

# Compulsory hospitalisation in mental health care in Østfold in 2000 and 2010

**BACKGROUND** For many years, it has been an objective of national public health policy in Norway to reduce the number of compulsory hospitalisations under the Norwegian Mental Health Care Act. Uncertain data quality and inadequate reporting have made it difficult to obtain reliable measurements of hospitalisation trends. We have examined changes in psychiatric emergency admissions and compulsory hospitalisations under the Mental Health Care Act between 2000 and 2010 in the county of Østfold.

**MATERIAL AND METHOD** The material on which the study is based was gathered during two three-month periods – from 1 September to 30 November in the years 2000 and 2010 respectively. We compared emergency admissions in accordance with the national care quality indicator for compulsory hospitalisation in mental health care and examined whether there were changes in the diagnostic composition.

**RESULTS** The number of emergency admissions per 1,000 population in Østfold increased from a rate of 7.05 in 2000 to 8.86 in 2010 ( $p < 0.001$ ). There was no significant change in the rate of compulsory hospitalisation during this period, being 2.48 and 2.24 per 1,000 population, respectively. There was a sharp increase in the number of admissions for mental disorders related to alcohol and illicit drug abuse.

**INTERPRETATION** The study material showed that there was a significant increase in psychiatric emergency admissions between 2000 and 2010. The rate of compulsory hospitalisation, measured among the population over the age of 18, remained unchanged during the period. The Norwegian Board of Health Supervision's care quality indicator for compulsory hospitalisation in mental health care can contribute to providing information and a basis of comparison for the use of compulsory hospitalisation, provided that the data submitted is quality assured. The highest increase was seen in the group of emergency admissions for mental disorders related to alcohol and illicit drug abuse as the principal diagnosis.

One of the objectives of the *Opptrappingsplanen for psykisk helse 1999–2008* («National Programme for Mental Health» (1999–2008)) was to reduce the use of compulsory hospitalisation in mental health care (1). That trend may appear to have moved in the opposite direction. According to the Norwegian Health Directorate's report *Bruk av tvang i psykisk helsevern for voksne 2010* («Use of compulsory hospitalisation in mental health care of adults 2010») (2), on a national basis the number of compulsory hospital admissions went up between 2000 and 2010, from 165 to 197 per 100,000 population. It is, however, pointed out in the report that these figures are estimates, owing to inadequate reporting on the part of several institutions.

The lack of clarity as regards definitions of compulsory hospitalisation and variations in the basis for calculation have also complicated comparisons between different periods and institutions (3, 4). One example of such lack of clarity is that the report operates with rates per 100,000 population over the age of 18, while the Health Directorate's care quality indicator calculates rates per 1,000 population. The data can be easily converted, but requires that those who do the

reporting and those who read the data should be aware that the figures are not immediately comparable.

Both the report and the care quality indicator give rates in relation to population over the age of 18. This is designed to make comparisons between Norwegian institutions simpler. However, one should be aware that the rate in many Norwegian and international studies is based on total population figures (5).

Care quality indicators were introduced into the Norwegian health service to provide users, their families, healthcare personnel, healthcare managers, politicians and the general public with information about the quality of healthcare offerings. Reliable data are essential in order for such indicators to provide a proper basis for evaluation and, if necessary, improvement of the healthcare services.

In this paper we have looked at changes in emergency admissions and compulsory hospitalisation in mental health care in the county of Østfold between 2000 and 2010. We manually reviewed and quality assured the data on admissions and analysed the way in which any changes in the use of com-

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## MAIN POINTS

The number of psychiatric emergency admissions in Østfold rose markedly between 2000 and 2010, with the greatest increase in admissions for mental disorders related to alcohol and illicit drug abuse

The proportional share of compulsory hospitalisations fell, but the number of compulsory hospitalisations relative to population was unchanged in the period

