

The Closure of a Mental Hospital in Sweden: Characteristics of Patients in Long-Term Care Facing Relocation into the Community

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Summary. A political decision to decentralize psychiatric care in a county of Sweden was made in October 1984, leading to the closure of the only large mental hospital in the area (290,000 inhabitants). The hospital is of the traditional type, with 490 beds and 1,294 staff members. It has units for long-term care, short-term care and rehabilitation and a unit for research and education. The long-term care is to cease completely and be replaced by community-based alternative types of care. In this study, the long-term population ($n = 199$) was characterized and their levels of functioning were measured. The results showed that 91% of the patients were 65 years old or more and that more than half of them were organically demented. Only 20% were chronic schizophrenics. All patients were cognitively impaired and 80% were also impaired in ADL functioning. A correlation between length of stay in hospital and ADL functioning was found in the organically demented group, but not in the group of chronic psychiatrically ill patients. Thirty-nine per cent of the population were severely impaired in ADL functioning and needed nursing care around the clock; 34% were moderately impaired and needed help and support that could be given in alternative types of care; 27% were not impaired at all to mildly impaired and could be relocated to some type of service apartment. Thus, all patients needed sheltered living arrangements and care provided by staff with adequate training.

Key words: Long-term patients – Closure – Mental hospital – Level of functioning – ADL

Introduction

In several industrialized countries, including Sweden, the political policy has been to shift the emphasis of

health care for the mentally ill from hospitals to the community. By providing psychiatric services in the patients' home districts, it is possible to restore institutionalized patients to the community and to reduce the number of new admissions to major hospitals with large catchment areas. Alternative types of care are intended to replace hospital care as far as possible. If long-term psychiatric patients are to be provided with adequate care, the requirements of this type of patient must be taken into account in the development of alternative psychiatric services. There are few studies aimed at ascertaining the requirements of patients in mental hospitals. In two large mental hospitals in the United Kingdom, Levene et al. (1985) found a high proportion of elderly patients, most of whom were so impaired that they needed residential care. Lawton et al. (1977) found that, in a large U.S. mental hospital threatened with closure, the majority of chronic mentally ill patients needed types of care that were not available in the community.

The consequence of the shift in policy is closures of mental hospitals, with varying lengths of transition periods, during which alternative district-based psychiatric services have to be developed.

The Situation at St. Jörgen's Hospital

In October 1984, the authorities of the county of Bohuslän in Sweden decided to close St. Jörgen's Mental Hospital. This decision is in line with the view on future psychiatric care taken by the National Swedish Board of Health and Social Welfare. St. Jörgen's Hospital, together with a small psychiatric unit in another town, provides psychiatric services to a catchment area of 290,000 people in the county of Bohuslän. The hospital is situated in the southernmost part of the county (Fig. 1). It has 420 beds and 1,293 staff members. There are units for short-term care, long-term care and rehabilitation, and also for research and training. It is a typical, traditional mental hospital, situated in a quiet valley with a beautiful park.

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In the hospital area are staff residences, a library, a shop and a café.

The long-term care in St. Jörgen's Hospital is to cease completely by January 1992, which means that the transition period will be 8 years. After the closure, it is anticipated that the general hospitals already existing in the county will provide short-term psychiatric care. One of the hospitals will house psychiatric research and education. The present long-term psychiatric care is to be replaced by alternative types of community care and/or psychiatric services, for instance living arrangements where nursing staff tend to the patients, and, for patients who live in their own homes, assistance from the social welfare authorities and/or the home nursing service. Local nursing homes will care for some of the patients. At the time of the political decision to close St. Jörgen's Hospital, there were no plans for the development of a new organization or alternative types of psychiatric care.

The Aim of the Study

As the above-mentioned political decision particularly affects long-term care patients, our aim was to characterize this population with regard to background data, diagnoses and degrees of functional impairment. This characterization may be useful in the planning for the relocation of these patients and serve as the basis for follow-up studies.

