Psychological Medicine, 2005, **35**, 421–431. © 2004 Cambridge University Press
DOI: 10.1017/S0033291704003502 Printed in the United Kingdom

The severely mentally ill in residential facilities: a national survey in Italy

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ABSTRACT

Background. In Italy, Residential Facilities (RFs) have completely replaced Mental Hospitals (MHs) for the residential care of mentally ill patients. We studied all patients resident in 265 randomly sampled Italian RFs (20% of the total).

Method. Structured interviews focusing on each patient were conducted by trained research assistants with the manager and staff of each RF. Patients were rated with the HoNOS and the GAF, and comprehensive information about their sociodemographic and clinical status and care history were gathered.

Results. Of the 2962 patients living in the sampled facilities, most were males (63·2%) who had never married, more than 70% were over 40 years; 85% on a pension, most commonly because of psychiatric disability. A substantial proportion (39·8%) had never worked and very few were currently employed (2·5%); 45% of the sample was totally inactive, not even assisting with domestic activities in the facility. Two-thirds had a diagnosis of schizophrenia; co-morbid or primary substance abuse were uncommon. Twenty-one per cent had a history of severe interpersonal violence, but violent episodes in the RFs were infrequent. The managers judged almost three-quarters appropriately placed in their facilities and considered that very few had short-term prospects of discharge.

Conclusions. Italian RFs cater for a large patient population of severely mentally ill requiring residential care. Discharge to independent accommodation is uncommon. Future studies should attempt to clarify how to match residential programmes with patients' disabilities.

INTRODUCTION

Recent developments in community-based mental health services and more effective biological and psychosocial treatments have failed to prevent the accumulation of a substantial number of severely ill patients who require long-term care in non-hospital Residential Facilities (RFs) (Lamb & Bachrach, 2001; Priebe & Turner, 2003). These include a variety of residential settings such as 'group homes', 'intermediate facilities', 'wards in the community', 'board-and-care homes', or 'supervised hostels'. Despite the magnitude of this development, most detailed studies have investigated small samples of residents (Andrews *et al.* 1990; Mowbray *et al.* 1992; Rimmerman *et al.* 1993). Larger studies have been conducted in the USA (Randolph *et al.* 1991) and in the UK (Faulkner *et al.* 1993; Lelliott *et al.* 1996), but these surveys

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https://doi.org/10.1017/S0033291704003502 Published online by Cambridge University Press

did not assess individual patients in detail. Only two detailed longitudinal studies on smaller samples of residents have provided important information about this population (Segal *et al.* 1993; Leff & Trieman, 2000).

In Italy, with the realization of the reform law which has led to the closure of all Mental Hospitals (MHs) (de Girolamo & Cozza, 2000), all patients deemed to require long-term residential care are admitted to RFs, whereas in most other countries RFs coexist with MHs in a sort of two-tier system, with the latter usually caring for the most disabled patients. Although there are not official or standardized criteria to be used by clinicians to refer patients to these facilities, which is the source of a predictable inconsistency in residents' selection, patients admitted to a RF usually have severe difficulties living in the community due to clinical problems (e.g. positive and negative symptoms, aggression, physical disabilities), have severe disabilities in daily living skills and very often lack of adequate family support.

In order to evaluate the residential care system, the Italian National Institute of Health launched the PROGRES project (PROGetto RESidenze, i.e. Residential Care Project). The first phase of the project aimed at obtaining general data on all Italian RFs, including basic demographic and clinical characteristics of residents, staffing arrangements, regional provision, functioning style and resident turnover rates. The study found a total of 17 138 beds in RFs, i.e. 2.9/10 000, with a marked regional variability (de Girolamo *et al.* 2002). Half of RFs have been opened since 1996, when economic incentives were provided to complete the closure of MHs and the relocation of all former MH residents.

The second phase aimed at assessing in detail a large, representative sample of facilities and the patients living there. The present study focuses on patients' characteristics and has two major aims: (1) to describe in detail the sociodemographic and clinical characteristics of a large, representative sample of patients living in RFs in a country which has completely replaced MHs; (2) to identify predictors of expected discharge in order to ascertain to which extent RFs can facilitate patients' achievement of more independent functioning. With regard to residents' discharge, we hypothesized that the likelihood of discharge would be very low for patients coming from former MHs, but higher for those patients who had never been admitted to a MH, and that it would be associated with the level of social support available outside the facilities. Moreover, given the expected relationship between greater psychosocial impairment of patients and higher intensity of care, we were interested in estimating the strength of this association.

