



## The use of outpatient commitment in Norway: Who are the patients and what does it involve?



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### ABSTRACT

**Purpose:** Despite one of the longest histories of using Outpatient Commitment (OC), little is known about the use in the Norwegian context. Reporting from the Norwegian Outpatient Commitment Study, this article aims to: establish the profile of the OC population in Norway; ascertain the legal justification for the use of OC and what OC involves for patients; investigate possible associations between selected patient and service characteristics and duration of OC, and; explore potential differences based on gender or rurality.

**Methods:** A retrospective multi-site study, extracting data from the medical records of all patients on OC in six large regional hospitals in 2008–12, with detailed investigation over 36 months of the subsample of patients on first ever OC-order in 2008–09. We use descriptive statistics to establish the profile of the OC population and the legal justification for and the content of OC, and logistic regression to examine factors associated with duration of OC over 36 months.

**Results:** 1414 patients were on OC over the 5 years, and 274 had their first OC in 2008–09. The sample included more men than woman, and three-quarters were diagnosed with schizophrenia. They had long service histories, including involuntary admissions. The legal justification for all OC-orders was the need for treatment, and 18% were additionally justified by dangerousness. The option to initiate OC directly from the community was not used in any of the 274 first ever OC-orders. While 98% of patients were prescribed psychotropic medication, under half had an Involuntary Treatment Order, which under the Norwegian OC regime is required in addition to the OC-order to oblige patients to accept treatment (usually medication). 60% of patients had  $\geq 2$  clinical contacts monthly. There were some gender differences in descriptive analyses with men generally being worse off, but no clear pattern in terms of rurality. Patients in the sample had been on OC between one week and 20 years. The median duration of OC over 36 months was 365 days. Three factors contributed to longer duration: the use of the dangerousness criterion; a diagnosis of schizophrenia disorder, and; considerable problems with substance abuse.

**Conclusion:** The characteristics of the OC population in Norway are very similar to that reported in other jurisdictions. Medication seems to be the central focus of OC, yet additional Involuntary Treatment Orders are imposed for less than half of patients. While all OC-orders were justified by the need to ensure treatment, risk seems to be a concern for a subgroup of patients who are kept on for longer. How the 2017 amendment to the mental health act, which precludes compulsion for competent patients unless danger is present, will affect OC use, remains to be seen. Further studies should specifically focus on variation in the use of OC, including at the level of individual clinicians.

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### 1. Introduction

Compulsory outpatient psychiatric care, in the form of Outpatient Commitment (OC) is used across much of the Western world (Rugkåsa, Molodynski, & Burns, 2016). An OC-order (called Community Treatment Orders in many jurisdictions) compels the patient to engage with the treating team and facilitates swift hospital admission when required (Dawson, 2005). The aim is to increase stability and reduce relapse and readmissions. Internationally, OC is controversial due to concerns over patient autonomy (Munetz, Galon, & Frese, 2003) and a weak evidence base for positive outcomes on service use, social functioning, symptoms or quality of life (Burns et al., 2013; Kisely, Campbell, & O'Reilly, 2017; Steadman et al., 2001; Swartz et al., 1999). OC has been available in many jurisdictions in North America and Australasia from the late 1980s and early 1990s, and has been introduced in a number of European jurisdictions since then. In Norway, however, OC has been part of the Mental Health Act since 1961. The country therefore has one of the longest traditions of using OC, and its use is surrounded by little debate (Sjöström, Zetterberg, & Markström, 2011). Unlike most OC regimes, the Norwegian Mental Health Act requires a separate Involuntary Treatment Order to be made in addition to the OC-order in order to oblige patients to accept treatment (usually medication). The Norwegian OC-regime is summarised in Box 1.

Despite the long history and suggestions of high rates compared with other jurisdictions (Department of Health, 2011; Høyer, 2009), limited research on OC use in the Norwegian context is available, and data quality in public reports has been questioned (Department of Health, 2011; Iversen, Hoyer, & Sexton, 2009). In this article we report from the Norwegian Outpatient Commitment Study (NOCS), the first national study designed to investigate the use of OC in Norway.

The characteristics of patients subject to OC remain stable across jurisdictions. Patients tend to be male, middle aged, diagnosed with schizophrenia and with long histories of using mental health services, often under compulsion (Churchill, Owen, Singh, & Hotopf, 2007; Rugkåsa, 2016). As this information is not available at the national level in Norway, the first aim of this article is to establish the profile of the OC population here.

The legal criteria for subjecting patients to OC vary between legislations, but generally they concern the need for treatment and/or danger for patients or others (Churchill et al., 2007). Research has found that clinicians across jurisdictions usually apply OC to ensure that patients take their prescribed medication and stay in contact with services (Morandi, 2016). Qualitative studies suggest similar purposes for OC use in Norway (Riley, Høyer, & Lorem, 2014; Riley, Lorem, & Høyer, 2016; Stensrud, Høyer, Granerud, & Landheim, 2015; Stuen, Rugkåsa, Landheim, & Wynn, 2015), but these findings cannot be extrapolated. Our second aim is to ascertain the legal justification for OC-orders in Norwegian services and what being on OC involves for patients.