Patients and Methods

The study included all patients in the long-term unit of St. Jörgen's Hospital as of October 1985. From the case records, we gathered data on the patients' age, sex, length of stay in the hospital and diagnosis (according to ICD-9). As the 14 districts of the catchment area are to share the responsibility for the care of these patients, we also recorded the patients' home districts. We divided the patient material into five subgroups on the basis of their diagnoses: organic dementia disorders (ICD number 290, 294); chronic schizophrenia (ICD number 295); other chronic psychoses: the group includes patients with chronic affective and paranoid psychoses (ICD number 296, 297); dementia associated with alcoholism (ICD number 291); miscellaneous chronic disorders: the group includes mentally retarded patients, patients with non-psychotic disorders and organic personality disorders (ICD number 300, 301, 310, 318).

The Gottfries-Bråne-Steen (GBS) scale (1982), a geriatric rating scale, was used to assess the degree of ADL functioning and mental impairment. The scale is divided into three subscales. One measures impairment of motor performance (ADL functioning) and has 6 items: dressing/undressing, taking food, physical activity (e.g. walking), spontaneous activity, personal hygiene and control of bladder and bowel. Two subscales with 11 and 3 items, respectively, measure impairment of intellectual and emotional functions. In addition to the subscales, six symptoms are also measured: confusion, irritability, anxiety, fear-panic, depressed mood and restlessness. "Con-

fusion" means a disturbed level of consciousness and is equivalent to the concept of delirium in English. Each item is scored on a seven-point scale, ranging from 0 to 6, with 0 representing normal function or absence of symptoms (0-2 is defined as no to mild, 2-4 as moderate, and 4-6 as severe impairment).

The GBS subscale "Impairment of motor performance" (GBS-M) measures ADL functioning, and this subscale has been validated against the Katz ADL scale (Katz et al. 1963), which is a well-known scale used to measure the ADL functioning of chronically ill patients in an ageing population. To validate the GBS-M scale, ratings were performed in a group of elderly patients ($n = 66$) who were not housed in the hospital but in a nursing home not included in this study. The patients were rated by a registered nurse using first the GBS-M scale and 1 week later the Katz ADL Index. Analysis of the results of the ratings showed good agreement between the two scales ($r = 0.90$; Pearson's product moment correlation). The agreement was also found to be high ($r = 0.86$) when ratings were done by two independent raters (registered nurses), each using one of the two scales, in a group of 33 psychogeriatric patients. Thus, we considered it appropriate to use the GBS-M scale as an ADL scale.

The registered nurses who rated the patients in this study were specially trained in GBS scale ratings. The reliability of the scale in the hands of registered nurses, psychologists and physicians has proved satisfactory and the validity of the scale is well documented (Bråne 1989).

Statistical Analysis

We used the Kruskal-Wallis test for comparisons between the groups. If significant differences between the groups appeared, we used a distribution-free multiple comparison based on Kruskal-Wallis rank sums to identify which group differed significantly from the others (Hollander and Wolfe 1973). Fisher's exact test was used for differences between the sexes. Correlations between variables were analysed using the Spearman correlation test.

The Ethics Committee of the University of Gothenburg approved the study.

Results

At the time of the study (October 1985), there were 199 patients in the long-term care wards of St. Jörgen's Hospital. The 14 districts in the catchment area are presented in Fig. 1, as are the numbers of patients from each district. The largest numbers of patients came from the three districts that are closest to the hospital, while, on the whole, there were fewer patients from the other districts. Six patients came from the district of Gothenburg, although this district does strictly not belong to the catchment area of the hospital.

The most common diagnosis was organic dementia disorders ($n = 115$), followed by chronic schizophrenia ($n = 39$), other chronic psychoses ($n = 18$), dementia as-

