleagues in addiction medicine, criminology, social anthropology, psychiatry and psychosocial work. All of these factors prevented me from selecting data that confirmed my preconceptions and challenged me to consider alternative perspectives, thereby contributing to increased validity in the qualitative study.

## **6.4 Qualitative study - transferability**

In qualitative studies, purposeful and theoretical sampling is most often used and small samples that cannot be generalized in a statistical sense (Gobo, 2008; Neale, Miller, & West,

2014) are studied. In a qualitative study one should instead consider if knowledge and insight in one setting, context or group is valuable and applicable in other settings, contexts or groups. Gobo (2008) discusses different concepts of generalization in qualitative research and describes why some authors prefer to use the concept *transferability* instead:

*“...generalizations are impossible since phenomena are neither time – nor context-free”; however, “some transferability of these hypotheses may be possible from situation to situation, depending on the degree of temporal and contextual similarity”* (Guba & Lincoln, 1982).

Furthermore, Gobo also explains that the knowledge gathered in qualitative research does not aim to *“generalize to some finite populations but to develop some theoretical ideas that will have general validity”*.

This study was exploratory, had several analysts and utilized a research group with multidisciplinary backgrounds ensuring that differences and similarities among the participants were analyzed and that certain themes were not overemphasized. This resulted in diversity within a highly selective and rather small study sample of imprisoned individuals enrolled in OMT, in which the majority had exhibited violent behavior and previously been convicted of or imprisoned for suspected violent crimes during OMT.

*“...transferability is not an inferential process performed by the researcher. Rather, it is a choice of the reader, who on the basis of argumentative logic and a thick description produced by the researcher, may decide to transfer this knowledge to other situations that she/he deems similar”* (Gobo, 2008).

In papers II, III and IV, we have identified phenomena present among the group of individuals we have studied. We have also developed some concepts to better articulate, understand and handle these phenomena in clinical practice. It is not possible to say anything about the extent of these phenomena, but the phenomena that we have identified, described and analyzed are of such a nature that they should be included in the professional repertoire of clinicians who meet this group of individuals in OMT, *both in prison* and possibly also *outside of prison*. During a meeting with a patient in OMT, the clinician can then decide if this knowledge is of relevance for the patient in question and if it can be transferred to him or her.

Green and Thorogood use *sensitizing concepts* as a way of transferring knowledge beyond individual cases and settings. When researching under-researched respondents and topics, such as criminal behavior among criminally-active, OMT-enrolled individuals – sensitizing concepts may provide a means of *“sensitizing readers to new ways of thinking, or the potential views of respondents”* (Green & Thorogood, 2013. P. 225). In this qualitative study, several findings may be transferable as sensitizing concepts. For example, the findings in paper IV may be transferred to other individuals in OMT with opioid-dependent partners and

friends not enrolled in OMT, who may struggle to manage the tension between following a moral code of helping and following treatment regulations.

Some of the findings in this qualitative part of the study are clearly context-specific, like self-controlled down regulation of OMT medications within a prison setting and among remand prisoners and experiences of organizational control in prison, but such findings may be transferable to other OMT-enrolled prison populations. Furthermore, the knowledge of how high-dose benzodiazepines were used prior to and after violent crime (Paper II) may be applicable to individuals in OMT with a history of violent and non-violent crime prior to and during OMT. Concepts such as *pharmacological agency* among individuals in a prison setting might be applicable to other settings among OMT-enrolled individuals and also among other substance-using individuals in Norway and other countries.

## 7 Discussion of findings

### 7.1 Aim 1

*To investigate the frequencies and patterns of convictions of violent crime prior to, during and after OMT, and to examine the relationship between violent crime prior to OMT and the risk of violent crime during treatment*

The main finding was that violent crime rates were significantly reduced during OMT compared with pre-treatment rates, for both men and women. The rate of convictions during OMT was halved among those who remained in treatment. The reduction was less pronounced for those who left treatment; for this group, the rate of violent crime convictions was higher than before treatment. The risk of convictions for violent and non-violent crime was highest for those with violent convictions prior to treatment.

As found in paper I, the conviction rates for violent crime during the three years prior to OMT were higher for men (12%) than for women (3.5%). Such rates are higher than those present among the general population in Norway and it has been estimated that about a quarter of all convictions for violent crime in Norway are among individuals with drug problems (Stene, 2008). Convictions for violent offences were substantially reduced during OMT for both men and women, and this represents important benefits in terms of reduced economic and psychological societal costs (Goldstein, 1998; Krug, Mercy, Dahlberg, & Zwi, 2002).

Retention in treatment has been found to be related to superior outcomes across a range of outcome measures (Mattick et al., 2008), such as health (Skeie, 2012), mortality (Clausen et al., 2008; Degenhardt et al., 2014) and criminal behavior (Bukten et al., 2012; Degenhardt et al., 2013; Gossop, Marsden, Stewart, & Kidd, 2003; Gossop et al., 2005; Hall, 1996; Lind, Chen, Weatherburn, & Mattick, 2005).

McLellan et al. argued that drug dependence shares many features with other chronic illnesses and that the effects of drug dependence treatment are optimized when patients remain in continuing care (McLellan, Lewis, O'Brien, & Kleber, 2000). This is supported by the findings of the present study: levels of violent crime were substantially reduced among opioid-dependent patients while they remained in OMT. Reductions in violent crime during treatment were found both among those who were retained in OMT and among those who subsequently left treatment, though for those who dropped out of treatment, the reduction in violent offending during OMT was less pronounced. It is a matter of concern that those opioid users who dropped out of treatment were found to have particularly elevated levels of violent offending after leaving treatment compared to not only their in-treatment levels, but also their pre-treatment levels.



In the same cohort, an elevated risk for criminal convictions was found shortly prior to treatment drop-out (Bukten et al., 2013), and factors associated with drop-out were «*high levels of pre-treatment criminal offences and drug offences during the 30 days prior to dropout*» (Bukten, Skurtveit, Waal, & Clausen, 2014). This may indicate that discontinuation of OMT occurs in a life situation of increased problems with drug use that could possibly benefit from intensified, rather than discontinued, treatment. It is also important to note that individuals who continued illicit drug use while in OMT experienced a reduction of somatic health hospitalizations compared to the pre-treatment period (Skeie et al., 2011), and individuals in OMT who continued to inject drugs were found to have less overdoses, heroin use and criminal behavior when compared with injecting drug users not in OMT (Gjersing & Bretteville-Jensen, 2013).

Violent offending during treatment was also found to be related to pre-treatment offending patterns, and the risk for being convicted of a violent offence during OMT was highest for those who had violent convictions prior to OMT, followed by those with non-violent convictions and lowest among those with no convictions. This is consistent with findings from other studies in which a history of violence is associated with an increased risk of future violent behavior (Douglas et al., 2013; Monahan, 1995).

Although this study does not have information about other risk factors, as discussed in section 6.1, some factors are known to contribute to violent behavior (see section 1.2 and 1.3). For example, involvement in violent criminal behavior has been found to be influenced by individual psychological characteristics, and a study of criminal behavior among methadone maintenance patients with antisocial personality characteristics and low empathy found them to be at increased risk of violent criminal charges during treatment (Bovasso, Alterman, Cacciola, & Rutherford, 2002).

In this complete national cohort of 3221 opioid-dependent individuals enrolled in OMT in Norway, violent convictions were reduced during OMT and being convicted of violent crime prior to OMT was found to be positively associated with violent crime during OMT. Treatment providers should therefore screen for violent offences prior to treatment start to identify individuals at risk. Current and future violence risk factors may be identified to implement risk management strategies in the treatment program to reduce the likelihood of violence and improve treatment outcome.

## **7.2 Aim 2**

*To generate new knowledge about the role of substances in violent crime prior to and during OMT among OMT-enrolled individuals in prison*

In paper II, it was found that substance use among individuals in OMT may be a motivator, disinhibitor and destabilizer with regard to violent crime. Non-violent and violent crimes prior to OMT were described to mainly be *motivated* by a desire and perceived need to avoid withdrawal and support costly heroin use. Substances and, in particular, high-dose

benzodiazepines were used deliberately as guilt and empathy *disinhibitors* and, thus, to enable one to perform violent and non-violent crime prior to OMT and, though more impulsively, during OMT. Substance use was also an important *destabilizer* with regard to violent crime during OMT, as impaired problem-solving, reasoning and attention was described while taking high-dose benzodiazepines either alone or in combination with alcohol and central stimulants, both planned and impulsively.