**Box 1**  
The OC regime in Norway.

Outpatient Commitment was introduced in Norway as part of the Mental Health Act of 1961. Following legal concern that involuntary treatment was not specifically codified in the Act, new regulations in 1984 clarified the distinction between involuntary placement (including OC) and involuntary treatment by requiring separate legal orders. The amended 2001 Act permitted OC-orders to be imposed on patients while living in the community (i.e., not following directly from involuntary hospitalisation).

The criteria for placing a patient on OC are the same as for involuntary hospital treatment: The patient must have a severe mental disorder that necessitates compulsion to prevent either a deterioration in the patient's condition in the immediate future or their prospects for improvement (the 'treatment criterion'), or an imminent danger to the life and health of the patient or others (the 'dangerousness criterion'). Further, the authorised clinician who initiates the OC-order who must either know the patient's illness history and situation well or the patient must have been observed in hospital. Voluntary treatment must either have been attempted or clearly being futile, and the patient must be given the opportunity to express their view. OC must also be the best option for the patient overall.

The OC-order lasts initially for 12 months, and can be renewed for further 12-month periods. It is the responsibility of the treating clinician to ensure, every three months, that the criteria for compulsion are still met. Patients have the right to appeal to an independent review board (the *Control Commission*).

Internationally, OC is sometimes used for extended periods (Dawson, 2005) –possibly due to concern over risk– despite no strong evidence that they reduce readmissions in OC populations (Kisely et al., 2017) or subgroups (Rugkåsa et al., 2015). Few studies have, however, investigated what contributes to prolonged use of OC. The third aim of this article is to identify associations between selected patient and service characteristics and duration of OC.

From the literature we know that the rates of OC are higher among male patients (Morandi, 2016) and in urban areas (Trevisick, Carlile, Nodiyal, & Keown, 2018). Despite these higher rates, it is not known whether gender or urbanity affects the justification for or content of OC, so our fourth aim is to explore this by incorporating these factors in our analyses (aims 1–3). As the level of deprivation in patients' area of residence has been found to correlate with inpatient compulsion elsewhere (Keown et al., 2016), we include this measure in some analyses.

### 2. Methods

The Norwegian Outpatient Commitment Study (NOCS) is a retrospective multi-site study of the use of OC in Norway in 2008–2012. Rather than relying on data submitted by Health Trusts to the National Patient Registry, we examined patients' medical records on site in six large regional hospitals selected to cover different geographical areas of Norway, with a combined catchment population in 2012 of 30% of the 4,985,870 strong national population.

Catchment area	Area population area in km <sup>2</sup>	Description
The University Hospital in the North of Norway (UNN)	232,437 74,500 km <sup>2</sup>	Arctic part of northern Norway. Outside the city of Tromsø and a small number of urban centres there are rural settlements, some at extreme distances to services
Helse Bergen (HB)	420,521 9912 km <sup>2</sup>	Coastal area in western Norway, with approx. Half the population living in the city of Bergen, the remainder in smaller towns and rural areas
Sørlandet Hospital (SH)	111,495 9212 km <sup>2</sup>	Mixture of rural districts and towns on the southern coast of Norway
Innlandet Hospital Trust (IHT)	399,400 52,000 km <sup>2</sup>	Inland area north of Oslo bordering Sweden, largely rural with a number of smaller and larger towns
Akershus University Hospital (Ahus)	231,128 2008 km <sup>2</sup>	Two boroughs within the city of Oslo and seven suburban and rural municipalities in the greater Oslo area, selected from Ahus' catchment area
Lovisenberg Diaconal Hospital (LDH)	129,170 16 km <sup>2</sup>	Three inner city boroughs of Oslo

## 2.1. Sample and exclusion criteria

The total sample includes all patients across the six sites over the age of 18 who were subject to an OC-order at least once in the period 1 January 2008–31 December 2012. A subsample consists of those who were placed on their first ever OC-order between 1 January 2008–31 December 2009. All patients were identified through electronic medical records at each site (using DIPS system reports D88 and D 1341).

Some services appeared to use OC to facilitate patient transfers from one service or ward to another and many orders consequently commenced and ended on the same date. As we considered such very short term OC not to be about community treatment, we excluded OC-orders that lasted < 7 days. Involuntary inpatients placed on OC during stays in general hospital were also excluded, as were people who were placed on OC following admission in a recruiting site, but who lived and received community care outside that catchment area. For those who moved out of the area or country, we censored data on the date of the move.

## 2.2. Data collection

Separate data collection forms were drawn up for the total sample and the subsample, piloted on five cases and adjusted accordingly. For the total sample we collected nine variables on demography, current OC status, number and duration of OC episodes in 2008–12, and whether there was an Involuntary Treatment Order in conjunction with the OC-order. For the subsample we collected an additional 58 variables covering socio-demographics, justification for and content of OC, clinical factors, the number and duration of OC and use of mental health care services over the 36 months following their first ever OC-order.

Data was collected from September 2011 to February 2016 from the electronic medical records system at each site. The extracted data were not always accurate. For example, some patients were recorded as being on OC, but from the accompanying notes or transfer documents, it seemed they were in treatment voluntarily. To acquire accurate data we therefore closely examined patients' entire records, including relevant discharge notes, nurses' notes, reports from outpatient services, and correspondence between services, including GPs, where relevant. Where appropriate, we contacted outpatient clinics to check paper records.

