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Predictors of frequent visits to a psychiatric emergency room: A large-scale register study combined with a small-scale interview study

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ABSTRACT

Background: The role of the psychiatric emergency services has undergone extensive changes following a significant downsizing of the number of psychiatric hospital beds during the past decades. A relatively small number of "frequent visitors" accounts for a disproportionately large amount of visits to psychiatric emergency services.
Objectives: To identify predictors of frequent use of a psychiatric emergency room at a Danish University Psychiatric Hospital through a 12-year period (1995–2007) and to speculate on how changes in the mental healthcare services affect predictors of frequent use through time.
Design: A large-scale register based logistic regression analysis combined with a small-scale explorative, interpretative interview study. Register data were drawn from the Danish Central Psychiatric Research Register. Four-year cohorts (1995, 1998, 2001 and 2004) of patients with at least one visit to the psychiatric emergency room were followed for 3 years to identify general trends of predictors throughout the period. A purposeful sample of 15 frequent visitors were interviewed about their personal motives for visiting the psychiatric emergency room, their pathways to care, and their social network and social support.
Results: The study identified two overall trends of predictors of frequent use of the psychiatric emergency room. *High use of psychiatric services: ≥5 visits to the* psychiatric emergency room, *≥3 admissions or ≥60 bed days during the year*, was and continued to be predictive of high use of the psychiatric emergency room throughout the whole period. Furthermore, the emergence and continual presence of the predictors: *severe mental illness* (1999-onwards), *substance abuse* (2002-onwards) and *sheltered housing* (2002–2003–2005-onwards) indicated changes in the general profile of frequent visitors to the psychiatric emergency room, where predictors related to illness behaviour were supplemented by predictors related to disease.
Conclusion: The changing profile of the conditions predicting frequent visits at the psychiatric emergency room was most probably related to the adverse effects of the continuous deinstitutionalising of the Danish mental health services and a radical health care reform. A basic multiplicative model was designed for the early detection of individual frequent visitors.

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What is already known about the topic?

- Downsizing the number of psychiatric hospital beds leads to increased burden on the psychiatric emergency services.
- A relatively small number of overusing, "revolving door" patients accounts for a disproportionately large amount of visits to PES
- It has not been possible to identify a consistent number of predicting factors of frequent visits to the psychiatric emergency services.

What does this paper add?

- Adverse effects of deinstitutionalisation had negative and adverse effects on frequent visitors' use of psychiatric emergency room resources.
- The study identified two overall trends of predictors of frequent use of the psychiatric emergency room where illness behavioural predictors were supplemented by more disease related predictors.
- We developed a basic multiplicative model, which can be used for the early detection of individual frequent visitors.

1. Introduction

During the last decades, the burden on the psychiatric emergency services has increased significantly because of the diverse effects of a long-term deinstitutionalising of the psychiatric in-patient services and by increasing rates of substance abuse (Brown, 2005). A relatively small number of "frequent visitors" accounts for a disproportionately large amount of visits to psychiatric emergency services (Arfken et al., 2004; Chaput and Lebel, 2007a,b; Ledoux and Minner, 2006; Pasic et al., 2005; Saarento et al., 1998). Increasing workloads in psychiatric emergency services make it more difficult for psychiatric emergency staff members to find resources for providing quality care, and they may be antagonistic towards this resource-demanding group of frequent visitors (Arfken et al., 2002; Buus, 2011).

Recurrent visiting ("recidivism") and frequent visiting ("overuse") of psychiatric emergency services are under-researched areas. Research has primarily been based on analyses of research databases containing clinical data or on the abstraction of data from already existing clinical databases; both approaches rely on the accuracy of clinical diagnoses. Three central issues make it very difficult to compare and summarise results from this area of research: (1) A frequent visitor has no standard definition. One group of studies is concerned with *recurrent visiting*, meaning that patients return to a psychiatric service within a given period (up to 18 months) (Dhossche and Ghani, 1998; Goldstein et al., 2007; Klinkenberg and Calsyn, 1997; Kolbasovsky and Futterman, 2007; Segal et al., 2002; Spooren et al., 1997). Another group of studies is concerned with *frequent visiting* of psychiatric emergency services and defines frequent visitors as: having between $\geq$3 and $\geq$11 visits during index periods ranging from 6 months to 15.5 years (Arfken et al., 2004; Chaput and Lebel, 2007a,b; Ledoux and Minner, 2006; Perez et al., 1986). Moreover, one study defined frequent visitors as the upper 10th percentile of contacts (Saarento et al., 1998), and another study defined frequent visitors as "patients with visits at least two standard deviations above the mean number of visits" or 6 visits in a year, or four visits in three months (Pasic et al., 2005). (2) Studies are conducted in different psychiatric healthcare contexts, which produce different pathways to care and have different gate-keeping mechanisms. The psychiatric emergency services encompass a range of services (Brown, 2005) and studies of recurring visiting and frequent visiting have, when specified, included diverse contexts such as psychiatric emergency rooms (Ledoux and Minner, 2006), psychiatric emergency referrals in general emergency rooms (Perez et al., 1986), and emergency outreach services (Saarento et al., 1998). (3) Study objects vary. The majority of studies are concerned with all patients visiting a given psychiatric emergency service, whereas other studies are concerned with smaller sub-samples of visitors, e.g. involuntary returns (Segal et al., 2002), issues of healthcare insurance (Kolbasovsky and Futterman, 2007), child and adolescent patients (Goldstein et al., 2007), or racial issues (Klinkenberg and Calsyn, 1997).

These three issues may explain why it has been difficult to identify a consistent number of predicting factors of recurring visiting and frequent visiting at psychiatric emergency services in studies published since 1995. Studies of recurring visiting at psychiatric emergency services have identified a number of predicting factors: Male gender (Spooren et al., 1997), younger age (Dhossche and Ghani, 1998; Spooren et al., 1997), schizophrenia (Dhossche and Ghani, 1998), psychosis (Dhossche and Ghani, 1998; Segal et al., 2002; Spooren et al., 1997), substance abuse (Dhossche and Ghani, 1998; Spooren et al., 1997), dangerousness (Segal et al., 2002), insurance (Kolbasovsky and Futterman, 2007; Segal et al., 2002), unemployment (Dhossche and Ghani, 1998), prior psychiatric hospitalisation (Klinkenberg and Calsyn, 1997; Kolbasovsky and Futterman, 2007; Spooren et al., 1997), use of psychiatric emergency services (Klinkenberg and Calsyn, 1997), enrolment in a mental health plan (Klinkenberg and Calsyn, 1997), and self-referral (Spooren et al., 1997).

Studies of frequent visiting at psychiatric emergency services have identified a number of predicting factors: Male gender (Ledoux and Minner, 2006), younger age (Chaput and Lebel, 2007a,b; Ledoux and Minner, 2006), schizophrenia (Chaput and Lebel, 2007a,b; Perez et al., 1986), personality disorder (Pasic et al., 2005; Perez et al., 1986), developmentally disabled (Pasic et al., 2005), co-morbid diagnosis (Chaput and Lebel, 2007a,b), non-active psychosis (Ledoux and Minner, 2006), pharmaceutical drug abuse (Ledoux and Minner, 2006), history of detoxification (Pasic et al., 2005), economic impairment (Chaput and Lebel, 2007a,b; Ledoux and Minner, 2006), unreliable social support (Pasic et al., 2005), homelessness (Arfken et al., 2004; Pasic et al., 2005), living alone (Saarento et al., 1998), uncooperativeness (Pasic et al., 2005), self-referral (Ledoux and Minner, 2006), enrolled in a mental health plan