Prior to OMT, substances – high-dose benzodiazepines in particular, but also central stimulants and alcohol or combinations of substances – were used to induce a temporary antisocial self. Substance use was reported to reduce inhibitions, empathy and impulse control and, thereby, to enable the research participants to transgress individual moral codes and perform non-violent and violent crimes. This can be seen as a form of neutralization technique similar to the cognitive neutralization technique used to justify criminal behavior and reduce feelings of guilt prior to breaking the law (Maruna & Copes, 2005).

The findings related to high-dose benzodiazepine use prior to violent crime and discussed in paper II are supported by a study among remand prisoners in which self-reported use of *unusually high doses of benzodiazepines* was found to be related to a very high violence risk, although the most commonly reported motivations for taking benzodiazepines were «*reduced anxiety*» and «*feeling better*» (Lundholm et al., 2012). In addition, among male offenders, it was found that individuals with *criminal versatility* and *poor behavioral control* were more likely to use potent benzodiazepines (Dåderman, Edman, Meurling, Levander, & Kristiansson, 2012). In a forensic sample, subjects who were intoxicated with flunitrazepam and who had committed severe interpersonal violence were found to be unable to *think clearly* and to lack empathy, both of which contrasted their ordinary behavior and personality traits while not having used potent benzodiazepines. The authors suggest that individuals with vulnerable personality traits who use these substances have increased risk of violent behavior (Dåderman, Fredriksson, Kristiansson, Nilsson, & Lidberg, 2002).

The antisocial personality disorder (ASPD) assessment criteria is criticized for assessing antisocial and delinquent *behavior* more so than *personality traits* (Hare et al., 1991). Personality traits are long-lasting, habitual tendencies, but, the forms of substance use described in this study and likely present among other drug-dependent populations may affect personal functioning and behavior *temporarily*. Thus, we question the accuracy of assessing opioid-dependent individuals, such as those included in this study and for whom substances appear to induce otherwise *uncharacteristically* antisocial behavior and/or who exhibit substantial empathy throughout their post-crime struggles to cope with their moral transgressions and the resulting shame, guilt and remorse, as meeting ASPD diagnostic criteria and exhibiting psychopathic features. Darke and colleagues suggest that ASPD is over diagnosed among OMT-enrolled individuals, as funding the use of illicit opioids prior to OMT

increases the likelihood of fulfilling diagnostic behavioral criteria for APSD “*due to being symptomatic psychopaths*” (Darke, Kaye, & Finlay-Jones, 1998).

In this study, there were examples of individuals who during robberies and/or theft experienced an excitement similar to ‘a high’ and this was a motivation for the criminal behavior (paper II). The same phenomenon is found in an ethnographic study among young prospective heroin users where few had been imprisoned (Lalander, 2003, p. 68), who committed robberies, that is defined as a violent crime, and theft and experienced a strong excitement during, followed by a pleasurable feeling after, these illegal actions. The author concludes that: “*...it is more about a lifestyle focused on transgressions, of being infatuated with action, and only finding this action on the borders of society*” (Lalander, 2003, p. 22). The older participants in the qualitative part of this thesis were ‘exhausted’ of living on the borders of society and this were one of several reasons for OMT-enrollment (paper II, III and IV).

It is important to understand the factors that may contribute to an actual violent crime and how the individual in question overcame his or her internal inhibitions towards violent behavior (Douglas et al., 2014). Internal inhibitions are based on moral values and morality is a “*scheme for social behaviour*” (Churchland, 2011, p. 9). Important findings in this study (Paper II) were that moral values related to both violent and non-violent crimes and post-crime processing of moral transgressions are of importance when generating nuanced knowledge about violent criminal behavior. As found in paper II, the study participants maintain moral standards and engage in complex moral negotiations. While some participants rationalize their violent behavior, others struggle to reconcile the resulting shame, guilt and fractured sense of self.

Benzodiazepines affect memory and are also reported to lead to anterograde amnesia (Beracochea, 2006; Curran, 1991; Lader, 2011). In paper II, we find that some participants deliberately used high-dose benzodiazepines to reduce memory of and alleviate the emotional unease and guilt associated with having committed a violent crime. “*Shame is at the center of any picture of addiction*” (Milliken, 2008) and, in addition, some individuals who enter OMT and discontinue use of benzodiazepines may experience feelings of guilt and shame for having committed frequent crimes not in line with their moral codes. A study among imprisoned violent offenders found research interviews of importance for the participants to «*construct themselves as morally decent persons*» (Presser, 2004). As found in Paper II, to morally justify violent and non-violent behavior seemed to be easier while using heroin than during OMT. An important motivation for OMT enrollment was to discontinue or reduce criminal behavior (paper II and IV) and to be imprisoned for violent and non-violent crimes during OMT was experienced as an emotional crisis situation for several participants. Some individuals might experience simultaneous OMT enrollment and imprisonment for a (violent) crime to elicit feelings of *double shame and guilt* for both their

criminal behavior prior to treatment and the actual case(s) they are imprisoned for while in treatment.

In a clinical setting, violent crime is often associated with antisocial personality traits. This study suggests that, among opioid-dependent individuals, the picture is more nuanced. Substance use, individual moral codes and post-crime processing of moral transgressions should, together with contextual factors, be taken into consideration when assessing antisocial personality disorders.

### **7.3 Aim 3**

*To generate new knowledge about non-prescribed use of methadone and buprenorphine prior to and during OMT and experiences of internal and external control related to prescribed opioids during OMT*

The persons involved in this project had all used illegally-obtained methadone and buprenorphine in varying degrees before entering OMT – a phenomenon frequently found among individuals with severe drug problems (Richert & Johnson, 2013). Reported motivations for doing so in this study, and as also identified in previous studies, were self-treatment, detoxification, avoidance of withdrawal symptoms, experiencing euphoria and financial reasons (paper III). In addition, illegal methadone was used to be able to tackle and exist in a temporary change of social context, as exemplified by the change from dealing and using heroin to spending time with family. The participants had monitored the effects of their pre-OMT illegal use of OMT medications, which resulted in an informed preference for one of these drugs when they entered OMT. Importantly, the preferred drug was not necessarily the one offering the most sedation, as stereotypical understandings of opioid-dependent individuals may easily imply and as discussed in a study of structural stigmatization in the treatment system (Harris & McElrath, 2012).

The participants involved in this study demonstrate considerable self-control, self-regulation and/or self-initiation of external control. Non-prescribed use of OMT medications, such as taking less methadone than prescribed and stockpiling the surplus for a dose high enough to *get high*, injecting methadone daily, selling/exchanging prescribed opioids to obtain illicit substances instead and taking a lower dose to induce withdrawal were reported and are described in paper III. Some patients will use prescribed opioids in non-prescribed ways, and *“accepting that such potentially harmful behaviors occur ‘as a fact of life’, however, does not mean condoning or promoting these behaviors or the people who engage in them”* (Marlatt, 1998, p-49). In this study, some participants experienced their non-compliant use in OMT to be potentially harmful and a way to take control was by self-initiating new control measures in their OMT schemes, such as asking for higher levels of external control to reduce their risk-taking behavior (paper III). Other studies found that individuals in OMT who are subjected to supervised intake may regard it as a positive treatment condition (Duffy & Baldwin, 2012, Neale, 1999) and, according to the findings of Paper III, to ask for control and to be subjected to control can hardly be seen as two versions of the same phenomenon. To

experience at least some autonomy was indeed seen by the participants as crucial if were they to have a good and constructive life while in OMT, as also found in other studies (De Maeyer et al., 2011; Holt, 2007).

The structural organization of a prison with an isolated OMT department was seen by some participants as a positive form of increased external control that protected the OMT-enrolled prisoners from the demand to divert their medication to fellow prisoners. An ethnographic study in another Norwegian prison documents *a culture of sharing* OMT-medications with a «strong commitment to reciprocate when a prisoner receives drugs». The prisoners risked legal sanctions for sharing their prescribed opioids, but, if they did not share buprenorphine from the OMT program or other substances smuggled into prison, the prisoners could sometimes be exposed to sanctions such as «*violence or threats of violence*», or ones involving «*exclusions, humiliations or loss of trust*» (Mjåland, 2014).