## 2.3. Data management

We created a detailed coding guide to ensure consistency across sites and resolved discrepancies at regular team meetings. Data were entered into an SPSS v. 22 database. Extensive work to ensure data quality was performed. This included meticulous proof-reading, range checks and logical and consistency checks that might not be picked up at the individual level during data entry. Variables that were functions of other variables were checked by automatic calculations. When necessary, we checked values against the original data collection forms or went back to patient records.

## 2.4. Variables

### 2.4.1. Socio-demographics

Age represents the patient's age at the time of their first placement on OC in the study period. *Housing* contains four categories: independent housing (ownership or rented); council housing; institution; homeless. *Living arrangement* was recorded as: living with significant others (spouse or close friend); living with family; living alone. Those living in institutions and those homeless were classified as living alone. *Income* distinguishes between full or part time employment; temporary benefits; disability benefits; no income. We created the binary variable *centrality of patient's home municipality* to classify patients' local area as urban or rural based on a combination of population

density and proximity to regional centres and other town/cities (available on request). *Deprivation level of patient's home municipality* is based on Statistics Norway's index of living conditions (Barstad, 2003) and scores the area in which the patient lives from lowest (=1) to highest (=10), based on a range of factors such as age profile, rates of unemployment, disability pensions, violent crime, and sex-standardised death rates. We present data in quartiles from lowest (=1) to highest (=4) level of area deprivation.

### 2.4.2. Clinical characteristics and history

*Diagnosis* was classified in three categories based on ICD-10 codes: F20–29, covering the schizophrenia spectrum; F30–39 covering affective mood disorder, and; other. *Substance abuse* was classified according to whether records identified it as: a significant problem; present but not significant, or; not recorded as a problem. *Legal status of first admission* is whether the first admission on record was voluntary, involuntary, or whether this was not registered.

### 2.4.3. OC experience

Each period between the start and end of an OC-order (or the end of observation if that occurred earlier) was counted as an *OC period*. If there was no indication of the OC-order still being in place (e.g., no records of mandatory tribunals or contact with services) but also no record of it having ended, we set the end date at 12 months after its initiation/renewal date, as extensions beyond that must be granted by the Control Commission. *Number of OC periods* is a count of all OC periods in the observation period.

*Criteria used* shows which legal criteria were used to justify the OC-order: the treatment criterion; the dangerousness criterion; both criteria, or; whether no criterion was documented. *Other recorded reasons* for why the OC was needed is categorised in 6 pre-specified categories. *Voluntariness tried* (which is a legal requirement) indicates whether such attempts were recorded (yes; no/no record).

*Medication* indicates whether the patient was prescribed psychotropic medication while on OC (whole period; some of the period; no record). *Involuntary Treatment Order* shows whether a separate order was in place to compel medication (whole OC period; some of the period; no record). *Other specified treatment* indicates whether treatment other than medication was specified in patients' records (yes; no record). Open ended replies on content seemed incomplete and unsystematic so are not included in our tables but briefly referred to in the text. *Contact frequency* indicates how often patients were in contact with services, and *main contact person while on OC* is the type of health professional that was recorded as the patient's key contact.

*Duration of OC in study period* is a count of the total number of days spent on OC during the observation period 2008–12. This is presented as 4 time intervals and as average. We also calculated *Total time on OC*, which includes time on OC prior to 2008 in those cases where the patient already was on OC as the observation started (i.e., 1 January 2008).

For the subsample, *duration of index OC* is the number of days of patients' first ever OC episode. This is presented as 3 time intervals and as average. *Duration of all OC periods* is the number of days on OC in the subsample between first placement and the three year follow-up (1096 days).

## 2.5. Analysis

Data analyses were performed using SPSS v. 25 and SAS v 9.4. Results with *p*-values below 0.05 are considered statistically significant.

### 2.5.1. Descriptive analyses

Patient characteristics and the justification for and content of the OC-order are presented by numbers (%), minimum and maximum values, and by mean (SD). Median [Q1, Q3] is also presented for skewed variables. We tested for differences between groups (men vs. women;

those living in rural vs. urban areas; subsample vs. the remainder of the total sample) using  $\chi^2$ -tests for categorical data and Student's independent samples *t*-tests for continuous data.

### 2.5.2. Regression analyses

To examine the relative contribution of selected patient and service variables (in the subsample) on duration of index OC (days) over 36 months follow up, we estimated linear mixed models. The independent variables were gender, age (continuous), living arrangement, diagnosis, Involuntary Treatment Order, criteria used, substance abuse (transformed to a binary variable of substantial vs. not substantial/not recorded), rural/urban, and area deprivation, and for clinical contact when on OC we included a binary variable indicating whether or not the responsible clinician (who has the authority to make OC-orders and Involuntary Treatment Orders) were the patient's main contact. The regression models included random effects of site to adjust for possible within-site correlations. Multiple regression models were reduced by applying Akaike's Information Criterion (AIC) for eliminating variables not improving model fit, and where a smaller value means a better model (Akaike, 1974). The regression analyses excluded cases with one or more missing values on independent variables.

### 2.6. Ethics

The study was granted ethical approval by the Northern Regional Committee for Medical and Health Research Ethics (ref 2010/2268), who permitted the use of register data without patient consent. Permission to access patient data was granted as required by the Hospital Privacy Ombudsman at each site. All analyses were conducted on anonymised data.