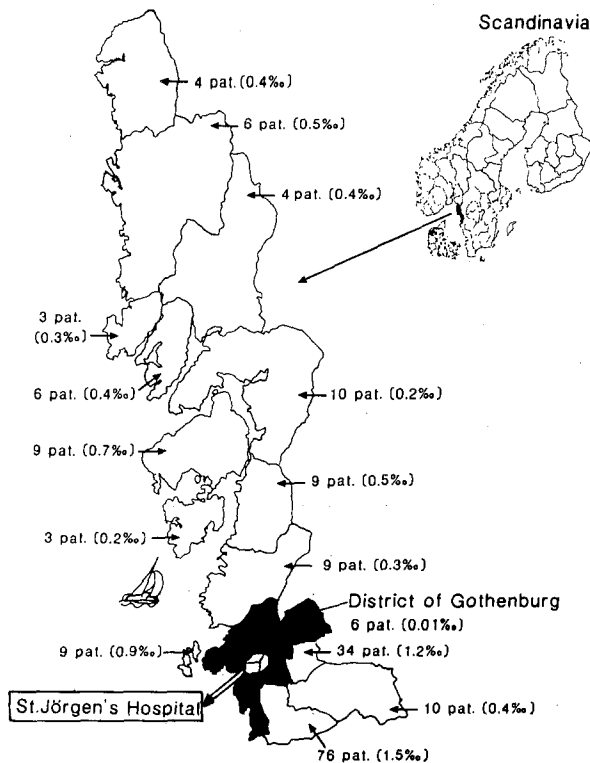


Fig. 1. Distribution of 199 patients over the county of Bohuslän in figures and as per mill of the number of inhabitants in each district

sociated with alcoholism ($n = 12$), and miscellaneous chronic disorders ($n = 15$) (Table 1).

The age range for the total group was 42–98 years; 9% were under 65 and 18% over 85 years. Fifty-six per cent were women, most of whom were organically demented (69%); only 15% were schizophrenics. Among the men, 44% were organically demented, 25% schizophrenics and 14% alcoholics. The range of length of stay in St. Jörgen's Hospital was 1–59 years for the total group; 19% had stayed 1 year or less and 20% had stayed more than 10 years. Table 1 shows the characteristics of the subjects in each diagnostic group.

Since the results of the ratings revealed few differences within the subgroups chronic schizophrenia, other chronic psychoses, dementia associated with alcoholism and miscellaneous chronic disorders, these subgroups were combined. Thus, in the further analysis of the data, two groups are discussed: patients with organic dementia disorders (here called the organically demented group) and patients with chronic psychiatric disorders (here called the psychiatrically ill group).

The Organically Demented Group

In the organically demented group, 20% of patients were not at all to mildly, 29% moderately and 51% severely impaired in motor performance (ADL functioning) (mean

Table 1. Characteristics of 199 long-term care patients in St. Jörgen's Mental Hospital

Diagnostic groups	<i>n</i>	%	Males	Females	Age (years)		Length of stay (years)	
					Median	Range	Median	Range
Organically demented	115	57.8	38	77	81	49–94	3	0–14
Schizophrenics	39	19.6	22	17	73	54–98	6	1–59
Other psychotics	18	9.0	8	10	75	61–94	10.5	0–54
Alcoholics	12	6.0	12	0	72.5	42–88	4	0–25
Miscellaneous	15	7.5	7	8	77	63–92	3	0–15
Total	199		87	112	79	42–98	5	0–59

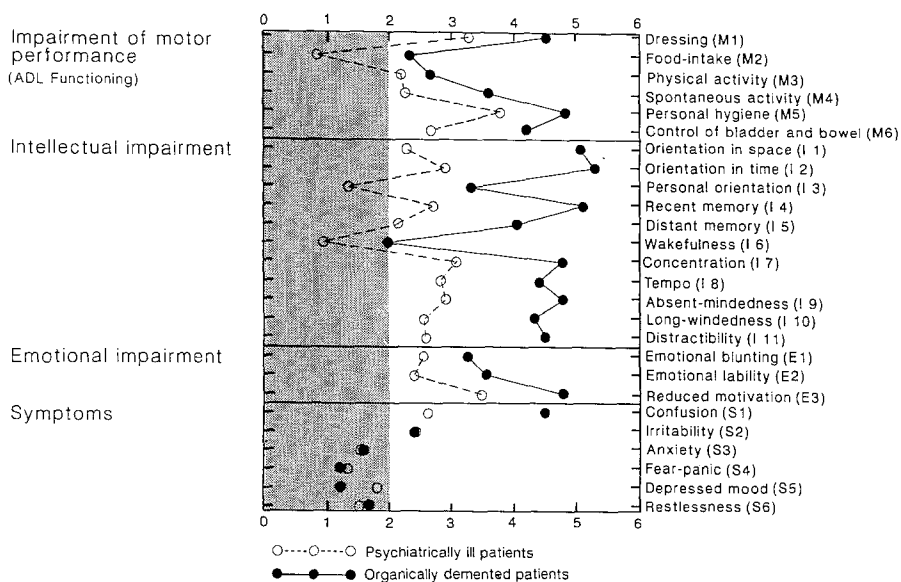


Fig. 2. Mean scores for the group of organically demented patients and the group of psychiatrically ill patients at each item on the Gottfries-Bråne-Steen scale. The shaded area represents normality or mild disturbance, 2–< 4 moderate and > 4 severe impairment or presence of symptoms