Heroin users may experience stigmatization in society (Livingston, Milne, Fang, & Amari, 2012) and enrollment in OMT may reduce this stigmatization. OMT-enrolled individuals value that the treatment helps them to function normally, but structural and social forms of stigmatization in society are often mentioned as negative consequences (Anstice, Strike, & Brands, 2009; Bourgois & Schonberg, 2009; De Maeyer et al., 2011; Nafstad, 2013). In an ethnographic study among young heroin users, Lalander (2003, p. 98) found that, among young and healthy-looking heroin users, the “*visible character*” of older “*addicts*” and individuals enrolled in OMT with methadone are seen as signs of weakness and failure. In our study, the organization of an OMT department in prison was, for some of the participants, found to lead to an increased feeling of structural stigmatization from prison authorities and social stigmatization from fellow prisoners. In an addiction treatment department in Oslo Prison, some prisoners in treatment were found to see OMT-enrolled individuals as ‘being high’ (Haugen, 2013, p. 224), and this may support the phenomenon of experiencing social stigmatization from other prisoners not in OMT. In other studies, prisoners enrolled in OMT have been found to complain about public identification of OMT enrollment (Stallwitz & Stöver, 2007) and the associated social and structural stigmatization (Stöver & Michels, 2010; Zamani et al., 2010). Being placed in a prison OMT department and receiving OMT medication may reveal a certain degree of health information to other prisoners because safe medication dispensing strategies are resource-demanding (McKenzie, Nunn, Zaller, Bazazi, & Rich, 2009; Stöver & Michels, 2010) and visibly dispensing OMT medication in groups demands less resources.

While previous studies have found that OMT-enrolled prisoners experience their medication doses as inadequate (Hughes, 2000), Paper III reports a practice of taking less buprenorphine than prescribed in order to induce withdrawal symptoms and experience a ‘*legal*’, heightened sense of pleasure and relaxation when subsequently taking buprenorphine in a normal dose. This form of self-regulation when subjected to tight control measures in a

controlled prison environment might suggest that the control of bodies, cravings and substances in OMT involves diverse and complex practices of resistance and compliance.

Individuals in OMT may possess an informed preference for one of the medications over the other, based on illegal use prior to treatment, and some individuals might know what particular configuration of external control they need in OMT to achieve their treatment goals. An individual's experience and ability to execute self-control and self-regulation of prescribed opioids may be seen as a resource throughout the course of treatment.

#### **7.4 Aim 4**

*To generate new knowledge about practices of and motivations for methadone and buprenorphine diversion in OMT*

The main finding with regard to this aim was that the acquired norm of sharing with others in a drug-using community was carried along when entering OMT. Giving one's opioid prescriptions to an individual in withdrawal was seen as an act of helping – something that takes on a particular significance for couples in which only one partner is included in OMT and the other is using illicit heroin. Individuals enrolled in OMT might thus be trapped between practicing norms of helping and sharing and adhering to treatment regulations.

Giving or selling one's prescribed opioid medication is, by law, defined as an illegal act and is associated with the rising numbers of overdose deaths involving methadone (Strang, Hall, Hickman, & Bird, 2010) and buprenorphine (Yokell et al., 2011). Social dimensions of diversion are often not taken into consideration when encoding 'deviant behavior' and it seems relevant to also acknowledge and explore the participants' practices of sociality, such as practices of and attitudes towards helping and giving one's OMT medications to others, to gain an increased understanding of this phenomenon. The moral economy of sharing in drug cultures is well documented and the act of giving heroin in «*a community of addicted bodies*» is based on a moral value of reciprocity (Bourgois, 1998, Bourgois & Schonberg, 2009 p. 82). Furthermore, in a Norwegian prison, sharing of *held-back* buprenorphine from the OMT program or buprenorphine smuggled into the prison was described by the prisoners as «*a norm of sharing, grounded in conceptions of care and compassion*» with no money involved but with an expectation of reciprocity (Mjåland, 2014).

We suggest that OMT-enrolled individuals, whether inside or outside of prison, belong to a particular form of a community of *knowers* – namely, people who possess bodily and emotional knowledge of withdrawal and are thus, quite literally, able to understand the condition of another human being in withdrawal. The act of giving to a friend in withdrawal with known tolerance for opioids may have a harm reduction potential (Harris & Rhodes, 2012), as opposed to selling or giving to unknown and potentially opioid-naïve persons, which may cause severe harm such as overdose deaths (Bernard et al., 2012; Seldén et al., 2012) or opioid dependence (Yokell et al., 2011). Buprenorphine initiation in prison may lead to opioid dependence and this, together with the risk of infections when using a

medication that had been (first) administered sublingually for another prisoner, raised concerns among the prisoners included in one study (Mjåland 2014).

In this study, several had developed strategies to avoid selling their OMT medications outside of prison (paper IV), such as avoiding potential buyers near pharmacies, maintaining a secretive status as enrolled in OMT and asking family members for help with monetary problems. Other strategies are also described (paper III), such as asking for external control and daily supervised intake of medication prior to imprisonment, and placement in an OMT department was experienced as reducing the demands for diversion of OMT medications. As has also been acknowledged by others, we suggest that it is possible that the daily dispensing arrangement, if the pharmacy location increases the likelihood of encountering individuals who sell and buy substances, may, in some cases, actually facilitate diversion and illicit substance use (Bourgois & Schonberg, 2009, p. 287). This should be a concern during the course of treatment, as alternative dispensing arrangements and locations may be discussed with the individual in question to secure safer treatment.

For couples in which both individuals are problem opioid users, having one enrolled in OMT while the other is not may constitute a morally and emotionally difficult situation, as described in paper IV. In addition, other studies have found increased risk of illicit opioid use for OMT-enrolled individuals when «*living with a heroin user*» (Lions et al., 2014). Similarly, the emotionally difficult situation described in paper IV may also be a problem among friends who have supported and protected each other for many years. Bourgois and Schonberg (2009, p. 312) describe loneliness, depression and bad conscience among persons who leave their friends and associates to live in supportive housing while enrolled in OMT.

When a heroin-dependent individual is included in OMT, he or she might have to navigate norms of different social systems – the treatment system with external control measures and possibilities for ‘sanctions’ (Pettersson, 2013) for what is perceived as ‘diversion’, and drug-using communities that partly function in relation to civil and informal execution of what is perceived as ‘sharing and giving’. The logics upon which these systems are based – namely, ‘harm’ and ‘helping’ respectively – might work against each other. OMT enrollment can hence place someone in a position in which he or she violates his or her norms of helping and sharing in order to follow treatment regulations. ‘Diversion’, as this term is conventionally interpreted by clinicians, is not typically understood as practices of giving and helping. These practices may nevertheless be perceived as such by those who undertake them. For those who participated in this study, the norms of interpersonal relations maintained while using illegal drugs could not be easily nullified when entering treatment.

## 8 Clinical implications

OMT-enrolled individuals with violent convictions prior to treatment have fewer convictions for both violent and non-violent crimes during OMT when compared with the period prior to treatment, so an important clinical implication points to the need for increased treatment access for this group. Individuals with histories of violent crime convictions prior to treatment are more likely to be convicted of violent and non-violent crime during and after treatment. Therefore, treatment providers should take measures to screen for violent offences prior to treatment to identify at-risk individuals, explore risk factors and apply risk management plans to reduce the likelihood of continued criminal behavior in OMT. This should also be done for new cases of violent behavior that arise during treatment and, in particular, for those imprisoned during OMT.

Addiction treatment, and OMT in particular, is often initiated with a high degree of external control and involves a gradual transfer of control back to the treatment participants when progress and stability is observed (Caplan, 2008). Achieving a balance between availability of treatment for opioid-dependent individuals, user involvement and elements of control in OMT is difficult and needs to be a task in all meetings with OMT-enrolled patients. When treatment involves potential harm for the patient or a third party, the clinician has a duty to engage in efforts to reduce the risk of such harms. These aims may be difficult to achieve in a good manner. The findings of the qualitative part of the study reveal that the study participants possess histories of knowledge, considerable competence and capabilities to control – their drug use in various settings, both prior to and during OMT, and also ask for external control measures in OMT. Such knowledge and competence is often ignored by treatment providers. If treatment providers could build upon these experiences and this knowledge to a greater extent, there is reason to believe that treatment providers may have a reduced need to impose external control elements.

Opioid-dependent individuals enter OMT in an effort to improve their quality of life. They have often lived, for several years, in drug-using communities and engaged in regular illegal activities: use and possession of drugs, including non-prescribed OMT medications prior to treatment, other drug and property crimes and, for some, violent behavior. Discussing their experiences of illegal activities can be difficult since criminal behavior and, in particular, violent criminal behavior is often labeled as antisocial and may give negative interpersonal, legal and moral connotations. To be able to share and discuss such sensitive matters, a good relationship between the treatment provider and patient is essential. OMT providers should ideally meet patients with professional curiosity and a desire to explore their resources, irrespective of the fact that some of their resources may be based on experiences related to illegal activities.

