

## Time Use in Forensic Psychiatry: An Exploratory Study of Patients' Time Use at a Swedish Forensic Psychiatric Clinic

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*Individuals who are treated in mandated forensic psychiatry often spend considerable amounts of time in inpatient treatment. In spite of the fact that there is prescriptive literature identifying how to treat offending issues and substance abuse the study found that treatment addressing this was scarce. The present study examined how time was used by mapping patients' time use in 48 randomly selected days. Information on activities from a 24 hour period divided into 15 minutes segments was recorded. In total, 122 different activities were found and they were grouped into 5 categories, sleep and rest, unstructured activities, daily routines, structured activities, and treatment. Average time use in the different categories was 9.07 hours of sleep and rest, 8.60 hours of unstructured activities, 4.42 hours of daily routines, 1.60 hours of structured activities, and 0.31 hours of treatment. No significant differences in time use on treatment between subgroups of individuals such as diagnoses of substance use, psychotic disorders, personality disorder or assessed as high or low violence risk were found.*

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The perspective of most western societies, however simplified, is that forensic psychiatric care is aimed at alleviating the psychiatric disorder that is related to an offense. A further aim is to use treatment to reduce the risk of re-offending when the patient is discharged into the community. One definition of forensic psychiatric care was summarized by the Swedish National Board of Medicine and Welfare as: "The aim of the forensic psychiatric care is to treat the severe psychiatric disorder that has brought about a crime and by this reducing the propensity for relapse in crime" (Socialstyrelsen, 2002).

The consequence of these two aims is a double expectation on the psychiatric system, both to deliver psychiatric care and to be an institution of detention (Tännsjö, 1997). As many clinicians over the years have concluded, this is not in concordance with the ethical codes adopted by the World Psychiatric Association, which stipulates that psychiatrists must act only in the best interest of the patients rather than

the society (Helmchen & Okasha, 2000). For obvious reasons this notion runs the risk of being violated in a forensic psychiatric system with its double aims. Hence, forensic psychiatric services are a costly business to society both in absolute economic terms but also in regards to human rights violations. These violations are the product of the conflict that arises in a system with its foundation in medical and psychological sciences but in which the system output (treatment) is filtered through a judicial framework.

Given the ethical and monetary costs involved in forensic psychiatric care, the treatment provided should be of high standard, evidence based, and carried out in the most effective way in order to minimize the costs and harm to the patient. The scientific literature has some answers how treatment should be carried out to fulfill the required standards. As for pharmacological treatment (for an overview see Hodgins & Müller-Isberner, 2000, Stahl, 2000) in forensic psychiatry, studies have shown that

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treatment with atypical antipsychotics such as clozapine reduces positive symptoms of psychosis and improves negative symptoms (Hempel & Cormack, 2001). In addition, it has been found that clozapine was associated with decreased arrest rates in a group of psychotic outpatients (Frankle et al., 2001). It has also been shown that clozapine is correlated to a reduction of time spent as inpatients in special hospitals (Swinton & Haddock, 2000).

Forensic nursing and its content is also described (for an overview see Mason, 2002). In a questionnaire study aimed to investigate nurses' views regarding their responsibility and work content Rask and Rahm Hallberg (2000) found that nurses in forensic care view their work to be mainly directed at patients' capacity for ADL-activities.

There is also literature on psychological treatment programs available (for an overview see Howells, Day, & Thomas-Peter, 2004; Day & Howells, 2002). Behavior therapy and social skills training is advocated for in an extensive review of available treatments for mentally disordered offenders (Rice & Harris, 1997). There is also a growing body of literature suggesting that cognitive therapy (Chadwick, Birchwood, & Trower, 1996) and cognitive behavior therapy (Fowler, Garety, & Kuipers, 1995) can change delusional and hallucinatory behavior. As for personality disordered offenders, treatment programs are also described (e.g. McMurrin, Charlesworth, Duggan, & McCarthy, 2001)