## 3. Results

### 3.1. Characteristics of the OC population

#### 3.1.1. Total sample

Table 1 shows the profile of the 1414 patients who were subject to OC in 2008–12. There were more men than women (56.4% vs. 43.6%), and the majority (746, 52.8%) were 30–50 years old (mean 41.8 years SD13.7). Two-thirds lived in urban areas (960, 68.8%). Nearly three quarters (1012, 72.4%) lived in areas in the two middle deprivation quartiles.

645 patients (45.6%) had an Involuntary Treatment Order during their time on OC. 256 patients (18.1%) had more than one OC episode. The median time on OC was 425.5 days (Q1 168.8, Q3 977.3) over the five years, ranging from 7 to the full 1826 days. A third (476, 33.7%) had been on OC for > 730 days (2 years). When including OC-orders in place at the start of the observation, the median increased to 455 days (Q1 177.0, Q3 1077.3), and 181 patients (12.8%) had been on the current OC-order for 5 years or more. The maximum number of days observed was 7279, which indicates that this patient had been on involuntary community treatment for 20 years.

#### 3.1.2. Subsample of patients on first ever OC

Table 2 outlines characteristics of the 274 patients in the subsample who were on their first ever OC-order in 2008–09. No significant differences were found when comparing them with the remaining 1140 patients in the total sample on gender, age, centrality, deprivation or site. The majority of the 274 patients lived in independent housing (177, 64.8%), 40 (14.7%) lived in institutions and 11 (4%) were homeless. Most lived alone (205, 75.1%). 15 patients (5.5%) were in employment, 22 (8.1%) had no income and the remainder were on benefits.

Three quarters of the patients (210, 76.9%) were diagnosed with schizophrenia spectrum disorders. 45 patients (16.5%) had affective disorders, of whom 35 were diagnosed with bipolar disorder (F31). 18

patients (6.6%) were recorded as having 'other' main diagnoses (see footnote in Table 2 for detail). A considerable substance abuse problem was recorded in a quarter of the sample (67, 24.5%).

Half the sample (134, 49.4%) had first been hospitalised > 10 years ago and for another 72 (26.6%) this happened 5–10 years ago. This first admission had been involuntary for 108 (39.9%) patients: legal status was not available in the records of 72 patients (26.6%).

#### 3.1.3. Differences based on gender and rural/urban residency

There was a difference in gender distribution across sites in the total sample ( $p = 0.047$ ) due to Innlandet having a majority of female patients (74/138). Women in both the total and the sub-sample were on

**Table 1**  
Characteristics of 1414 patients on OC between 2008 and 2012.

	Missing	Patients, n = 1414
	n (%),	n (%), mean (SD), median [QR1;Q3]
<b>Gender</b>	0	
Male		797 (56.4)
Female		617 (43.6)
<b>Age<sup>a,c</sup></b>	0	
< 30 years		316 (22.3)
30–50 years		746 (52.8)
> 50 years		352 (24.9)
Mean age, years <sup>a,c</sup>		41.8 (13.7)
Min-max age, years <sup>c</sup>		17;92
<b>Study site<sup>b,c</sup></b>	0	
UNN		285 (20.2)
IHT		138 (9.8)
SH		111 (7.9)
HB		430 (30.4)
Ahus		218 (15.4)
LDH		232 (16.4)
<b>Deprivation level of patient's home municipality<sup>c</sup></b>	17 (1.2)	
Deprivation quartile 1		207 (14.8)
Deprivation quartile 2		481 (34.4)
Deprivation quartile 3		531 (38.0)
Deprivation quartile 4		178 (12.7)
<b>Centrality of patient's home municipality</b>	18 (1.3)	
Urban		960 (68.8)
Rural		436 (31.2)
<b>Number of OC periods in study period</b>	0	
1 CTO period		1158 (81.9)
2 CTO periods		226 (16.0)
3 CTO periods		30 (2.1)
<b>Involuntary Treatment Order while on OC<sup>d</sup></b>	1 (0.1)	
yes		132 (9.3)
partially		513 (36.3)
No/not mentioned		768 (54.4)
<b>Duration of OC (days) in study period</b>	0	
< 180		373 (26.4)
180–365		284 (20.1)
366–730		281 (19.9)
> 730		476 (33.7)
Median duration, days		425.5 [168.8;977.3]
Mean duration, days		627.9 (562.0)
Min;max days		7;1826
<b>Total time on OC</b>	0	
Median duration, days		455.0 [177.0;1077.3]
Mean duration, days <sup>d</sup>		807.4 (911.0)
Min;max days		7;7279

<sup>a</sup> Significant difference between genders,  $p < 0.001$ .

<sup>b</sup> Significant difference between genders,  $p < 0.05$ .

<sup>c</sup> Significant difference between urban/rural,  $p < 0.001$ .

<sup>d</sup> Significant difference between urban/rural,  $p < 0.05$ .

<sup>e</sup> 2 patients were recorded as 17 years as age was calculated based on year of birth, not date.