METHOD

In Phase 1, the general characteristics of all 1370 Italian RFs and the residents were surveyed (de Girolamo *et al.* 2002). All regions participated in Phase 2, except Abruzzo, where organizational problems prevented a detailed survey of that region's 64 RFs with 856 patients. Within each region, a random sample of approximately 20% of the RFs assessed in Phase 1 was selected; based on the results of Phase 1, we calculated that a 20% sample of facilities would have yielded a final sample of approximately 3000 patients, sufficiently large to compare different subgroups of residents with various sociodemographic, clinical and treatment characteristics. However, in two large regions (Lazio and Sicily), financial reasons prevented us from evaluating 20% of their RFs and a quota of 10% was selected. In contrast, three regions (Molise, Tuscany and Trento), that were able to contribute with additional local resources to the project, assessed a higher proportion of RFs. Therefore, the total sample included 265 RFs, i.e. 19·3% of all Italian RFs, caring for 2962 patients.

Each RF was visited by a research assistant who completed a standardized assessment of the facility and of each resident with the manager and staff. The patient assessment included sociodemographic, clinical and treatment information. A centralized training in administering and rating the patients' schedule was organized for all regional coordinators. They in turn trained research assistants in those regions where additional raters were employed. Patients' background information was based on clinical records, while current clinical, psychosocial and treatment status was obtained from staff. In the same manner as in the British Residential Study (Lelliott *et al.* 1996), managers were also asked

https://doi.org/10.1017/S0033291704003502 Published online by Cambridge University Press

to predict each patient's placement in 6 months' time, in order to evaluate the likelihood of discharge. In addition, the following standardized instruments were administered:

(1) The Health of Nation Outcome Scale (HoNOS) was employed to assess psychopathology and disability (Wing *et al.* 1998); it includes 12 five-point items (0–4, where 3–4 indicates relevant or severe problems) that evaluate clinical and social functioning in the last 2 weeks. Two subscores (clinical and social) can be derived by summing relevant items.

(2) The Global Assessment of Functioning (GAF; Moos *et al.* 2000).

(3) The Physical Health Index (PHI), a measure of physical health status (O'Driscoll & Leff, 1993).

These instruments were selected because they had been used in similar surveys, and would facilitate comparisons.

Standardized mortality ratios (SMRs) were computed to compare death rates in the facilities during the previous year with the expected age- and gender-specific mortality rates for Italy in 1997, the last year for which official data are currently available.

Data analysis

Statistical analyses were made with SPSS, version 8.0 for Windows (SPSS Inc., Chicago, IL, USA). Descriptive analyses examined the frequency of variables of interest. The χ^2 test with Yates' correction (for 2×2 tables) was used to analyse differences between groups on categorical variables. *t* tests were used to study differences on continuous variables between two groups, and one-way ANOVA was used for multiple groups with *post-hoc* pairwise comparisons made with the Bonferroni method. Finally, multiple logistic regression analysis was used to identify variables associated with the predictions of imminent discharge by the managers.

RESULTS

A detailed description of the care provided in the facilities and of their staffing and environmental characteristics is beyond the scope of this paper and will be discussed elsewhere. However, some basic information will be presented here in order to put the patients' findings into their proper context.

Most RFs were independent buildings, located in urban and suburban areas, with a median number of 10 residents per facility. Three-quarters (74·8%) of facilities had 24-hour staff cover. On average, each RF had 10 full-time equivalent workers, with a staff/resident ratio of 0·92. Most professional input was provided by nurses and auxiliary staff (52·8% of the total number of weekly hours). Standardized assessment instruments were used routinely in only one-third, while clinical records were kept in almost all RFs (96·6%). A variety of rehabilitation activities were performed: social skills training was available in 38·1% of RFs and involved 808 (27·1%) patients; less structured activities aimed at basic resocialization were available in 70·2% of RFs and involved 1562 (52·7%) patients; internal job training was available in 24·9% of the RFs and involved 244 (8·2%) patients. Several external activities were also carried out: joining local clubs, involvement in activities carried out by local associations, and activities aimed to enhance neighbourhood awareness were promoted by approximately 70% of facilities.

Sociodemographic characteristics

Table 1 shows the main sociodemographic characteristics of the 2962 residents. Some information was not available. However, missing data never exceeded 10%, except for a few items on physical health.

