Abstract  In the Netherlands mental hospitals and psychiatric departments in general hospitals kept the initiative in implementing community-based replacements for inpatient care. The goal of this study is to determine to what extent day treatment, sheltered residences and assertive home treatment were effective alternatives, rather than additions to inpatient care. All adult users and their use of intensive community- and hospital-based services between 1989 and 1997 were retrieved from the Groningen case register. Statistics about changes in the use of mental health care provisions were corrected for changes in the population as to size and age. The number of patients in day treatment, sheltered residences and in particular home treatment grew between 1989 and 1997 to a large degree, as did their average use of these services. In that same period inpatient care lost some, though not many patients, but the average length of their stay in the hospital was reduced by 33%. Analysis of treated incidence and prevalence showed that the implementation of alternatives to hospital-based care did not attract new patients but kept patients longer in mental health care.

Key words  Deinstitutionalization · Mental health services · Epidemiology · Prevalence · Incidence

Introduction

In the Netherlands, as in many other countries (Thornicroft and Bebbington 1989; Kluiter 1997 a), it has become standard policy to reduce the number of mental hospital beds in favour of a variety of community and outpatient services. The criticisms of the traditional medical model, the poor quality of the housing of psychiatric inpatients and the rising costs of mental health care were some of the more important causes to rethink Dutch mental health care in the 1970s. Initially, the Dutch government took a leading part in the innovation of mental health care. Ambulatory outpatient care was concentrated into regional institutes (RIAGGs). The main task of these institutes was psychotherapeutic and social-psychiatric treatment (Ministry of Public Health and Environmental Affairs 1974). Though they flourished in the 1980s, policy-makers acknowledged (Ministry of Welfare, Public Health and Cultural Affairs 1984; 1986) that the RIAGGs failed to cater for those with serious mental illness. As to the reduction of inpatient care, attention shifted to a regionally organised, coherent and flexible array of psychiatric services including day treatment, sheltered residences and home treatment (Ministry of Welfare, Public Health and Cultural Affairs 1993). The goal was to deliver tailor-made and community-based care and aftercare without major changes in the mental health care budget. The growth of community care was to be financed by the reduction of the expensive inpatient care in both mental hospitals and psychiatric departments in general hospitals.

Though the Dutch government supported local experiments with community care (Wiersma et al. 1994) and eliminated barriers for change in the structure of funding and insuring mental health care (Oldehinkel 1997), the implementation of innovations in mental health care was left explicitly to the service providers. In the Netherlands there has not been a government-imposed deinstitutionalization. Psychiatric hospitals were not closed but took a leading role in the provision of day and home treatment. The development of sheltered residences was initiated by patient organisations.

National statistics about admissions, capacity, patients, employees and costs all pointed at a rapid growth of the use of day treatment and sheltered residences in the early 1990s. Outpatient care and inpatient care increased much less (Bijl and Ten Have 1997; Ministry of
Welfare, Public Health and Sports 1997). These statistics do not necessarily mean that all types of mental health care expanded without a partial replacement of inpatient care. Between 1988 and 1998 the Dutch population increased from 14.7 to 15.7 million (Statistics Netherlands 1988; 1998). In that same ten-year period the mean age of the Dutch rose from 35.8 to 37.4 years. National statistics about mental health care do not fully account for these changes in the population that may cause the growth of the volume of mental health care, thereby concealing the substitution of intensive community care for inpatient care. Because national statistics contain double counts of patients and the patients’ age is unknown, corrections of these statistics for a growing and ageing population are at best incomplete.

Another problem in the interpretation of national statistics is the lack of information on patient characteristics like their history of service utilisation. The Dutch regional institutes for ambulatory outpatient care and community health care centres in the UK, the USA and Finland (Borus 1978; Sayce et al. 1991; Korkeila et al. 1998) were criticised for their tendency to stay away from long-term patients with severe and persistent mental illness and attract new and less disturbed patients. If this criticism would also hold for the apparent growth of sheltered residences, day treatment and home treatment, it will be necessary to know which patients use what types of care.