**Table 2**  
Characteristics of 274 patients on first ever OC in 2008–2009.

	Missing	Patients, n = 274
	n (%)	n (%), mean (SD), median [QR1;Q3]
<b>Gender</b>	0	
Male		151 (55.1)
Female		123 (44.9)
<b>Age</b>	0	
< 30 years		64 (23.4)
30–50 years		132 (48.2)
> 50 years		78 (28.5)
Mean age, years <sup>b</sup>		42.4 (14.6)
Min- max age, years		18;87
<b>Study site<sup>c</sup></b>	0	
UNN		54 (19.7)
IHT		29 (10.6)
SH		28 (10.2)
HB		88 (32.1)
Ahus		40 (14.6)
LDH		35 (12.8)
<b>Deprivation level of patient's home municipality<sup>c</sup></b>	9 (3.3)	
Deprivation quartile 1		43 (16.2)
Deprivation quartile 2		97 (36.6)
Deprivation quartile 3		85 (32.1)
Deprivation quartile 4		40 (15.1)
<b>Centrality of patient's home municipality</b>	9 (3.3)	
Urban		176 (66.4)
Rural		89 (33.6)
<b>Housing</b>	1 (0.4)	
Independent housing		177 (64.8)
Council housing/supported housing		45 (16.5)
Living in institution		40 (14.7)
Homeless		11 (4.0)
<b>Living arrangement</b>	1 (0.4)	
Living with spouse or significant other		28 (10.3)
Living with other family		40 (14.7)
Living alone		205 (75.1)
<b>Income<sup>b,d</sup></b>	2 (0.7)	
Employed		15 (5.5)
Temporary benefits		74 (27.2)
Disability benefit		161 (59.2)
No income		22 (8.1)
<b>Diagnosis</b>	1 (0.4)	
Schizophrenia spectrum (F20–29)		210 (76.9)
Affective mood disorders (F30–39)		45 (16.5)
Other <sup>c</sup>		18 (6.6)
<b>Substance abuse<sup>a</sup></b>	0	
Considerable		67 (24.5)
Some		37 (13.5)
None/not recorded		170 (62.0)
<b>Time since first psychiatric hospitalisation</b>	3 (1.1)	
< 1 year ago		30 (11.1)
1–4 years ago		35 (12.9)
5–10 years ago		72 (26.6)
> 10 years ago		134 (49.4)
<b>Legal status of first hospitalisation<sup>b</sup></b>	3 (1.1)	
Voluntary		91 (33.6)
Involuntary		108 (39.9)
No information		72 (26.6)

<sup>a</sup> Significant difference between genders,  $p < 0.001$ .  
<sup>b</sup> Significant difference between genders,  $p < 0.05$ .  
<sup>c</sup> Significant difference between urban/rural,  $p < 0.001$ .  
<sup>d</sup> Significant difference between urban/rural,  $p < 0.05$ .  
<sup>e</sup> The 'Other' category included: 5 patients with F06; 3 with F19; and 1 patient each for F12.5; F19.3; F43.1; F60.2; F70.1; F84.5; F01.24; F03; F42.0; F43.

average c. 5 years older than men. Women were also less likely than men ( $p < 0.001$ ) to have problems with substance abuse and to have an involuntary first admission ( $p = 0.026$ ). Women were less likely to be

in employment (3, 2.4% vs. 12, 8.1%) and more likely to be in receipt of disability benefits (84, 68.3% vs. 77, 51.7%).

Patients in urban areas were on average 3 years younger than patients in rural areas in the total sample ( $p < 0.001$ ), but not in the subsample. A significant difference was observed in area deprivation ( $p < 0.001$ ) with an overrepresentation of patients in rural areas both in the most and least deprived areas, but without a clear pattern. Those living in rural areas were significantly more likely to be in receipt of disability benefits compared with those in urban areas (62, 70.5% vs. 95, 54.3%), but a lower proportion had no income (3, 3.4% vs. 18, 10.3%).

### 3.2. The justification for and content of OC

The justification for and content of OC-orders for the 274 patients on their first ever OC is shown in Table 3.

All patients were placed on OC on discharge from hospital. The treatment criterion was used in all cases with a criterion recorded. This was the sole criterion for 213 patients (78.6%). In 49 cases (18.1%) the dangerousness criterion was used in addition to the treatment criterion. The dangerousness criterion alone was not used for any patient.

Other reasons why the OC-order was deemed necessary was recorded in most cases. The need for medication was noted for 253 patients (93.7%) and half (136, 50.2%) were thought not to comply without the OC. 35 patients (12.9%) were recorded as representing a danger to themselves, and 40 (14.8%) to others. There was a record of voluntariness having been tried in 132 cases (48.9%).

Only 2 patients (0.7%) were not prescribed psychotropic medication on OC; most were medicated throughout the period (231, 85.2%). 166 patients (61%) were on depot injections and 121 (44.3%) had an Involuntary Treatment Order at some point.

For 163 patients (59.5%) the recorded frequency of service contact was twice a month or more. This information was not recorded for 90 patients (33%). 74 patients (27.2%) had the responsible clinician recorded as their main contact. For 143 patients (52.6%) there was a record of other treatment while on OC. This included talking therapies, local council home care, follow-up by their GP, substance abuse treatment, or work or education activities.

The median duration of the first OC episode was 270.5 days (Q1 125.0, Q3 709.3). 65 patients (23.7%) had more than one OC episode during follow up and the median number of days on OC over the 36 months was 365 (Q1 154.0, Q3 852.5). 34 patients (12.8%) remained on OC for the full 3 years.

#### 3.2.1. Differences based on gender and rural/urban residency

There was a significant gender difference in the justification criteria for the OC-order ( $p < 0.001$ ). Women were less likely to have the dangerousness criteria applied (13, 10.6% vs. 36, 24.3%) and to be deemed a danger to others (7, 5.7% vs 33, 22.3%,  $p < 0.001$ ). Women had shorter mean duration of their index OC (366.4 days, SD353.9 vs. 465.5 days, SD387.2,  $p = 0.029$ ) and shorter mean total time on OC (444.2 (372.5) vs 542 (395.1),  $p = 0.036$ ). They were less likely to have more than one OC episode in the period ( $p = 0.047$ ).