All of the individuals interviewed in the qualitative study had experienced either buprenorphine or methadone use, or use of both, prior to OMT. They thus possessed a pre-treatment bodily and psychological knowledge of the effect of these drugs. Clearly, this does



not mean that all individuals in OMT have used OMT medications prior to OMT, but several may have had this experience. Experienced effect of such medications prior to OMT may be an important part of discussions with patients prior to deciding the kind of medication that they will be offered in OMT. How these drugs have been used should be explored – was it injected, was the use sporadic or regular, was it used together with other substances to enhance the effect? Accessing and considering this information may enable treatment providers to better understand the informed preference their patients may communicate and to provide information about the expected effect of the medication when taken as prescribed.

Individuals in OMT may be capable of reflecting upon violent and non-violent criminal behavior prior to and during treatment. The situations that precede and motivate violent behavior and the potential role of substances prior to and also after such crimes should be explored together with the patients in question. Focusing on individual risk factors and providing appropriate interventions may improve treatment outcomes and reduce the risk of both future violent behavior and treatment drop-out. For example, use of substances during OMT may increase violence risk; thus, treatment for poly-substance dependence and, in particular, treatment for benzodiazepine dependence should be provided. Some individuals with benzodiazepine dependence may benefit from long-term detoxification in a drug treatment institution and individuals with histories of violent crime while intoxicated or during a blackout may benefit from intensified treatment, such as having rapid access to drug treatment institutions for detoxification and/or stabilization if they start to use legal or illegal substances during OMT.

In a clinical OMT setting, it is of importance to recognize that individuals who have committed crimes, and violent crimes in particular, are not necessarily without morals or empathy. The study participants maintain important moral principles and experience compromised ability to uphold these principles when under the influence of substances. They have experienced the desperation associated with withdrawal and/or attempting to meet competing needs within drug culture and, upon violating these principles, struggle with feelings of remorse, guilt and shame. These emotions are important to address in the course of treatment, and, in particular when an OMT-enrolled individual is incarcerated (as a remand prisoner) as this may constitute a crisis situation for the individual in question. Furthermore, these emotions are also of importance when considering an antisocial personality disorder diagnosis. When assessing personality disorders in OMT populations, the identification of dysfunctional traits should demand stability over time and consistency across situations. Antisocial behavior related to drug use alone does not establish a personality disorder diagnosis.

Treatment providers should explore the living conditions and social lives of individuals applying for and enrolled in OMT. Some OMT-enrolled individuals live near friends or with partners who use illicit opioids and regularly experience withdrawal. Adhering to OMT

guidelines may entail breaking a personal and drug culture norm of sharing and helping by means of providing OMT medications to those in need. Treatment providers should recognize the patients' need to sustain themselves as decent persons in their own eyes and those of others and should also discuss alternative helping strategies. Furthermore, opioid-dependent couples should be encouraged to apply for and enroll in OMT at the same time, if both are motivated for starting treatment.

Daily dispensing of OMT medications is an important control measure used to reduce the likelihood of non-medical use and diversion, but may, as found in this study, in some cases, involve daily exposure to demands for selling medication to others and offers to buy illicit substances, which may actually increase the risk of diversion and illicit substance use while in treatment. For some, daily dispensing in this context may also increase the risk for violent behavior and relapse. During the course of treatment, treatment providers might discuss this matter with patients and strategies to avoid selling medications and buying illicit substances may be encouraged. In some cases, change of pharmacy or alternative dispensing arrangements may reduce the exposure to such risks for the OMT-enrolled individual. Many patients need additional help with external control measures to reduce the risk of diversion, harmful drug use situations and relapse, but some patients enrolled in OMT might know themselves what level of internal and external control they need in order to achieve their own treatment goals. An individual's experience and ability to execute self-control and self-regulation with regard to drug taking may be seen as a resource throughout the course of treatment.

## 9 Future research

Violent crime convictions are reduced during OMT and there is a need to increase the understanding of factors that may influence violent behavior during OMT. New national guidelines for opioid maintenance treatment were introduced in Norway in 2010 and there has been a shift from methadone as the only medication available to gradual use of buprenorphine. The association between treatment factors, such as comparing the use and effects of buprenorphine and methadone and the possible differences between treatment goals of harm reduction and rehabilitation, could be studied with violent crime convictions as an outcome.

Violent convictions is not a true measure of the total amount of violent behavior for an individual and, to achieve a deeper understanding of possible changes during OMT, it could be possible to perform structured interviews with a random sample of an OMT cohort and map self-reported violent behavior prior to and during OMT. Another method to study the effect of OMT on violent crime could be to measure violence risk prior to and after a period in OMT in a random sample of OMT-enrolled individuals.

To pursue increased knowledge about use of OMT medications prior to OMT, one could perform a quantitative self-report study among new patients about experience with OMT medications prior to OMT, with a focus on the use frequency and motivation and the source of the medications. Increased understanding of the processes and understandings associated with such could be pursued via a qualitative study.

In this study, we have explored motivations for non-prescribed use and selling or giving medication to others in a sample of individuals who all had tight control regimes. A different sampling strategy could be used to gain a more nuanced understanding of motivations for and practices of diversion among rehabilitated OMT patients with weekly dispensing regimens.

Some of the participants in this study reported having had periods of drug economy involvement while imprisoned prior to OMT, resulting in large drug debts upon prison release. This phenomenon was not explored further in this study. To gain an increased understanding of criminal involvement while enrolled in OMT, one could design a qualitative study to explore experiences and understandings of continuous involvement with drug economy in OMT for individuals who have entered OMT with a drug debt.

## 10 References

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## 11 Errata list

Page/line	Reason for correction	Correction	Revised text
III / 28	Missing word	Inserted temporary	«benzodiazepines were deliberately used to induce temporary 'antisocial selves'»
7 / 6	Wording error	Replaced described with prescribed	« <i>medication is being diverted from its use as prescribed</i> »
10 / 16	Superfluous words in aim 3	Removed the following words: ... «,practices of and motivations for methadone and buprenorphine diversion in OMT»...	«during OMT and experiences of internal and external control»



## 12 Papers I-IV















RESEARCH

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# The role of substance use and morality in violent crime - a qualitative study among imprisoned individuals in opioid maintenance treatment

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## Abstract

**Background:** Opioid maintenance treatment (OMT) is regarded as a crime control measure. Yet, some individuals are charged with violent criminal offenses while enrolled in OMT. This article aims to generate nuanced knowledge about violent crime among a group of imprisoned, OMT-enrolled individuals by exploring their understandings of the role of substances in violent crime prior to and during OMT, moral values related to violent crime, and post-crime processing of their moral transgressions.

**Methods:** Twenty-eight semi-structured interviews were undertaken among 12 OMT-enrolled prisoners. The interviews were audio recorded and transcribed verbatim. An exploratory, thematic analysis was carried out with a reflexive and interactive approach.

**Findings:** Prior to OMT, substances and, in particular, high-dose benzodiazepines were deliberately used to induce 'antisocial selves' capable of transgressing individual moral codes and performing non-violent and violent criminal acts, mainly to support costly heroin use. During OMT, impulsive and uncontrolled substance use just prior to the violent acts that the participants were imprisoned for was reported. Yet, to conduct a (violent) criminal act does not necessarily imply that one is without moral principles. The study participants maintain moral standards, engage in complex moral negotiations, and struggle to reconcile their moral transgressions. Benzodiazepines were also used to reduce memories of and alleviate the guilt associated with having committed violent crimes.

**Conclusions:** Substances are used to transgress moral codes prior to committing and to neutralize the shame and guilt experienced after having committed violent crimes. Being simultaneously enrolled in OMT and imprisoned for a (violent) crime might evoke feelings of 'double' shame and guilt for both the criminal behavior prior to treatment and the actual case(s) one is imprisoned for while in OMT. Treatment providers should identify individuals with histories of violent behavior and, together with them, explore concrete episodes of violence and their emotional reactions. Particular attention should be given to potential relationships between substance use and violence and treatment approaches tailored accordingly. What appears as severe antisocial personality disorder may be partly explained by substance use.

**Keywords:** Violence, Benzodiazepines, Opioid maintenance treatment, Morality, Prison, Crime, Qualitative methods, Antisocial personality disorder

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## Background

Violent behavior cannot be attributed to any single factor; rather, a complexity of individual and environmental factors is involved [1-3]. Previous research identifies the following as among important factors associated with increased violence risk: earlier violent crime [4], 'history of problems with other antisocial behavior' [3], severe personality disorders [5-7], and substance abuse [8,9]. Most psychoactive substance use occurs among individuals who do not behave violently [8]. Nonetheless, the relationship between psychoactive substances and violence warrants attention and can be conceptualized as a tripartite model [10,11]: the *systemic* violence involved in the illegal drug market [10,12-14], the *economic compulsive* violence enacted to support costly drug use, and heroin use in particular [15], and the *psychopharmacological violence* that can occur during substance use, including acute intoxication, drug-seeking behavior associated with withdrawal, and episodes of drug-induced psychosis and paranoid symptoms [8,9].

