European Psychiatry 49 (2018) 1–8

Contents lists available at ScienceDirect

European Psychiatry

journal homepage: http://www.europsy-journal.com

Original article

Predicting time to recall in patients conditionally released from a secure forensic hospital: A survival analysis

Amelia Jewell[a,b], Christopher Cocks[a,c], Alexis E. Cullen[d], Tom Fahy[a,b], Kimberlie Dean[c,e,*]

[a] Department of Forensic and Neurodevelopmental Science, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK
[b] South London and Maudsley NHS Foundation Trust, London, UK
[c] Justice Health & Forensic Mental Health Network, Sydney, NSW, Australia
[d] Department of Psychosis Studies, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK
[e] School of Psychiatry, Faculty of Medicine, University of New South Wales, Sydney, Australia

ARTICLE INFO

Article history:
Received 10 July 2017
Received in revised form 10 November 2017
Accepted 10 November 2017
Available online 30 January 2018

Keywords:
Forensic psychiatry
Medium secure unit
Mentally disordered offender
Recall
Section 37/41
Conditional discharge

ABSTRACT

Background: The recall of conditionally discharged forensic patients in England is a formal order from the Ministry of Justice under the Mental Health Act (1983) which has the power to revoke conditional release and direct readmission to hospital. Recall has significant implications for the individual and for hospital services, but despite this, little is known about predictors of recall for forensic patients.
Methods: We examined the rate of recall for 101 patients conditionally discharged from medium secure forensic inpatient services between 2007 and 2013. Demographic, clinical, and forensic factors were examined as possible predictors of time to recall using Cox regression survival techniques.
Results: Conditionally discharged patients were followed for an average of 811 days, during which 45 (44.5%) were recalled to hospital. Younger age (HR 1.89; 95% CI 1.02–3.49; p = 0.04), non-white ethnicity (HR 3.44; 95% CI 1.45–8.13), substance abuse history (HR 2.52; 95% CI 1.17–5.43), early violence (HR 1.90; 95% CI 1.03–3.50), early childhood maladjustment (HR 1.92; 95% CI 1.01–3.68), treatment with a depot medication (HR 2.17; 95% CI 1.14–4.11), being known to mental health services (HR 3.44; 95% CI 1.06–11.16), and a psychiatric admission prior to the index admission (HR 2.44; 95% CI 1.08–5.52) were significantly associated with a shorter time to recall. Treatment with clozapine reduced the risk of recall to hospital (HR 0.40; 95% CI 0.20–0.79).
Conclusions: Time to recall can be predicted by a range of factors that are readily available to clinical teams. Further research is required to determine if targeted interventions can modify the likelihood or time to recall for conditionally released forensic patients.

1. Introduction

Secure psychiatric hospitals, dually tasked with treating forensic psychiatric patients and ensuring public safety, represent a high-cost and low-volume service [1]. Conditionally discharged forensic patients are those who have progressed through forensic inpatient services and been deemed safe to live in the community. Patients are released from secure care on the basis they adhere to specific discharge conditions and formal readmission to a secure hospital (herein referred to as recall) can be enforced should the patient not adhere to these conditions.

Re-hospitalisation is not a desirable outcome for patients following discharge and secure hospital care is expensive. In the United Kingdom (UK) the annual cost of a medium secure bed is in the region of £165,000 and a high security inpatient bed is £300,000 [2]. Forensic inpatient admissions are typically longer than acute psychiatric admissions, with a low turnover rate. InAustralia, mentally ill homicide offenders have a mean length of stay of six years in secure care [3], whilst in New Zealand, insanity acquittees have an initial average length of admission of five years [1]. In light of the cost and length of admission, the sustainability of secure forensic services has been brought into question [4]. To justify such an expensive and undesirable intervention, research has sought to better understand the outcomes for forensic psychiatric patients released from secure care in order to improve patients' recovery and well-being as well as justify this high cost intervention.

Outcome studies of patients admitted to secure hospitals have focused predominantly on reconviction rates [5]. Where readmission to psychiatric hospitals has been assessed, rates are high [6]. The National Cohort Study in England and Wales followed patients

* Corresponding author at: School of Psychiatry, Faculty of Medicine, University of New South Wales, Sydney, Australia.
E-mail address: k.dean@unsw.edu.au (K. Dean).

http://dx.doi.org/10.1016/j.eurpsy.2017.11.005
0924-9338/

for an average of 6.6 years (range six months-14 years) and found that 75% of forensic patients required at least one readmission following discharge from medium secure care [7]. Similarly, a twenty-year follow-up study of forensic patients discharged from medium secure units in the UK observed that 69% were subsequently readmitted to hospital [8]. Comparable rates have been observed outside of the UK, with one Canadian study reporting that 55% of the studied sample were returned to hospital within a year of follow-up [9] and a New Zealand study reporting that one third of forensic patients were readmitted within two years of discharge, increasing to 80% readmitted within 15 years [1].