There were significant differences in term of medication prescribed ( $p = 0.048$ ) with those in rural areas more likely to be prescribed medication throughout the OC period (82, 93.2% vs. 143, 82.2%). They were less likely, however, to be on depot medication (44, 50% vs. 177, 66.9%,  $p = 0.008$ ). Contact frequency also showed significant differences ( $p = 0.001$ ) with a larger proportion of those in rural areas having contact with services more than twice a month (44, 49.4% vs. 41, 23.4%).

### 3.3. Associations between patient and service factors and duration of OC

A total of 251 cases were included in the linear mixed model that assessed the association between selected variables and the duration of

**Table 3**  
Justification, content, and duration of OC-orders over 36 months of 274 patient on first ever order in 2008–2009.

	Missing	Patients, n = 274
	n (%),	n (%), mean (SD) median [Q1;Q3]
<b>OC-order made at discharge from hospital</b>	0	274 (100)
<b>Criteria used<sup>a</sup></b>	3 (1.1)	
Treatment criteria only		213 (78.6)
Dangerousness criteria only		0
Both criteria		49 (18.1)
Criteria not documented		9 (3.3)
<b>Other recorded reasons for OC</b>		
Danger for self	3 (1.1)	35 (12.9)
Danger for others <sup>a</sup>	3 (1.1)	40 (14.8)
Need for medication	4 (1.5)	253 (93.7)
Need for other treatment,	3 (1.1)	84 (31.0)
Lack of compliance	3 (1.1)	136 (50.2)
Substance abuse if not OC	3 (1.1)	62 (22.9)
<b>Record of voluntariness tried</b>	4 (1.5)	132 (48.9)
<b>Patients on medication while on OC<sup>d</sup></b>		
Throughout the OCperiod	3 (1.1)	231 (85.2)
Some of the OCperiod	3 (1.1)	38 (14.0)
No record of medication	3 (1.1)	2 (0.7)
Number of patient receiving depot injections <sup>a</sup>	2 (0.7)	166 (61.0)
<b>Patients with a Involuntary Treatment Order while on OC</b>	1 (0.4)	121 (44.3)
<b>Other treatment specified</b>	2 (0.7)	143 (52.6)
<b>Specified contact frequency during OC<sup>c</sup></b>	1 (0.4)	
> 2 × per month		87 (31.9)
2 × per month		76 (27.8)
< 2 × per month		20 (7.3)
not specified		90 (33.0)
<b>Key contact person while on OC</b>		
Psychiatrist with authority to make OC-orders	2 (0.7)	74 (27.2)
Specialist service personell	4 (1.5)	91 (33.7)
GP	2 (0.7)	104 (38.2)
Municipal service personell	1 (0.4)	145 (53.1)
A mix of personell	1 (0.4)	64 (23.4)
Not specified	3 (1.1)	94 (34.7)
<b>Number of OC episodes over 36 months<sup>b</sup></b>	0	
1 period		209 (76.3)
2 periods		57 (20.8)
3 periods		8 (2.9)
<b>Duration of index OC</b>	0	
< 1 year		174 (63.5)
1–2 years		38 (13.9)
2–3 years		62 (22.6)
Median duration, days		270.5 [125.0;709.3]
Mean duration, days <sup>b</sup>		421.0 (375.2)
Min/max days on index CTO		8;1096
<b>Duration of all OC episodes over 36 months</b>	0	
Median duration, days		365 [154.0;852.5]
Mean duration, days <sup>b</sup>		498.5 (387.6)
Min/max days on OC		13;1096

<sup>a</sup> Significant difference between genders,  $p < 0.001$ .

<sup>b</sup> Significant difference between genders,  $p < 0.05$ .

<sup>c</sup> Significant difference between urban/rural,  $p < 0.001$ .

<sup>d</sup> Significant difference between urban/rural,  $p < 0.05$ .

the first ever OC-order over 36 months (1096 days). There was some degree of clustering, with 2.5% of variation at site level, which was adjusted for in the model.

Table 4 shows associations between the independent variables and the duration of OC, measured in days. The bivariate analyses identified seven variables significantly associated with longer duration of OC: male gender; F20–29 diagnosis; living with significant others; Involuntary Treatment Order; dangerousness criterion, and; substantial

**Table 4**  
Associations between background variables and duration of index OC-order over 36 months ( $n = 251$ ). Results from linear mixed models.