Males were younger than females (mean = 48·6 years *v.* 50·9 years for females); less likely to have never married (11·4% *v.* 29·3%); to have worked (16·2% *v.* 13·0%); to have had compulsory admissions (42·0% *v.* 34·3%); to have shown violent behaviours (32·3% *v.* 14·6%), or to have been arrested and convicted (11·5% *v.* 1·6%) ($p < 0{\cdot}001$ for all comparisons). On the other hand, on some variables female residents were rated more frequently than males: having a diagnosis of bipolar disorder (6·0% females *v.* 3·0% males); to have had major affective symptoms in the last 5 years (52·2% *v.* 39·5%) or to participate in internal activities in the residence (62·1% *v.* 50·6%) ($p < 0{\cdot}001$ for all comparisons).

More than 85% of the residents had a pension; for 75% this was a disability pension due

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Table 1. *Sociodemographic characteristics of residents in Residential Facilities* ($n = 2962$)

	n	%
Gender		
Male	1873	63·2
Female	1089	36·8
Age groups (years)		
16–29	251	8·4
30–39	570	19·2
40–49	647	21·8
50–64	1015	34·3
65+	479	16·2
Civil status		
Never married	2418	82·0
Separated or divorced	313	10·6
Widowed	86	2·9
Currently married or cohabiting	131	4·4
Education		
Illiterate	395	13·9
Primary school	1023	35·9
Junior high school	986	34·6
Senior high school	407	14·3
University degree	36	1·3
Occupational status		
Currently unemployed	2536	87·9
Full or part-time ordinary work	74	2·5
Supported employment	169	5·9
Other (housewife, student, etc.)	107	3·7
Best occupational status ever achieved		
Never worked (including homemakers and students)	1113	39·8
Unskilled worker	952	34·0
Skilled worker	698	24·9
Professional	35	1·3
Former place of residence		
Home	715	24·6
Other residential facility	692	23·8
General hospital psychiatric wards	411	14·2
Mental hospital	849	29·3
Forensic mental hospital	50	1·7
Other (e.g. jail, homeless, general hospital, etc.)	185	6·4

Table 2. *Clinical characteristics of residents in Residential Facilities* ($n = 2962$)

	n	%
Primary diagnosis		
Schizophrenic disorders	2001	68·2
Bipolar disorders	120	4·1
Personality disorders	250	8·5
Mental retardation and organic brain disorders (including dementia)	382	13·1
Substance or alcohol abuse	24	0·8
Other disorders (e.g. unipolar depression, anxiety disorders, eating disorders, other psychiatric disorders)	155	6·7
Symptom pattern		
Persistent positive symptoms	1498	52·3
No positive sympoms in the last 5 years	942	32·9
Persistent negative symptoms	1300	44·4
No negative symptoms in the last 5 years	1298	45·4
Persistent affective symptoms	844	29·5
No affective sympoms in the last 5 years	1597	55·8
Illness duration (years)		
1–5	214	7·2
6–10	279	9·4
11–15	333	11·2
16+	2136	72·1
Age of first contact with mental health services (years)		
<18	624	21·2
18–29	1643	55·7
30–39	459	15·6
40+	223	7·6
History of antisocial behaviour		
No	2168	74·2
Severe interpersonal violence (including sexual violence)	610	20·9
Criminal behaviours without interpersonal violence	144	4·9
History of deliberate self-harm		
No	2288	78·2
History of self-harm	322	11·0
History of suicidal behaviours	317	10·8
Moderate and severe physical disabilities		
Cardiovascular	203	7·5
Respiratory	141	5·2
Digestive	133	5·0
Urogenital	121	4·5
Motor	214	8·0
Central nervous system	160	5·9
Endocrinological-metabolic	191	7·1
Infective (including HIV+)	52	1·9

to mental disorder; 26·5% were legally incompetent. Among patients who were living at home when they were admitted ($n = 715$), the majority ($n = 461$, 64·5%) lived with parents.

Clinical characteristics

The most common diagnosis was a schizophrenic disorder (68·2%). Only 4·6% had a secondary diagnosis of alcohol abuse or substance abuse. In half (54·7%) of this 'dual diagnosis' group, the primary diagnosis was schizophrenia.

The median age at first contact with services was 22 years and the median duration of illness was 25 years.