score 3.69, SD 1.79). Insufficiency in managing personal hygiene (M5) gave the highest mean score: 4.85, SD 1.76. Insufficiency in dressing and undressing (M1) and control of bladder and bowel (M6) also gave high scores (mean value 4.55, SD 1.88 and 4.19, SD 2.17, respectively). Least impaired was the ability to eat (M2) (mean value 2.32, SD 2.35). No ADL function showed normal values.

The demented group was, on an average, severely intellectually impaired (mean score 4.35, SD 1.44), and only one item, wakefulness, gave scores below 2.0 points. Ten of 11 items gave scores above 4.0, the most impaired among intellectual functions being orientation in space (I1) (mean 5.08, SD 1.58), orientation in time (I2) (mean 5.31, SD 1.54) and recent memory (I4) (mean 5.11, SD 1.57). Distant memory (I5) (4.04, SD 1.94) was also among the most impaired functions.

The results of the ratings of emotional impairment showed that, on average, emotional functions were moderately to severely impaired (mean score 3.98, SD 1.60), motivation (E3) being the most impaired function (mean 4.81, SD 1.65).

The results of the symptom ratings showed that the most severe symptom was confusion (S1) (mean score 4.50, SD 1.79), and that irritability (S2) was present to a moderate degree (mean 2.38, SD 1.77). The other symptoms showed normal means. Figure 2 shows the results.

The Psychiatrically Ill Group

In the psychiatrically ill group, 37% of patients were not at all to mildly, 40% moderately, and 23% severely impaired in motor performance (ADL functioning) (mean score 2.50, SD 1.66). Ability to eat (M2) was the only function that showed normal values (mean 0.83, SD 1.71). Insufficiency in managing personal hygiene (M5) had the highest mean: 3.79, SD 1.96, but also insufficiency in dressing and undressing (M1) and control of bladder and bowel (M6) showed high values (mean 3.27, SD 2.08 and 2.68, SD 2.52, respectively). Thus, these data showed substantial impairment in ADL functioning in this group.

On average, these patients were moderately impaired in intellectual functions (mean score 2.42, SD 1.59). Two functions, personal orientation (I3) and wakefulness (I6), showed normal values and none of these items gave scores above 4.0 points. The most impaired functions were concentration (I9) (mean 2.92, SD 2.05), orientation in time (I4) (mean 2.91, SD 2.45) and absent-mindedness (I8) (mean 2.83, SD 1.77).

The results of the ratings of emotional functions showed that, on average, the psychiatrically ill group was moderately impaired (mean score 2.90, SD 1.51), motivation (E3) being the most impaired function (mean 3.48, SD 1.82).

The results of the symptom ratings showed that the symptoms confusion (S1) and irritability (S2) were present to a moderate degree (mean 2.62, SD 1.89 and 2.40, SD 1.42, respectively), while the other symptoms showed normal means. Figure 2 shows the results.

Comparisons of the Organically Demented Group and the Psychiatrically Ill Group

The organically demented patients were 6 years older (mean 80 years, SD 7.5; median age 81) than the psychiatrically ill patients (mean 74.4 years, SD 9.9; median age 75) ($P < 0.001$). Significant differences ($P < 0.001$) were also found between the two groups in length of stay in the hospital. The psychiatrically ill group had stayed longer (median 9 years, range 1–59, mean 17.0, SD 18.3) than the organically demented patients (median 3 years, range 1–14, mean 3.8, SD 2.8). The ratio of men to women differed significantly ($P < 0.001$), with 67% women in the organically demented group and 42% in the psychiatrically ill group.

Results of GBS-M ratings (ADL functioning) showed that, on an average, both groups deteriorated in ADL functioning to such an extent that they could not independently manage the activities necessary for daily living. The organically demented group was even more impaired than the psychiatrically ill group ($P < 0.001$).