However, as described in Elbogen's (2002) review on descriptive research on violence risk assessment, most of the research on forensic psychiatric care is prescriptive and to a lesser degree descriptive in terms of the amount of services, treatment and care that is delivered. When it comes to how time is used in forensic psychiatry, studies are scarce. To our knowledge only one study, from the field of occupational therapy, has reported on the topic (Farnworth, Nikitin, & Fossey, 2004). The result from this study showed that time use was dominated by personal care (e.g. sleeping, napping, personal hygiene, taking medication, eating) and leisure activities (e.g. talking to other inpatients, smoking, relaxing, watching TV, listening to music). Furthermore a recent review on service user views in forensic mental health concluded that the paucity of studies found in this particular area, indicate a

need of research focusing at the specific content of forensic psychiatric care (Coffey, 2006).

The purpose of the present study was to explore the use of time during a 24-hour time segment in a sample of patients treated at a forensic psychiatric clinic, with reference to the specific question how time was used to fulfill the double aims of forensic psychiatric care.

## METHOD

### Setting

Data were collected at one of the larger forensic psychiatric clinics in Sweden. The clinic had a total capacity of 90 patients on ten wards. Seven of these 10 wards, holding half of the patients, are maximum security units,<sup>1</sup> while the remaining wards are high security units. There is also an additional 4 beds in a half-way house on the hospital ground. The clinic has a century long tradition of a high level of nursing care. This is reflected in a continuous education of the nursing staff on issues of nursing. On admission patient care plans are made by a multi-professional team in a structured way following preset standards set by the Swedish National Board of Medicine and Welfare. Each individual patient gets a tailor made patient care plan. Based on the patient care plan and the identified needs, the patient will then be provided treatment consisting of components such as pharmacological treatment, psychological treatment, occupational therapy, vocational training, education and physical education, and training. For a general description of Swedish forensic psychiatry, see Belfrage and Fransson (2000) and Dernevik (2002). The regional ethics committee in Uppsala (# 2006:36) reviewed the proposal for the study before data were compiled and used for analyses.

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<sup>1</sup> The security classification of forensic psychiatric clinics in Sweden is regulated by Socialstyrelsen (the National Board of Medicine and Welfare) and their regulation SOSFS 2006:9 *Säkerhet vid sjukvårdsinrättningar som ger psykiatrisk tvångsvård och rättspsykiatrisk vård samt vid enheter för rättspsykiatrisk undersökning* [Security at health care institutions that are providing psychiatric mandated care and forensic psychiatric care and units for forensic psychiatric evaluations].

## Participants

At the clinic, the mean length of stay for the patients was (as of 2006-08-01) 5.18 years ( $SD$  4.7 years, ranging between 68 days and 24.1 years). The informants ( $N = 46$ ) consisted of 39 male patients ( $M = 35$ ,  $SD = 9.33$ ), and 7 female patients ( $M = 37$ ,  $SD = 11.79$ ). The index crimes was in most cases ( $N = 40$ ) violent crimes varying from murder to inflicting damage and in six cases arson. As to main diagnoses, 89% in the sample had an Axis I disorder and 59% of them were diagnosed with a psychotic disorder. In addition, 63% of the patients had at least one co-morbid diagnosis, where a substance use disorder diagnosis was the most prevalent one. All patients in the sample were subject to pharmacological treatment.

## Procedure

Data were collected as part of the clinic's quality assurance work during 2002-2005, and the participants were selected by using a random number list from the clinic's patient register, as were the weekdays on which data were collected. By random almost all informants accounted for one patient day only, but two informants generated two patient days each.

The unit of analysis in the study was the activities the informants reported during a 24 hour time period. In total, 48 time periods were available for analyses. Initially a protocol was designed to map all the possible activities an informant may engage in. The protocol was then used in a semi-structured interview carried out by two registered nurses, who knew the informants.