Aggression and violence

Table 2 also shows data about antisocial and violent behaviours. One-fifth (20·9%) had a record of severe interpersonal violence, including sexual aggression. However, almost two-thirds reported no aggressive acts during the past year. Frequent (11–20 times a year) or very frequent (at least weekly) antisocial or aggressive

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Table 3. *Current clinical and psychosocial status of residents in Residential Facilities* ($n=2962$)

	Mean ± S.D.	Median	Patients rated at least '3' on the HoNOS (%)
HoNOS scores			
Total score (range: 0–48)	13·5 ± 6·7	13·0	—
Aggression	0·8 ± 1·0	0	7·6
Self-harm	0·2 ± 0·6	0	2·1
Drug and alcohol use	0·2 ± 0·6	0	2·7
Cognitive problems	1·2 ± 1·3	1	19·5
Physical illness and disability	0·8 ± 1·2	0	13·7
Hallucinations and delusions	1·3 ± 1·4	1	23·1
Depression	0·9 ± 1·1	1	11·3
Other mental and behavioural problems	1·4 ± 1·3	1	22·0
Problems with relationships	1·9 ± 1·3	2	34·3
Problems with activities of daily living	2·0 ± 1·3	2	37·9
Problems with living conditions	1·8 ± 1·4	2	34·8
Problems with occupation and activities	1·7 ± 1·4	2	29·6
GAF scores ($N=2719$)	43·6 (S.D. = 17·9)	42·0	—

HoNOS, Health of Nation Outcome Scale; GAF, Global Assessment of Functioning Scale.

behaviours were reported in one-sixth; this included shouting (17·7%), threatening behaviour (13·6%), pushing another person (4·6%), slapping (3·5%) and punching (3·5%) another person. A small number (0·3%) had attacked another person with some form of weapon more than 10 times in the past year; another 26 (0·9%) had attacked people with a weapon on less than 10 occasions.

Inappropriate sexual behaviours were reported for 7·8%, with 2·5% behaving in this way more than 10 times in the past year. More serious sexual aggression was reported for 3·9%, with 1·2% patients acting in this way frequently.

Physical morbidity and mortality

Motor and cardiovascular problems of moderate or severe degree were the most common physical problems (Table 2). Daily assistance was needed for 77 patients (2·9%) with motor disabilities and 57 (2·2%) with cardiovascular problems. Faecal or urinary incontinence of moderate to severe degree was reported for 79 patients (3·2%); deafness or visual problems of moderate to severe degree was found in 81 (3·4%) and 45 patients (1·9%) respectively. Finally, 14·7% suffered from dyskinesias, that were moderate or severe in 4·9%.

The SMR, comparing the observed age-sex specific deaths during the previous year with expected deaths based on national population rates, was 2·51 for males (95% CI 1·83–3·36) and 4·49 for females (95% CI 3·03–6·41). The overall SMR was 3·05 (95% CI 2·41–3·84). In the 265 sampled facilities, three suicides occurred during the past year.

Current psychiatric and disability status

Table 3 shows the mean and median scores of the two assessment instruments. The most common HoNOS items rated moderate or severe were activities of daily living (37·9%), living conditions (34·8%), relationships (34·3%), occupation and activities (29·6%), hallucinations and delusions (23·1%).

On the GAF, almost half the residents (48·3%) had a score less than 40, indicating a marked degree of disability.

We explored the relationship between severity, as evaluated by HoNOS and GAF, and the care provided in terms of hours of daily cover (e.g. 24 hours or less). Residents in facilities with 24-hour care had HoNOS clinical (5·8, S.D. = 3·9) and social (7·3, S.D. = 3·9) subscores that were significantly higher ($p<0·001$) than the mean scores of patients living in RFs with less than 24-hour care (4·4, S.D. = 3·4 and 6·7, S.D. = 3·6 respectively). Similarly, GAF mean scores were significantly lower in the high-intensity care patients compared to those living in RFs with less than 24-hour care (42·6, S.D. = 17·6 *v.* 50·5, S.D. = 17·6; $p<0·001$).

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Table 4. *Characteristics of care of residents in Residential Facilities (RFs) (n = 2962)*

	n	%
Length of stay in the RF (years)		
<1	695	24·5
1–3	1147	40·3
4–5	482	17·0
6+	522	18·3
Intensity of contacts with services in the year prior to RF admission		
Occasional	453	16·8
Regular	214	8·0
Frequent	574	21·3
Intensive	1450	53·9
Social support in the last year		
Available and effective	565	19·1
Available but ineffective	889	30·1
Potentially available but difficult to mobilize	605	20·5
Absent	895	30·3
Appropriatness of the accommodation		
Appropriate	2173	74·0
Inappropriate	765	26·0
Prediction about the stay of the patient in 6 months' time		
In the same RF	2314	78·9
In another RF (with lower or higher intensity of care)	277	9·5
In a nursing home	70	2·4
Alone	91	3·1
With family	99	3·4
Other	81	2·8

Use of substances

Recent or current use of substances in the sample was low. Few patients used cannabis in the past year (3·3%), with similarly low use of psycho-stimulants (0·6%), opioids (0·8%) and hallucinogens (0·3%). Daily alcohol drinking was reported for 8·3% with a mean weekly consumption of 5·1 units (S.D. = 21·2). However, two-thirds (66%) smoked tobacco with an average daily consumption of 15·2 (S.D. = 15·3) cigarettes. A quarter (23·2%) smoked more than 20 cigarettes a day. Most patients (58·8%) did not drink caffeinated beverages excessively (e.g. >5 cups of coffee a day), and were considered not to drink any alcohol (71·7%).