Results of the ratings also showed that both the organically demented group and the psychiatrically ill group were impaired in their intellectual and emotional functions, but again the organically demented group was more impaired ($P < 0.001$).

Concerning the results of the symptom ratings, confusion and irritability were present in both groups. The only difference between the two groups was that the organically demented patients were confused to a more severe degree than the psychiatrically ill group ($P < 0.001$).

ADL-Functioning Level in Relation to Age

The correlation between age and the results of the ratings of GBS-M (ADL functioning) was studied. A significant correlation was found in the psychiatrically ill group ($P < 0.002$): high age was related to high ADL score. In the group of organically demented patients, no such significant correlation was found.

ADL-Functioning Level in Relation to Length of Stay

The correlation between length of stay (years) in the hospital and the results of the ratings of GBS-M (ADL functioning) was also studied. A significant correlation was found in the organically demented group ($P < 0.001$): long stay in the hospital was related to high ADL score. In the psychiatrically ill group, no such correlation was found.

Discussion

This study set out to estimate the requisite level of care in future decentralized psychiatric services by evaluating to what extent the long-term patients were disabled and which of their functions were disturbed. The study was carried out 1 year after the decision was made to close the hospital, by staff members who will soon have to leave their work at the hospital and, therefore, could in-

roduce a bias. Yet a questionnaire survey showed that most of the staff members had accepted the decision (Dencker 1989). The circumstances were about the same in the American study of Lawton et al. (1977).

For the ratings we chose the GBS scale, which has been constructed in the hospital's research unit. It is an observer rating scale and, therefore, suitable for a patient sample consisting of elderly people, most of whom were suffering from dementia and/or disturbed ADL functioning. Besides, the nurses in the hospital were well trained in the use of the scale.

The psychiatric hospitals were originally built to care for psychotic patients, thus offering facilities suiting psychiatric patients' need of rehabilitation, care and recreation. This study showed, however, that more than half (56%) of the patients housed in the long-term care unit were organically demented, that is, they constituted a type of patients with other needs than psychotics. Only 46% of the psychiatrically ill patients were schizophrenics and 21% were chronic psychotics. In a British study (Levene et al. 1985), 34% of the patients in a mental hospital were demented and the figure was 20% in an American study (Lawton et al. 1977).

It is evident that diagnosis is of importance, as it provides a clear distinction between the organically demented group with a higher rate of deterioration than the group of psychiatrically ill patients. All the patients in our study were impaired in intellectual and emotional functions, but decisive for an elderly patient's degree of dependency, and accordingly the type of care he or she needs, is the ability to manage the basic activities of daily living (Donaldson et al. 1980; Donaldson and Jagger 1983; Carnevalli 1983; Greenblatt and Glazier 1975). Since our study was concerned with relocation of long-term patients from a psychiatric hospital, most of whom were elderly, these patients' need of care is discussed in relation to their ADL functioning.

The length of stay in the hospital was short (median 3 years, range 0–14) in the organically demented group. Yet our study showed a strong correlation between time spent in hospital and ADL score in this group. This stresses the inexorable progressiveness of organic dementia. The rapid deterioration of ADL functioning among organically demented patients ought to be taken into consideration in the planning of the care.

Eighty-five per cent of the psychiatrically ill patients in our study were 65 years old or more. In this group there was a strong correlation between age and ADL functioning. These patients had spent many years in the hospital, as, in spite of great efforts with drug treatment and intensive rehabilitation, they have not been cured to such an extent that they could resettle in the community. Thus, these patients constituted a highly selected group with severe psychiatric handicaps. In this investigation, their psychotic symptoms have not been studied, but an English study showed that long-stay elderly schizophrenics were so disturbed that it would set them apart in the community (Curson et al. 1988). Probably this is true also for "our" patients. When planning future care for this group, both behavioural disturbances and age ought to be taken into consideration.