These difficulties in interpreting national statistics, which are caused by a lack of person related data, are common in many countries (Haug and Rössler 1999). Except for Denmark with its nation-wide Psychiatric Case Register (Munk-Jørgensen 1999), in most countries detailed analysis of the effects of changes in mental health policy has to be based on local case registers. In this study the Groningen psychiatric case register was used to determine whether and to what extent in recent years:

- Less people used inpatient care facilities,
- The length of stay in inpatient care decreased,
- More patients used both hospital- and community-based care,
- Day treatment, home treatment and sheltered residences were all contributing to the partial replacement, if any, of inpatient care,
- The growth of day treatment, home treatment and sheltered residences was caused by attracting new and less disturbed patients.

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>The Netherlands</th>
<th>Case register area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatients</td>
<td>24440</td>
<td>24620</td>
</tr>
<tr>
<td>Patients in day treatment</td>
<td>4880</td>
<td>8990</td>
</tr>
<tr>
<td>Patients in sheltered residences</td>
<td>3610</td>
<td>5480</td>
</tr>
</tbody>
</table>

### Methods

The Groningen case register covers all contacts of the 450,000 inhabitants of the province of Drenthe with local mental health care providers except for psychotherapy in private practices, which constitutes only a very small part of Dutch outpatient care (Bijl and Ten Have 1997). All contacts are linked to each patient in the database by a unique case identifier. In this way each patient’s career in mental health care can be followed from 1986 to, at present, 1997.

The generalisation of case register data to the rest of the Netherlands is not as straightforward as a statistical inference from nationwide sample or population data would be. The province of Drenthe is a semi-rural area with slightly lower prevalence and incidence than the other two Dutch case registers found in their highly urbanised areas Rotterdam and Maastricht (Kooi et al. 2000), in particular for the patients in outpatient clinics. The early work of the largest provider in the register area in day and home treatment for patients with serious mental illness shows in the comparison of local and nation-wide trends in mental health care statistics. Nation-wide counts of patients on 31 December 1990 and 1 January 1997 in all psychiatric hospitals, including forensic psychiatry and specialised drug abuse clinics, and psychiatric departments of general hospitals are available for adults (Bijl and Ten Have 1997; Ten Have and Bijl 1998). These counts cannot be interpreted as point-prevalences due to double counts, the lack of counts of, for instance, patients in home treatment and the problems with adequate corrections of the nation-wide counts for the growth and increasing mean age of the Dutch population. These calculations were replicated for the province of Drenthe (Table 1). They show that the Netherlands is lagging somewhat behind compared to Drenthe with regard to the replacement of inpatient care.

On the other hand this means that Drenthe differs to some extent from the other parts of the Netherlands in the locally available array of mental health services and its use. On the other hand these differences are limited because the Dutch mental health care is regulated at a national level as to funding, quality control and policy development. For that reason the findings based on the Groningen case register is an acceptable estimate of current national trends in Dutch mental health care, even though a national case register would be the only way to obtain precise estimates.

The main objective of mental health care reform in the Netherlands is to reduce full-time hospitalisation in mental hospitals and psychiatric departments of general hospitals in order to enable the patient to live an independent life with as little social and economic exclusion as possible. For children who usually live with their parents and older patients that are increasingly dependent on care in psychogeriatric homes, the general pursuit of inclusion focused on the improvement of housing and life in the institution rather than the provision of community-based care. Accordingly, sheltered residences, day care and home treatment have been stimulated and researched (Kluiter et al. 1995; Kluiter 1997b) in psychiatric services for adults. Analyses of case register data were therefore limited to the 20- to 64-year-old patients in inpatient care and its alternatives: day treatment, sheltered residences and home treatment.

The oldest entries in the case register date back to the first of January 1986. Incidence in 1989 can therefore only be established for the previous three years. In order to avoid artefacts in the comparisons between years, the treated incidence in 1990 and later years were also defined as the number of patients that were not in care at any moment in the preceding three years.