A recall can take place if a conditionally discharged patient is showing signs of deterioration or if they fail to comply with the conditions of their discharge. The recall represents a type of readmission which requires the formal authorisation of a governing body; in the UK this is the Ministry of Justice (MoJ), who legally direct the recalled patient to a psychiatric hospital. Data on the rates of recall compared with standard readmission (i.e., a readmission not requiring formal authorisation from the MoJ) are limited, but there is some indication that recall rates for forensic patients are relatively high. Rates ranging from 12–17% after two years [10] to 35% over a 20-year follow-up period [6] have previously been reported in the UK; compared to a 19% recall rate for conditionally released patients in New Zealand [11]. Recall versus readmission practices vary by locality and over time. In the UK, for example, an offence committed by a readmitted forensic patient who was offered leave led to a practice change, such that all readmitted forensic patients are now subject to formal recall [12].

Little is known about predictors of readmission or recall for forensic patients. Previous research in Canada, the UK, New Zealand, and Norway has observed that readmission rates are higher among males, younger individuals, those with a history of repeated psychiatric admission, a classification of mental illness (when compared to psychopathic disorder), a history of self-harm, and a history of substance abuse [6,13–16]. However, several previous studies found no significant predictors of readmission or recall [7,10], or did not specifically examine factors associated with these outcomes [1,8,17]. Furthermore, previous research rarely examines factors associated with recall specifically.

The current study aims to examine the rates of recall for a cohort of conditionally discharged forensic patients and to assess the reasons attributed to the recall. Due to the paucity of research examining predictors of recall, the current study aimed to conduct an exploratory investigation to determine possible predictors. In addition to variables identified in the literature (i.e. substance abuse, history of psychiatric admissions, and age), demographic, clinical, and forensic variables which are readily available to treatment teams via a patients' medical record were chosen for inclusion in the study.

2. Methods

2.1. Sample and setting

The sample consisted of forensic psychiatric patients conditionally discharged under a section 37/41 restriction order from the South London and Maudsley NHS Foundation Trust (SLaM) forensic inpatient services. SLaM is one of Europe's largest providers of secondary mental health care, providing care predominately for the London boroughs of Lambeth, Southwark, Croydon, and Lewisham [18]. The definition of a forensic patient differs across jurisdictions. In this paper, a forensic patient is defined as an offender who is suffering from a mental illness, and has been detained and treated under a section 37/41 restriction order. In the UK, a section 37, also termed a hospital order, is a court order imposed instead of a prison sentence in circumstances where, at the time of sentencing, the offender is found to be sufficiently mentally unwell to require hospitalisation. The section 41 restriction order is made in addition to the section 37. The restriction order affects leave of absence, transfer between hospitals, and discharge, all of which require MoJ approval [19].

2.2. Data collection

Data were collected using the Clinical Records Interactive Search (CRIS) system, an anonymised database of electronic medical records. The CRIS system, described previously in detail [18,20,21], provides authorised researchers with secure and regulated access to anonymised records for over 250,000 mental health service users within the SLaM Trust [18]. CRIS enables researchers to extract data from the structured and unstructured fields of the record. Baseline exposure data were collected retrospectively via CRIS and included demographic, clinical, and forensic factors (Table 1). Free text searching was used to identify relevant documents and variables were manually coded.

2.3. Outcome data

The study period extended for 6.25 years from January 2007 to April 2013. The starting point for the time period was determined by the availability of data held in the CRIS system. The data collection census date was 30th June 2013; allowing a minimum three-month follow-up. The primary outcome measure was formal readmission to secure care. In the UK, this is termed a "recall" to hospital authorised by the MoJ under section 37/41 of The Mental Health Act (1983) (MHA). Readmission to hospital in any other form, general or psychiatric, was not included.

The initial search identified 219 patients that had been placed under a section 37/41 restriction order. After individually screening each case, we excluded those discharged prior to 2007 or after April 2013, and those not conditionally discharged during the study period ($n = 104$). Cases were also excluded if the individual was no longer a SLaM patient due to being transferred to another healthcare provider or prison ($n = 13$), as we could not determine outcomes for these patients. Unconditionally discharged patients were excluded as they were no longer subject to the section 41 restriction order and hence not at risk of recall ($n = 1$). Individuals who were unconditionally discharged after a period of conditional discharge were censored at the point that the conditions were removed. The final sample consisted of all patients conditionally discharged, under a section 37/41 restriction order, within SLaM forensic inpatient services, between January 2007 and April 2013 (N = 101). Only data on the first recall of each patient within the follow-up period were included in statistical analyses.

2.4. Statistical analyses

Data were analysed using SPSS version 21. Time to recall for the total sample was examined using Kaplan-Meier survival analyses. Recalls were compared within the context of demographic, clinical, and forensic predictors using univariable Cox regression [22]. Cox regression was then used to construct a multifactorial prediction model of recall using significant predictors from the univariable analysis. Kaplan-Meier survival analysis was used to determine mean time to recall for individual predictors in post-hoc analyses. For the purposes of the survival analysis, all independent variables used were fixed time invariant including historical items on HCR-20 assessments.