Variable	Bivariate analysis		Multiple analysis	
	Regr. Coeff. (95% CI)	p-value	Regr. Coeff. (95% CI)	p-value
<b>Psychiatrist main contact person</b>				
Yes	-86.6 (-198.6; 25.5)	0.13	-84.1 (-189.4; 21.1)	0.117
No – ref.	0		0	
<b>Rural/urban</b>				
Urban – ref.	0		0	
Rural	-33.0 (-143.0; 77.0)	0.555	-64.7 (-166.6; 37.2)	0.212
<b>Gender</b>				
Male – ref.	0		0	
Female	-110.4 (-205.4; -15.4)	<b>0.023</b>	-33.3 (-126.8; 60.2)	0.483
<b>Age, years</b>	-3.1 (-6.5; 0.3)	0.076	-1.2 (-4.6; 2.3)	0.504
<b>Diagnosis</b>				
F20-F29 – ref.	0		0	
F30-F39	-289.5 (-411.8; -167.2)	<b>&lt; 0.001</b>	-250.5 (-374.4; -126.6)	<b>&lt; 0.001</b>
Other	-264.8 (-457.4; -72.2)	<b>0.007</b>	-247.0 (-436.0; -57.9)	<b>0.011</b>
<b>Living arrangement</b>				
Alone – ref.	0		0	
With significant other	118.2 (8.0; 228.3)	<b>0.036</b>	52.4 (-57.9; 162.7)	0.35
<b>Involuntary treatment Order</b>				
No – ref.	0		0	
Yes	120.7 (23.0; 218.4)	<b>0.016</b>	91.4 (-0.5; 183.3)	0.051
<b>Justification for OC</b>				
Treatment criterion alone – ref.	0		0	
Both criteria	148.9 (27.4; 270.3)	<b>0.017</b>	144.3 (28.7; 259.9)	<b>0.015</b>
<b>Substance abuse</b>				
No/not substantial – ref.	0		0	
Yes	180.7 (72.0; 289.4)	<b>0.001</b>	148.1 (40.6; 255.7)	<b>0.007</b>
Deprivation	-1.5 (-5.4; 2.3)	0.439	-0.6 (-4.1; 2.9)	0.731

substance abuse issues. None of the variables could be eliminated from the multiple regression models. Four associations remained significant. Those with F20–29 diagnosis had 250.5 more days on OC than those with F30–39 diagnosis ( $p < 0.001$ ) and 247 more days than those with ‘other’ diagnosis ( $p = 0.011$ ). Patients for whom dangerousness (in addition to the need for treatment) was used as justification had 144.3 more days than those without ( $p = 0.015$ ), and those with substantial substance abuse issues had 148.1 more days than those without ( $p = 0.007$ ).

#### 4. Discussion

The 1414 patients on OC in six Norwegian sites between 2008 and 12 have very similar characteristics to OC-populations in other countries (Churchill et al., 2007) in terms of age (mean 41), diagnosis (mainly F20–29), living situation (mainly alone), income (mainly disability benefit), and their long histories of service use. As expected from the international literature (Churchill et al., 2007) there were more men than women, except at one site (Innlandet), where female OC patients outnumbered male. 274 of the 1414 patients (19%) were on their first ever placement of OC in 2008–09 and their characteristics did not differ from the remainder of the total sample. This indicates

stability over time, and corresponds with patterns reported from other countries (Kisely, Xiao, & Jian, 2015).

All 274 patients on first-ever OC were placed on an order at discharge from hospital. In other jurisdictions where direct placement from the community is permitted, such use is usually relatively infrequent (Dawson, 2005). A longitudinal study from Western Australian study found that around 19% of all OC-orders were initiated from the community (S. Kisely et al., 2013), and the corresponding figure from Victoria, Australia was 13% (Segal & Burgess, 2008). Why the option of direct placement was not observed in our sample calls for further exploration.

The ‘treatment criterion’ was used to justify all OC-orders. The need for medication was stated as a reason in 93.7% of cases, and concern with compliance was mentioned in 50.2% of cases. This is similar to what is reported elsewhere (Rugkåsa, Yeeles, Koshiaris, & Burns, 2016; Zetterberg, Sjöström, & Markström, 2014). Only two patients (0.7%) were not prescribed psychotropic medication while on OC and 61% received depot medication. This is at the lower end of the 60–90% reported internationally (Dawson, 2005), but close to reports from the UK (Brown, Taylor, Mackay, Macleod, & Lyons, 2012; Patel et al., 2013). Despite this emphasis on medication, less than half the patients (44%) had an Involuntary Treatment Order when on OC. This means most patients accepted medication while on OC. Most patients in our study had extensive experience with the powers of mental health care. It has been suggested by qualitative studies that OC-patients may reason that if they refuse medication, an Involuntary Treatment Order will be made (Riley et al., 2014; Stensrud et al., 2015). As such, the coercive nature of OC might invoke perceptions of coercion beyond the remit of the order, which, in turn, might affect patients' treatment decisions. Such processes have been described in studies of inpatient coercion (Sjöström, 2006), but few studies have explored how legal and more informal coercive processes interact in the outpatient context (Sjöström, 2016).

The legal ‘dangerousness criterion’ was applied (in addition to the treatment criterion) in 18% of cases. Danger (to self or others) was noted in records as a reason for the OC-order in 27% of cases. Based on medical records, therefore, dangerousness does not appear to be a key driver for OC use in Norway. It is possible that some clinicians were reluctant to apply this criterion as it might appear stigmatising to patients and their surroundings, and because the treatment criterion on its own sufficed. A recent amendment to the Norwegian Mental Health Act means that as of 1 September 2017 (i.e., after the study period) the treatment criterion cannot any longer justify OC for patients with decision making capacity, unless there is danger to the patient's life or the life and health of others. Whether this will result in a reduction in the use of OC, increased use of the dangerousness criterion, or both, remains to be seen.