An interview started by asking the informant what time he or she woke up that particular day and what they had been doing during the day up to the time of the interview. Information was recorded in 15 minutes segments and all necessary questions were asked to establish the time-line. Informants were then asked at what time they had gone to bed the day before and then asked to report on yesterday's activities using the 15 minute time segment up to the time where 24 hours were covered. Among the 46 informants, information on the activities was readily elicited in all cases but two. This was due to the fact that the two informants were psychotic and

not able to report on their activities. In these cases, information on activities was obtained by interviewing staff at the ward and consulting nursing records. Data collection stopped when saturation was reached, meaning that no new activities were reported from the informants being interviewed. In total, 122 different activities were registered, and based on these, five main categories were defined.

## Measures

The assignment of activities to the main categories was not driven by any theoretical assumptions, but to create reasonable categories that were mutually exclusive and descriptive in a meaningful way. The five main categories were:

**Sleep and rest** - made up the time where patients' slept and the rest they had in close conjunction with sleep.

**Unstructured activities** - consisted of activities that had no relations to psychiatric treatment. Listed here are activities such as listening to the radio and music, watching TV, playing games and reading. A substantial part of the activities categorized as unstructured activities appeared to have the character of passing time.

**Daily routines** - consisted of recurrent activities that were deemed not to be part of the psychiatric care but viewed normal life activities. Categorized here were; meals, visit to a dentist, smoking, waiting, rest, and activities related to personal hygiene.

**Structured activities** - were defined as everything that was planned on beforehand (except for activities that could be labeled as passing time). This category included activities on and off the ward, participation in non-treatment programs and education, visits to relatives and authorities, review board, and administrative meetings with staff, physical exercise, and duties and chores at the ward.

**Treatment** - events that had an obvious link to the psychiatric care; pharmacotherapy, psychotherapy, consulting with the psychiatrist and nursing staff, and occupational therapy were included here.

## Statistics

An average number of hours for each of the five main categories (as well as the activities) was calculated. When comparing subgroups,  $t$ -test was

used when appropriate, but due to skewed distributions the nonparametric statistics (Mann-Whitney *U*-test) were most often used. Multiple regression analysis was in the next stage used to calculate if covariates possibly could explain how the amount of psychiatric treatment was distributed in the sample.

## RESULTS

The reported activities were distributed over a day (24 hours) as shown in Table 1.

*Sleep and rest* – the informants reported an average of 9.07 hours of sleep and rest, bearing in mind that rests during the day was not included in this category.

*Unstructured activities* – A major part of the day was reported to consist of activities not planned on beforehand. The most frequent activities (average time of more than four hours) were watching TV, and listening to the radio or stereo. Unstructured social activities (conversations and visits) were reported at only three minutes (0.05 hours) each day.

*Daily routines* – the most prevalent activity in this category was rest, accounting for 50% of the daily routines.

*Structured activities* – amounts to a little more than 90 minutes a day, where physical exercise<sup>2</sup> and sociotherapy<sup>3</sup> were prominent activities. *Treatment* – averaged 18.6 minutes each day where psychotherapy was the most time consuming activity. However, the variance was large and only in 25% of the cases did the patients receive any treatment at all during the studied day. This means that for most days, no treatment other than pharmacological treatment took place.

In order to understand if treatment time was specifically attributed to the sickest patients (i.e., those showing most symptoms of a psychiatric disorder) or to those perceived to have the highest risk of re-offending or a propensity to violent

behavior, a set of complementary analyses were performed.

Six individual or administrative features were chosen because of their known correspondence to the above questions; (1) Amenable to discharge,<sup>4</sup> (2) Substance use disorders (SUD), (3) Psychotic disorder, (4) Personality disorder, (5) High risk of violence,<sup>5</sup> (6) Security level at the ward (maximum or very high). For all characteristics, two groups were created, one with and one without the condition in question. The mean difference in treatment time between the two groups was calculated and compared using the Mann-Whitney *U*-test. The result showed no significant differences between groups in any of the five conditions (data not shown).