Research suggests that alcohol is the substance most closely associated with aggression and violent behavior [8,9,16]. Violence has also been associated with the influence of stimulants like amphetamines/methamphetamines [17,18] and cocaine/crack cocaine [19,20]. Heavy and frequent use of amphetamines is also related to violence [17]. Disinhibitory benzodiazepine reactions, such as hostility, agitation, and loss of impulse control, have been reported [21,22], and high-dose benzodiazepine use is found to be a high risk factor for interpersonal violent crime [23]. Opioid use depresses activity and, thereby, temporarily inhibits violent behavior. During withdrawal, physical discomfort and agitation can result in violent behavior [8].

Opioid dependence is often associated with criminal activity [24-26]. Reductions in acquisitive and drug-related crime during opioid maintenance treatment (OMT) are widely reported [27-29]. Violent crime is found to be relatively uncommon among heroin users [30-32] and to decrease during OMT [33,34]. However, one group of individuals in OMT who had been convicted of violent crime prior to enrollment was found to have a higher risk of both violent and non-violent criminal convictions during OMT [34].

There is a need to gain a deeper understanding of criminal behavior among persons enrolled in OMT and, in particular, among those who exhibit violent behavior during treatment, thereby enabling treatment providers to tailor their treatment approaches accordingly and strategically incorporate violence risk management. This article aims to generate multifaceted and nuanced knowledge about violent crime among a group of imprisoned, OMT-enrolled individuals by exploring their understandings and articulations of the role of substances in violent

crime prior to and during OMT, moral values related to violent crime, and post-crime processing of their moral transgressions.

## Methods

The exploratory, qualitative study upon which this and two other articles [35,36] are based formed part of a larger study focusing on criminal convictions in a national OMT cohort [29,34]. Violence, in this study, is defined as actual, attempted, or threatened bodily harm to another person [3].

## Setting

The Norwegian OMT program started in 1998 and was intended to reach a population of severely dependent heroin users who were not benefiting from other types of treatment [37]. Imprisoned, opioid-dependent individuals, including those serving long sentences, may enter the national OMT program. For individuals who are already enrolled in OMT when imprisoned, the treatment is continued [38].

## Sampling and recruitment

The inclusion criteria were that the study participants were of or above legal age, in a state to provide informed consent and enrolled in OMT at the time of imprisonment for suspected crime. To minimize recall bias, the study design set a short time span between the arrest and the first interview in prison, thereby targeting remand prisoners. Recruitment occurred in prisons; prison staff contacted the prisoners and those who agreed to meet the first author were given written and verbal information about the study. Three individuals chose not to participate, explaining that they needed time to prepare for court or did not want to discuss negative life experiences or sensitive matters.

## Data collection and analysis

28 one-hour long interviews were carried out in prison with the 12 participants. The interviews were conducted by IAH, who is a trained specialist in psychiatry. Most of the participants were interviewed between two and four times, though two individuals were interviewed only once due to short notice release from the remand wing. Given the exploratory character of the study, the interview guide was regularly revised [39,40]. We sought to narrativize topics [41] in order to facilitate nuanced, detailed, and concrete accounts of participant experiences, from their own perspectives.

To access normative responses on sensitive subjects, we sometimes utilized vignettes [42] and individualized guides were developed for subsequent interviews to validate findings from previous interviews [39] and facilitate cross-case analysis. Among the topics explored were the following: experiences with OMT, understandings of crime

and violent behavior; understandings of substance use and its role in violent crime prior to and during OMT, norm systems and moral codes, life situations before imprisonment, and mental and physical health. The interviews were audio recorded, with the exception of one individual who preferred note-taking. Identification and analysis of emerging themes was jointly carried out by IAH and ALM as a ceaseless task that was integrated throughout the entire research process [43], and CB took part in the final stages of thematic analysis.

The biosocial model of violence and antisocial behavior [2] suggests that genes, environment, social, and biological factors can predispose individuals to aggression and violence and that biological and social risk factors can be linked to dysregulation of cognitive (thinking), affective (emotions), and motor (behaviors) brain processes. The findings from the thematic analysis have a special focus on how substance use were experienced by the participants to affect thinking, emotions, and behavior related to violent crime.

#### Sample characteristics

Twelve persons, nine men, and three women between 22 and 50 years of age, participated in the study. Ten individuals were formerly convicted of several accounts of violent crime. Four of the individuals had been released from prison between 1 week and 1 month prior to being reinstated in prison when they were included in this study. There were eight cases of imprisonment for violent offenses during the study period. Though we are obliged to remain vague for the sake of upholding ethical standards, the types of violence they were imprisoned for during OMT vary, including violent threats and physical violence towards family members and staff in the treatment system, threats and physical violence against police officers during arrest, grievous robberies, severe interpersonal violence, and interpersonal violence resulting in death.

Time previously served in prison ranged from 1.5 to 20 years. All participants had been opioid dependent and poly-drug users for nearly 10 years or more prior to OMT. Half the sample was homeless and, at the time of our first interview, time spent in OMT varied from a few months to nearly 10 years. All participants had tight medication control regimes due to non-compliance with treatment regulations at the time of imprisonment [36].

#### Ethics

The study was approved by the Regional Committee for Medical Research Ethics, the Norwegian Social Science Data Services and the Norwegian Correctional Service Region East. All participants provided voluntary and written informed consent. In addition to the formal requirements, emphasis was placed on ensuring anonymity throughout the publication process.

#### Findings

This exploratory study generated rich, empirical material on a number of phenomena related to criminal and, in particular, violent behavior among OMT-enrolled individuals prior to imprisonment. In this article, we focus on the participants' *experiences and understandings of substance use and altered perceptions of reality and behavior related to violent behavior*, mostly prior to OMT, and *experiences of uncontrolled substance use and violence during OMT*. The last part of this section explores *moral principles related to violent behavior*, and particular attention is given to how the participants understand, rationalize, and/or struggle to reconcile their violent behavior.

#### Drug use and altered perceptions of reality and behavior prior to OMT

The participants of this study commonly recognized the ways in which various substances influence their behavior and contribute to violent crime. While many reported having induced violent and criminal behavior through instrumental drug use prior to OMT, they explained that, while enrolled in OMT, their substance use, though still contributing to violent behavior, is most often impulsive. Victor had been a drug dealer and debt collector for several years prior to enrolling in OMT. He has served nearly a decade in prison for property crimes, drug-related crimes, robberies, and interpersonal violence. He is well aware of his ability to temporarily alter his 'personality' by taking pills and, in an effort to enable criminal behavior, deliberately sought certain changes prior to OMT. He continues to do so while enrolled in OMT, but to a lesser extent:

I could eat 20–30 pills [flunitrazepam and clonazepam].  
[..] – Then you change... poor contact with others and reality. Even though I'm well aware of how I change, I do it sometimes every now and then, that's why I get imprisoned, like now... When I take these pills, I change personality completely. I am not a nice person then. I get mean. My reality... I become unconcerned. I don't give a damn about what people say. If you try to stop me, don't wear a uniform or happen to be two persons... then you have to watch out, because you restrict me in my world - inside my head. Because inside my head this is normal. And when I come home, I sit down to watch TV and start to think: 'shit, what have I done now?' Then it's too late, and you might use pills the next day or later because you'd rather forget about it.

Victor participates in an anger management program and recognizes that he has a problem with violent behavior in general and, particularly, when his perception of reality is altered due to the influence of high-dose flunitrazepam.

Based on his description above, he could then be temporarily characterized as callous, unempathetic, and hostile; but, after committing a violent crime, he is compelled to use more pills to reduce guilt, alleviate remorse, and attempt to forget.

Impulsivity is a personality trait that several of the participants claim to have, and one that several experience to be enhanced while using substances and, particularly, high-dose benzodiazepines.

Simon has a long history as a drug dealer prior to OMT and provides yet another example of altered behavior while under the influence of drugs. He had, at the time of the interview, served several sentences for convictions of violence. Prior to OMT, Simon frequently used flunitrazepam instrumentally to decrease inhibitions and enable himself to commit crimes. During OMT, this happened on a few occasions:

Pills get you damn impulsive... I've usually taken pills if I commit crimes. I don't have the nerve to do it when I'm sober.