Patients on OC seemed to be followed up closely. The records of 183 patients (67%) included clinical contact frequency and 163 (89%) of them had  $\geq 2$  contacts each month. This is similar to what is reported in the UK (Burns et al., 2015). Information on treatment other than medication (talking therapy, home care etc.) was available for only half the sample and did not appear to be systematic or exhaustive. Efforts to engage patients voluntarily were recorded in 48.9% of cases. It is not clear why clinicians fail to record how they fulfil their legal requirement to attempt this, and why the full range of clinical activities is not considered important to record so as to provide a full picture of patients' care pathways.

While comparisons between jurisdictions are limited by variation in service contexts and thresholds for compulsion, there are remarkable similarities between our sample and the only other 3 year follow-up study we could identify, in terms of duration of OC. The median time of OC over the 3 years was 365 days, which is very similar to the 346 days reported in a UK study (Burns et al., 2015). This means patients spent on average one out of the three years on OC. Our multiple regression analysis found positive associations between duration and three factors:

A diagnosis of schizophrenia spectrum disorders (c. 8 months longer), the use of the dangerousness criterion (c. 5 months) and the patient having a substantial substance abuse problem (c. 5 months). Having the clinician with authority to make OC/Involuntary Treatment Order decisions as the key clinical contact did not affect duration. While we did not have any measure of patients' functioning level or symptoms, the significant associations seem to indicate that the patients considered most unwell or most risky (to self or others, or related to substance abuse) are kept longer on OC.

12.8% of the subsample stayed on OC for the full three years and in the total sample we observed some patients who had remained on OC for very long periods. 181 of them (12.8%) had been on the current OC-order for  $\geq 5$  years and the longest period observed was 20 years. Such prolonged use underlines the need to understand how clinicians make decisions to continue or end OC-orders. Qualitative research has suggested great variation in clinical judgements (Canvin, Rugkåsa, Sinclair, & Burns, 2014; Gibbs, Dawson, & Mullen, 2006; Mullen, Dawson, & Gibbs, 2006; Stroud, Banks, & Doughty, 2015; Stuen, Landheim, Rugkåsa, & Wynn, 2018). A Norwegian study found that while some see patient improvement as a reason for ending the OC, others argue the order should continue when seen to work. Poor outcomes are similarly interpreted both as reasons to continue and discontinue the OC (Riley, Lorem, & Hoyer, 2018). Significant differences between rates of OC use among UK clinicians have been established (DeRidder, Molodynski, Manning, McCusker, & Rugkåsa, 2015), and such variation is important to address to ensure patients are receiving equal treatment.

We observed some differences between male and female OC patients, with men being more likely to have substance abuse issues, an involuntary first admission, more than one OC-period, and to be deemed dangerous. Gender did not impact on duration of OC in the multiple regression models. The longer duration of OC for men in the descriptive analyses might thus be a function of the other differences between male and female patients. We found no patterns in OC use based on urbanity, unlike reports from the UK (Trevithick et al., 2018), or area deprivation. This might be a result of Norway's welfare regime with a stronger focus on financial redistribution than most other jurisdictions in which OC has been studied, and a comprehensive, free national health service available to all. Patients in rural areas had higher contact frequency, which could be why, despite being more likely to be medicated throughout the period, fewer of them were on depot medication compared with patients in urban areas. These findings are explorative, however, and further investigation specifically designed to ascertain variation in OC use is warranted.

#### 4.1. Strength and Limitations

This is the first multi-site study of OC use in Norway. Being exempt from obtaining patient consent meant we could include all eligible patients. The rigour by which we examined patient notes and performed data quality controls further enhances the reliability of our findings.

Our study design meant we relied on the content and quality of medical records at the six sites. The degree to which data was available varied, especially regarding information preceding the introduction of the DIPS electronic system (10–15 years ago, depending on site). Some patient records went as far back as the early 1990s while for others, only more recent data was available. It is therefore possible that, despite our efforts to track patients' paper records, some of those included in the sub-sample could have had OC experience prior to 2008 or a first admission that was not in the records assessed.

## 5. Conclusion

The OC population in Norway is very similar to that reported in other jurisdictions, and seems stable over time. The option to place patients on OC directly from the community was not used in any of first

ever OC-orders in our sample. Why this is the case should be the topic of future studies. Ensuring medication adherence seems to be the central focus of OC, yet involuntary treatment orders are imposed for less than half of patients. This could indicate that OC use is intertwined with high levels of perceived informal coercion, and, again, this finding merits further investigation. Where information is available, patients on OC had frequent clinical contact ( $\geq 2$  times each month). However, treatment other than medication, and whether or how voluntariness is tried, is not recorded systematically in patient records, making it difficult to ascertain what services they are offered.

We observed some gender differences in descriptive analyses of patient profiles and the justification for and content of the OC, but no clear pattern in terms of rurality. The multiple regression analyses found no relationship between gender, rurality or area deprivation with duration of OC. Further studies should specifically focus on variation in the use of OC, including at the level of individual clinicians.

Patients in our sample were on OC for periods ranging from one week to 20 years. Three factors contributed to longer duration of first ever OC episodes: the use of the dangerousness criterion (alongside the treatment criterion, which was used in all cases); a diagnosis of schizophrenia disorder, and; considerable problems with substance abuse. So, while all OC-orders were justified by the need to ensure treatment, risk seems to be a concern for a subgroup of patients who are kept on for longer. How the 2017 amendment to the Mental Health Act, which precludes compulsion for competent patients unless danger is present, will affect OC use, remains to be seen.

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