**Table 1** Emergency psychiatric admissions in Østfold in the periods 1 September–30 November in 2000 and 2010

Emergency admissions (year)	2000	2010	P value <sup>1</sup>
Emergency admissions, 3 months	344	474	< 0.001
Population aged 18 and older as at 31.12.	195 137	213 949	
<b>Estimated rates (per 1,000 adults per year)</b>			
Emergency admission rate	7.05	8.86	< 0.001
Compulsory hospitalisations in mental health care (= care quality indicator N-005)	2.48	2.24	0.119
<b>Number and percentage (%) of admissions in the recording period</b>			
Voluntary admissions	204 (63 %)	349 (74 %)	< 0.001
Compulsory hospitalisations in mental health care (compulsory observation + compulsory mental health care)	121 (37 %)	120 (26 %)	
Total emergency admissions	325 (100 %)	469 (100 %)	
<b>Ratio between admissions for compulsory observation and admissions for compulsory mental health care</b>			
Compulsory mental health care	22 (18 %)	30 (25 %)	0.198
Compulsory observation	99 (82 %)	90 (75 %)	
Compulsory hospitalisations in mental health care – all	121 (100 %)	120 (100 %)	

<sup>1</sup> The P values are based on chi-square analyses, where 2 × 2 cross tabulations of observed distributions are compared with expected distributions. This also applies to the rates, where the population base is input in cross tabulations (but not shown in the table).

pulsory hospitalisation are expressed in the Directorate of Health's care quality indicator. We also wanted to examine whether there had been any changes in the diagnostic distribution in admissions between 2000 and 2010, and in this paper we discuss aspects of the use of indicators and changes in patterns of admissions.

The acute mental health care unit in Fredrikstad covers the entire population of Østfold for the period (approximately 275,000 population in 2010). Government funding for the National Programme for Mental Health enabled a reorganisation and a strengthening of services at municipal level and at the level of specialist healthcare services in Østfold during the period 2000–2010.

In 2006, the acute mental health care services in Østfold were brought together at the psychiatric hospital outside Fredrikstad. The number of beds in the acute admission ward was cut from 74 to 58, without a corresponding reduction in personnel. The mental health care division also has 60 day treatment places in long-term and intermediate mental health care at hospital level and 106 day treatment places spread over four

district psychiatric centres (DPS). The day treatment units at the DPSs are not approved for compulsory hospitalisation.

At each of the county's four DPSs, located in Moss, Fredrikstad, Eidsberg and Halden (which also has a psychiatric outpatients clinic in Sarpsborg), an ambulatory psychiatric crisis team was established in 2007–08, as well as a low-threshold service, in order to broaden the total mental health care offering and to reduce the number of psychiatric emergency admissions. In parts of Østfold, assertive community treatment teams (ACT teams) were established in 2008 to serve people with serious mental disorders and substance abuse.

#### Questions to consider

We wanted to find answers to the following questions: Was there a change in the number of compulsory hospitalisations in mental health care in Østfold relative to population size between 2000 and 2010? Did the number of compulsory hospitalisations in mental health care in Østfold change in relation to the number of emergency admissions in total? What was the distribution in Østfold

as regards diagnostic groups, and did changes occur between 2000 and 2010?

#### Legislative provisions on compulsory hospitalisation under the Mental Health Care Act

Admissions for compulsory observation are founded on section 3-2 of the Mental Health Care Act (Norway). Admissions for compulsory mental health care are founded on section 3-3 of the Act (6).

All referrals for compulsory mental health care must be assessed by a psychiatrist within 24 hours of admission. The administrative decision shall conclude whether the criteria for compulsory observation (section 3-2) or compulsory mental health care (section 3-3) are satisfied.

When a patient is admitted to hospital for compulsory observation, on the basis of a suspected serious mental illness and the patient's incapacity to obtain the necessary mental health care, it is permissible to observe the patient for up to ten days. The criteria for committing a patient for compulsory mental health care are stricter, with the requirement for there to be a documented serious mental disorder as well as either a treatment criterion or a risk criterion. The treatment criterion involves the compulsory treatment being assessed as necessary in order to prevent the person concerned from «either having the prospects of his or her health being restored or significantly improved considerably reduced, or [if] it is highly probable that the condition of the person will significantly deteriorate in the very near future» (6). Compulsory mental health care is not time-limited, but presupposes that a decision will be made to terminate the compulsory mental health care when the criteria for such care are no longer present.