He claimed that his criminal behavior was greatly reduced following OMT enrollment. However, when collecting his daily methadone dose from the pharmacy, he was accessible to illicit drug dealers who offered him 'pills' on a daily basis. He explained that, on a bad day, he might accept, even though he knew that this impulsive flunitrazepam use may subsequently lead to violence and crime. He defines a 'relapse' as taking 10 mg or more of flunitrazepam and, when asked how this drug affects him, responds:

I get damn aggressive. Rude. When it comes to crime and such, I overcome barriers, lose inhibitions... I've always been high [on flunitrazepam and alcohol], when I've been convicted of violence.

Finally, Simon was also clear that regular use of benzodiazepines makes him more aggressive. But, as he saw it, the manner and dose in which benzodiazepines are used is of importance for instrumentally reducing inhibitions and/or inducing impulsivity and aggressive behavior:

One valium [diazepam] doesn't get you high. It's the way you eat it. There's a difference between shaving your head and cutting it off.

Several participants described the ways in which they can deliberately lower their inhibitions, induce temporary antisociality and thereby enable themselves to commit violent and other crimes through strategic drug intake informed by the experience and knowledge obtained from years of carefully monitored substance use.

### Experiencing and understanding uncontrolled substance use and violence during OMT

Participants of the study explain that their moral principles are also compromised by impulsive substance use during OMT. When discussing this matter, they demonstrate keen awareness of the ways in which various substances influence them and their behavior. Frederic had, at the age of 30, served several years in prison due to a pattern of crime, multisubstance use, and violent behavior. He then decided to enroll in OMT to reduce criminal behavior and avoid being imprisoned. However, at the time of the first interview, he had been imprisoned several times during OMT and recalls his most recent prison release. He had been offered a room in an institution but soon broke a house rule and was forced to leave immediately. Frederic despaired:

OK, I'll go all the way [I thought]. I got high - on everything. [...] The police came and I was taken into custody again. I think [this time] I'll get almost a year - violence against a public officer. I kicked his leg and spat on his face. Possession of drugs; resisted arrest violently; was carried to the car. I don't remember it all, I was so high. I black out when I take pills.

When asked if certain drugs make him violent, he responds:

It isn't amphetamine, but pills that make me mad and aggressive. Heroin is not my main problem [regarding violence]... But I also have a somewhat aggressive way of being without drugs. It is mainly because of intoxication that I serve sentences. [...] Every time I get arrested for details I resist. That is a problem when I'm high on pills. I feel that I am treated unfairly and resist, and that is what I am sentenced for.

Frederic demonstrates insight into the relationship between his drug intake, hot-tempered character, and violent behavior. He knows well the diverse ways that different drugs affect him and contribute to violence. He has learned that, for him, heroin is protective against violence and amphetamine neutral, and that, in high doses, benzodiazepines increase the risk of becoming violent by reinforcing his otherwise 'somewhat aggressive way of being'. While he holds intoxication to be instrumental to his violent behavior and subsequent incarcerations, he neither eradicates himself as a subject nor externalizes his violent acts. On the contrary, he draws attention to aggression as a general feature of his mode of being in the world and pattern of reacting violently to unjust 'details' when 'high on pills'. He explains that, in the absence of high-dose benzodiazepine use, he would have a higher tolerance for unjust experiences. As a result of still being imprisoned for violent crimes when enrolled in

OMT, Frederic plans to discontinue OMT before being released from prison and instead continue outpatient treatment for benzodiazepine dependence.

While Fredric recalled and, to a certain extent, rationalized what had happened, others have experienced episodes of impulsive and uncontrolled drug use and/or blackouts during which they have violated what they hold to be important moral principles. Afterwards, they have struggled to recall, understand, and reconcile their moral transgressions.

Morten experienced an episode of what he describes as massive and unplanned drug intake, which led to a loss of control and blackout during which he committed a serious violent crime. He had been opioid dependent for nearly two decades and, though he was convicted of several violent and non-violent crimes prior to OMT, claimed to have discontinued all criminal behavior upon OMT enrollment. He had moved out of Oslo to limit his access to illicit drugs and committed himself to avoiding illicit drugs and sedatives in his new hometown to prevent destroying the new life he had built up. For some time prior to imprisonment, he had clean urine tests, worked, and maintained an apartment. However, he experienced increasing social and economic stress and purposively traveled to Oslo to use benzodiazepines on a few occasions. When he felt that he was losing control, he applied for institutional treatment. Meanwhile, he again went to Oslo deliberately to temporarily relieve stress by using benzodiazepines:

I was going to the capital [Oslo] to buy some pills and then [had planned to go] back home again. And I took more and more [pills] plus other things and lost it completely. I don't remember anything, had a real blackout, terrible, and got into deep shit. When I came to my senses I understood nothing, was arrested and in hell. [...] I have spent the entire time of my first two weeks in custody trying to collect myself in order to avoid a complete collapse.

Prior to OMT, Morten had violated his moral standards when financially desperate and, though he managed to accept these transgressions, this was not the case in the situation described above. Rather, Morten found it impossible to understand how he could lose control, relapse completely, and experience a blackout during which he committed a morally off-limits act that he could otherwise never imagine himself capable of. He neither remembered the violent act nor his motive for it, and this seriously threatened his sense of self and led him to the brink of a breakdown.

Ulf, who had previously served several long-lasting sentences for drug, property, and violent crimes, and who organized smuggling of buprenorphine into prison prior to OMT enrollment [36], offers another example of uncontrolled drug

use and violence in OMT. While imprisoned, he feels that he can control his drug use. This control, however, was compromised shortly after his most recent release, prior to which he had used central stimulants in prison. He describes his loss of control and substance use as follows:

They wanted to release me to an institution, but I didn't want that. I didn't want to be a part of the treatment system... I wanted to run my own life. Well, I had taken cocaine in prison the last two weeks. When I got out, I went through the last gram of cocaine and a quarter of heroin, plus pills and alcohol. I took it all, plus amphetamine. I went berserk and was taken back to prison.

Going 'berserk', in this case, involved committing a severe violent crime, for which he is now imprisoned. Ulf thinks a lot about this episode of uncontrolled and indiscriminate substance intake and, not the least, about the violent crime he committed.

When I think about those days, it eats me, my body twists in disgust. But I know that if I was released now, I would do the same again.

Ulf has undergone several forensic psychiatric evaluations, concluding with an antisocial personality disorder diagnosis. His own understanding of his personality, which he regards as a permanent condition independent of drug use, is based on the years he spent in prison.

I have come to realize that I don't always send good signals ... I am immature and have a low development of empathy.

Although Ulf states that he has a low level of empathy, he regrets his violent crime and worries about doing it again if released. Ulf relates the diagnosis to his antisocial behavior, but the diagnosis is not used to disclaim responsibility for his violent behavior and he does not believe that there is a possibility for change. Ulf explains that he can manage life in prison and thinks that he will probably spend most of his adult life incarcerated. So far, by committing high profile crimes, he has, in effect, ensured that his time spent outside of prison is limited. In a way, his unplanned execution of violence might be paradoxically seen as his way of preventing more of the same.

#### **Moral principles related to violent behavior**

As almost all the participants had been imprisoned for violence against others, conceptualizations of violence and crime were among the interview themes. None of the participants regarded violence as external to the law. However, while some regarded the law as *the* undisputable

authority in defining crime, others held that situational needs, such as self-defense, motive, or maintenance of subcultural order, should have consequences for whether or not particular acts of violence constitute crime. Erik, for example, made concessions for cases in which he considered physical force to be a rightful and necessary disciplinary reaction *within* drug culture:

You do not cheat, you do not sell bad drugs to the ones you have around you and think of as friends. [...] If someone breaks those rules, then he will be punished - usually. That's the reaction... and he will be beaten up.

Other participants would, as a general principle, recognize violence as a crime but, at the same time, define the crime's severity in accordance with the degree of harm inflicted. For a few, like Frederic, whether or not violence should be regarded as crime depended upon the motive. More concretely, he does not consider self-defense a crime:

I don't feel like a criminal. To me fighting isn't a crime [but] that's what they put me in prison for. Blind violence is a crime. I get pressured and pushed several times. Then I finally hit. To me that is self-defense.

All of the study participants operate according to moral principles, with a few identifying all and the rest identifying certain forms of violence as morally off-limits. Victor provides an example:

Never break into people's homes... Never rob families, old people. I do not rob people on the street. I never beat up people for money, unless they owe me money.