To further explore the possible impact of individual or administrative factors on time differences in treatment, a multiple regression analysis was performed. The dependent variable was treatment time and the same variables as in the above analysis were entered as covariates. Using the backward regression method with the removal criterion of  $p = .10$ , a significant model emerged where all variables but security level was excluded:  $F(1, 46) = 4.76, p = .03$ . The model explains 7% of the variance (Adjusted  $R^2 = .07$ ). For security level the unstandardized B-value was  $-.36$  indicating that a patient at the high security level wards on average received 0.36 hours less treatment a day than a patient at the maximum security level.

## DISCUSSION

This study found that interventions aimed at *treating* the specific disorder (believed to have led to a violent crime) and the specific individual, on average consumed less than 20 minutes per day. In addition, it was found that on average 1 hour and 36 minutes was spent on *structured activities* in various

<sup>2</sup> Physical exercise, which is also found under the heading unstructured activities, refers to a structured activity that is planned and usually located in a nearby gymnasium. It can consist of a range of activities such as gym training, swimming, jogging, ball games etc.

<sup>3</sup> Sociotherapy refers to activities led by instructors such as carpentry, assembly work, garden work, excursions etc.

<sup>4</sup> It could be hypothesized that patients not amenable to discharge would receive less treatment than those considered to benefit from treatment.

<sup>5</sup> The variable was created by using the level of risk of violence assigned to each patient by the structured risk assessment HCR-20 (Webster, Douglas, Eaves, & Hart, 1997). The high risk group consisted of those assessed to have a high risk of violence and the low risk group consisted of those assessed to have a medium or low risk of violence.

Table 1  
*Means (M) and Standard deviations (SD) for Time Use in Five Major Categories and Their Subcategories (N=48)*

Activity	<i>M</i> hours of...	<i>SD</i>
<i>Sleep and rest</i>	<b>9.07</b>	<b>1.93</b>
Sleep	8.70	2.15
Rest in conjunction with sleep	0.37	0.85
<i>Unstructured activities</i>	<b>8.60</b>	<b>3.49</b>
TV, radio or stereo	4.13	3.00
Activities NOS	1.72	2.38
On the ward	1.10	1.73
Off the ward	0.55	0.94
Chores	0.51	1.05
Physical exercise	0.29	0.54
Telephone	0.17	0.33
Religious activities	0.08	0.51
Conversations	0.04	0.21
Visits	0.01	0.07
<i>Daily routines</i>	<b>4.42</b>	<b>2.97</b>
Rest	2.21	2.60
Meals	1.46	0.65
Hygiene	0.31	0.38
Waiting	0.17	0.41
Smoking	0.14	0.24
Dentist	0.13	0.64
<i>Structured activities</i>	<b>1.60</b>	<b>1.80</b>
Leave	0.34	1.32
Physical exercise	0.31	0.60
Sociotherapy	0.26	0.76
Morning meeting	0.19	0.16
Education	0.17	0.67
Off the ward	0.16	0.51
Social hour	0.06	0.24
Support person	0.04	0.29
On the ward	0.03	0.22
Review board	0.02	0.10
Chores	0.02	0.11
<i>Treatment</i>	<b>0.31</b>	<b>0.60</b>
Psychotherapy	0.14	0.39
Occupational therapy	0.10	0.36
Consulting with the psychiatrist	0.07	0.27
<i>Total</i>	<b>24.00</b>	

forms. Together, less than two hours per day was used for activities that could possibly be dedicated to address the specific needs of an individual.

*Daily routines* was found to account for almost 4.5 hours a day, while almost 9 hours per day was spent on *unstructured activities* (e.g., activities that have the character of passing time). In the category *Sleep and rest*, sleep accounted for 8.70 hours a day which is considerably more than the average sleeping time of 7.5 hours a day reported for the general population (Ferrara & De Gennaro, 2001). If *rest* from the category *Daily routines* is added, time spent on sleep and rest adds up to a total average of 11.28 hours a day which is consistent with the findings in the study conducted by Farnworth and colleagues (2004), in which they found that the patients were sleeping and napping at an average of 10.80 hours per day.