If no administrative decision is made to commit the patient for compulsory observation or compulsory mental health care, all further agreements concerning voluntary treatment will be made pursuant to the Patients' Rights Act (7) and the Specialist Health Services Act (8).

The ratio between the number of referrals for compulsory hospitalisation and the number of compulsory hospitalisations in mental health care has been described earlier on the basis of data from 2000 (9). In this paper we will concentrate on *compulsory hospitalisation in mental health care*, that is to say the sum total of admissions for compulsory observation and compulsory mental health care following administrative decisions, unless otherwise clarified. The Norwegian Board of Health Supervision's care quality indicator is also based on compulsory observation or compulsory mental health care following the decision of a specialist.

### Care quality indicator for compulsory hospitalisation in mental health care

The care quality indicator that has to do with compulsory or forced treatment is particular to mental health care. The indicator was previously expressed as the proportional share of compulsory hospitalisations in the total number of admissions, but has been changed to the number of compulsory hospitalisations per 1,000 adult population (rate) (10).

In this paper we will examine both ways of looking at compulsory hospitalisation under the Mental Health Care Act and discuss the differences.

### Material and method

The study material was collected during the three-month period from 1 September to 30 November in the years 2000 and 2010 respectively. In addition to recording demographic and clinical patient data from the hospital's electronic patient records in Østfold, the physician admitting the patient also recorded the section in the Mental Health Care Act under which the patient was referred and the decision made by the specialist in each case of emergency admission. This information was subsequently supplemented with a discharge diagnosis from the patient records, before the data was de-identified and collected in Excel. The project was notified to the Norwegian Social Science Data Services and the Data Protection Official for Research as a quality assurance project (case number 35 102).

### Statistical analysis

Descriptive statistics were used to describe the data, using SPSS 18.0. Statistical significance testing using a chi-square test was performed in Excel 2010.

### Results

The number of emergency admissions over the course of three months was 368 and 474 in 2000 and 2010 respectively. The proportion of women was 60 % and 52 % respectively, and the average age was, respectively, 39.3 years (standard deviation 16.5 years) and 38.7 years (standard deviation 16.0 years). Twenty-four of the admissions in 2000 were not included in the study material as they were internal transfers, while no data was available for 19 admissions in 2000 and five in 2010.

As Table 1 demonstrates, the number of emergency admissions in total increased significantly during the ten-year period covered by the study. This is also reflected when the care quality indicator is used ( $p < 0.001$ ). The care quality indicator for compulsory hospitalisation in mental health care shows no change during the period ( $p = 0.119$ ). The increase thus consists in the

**Table 2** Distribution of principal diagnostic groups for emergency admissions in mental health care in Østfold in the periods 1 September–30 November in 2000 and 2010

Diagnostic groups ICD-10 for principal diagnosis	2000		2010	
	Number	(%)	Number	(%)
F0 Organic mental disorders	11	[3]	4	[1]
F1 Mental and behavioural disorders due to psychoactive substance use	44	[13]	99	[21]
F2 Schizophrenia disorders	44	[13]	77	[16]
F3 Mood (affective) disorders	59	[17]	65	[14]
F4 Anxiety disorders	42	[12]	73	[15]
F6 Personality disorders	31	[9]	42	[9]
Observation (unspecified disorders – Z codes)	58	[17]	58	[12]
Other <sup>1</sup>	12	[3]	52	[11]
No principal diagnosis	43	[13]	4	[1]
<b>Total</b>	<b>344</b>		<b>474</b>	

<sup>1</sup> «Other» includes the diagnostic groups F5 Eating and sleep disorders, F7 Mental retardation, F8 Psychological development disorders and F9 Hyperkinetic disorders

main in the proportional share of voluntary admissions, which increased from 63 % to 74 % ( $p < 0.001$ ). This means that the proportional share of compulsory admissions fell, while the rate per 1,000 population is unchanged.