Victor has served many sentences in prison for drug, property, and violent crime. Nevertheless, he explains that, upon each release, he must readjust to life outside of prison and ease back into criminal activity, negotiating and eventually transgressing *his moral principles*.

He has thus developed a routine of beginning with minor criminal acts and gradually habituating himself to more serious, potentially violent, and exhilarating criminal behavior that leads to an excitement rush comparable to the high achieved through substance use. As he explains:

When I come out, I begin carefully. I must do something, because I need to get going again... Yes, you begin to steal a little in stores and you begin to feel the warmth again. You get comfortable with that and eventually begin to think bigger. [...] It is much more exciting to wear a robber's mask and do

something than to buy a half kilogram of heroin and stand and sell it. It provides a different type of 'high' or kick.

Other study participants try to maintain a high threshold for enacting violent behavior. For example, Paul had been a heroin dealer for many years prior to OMT and had experienced that the demand for heroin declined as OMT became available for a large proportion of opioid-dependent individuals, which made it difficult for him to support himself. When enrolled in OMT, he struggles to avoid being a part of the drug distribution system, but, in certain periods, he still is. He explains why disrespecting certain drug culture norms, such as honoring deals and paying debt, may justify violent consequences:

It takes a lot, at least in my case, for me to use violence and such. But, sometimes, one must do so. One must send signals to others that it is not acceptable. If you do not do so within a certain time frame, more and more will take advantage of you. This is how it is in on the street. If you give a little, they will take everything.

Other times, however, the study participants violate their moral principles without such justifications. The majority of the participants, for example, have experienced that the desperation associated with withdrawal interferes with their ability to uphold all moral principles and increases their vulnerability for committing violent crimes. While heroin dependent, Mona had served several sentences for drug, property, and violent crimes. Some years prior to entering OMT, she made a decision to sell sex [35] as to avoid both violent and non-violent criminal behavior. While enrolled in OMT and using mainly OMT medications, Mona finds it difficult to think about her former life. She describes her experiences and emotions related to many years of heroin use and continuously breaking her own moral codes like this:

When you're high, you lose inhibitions. You have the same moral, I think, somewhere deep inside. And then you get so desperate, mentally - but also physically, especially with heroin...you get so sick and you are so afraid that you'll stay there forever... Then you break your own rules: that you shouldn't steal, that you shouldn't do this and that... even if you know that it's terribly wrong... To justify these actions is one thing, but to understand it is harder. To accept that I was like that and maybe that it's a part of me since I was like that.... That is something I will have to live with the rest of my life. That is something that will never disappear: that feeling of shame and the bad conscience.

## Discussion

Prior to OMT, the participants intentionally induced an 'antisocial self' by use of substances - high-dose benzodiazepines, in particular, but also central stimulants and alcohol or combinations of substances. They did so to reduce inhibitions, empathy, and impulse control and, thereby, enable themselves to transgress individual moral codes and perform economically compulsive violent and non-violent crimes, mainly to support costly heroin use. During OMT, impulsive and uncontrolled substance use and subsequent unplanned violent crime was reported. Post-violence use of benzodiazepines was reported to reduce memories of and alleviate the emotional unease and guilt associated with this violence.

The participants operate according to moral codes that often parallel logics of morality commonly found throughout both mainstream and drug cultures that serve important functions within drug culture and that designate the conditions under which violent crime is and is not justified and the types of violence that are and are not permissible. While some participants rationalize their violent behavior, others struggle to reconcile the resulting shame, guilt, and fractured sense of self. This study's findings suggest that a violation of one's moral principles cannot be read as a lack of moral principles entirely; on the contrary, in order to break a rule, the rule needs to exist in the first place.

Shame and guilt are 'self-reflective' moral emotions [44]. Rather than using cognitive neutralization techniques described by other researchers, such as using self-talk to deny responsibility, injury, and the victim, condemning the condemners, and appealing to higher loyalties to reduce feelings of guilt *before* they break the law [45-47], the participants in this study report substance use and use of high-dose benzodiazepines, in particular, prior to committing (violent) crimes to achieve the same effect. Use of 'unusually high doses of benzodiazepines' was found to be related to high violence risk, and a low dose was found to reduce the violence risk in a sample of remand prisoners where the most commonly reported motivation for taking benzodiazepines were 'reduced anxiety' and 'feeling better' [23]. Benzodiazepines are also known to affect memory [48-50], and use of flunitrazepam is reported to lead to anterograde amnesia [51]. In this study, we find that the study participants deliberately use these substances to reduce memory and feelings of guilt *after* having committed a violent crime.

A study among imprisoned violent offenders found research interviews of importance for the participants to 'construct themselves as morally decent persons' [52]. This was also of importance for our study participants. But, for these study participants, to morally justify violent and non-violent behavior seemed to be easier while using heroin prior to OMT, as some individuals found it difficult to be enrolled in OMT and no longer able to use substances

to reduce thinking and emotions related to previous criminal behavior. We suggest that some individuals might experience simultaneous OMT enrollment and imprisonment for a (violent) crime to elicit feelings of 'double' shame and guilt for both their criminal behavior prior to treatment and the actual case(s) they are imprisoned for while in treatment.

Some study limitations should be recognized. The participant sample was highly selective and the findings cannot be generalized in a statistical sense, but should instead be considered for the ways that they contribute to a more nuanced understanding of some OMT-enrolled individuals' experienced relationship between substance use and violent crime and the potential clinical implications. The interviews took place in prison, were conducted by a mental health practitioner, and addressed sensitive topics—all of which may have influenced the participants' retrospective reflections, their decisions to share particular experiences, and their understandings of these events and their consequences [53], possibly encouraging them to provide a positive self-presentation, as seen from their perspective.

## Conclusions

In a clinical OMT setting, treatment providers may take measures to identify individuals with histories of violent behavior while under the influence of substances, intoxicated, or in a state of blackout. These individuals may be capable of reflecting upon and problematizing their violent behavior in treatment. Violent behavior is situational, and the concrete situations that precede, motivate, and contextualize violence, as well as the potential role of substances, should be matters of joint exploration between treatment providers and OMT patients to tailor individual treatment approaches accordingly. Some individuals may be at risk for further violent behavior if they continue to use substances while in OMT, and treatment for poly-substance dependence and, in particular, benzodiazepine dependence, may be provided. Furthermore, feelings of remorse, guilt, and shame related to violent and non-violent crimes both prior to and during OMT are of importance throughout treatment and especially among (remand) prisoners. When assessing personality disorders in OMT populations, the identification of dysfunctional traits should demand stability over time and consistency across situations.

## Abbreviation

OMT: opioid maintenance treatment.

## Competing interests

The authors declare that they have no competing interests.

## Authors' contributions

TC was the project manager. TC, IH, and ALM conceived the qualitative project and constructed the interview guide. IH conducted the interviews. IH, CB, and ALM conducted the analysis and wrote up the first draft of the paper. All authors contributed to and have approved the final manuscript.

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BRIEF REPORT

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# 'Diversion' of methadone or buprenorphine: 'harm' versus 'helping'

Ingrid Amalia Havnes<sup>1,2\*</sup>, Thomas Clausen<sup>2</sup> and Anne-Lise Middelthun<sup>3</sup>

## Abstract

**Background:** 'Non-compliant' individuals in opioid maintenance treatment, OMT, are often met with tight control regimes to reduce the risk of 'diversion', which may lead to harm or death among persons outside of OMT. This article explores reported practices of, and motivations for, diversion of methadone and buprenorphine, in a group of imprisoned individuals in OMT.

**Findings:** 28 in-depths interviews were conducted among 12 OMT-enrolled, imprisoned individuals, most of whom were remand prisoners. All had experienced tight control regimes prior to imprisonment due to varying degrees of 'non-compliance' and illicit drug use during treatment. Their acquired norm of sharing with others in a drug using community was maintained when entering OMT. Giving one's prescription opioids to an individual in withdrawal was indeed seen as an act of helping, something that takes on particular significance for couples in which only one partner is included in OMT and the other is using illicit heroin. Individuals enrolled in OMT might thus be trapped between practicing norms of helping and sharing and adhering to treatment regulations. 'Diversion', as this term is conventionally used, is not typically understood as practices of giving and helping, but may nevertheless be perceived as such by those who undertake them.

**Conclusions:** As we see it, the need to sustain oneself as a decent person in one's own eyes and those of others through practices such as sharing and helping should be recognized. Treatment providers should consider including couples in which both individuals are motivated for starting OMT.