The data in the present study are drawn from a population of patients at a forensic psychiatric clinic in Sweden. As elsewhere, this is a heterogeneous population with respect to diagnoses, criminal histories and individual features. The variance of the data on treatment time suggests that specific subgroups might receive more treatment than others. This was not confirmed in the analyses where a multiple (backward) regression analysis showed that the only significant predictor of received amount of treatment was the security level at the ward. However, the explained variance in this model was a modest 7%.

Since substance use disorders (SUD) have shown to be a consistent risk factor of violent and antisocial behavior (Grann & Fazel, 2004; Soyka, 2000), it is of paramount importance to include specific treatment addressing the unique problems that arise when a SUD is present (Brunette & Mueser, 2006). In the present sample, however, this was not the case. No indications, time- or procedure wise suggested that a SUD diagnosis altered the treatment regime in any way. This was also true for the group of individuals diagnosed with a psychotic disorder, which is a well-known risk factor of violence. Specifically, psychosocial interventions are needed in this group since their level of functioning often is lowered by their illness (Brunette & Mueser, 2006). Hence, for this group, structured activities and active psycho-social training within the forensic psychiatric system is the best way to suppress the elevated risk

of violence that the psychotic disorder poses in itself (Hodgins & Muller-Isberner, 2000; Howells, Day, & Thomas-Peter, 2004). A diagnosis of a personality disorder, especially antisocial or a psychopathic personality disorder is perhaps the strongest predictor of future violent and antisocial behavior (Grann, Långström, Tengström, & Kullgren, 1999; Tengström, Hodgins, Grann, Långström, & Kullgren, 2004). It could of course be debated if such a personality disorder could be treated in the sense that it disappears with treatment. There is however scientific support for the notion that symptoms of these types of disorders, for example aggressiveness, impulsivity and antisocial attitudes could be altered with specific treatment (Connor et al., 2006). In the present study no signs could be detected that those with a personality disorder received more or any specific treatment for their condition.

It has also been shown that risk scores on the HCR-20 is positively related to levels of security in clinical settings (Dernevik, Johansson, & Grann, 2002, Tengström et al., 2006), thus indicating that different levels of treatment or supervision needs can be discriminated by the use of HCR-20 scores. In the present study, scores from the HCR-20 risk assessment did not provide any explanation to the various amount of treatment provided for the patients or the security level.

A possible explanation of why seemingly none of the above variables were considered in providing treatment for the patients may be of a logistic nature. Resources in terms of treatment staff are mostly allocated to specific wards rather than to the individual patient needs, and patients are admitted to the different wards of the clinic based on available space. If the existing resources could be directed to the patients in most need of them without having to consider organizational limitations, our results may have been different.

The aim of this study was to describe the content of the forensic psychiatric care from the patient's perspective. Prescriptions on the content of forensic psychiatric care are readily available (cf. Hodgins, 2001) but descriptions of what it contains when actually delivered are scarce.

In conclusion the data from the present study indicate that there is ample room in terms of time for patients to use for interventions directed at a specific disorder and a specific individual with

specific treatment needs. Reasons for not using the different kinds and modes of treatment and interventions that can be found in prescriptive literature may be manifold, but lack of time is not one of them. One can not assume that it is lack of knowledge on available kinds and modes of treatment and interventions that is missing within the organization resulting in using the time and access to patients for treatment less than optimal. Possibly the deficiency is emanating from the fact that forensic psychiatry is, even though highly specialized, a small sub-specialty of medicine with little interest and insight from the public (and policymakers) other than when things go wrong in terms of forensic psychiatric patients committing crimes that gain attention from the media. The lack of interest and insight in forensic psychiatry might make change come at a slower pace in forensic psychiatry than in other areas of psychiatry and medicine in general.

The generalizability of the present findings is unclear. The study was limited to one clinic in a small European country during a confined period of time. Also, the protocol and the categorization of the activities was based and constructed on clinical experience rather than any underlying theoretical assumptions. Replications of this study in different settings are needed to see if the findings holds true in other forensic mental health settings.

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