The diagnostic distribution is given in Table 2. There was a clear change in diagnostic distribution between 2000 and 2010 ( $p < 0.001$ ). Table 2 shows that the increase was greatest for mental disorders related to alcohol or illicit drug abuse. The group «Other» has also increased, while the group «No principal diagnosis» has decreased.

### Discussion

The results of the study show that there was a marked increase in the total number of emergency admissions between 2000 and 2010. The number of compulsory hospitalisations in mental health care was unchanged in the period. Because the number of emergency admissions has increased, the *proportional share* of compulsory admissions (in relation to the total number of admissions) has thus fallen from 37 % to 26 % (chi-square test:  $p < 0.001$ ). The *rate* of compulsory hospitalisations in mental health care, relative to population aged 18 and over, is unchanged ( $p = 0.119$ ).

This shows the significance of using standardised figures for comparison purposes, and also the importance of being aware of which measurement figures one is using. If the number of admissions in total increases while the number of compulsory hospitalisations in

mental health care is more stable, the proportional shares quoted may give the impression that there has been a decrease in the use of compulsory hospitalisation, despite the fact that the number of compulsory hospitalisations held against the population figures may be unchanged or may even have increased.

The diagnostic distribution has changed – with the most noticeable change being the increase in mental disorders related to alcohol or illicit drug abuse. One cannot disregard the fact that the emphasis on early diagnostics has contributed to changes in diagnostic distribution. For example, «Other» has increased from 3 % to 11 %, and «No principal diagnosis» has fallen from 13 % to 1 %.

The increase in mental disorders related to alcohol or illicit drug abuse is nevertheless complex. It is probably a consequence of *inter alia* the «Rusreform» («Substance Treatment Reform») of 2004 (11), which imposed on the Norwegian mental health care system a defined responsibility for patients with mental disorders related to substance abuse. Other factors may be an increase in the use of alcohol and illicit drugs, especially psychoactive substances, in the population in general, increased diagnosis of substance abuse within the group of people with mental disorders, or reduced levels of tolerance in society for the behaviour of substance abusers, with the diseases or problems of public order that substance abuse can result in.

The change in diagnostic distribution – with an increase in the proportional share of

mental disorders related to alcohol or illicit drug abuse – may also have been influenced by organisational changes. In 2007, a system of ambulatory psychiatric crisis teams was established in Østfold at DPS level. This does not appear to have reduced the number of emergency admissions between then and 2010. The experience from Østfold showed that these teams had very little to do with patients who had substance abuse as their principal diagnosis (12). Other experience indicates that the teams primarily treated patients without serious mental disorders (13–15).

In some places attempts have been made to reduce the number of voluntary emergency admissions in other ways. Among other things, an experiment of this kind at Buskerud Hospital is described in an article by Bergerud et al. from 2004. Their conclusion was that «patient flow in acute mental health services involves a multitude of complex and unpredictable factors» (16).

Care quality indicators can contribute to a better overview of some of these factors. The work to improve psychiatric services and to reduce the use of compulsory hospitalisation does, however, require a sustained focus on the treatment culture, treatment quality, and teamwork with patients and collaborative partners.

## Conclusion

The material showed that there was a significant increase in psychiatric emergency admissions in Østfold between 2000 and 2010. The proportional share of compulsory hospitalisation in mental health care – measured as a rate of the population aged 18 and over – was unchanged. The Norwegian Board of Health Supervision's care quality indicator for compulsory hospitalisation in mental health care can contribute to providing information and a basis for comparison for the use of compulsory hospitalisation, provided that the data submitted is quality assured.

The highest increase was seen in the group of emergency admissions for mental disorders related to alcohol and illicit drug abuse as the principal diagnosis. The background for the changes is complex, and further studies are required.

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