**Keywords:** Diversion, Opioid maintenance treatment, Methadone, Buprenorphine, Reciprocity

## Background

'Non-compliant' individuals in opioid maintenance treatment, OMT, are often met with tight control regimes [1-3] to reduce the risk of 'diversion' and thereby prevent harm or death among persons outside of the treatment program [4]. Reported motivations among persons who divert OMT medications consist of selling to support one's own economy [5], as well as *giving* to friends and acquaintances as a social resource [6,7]. Thus, a thorough understanding of the realities of the people such measures are meant to meet needs to be internal to the planning, development and implementation of treatment regulations in OMT. This article,

which is based on a study that explored motivations for criminal activity, focuses on reported practices of and motivations for methadone and buprenorphine diversion in a group of imprisoned, OMT-enrolled individuals.

## Context

The Norwegian OMT programme started in 1998 as a restrictive and high-threshold treatment system [8]. In 2004, individuals in OMT obtained rights as patients. The 2010 national guidelines focus on individual rehabilitation, patient rights and harm reduction, at personal and societal levels. Individuals lacking or with positive urine tests may be subject to daily, supervised intake of OMT medication and may be limited in their medication choice. The guidelines emphasize the importance of social network mapping, with a focus on possible substance use. Though it is not an explicit goal, couples can be in treatment together [9].

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## Sample and method

The findings presented in this paper are derived from a qualitative study that formed part of a larger crime study [10-12]. All together, 28 semi-structured interviews were conducted with twelve imprisoned individuals between 22 and 50 years of age; nine men and three women. The majority of these participants were remand prisoners and ten were formerly convicted of violent crime. Time previously served in prison ranged 1.5 to 20 years. All interviews were conducted in prison. For cross-case analysis and to validate findings, repeat interviews were performed for all but two participants who were released from the remand wing on short notice. Among the interview topics explored were: experiences with OMT, diversion of OMT-medications, norm systems, health issues, motivations for and understandings of criminal activity during OMT and life situations before imprisonment. The interviews were audio recorded and transcribed verbatim. The exploratory, thematic analysis was carried out by the first and last authors, with a reflexive and interactive approach throughout the entire research process.

## Ethics

Ethical approval was obtained from the Norwegian Regional Committee for Medical Research Ethics, the Norwegian Social Science Data Services and the Norwegian Correctional Service Region East. Verbal and written consent procedures were carried out with all participants. Emphasis was placed on ensuring anonymity throughout the publication process.

## Findings

Those who participated in this study had all been convicted of theft and drug-related crimes. The majority were also convicted of violence towards others, thus exhibiting what is often regarded as 'anti-social' behavior [13-15]. But, so-called 'anti-social' behavior can hardly be seen as the *only* form of sociality demonstrated. Practices of and attitudes towards helping and giving were hence among the phenomena explored in our endeavor to achieve a fuller account of the social lives of these imprisoned, opioid-dependent persons.

While only one of the project participants reported regularly selling or exchanging his methadone for heroin, several individuals had indeed developed strategies to prevent themselves from selling their prescription opioids. Among these were: avoiding potential buyers by taking alternatives routes to and arriving late at the pharmacy, maintaining a secretive status as OMT-patients and asking family members for help with monetary problems. Those who gave methadone and buprenorphine to friends and acquaintances regarded doing so as 'helping' and 'giving', as opposed to selling or exchanging. They all experienced

tightly-controlled opioid prescription regimes outside of prison as a hindrance to 'helping' others in need. 'Helping' had been possible, however, and especially for those who received one take-home dose on weekends.

In what follows, we present some cases. We begin with Hugo and Ståle, both of whom had unstable housing and lived in homeless shelters prior to and during OMT, hence experiencing daily contact with friends and acquaintances in active heroin use. Hugo was among those who appreciated being able to help others. He explained that, due to daily supervised intake of buprenorphine, he had only been able to help a close friend a few times while enrolled in OMT. He contrasted this with a two-year period prior to OMT when he had used illegal buprenorphine on a daily basis. At that time, he had access to large amounts of buprenorphine, making it possible to regularly give it to a friend in withdrawal. Hugo did not want anything in return. Ståle, who occasionally gave his stockpiled methadone to a friend in withdrawal was also clear about the fact that he did not expect anything in return. It should be noted that such acts of 'helping' take on particular significance for couples. Erik, for example, lived together with a woman addicted to heroin for many years prior to OMT. He explained that they were then mutually responsible for obtaining heroin:

One day one will manage to get some [heroin], the other day the other will manage to get some, or we will get some together. Or we don't get any. You don't always have some.

While Erik accepted that he could not always obtain heroin, it was impossible for Mona to do so. She strongly feared withdrawal and said that she needed a steady income to ensure that she could always buy the heroin she needed. When she became involved in a relationship with a heroin-dependent man, higher income was needed. Even if he contributed, Mona did not have the security that she needed and explained that her choice was then between 3 "hells": selling drugs, committing property crime or selling sex. She chose the latter because it gave her more control. Her male partner was included in OMT due to his worsening health status. He received a daily, supervised dose of methadone. Hence, he could not share his methadone when she was in withdrawal. They lived together, he in OMT and she on heroin. She continued to sell sex and regularly experienced violence and humiliation. This was a painful situation for both.

In contrast to Mona and her partner, Simon was among those who found a situation in which only one partner was enrolled in OMT to be an impossible one. Before entering treatment, he had had a partner who was addicted to heroin and was clear about his opinion



that a relationship in which one partner is in treatment and one dependent on illegal drugs involves unsolvable and unbearable moral dilemmas:

Then you have to come up with ways [to give away your medication] to help your girlfriend if she is having a bad day. You can't just leave your girlfriend in withdrawal if you can help. So you're off to hell of a bad start if you can't both get help [treatment], together.

## Discussion

The study participants had all committed serious crimes and reported criminal activity during OMT. They were all imprisoned at the time of the interviews, which may have influenced their decisions to share particular experiences and events and perhaps also their understandings of and retrospective reflections on these events and their consequences [16]. All participants were seen as 'non-compliant' by treatment providers and were subject to daily, supervised intake of their opioid prescriptions outside of prison. Nonetheless, these facts should not be taken to imply that they were exclusively 'anti-social' [13-15]. Social dimensions are often unaccounted for when encoding 'deviant behavior' [17,18] and it seems relevant to acknowledge and explore the participants' practices of sociality, such as drug giving and sharing.

The moral economy of sharing in drug cultures is well documented by the ethnographic work of Bourgois [19,20] and the act of giving heroin in 'a community of addicted bodies' is based on a moral value of reciprocity [21]: *"It is considered unethical to leave a person stranded when he or she is dopesick, unless one is openly feuding with that person"*. We suggest that such communities are also communities of 'knowers' – namely, people who possess corporeal knowledge of withdrawal and are thus, quite literally, able to understand the corporeal condition of another human being in that state. Importantly, the act of giving to a friend in withdrawal with known tolerance for opioids may have a lower harm potential than that of selling to unknown and potentially opioid-naïve persons [4].

When a heroin-dependent individual is included in OMT, he or she might struggle to navigate norms of different social systems: the treatment system with its external control measures and possibilities for 'sanctions' for what is perceived as 'diversion' and drug using communities with their values of civil and informal execution of what is perceived as 'sharing and giving'. The logics upon which these systems are based – namely, 'harm' and 'helping', respectively – might work against each other. OMT enrollment can hence place someone in a position in which he or she violates his or her norms of helping and sharing in order to follow treatment regulations.

'Diversion', as this term is conventionally interpreted by clinicians, is not typically understood as practices of giving and helping. These practices may nevertheless be perceived as such by those who undertake them. For those who participated in this study, it was not as though norms for interpersonal relations maintained while using illegal drugs could be nullified when entering treatment. As we see it, the need to sustain oneself as a decent person in one's own eyes and those of others should be recognized. Thus, the 'positive' interpersonal skills and practices of OMT patients could perhaps be further explored as possible resources throughout the clinical encounter and rehabilitation process. Further, clinicians should encourage and support strategies developed by individuals in OMT to avoid diversion of their opioid prescriptions, such as changing from one dispensing pharmacy to another in an effort to avoid potential buyers in certain areas. Finally, treatment providers should focus on the patients' social lives and indeed consider including couples if both individuals are motivated for starting OMT.

## Abbreviations

OMT: Opioid maintenance treatment.

## Competing interests

The authors declare that they have no competing interests.

## Authors' contributions

TC was project manager. TC, IH and ALM conceived the qualitative project and constructed the interview guide. IH conducted the interviews. IH and ALM conducted the analysis and wrote up the first draft of the paper. All authors contributed to and have approved the final manuscript.

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Olaf Havnes, 2010