Thirty-nine per cent of the total group of patients were severely impaired in ADL functioning. Most of them were organically demented (76%); only 9% were schizophrenics and they were dependent on the staff for assistance in all activities of daily living. They were also severely cognitively impaired and severely confused. Studies by Goldfarb et al. (1966), Brauer et al. (1978) and Donaldson et al. (1980) have shown that the 1-year death rate for elderly institutionalized patients with poor mental status and high dependency to perform ADL is 35–40%. Since the close-down of the studied hospital extends over a period of 8 years, it is likely that most of the patients with severely impaired ADL functioning will die before the final closure. If patients with severely deteriorated ADL functioning are relocated into the community, they will require care around the clock and fully supervised living arrangements. This care could, for example, be provided in nursing homes. The relatives' opinions and the availability of adequate care ought to determine whether or not such patients should be relocated before the closure of the hospital.

Thirty-four per cent of the total group were rated as moderately impaired in ADL functioning. More than half of them (51%) belonged to the psychiatrically ill group. Patients with moderately impaired ADL functioning were dependent on staff to dress and undress and to manage their personal hygiene; and they were incontinent several times per week, but could eat and walk without assistance. These patients were not so impaired in their ADL functioning that they will need the kind of all-embracing care given in nursing homes. Alternative types of community care ought to be developed for this group. Such alternative care has not existed before but is now in planning. One such alternative could be a small house or apartment where 4–6 patients could live together, each with his or her own room, but with a common place for meals and recreation. It may be questioned whether organically demented patients should be mixed with psychiatrically ill patients in such small units. For psychiatrically ill patients with moderately impaired ADL functioning, ethical as well as local resources and individual reasons must determine whether these patients can be trained to be more independent in ADL functioning and consequently suitable for a more independent form of living.

Only 27% of the total group were not at all to mildly impaired in ADL functioning. Most of them (57%) belonged to the psychiatrically ill group. It has to be stressed that these patients were cognitively impaired. Those among them who have relatives for whom it is possible to look after them could be relocated to their own homes. The alternative is to relocate them to some type of service apartment, where services are given in the form of food and cleaning and where staff is available. In both cases, this sheltered living arrangement must be combined with a certain amount of supervision from the home help service and with support from well-organized psychiatric services.

Sandman (1986) studied elderly mentally ill patients before and after relocation to a nursing home and found that elderly chronic psychotic patients improved their

ADL functioning after relocation and that this improvement was stable for 9 months. The organically demented group improved their ADL functioning during the first 3 weeks in the new place, but then returned to the baseline ADL scores. One explanation of the positive outcome of the relocation to the nursing home could be that the staff were positive and well educated and had met "their patients" in the hospital before the relocation. Linn et al. (1985) studied 403 mentally ill patients relocated to four different types of care over 1 year and found that the elderly chronic schizophrenics changed their ADL functioning for the worse when relocated to a nursing home, but improved when moved to another ward in the mental hospital. They also found that the demented patients did not change their ADL functioning in any of the settings. The explanation given of the bad outcome of the relocation to the nursing home was that the staff were trained in somatic and not psychiatric care.

This indicates that the staff's knowledge and experience are important factors for a successful relocation. When alternative types of care are developed for elderly psychiatrically ill and organically demented patients, it is very important to employ staff trained in psychiatric care. The results of this study indicated that nursing homes will be required for severely disabled patients. Most of the existing nursing homes were built to care of patients with somatic disorders, and accordingly the staff have been trained in somatic, but not psychiatric care. If these nursing homes are to be used as substitutes for a mental hospital, they must at least employ nursing staff with adequate psychiatric training. The competence of the staff is one guarantee that nursing care will not be poorer than in the mental hospital.

Conclusion

In a mental hospital scheduled to close down within 8 years, more than half of the patient population in long-term care were organically demented. Ninety-one per cent were 65 years old and above and cognitively impaired. Eighty per cent were also impaired in ADL functioning. A high percentage of patients with severely impaired ADL functioning will either die before the closure of the hospital or will have to be relocated to nursing homes. Patients with moderately impaired ADL functioning (34%) ought to be relocated to alternative types of community care, which have not yet been developed, but are in planning. Only 27% of the patients could manage their ADL and might be relocated to service apartments or back home if they have relatives to look after them with support of day-care centres, home

help and well-organized psychiatric services. It is very important that staff educated in psychiatric care are employed in all such types of services so as to guarantee the quality of care for the former patient population of a mental hospital.

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