Characteristics of past and current care

Table 4 shows some characteristics of care of residents in RFs. The median time spent in the current residence was 1·9 years. One fifth (20·1%) had spent a total of 1–5 years in any in-patient psychiatric facility, while 50·0% had spent more than 5 years; the mean length of lifetime stay in any psychiatric setting was 4·6 years (S.D. = 1·6). Many patients (39%) had been compulsorily admitted at least once.

Almost half (45·1%) the residents were not involved in any regular activities inside the facility and were considered generally inactive, while the remaining residents were involved in a variety of household chores.

The cohort was categorized into three groups according to their previous hospital admissions: (i) 1390 (48·3%) had at least one admission to a former MH; (ii) 1201 (41·7%) had been admitted only to a general hospital psychiatric ward (and never admitted to a former MH); and (iii) 187 (6·5%) had at least one admission to a forensic MH. Compared to the other two groups, Group 1 (e.g. former MH patients) was older (57·2 years compared to 41·2 and 51·4 respectively; $F = 580{\cdot}45$, $p < 0{\cdot}001$), more likely to have worked, to be illiterate, to cooperate poorly, to be inactive in the facility and to be physically impaired ($p < 0{\cdot}001$ for all comparisons). The former MH group had also lower GAF scores (40·6 compared to 46·1 and 43·7 in Groups 2 and 3 respectively; $F = 28{\cdot}55$, $p < 0{\cdot}001$) and was judged less likely to be discharged within the following 6 months.

Variables associated with prediction of discharge

For three-quarters (74·0%) of patients their current residence was deemed appropriate by the facility managers (Table 4). Patients considered inappropriately placed in their current residence were more likely to have been in a MH ($p = 0{\cdot}001$), to have spent more time in the RF, and to have higher scores on the HoNOS clinical and social subscores ($p < 0{\cdot}001$ for both comparisons). For 28·1% a RF with less intensive care was considered more appropriate, while for 23·4% a nursing home providing more physical care was regarded as the best placement. This group with physical needs was significantly older than the rest of the sample (67·9 *v.* 48·3 years, $p < 0{\cdot}001$).

Managers predicted that in the following 6 months most patients would remain in their current residence. Only 6·9% were foreseen as being able to move to an independent accommodation or to live with their family. To identify variables associated with a higher likelihood of predicted discharge, multiple logistic regression

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Table 5. *Logistic regression analysis of variables associated with expected discharge*

Variable		OR	(95% CI)
Former stay in mental hospital	No *v.* yes	3·5	(2·2–5·5)
Type of management of the residential facility	Public *v.* private	2·2	(1·4–3·4)
Social support	Scarcely effective *v.* ineffective	1·4	(0·8–2·7)
Social support	Partially effective *v.* ineffective	2·1	(1·2–3·6)
Social support	Effective *v.* ineffective	3·0	(1·7–5·4)
GAF score	30–39 *v.* 0–19	2·4	(0·3–20·8)
GAF score	40–49 *v.* 0–19	4·5	(0·6–32·1)
GAF score	50–59 *v.* 0–19	7·6	(1·1–52·9)
GAF score	60–69 *v.* 0–19	20·8	(3·0–142·4)
GAF score	70–79 *v.* 0–19	23·9	(3·5–164·5)
GAF score	>79 *v.* 0–19	50·4	(7·3–347·8)
Length of stay	2·5–5 *v.* >5	2·0	(0·8–4·9)
Length of stay	1·5–2·5 *v.* >5	2·9	(1·2–6·9)
Length of stay	0·5–1·5 *v.* >5	5·7	(2·5–12·8)
Length of stay	<0·5 *v.* >5	11·6	(5·1–26·2)

OR, Odds ratio; CI, confidence interval.
GAF, Global Assessment of Functioning Scale.

analysis was performed on the following 10 variables: gender, age, length of illness, former admission to a MH, type of management of the RF (public/private), length of stay in the RF, social support, involvement in activities in the RF, cooperation, and GAF score. To evaluate the joint role of all these variables, a step-down procedure was employed, removing the variables not significantly associated with expected discharge: gender, length of illness, involvement in internal activities, age and cooperation (in this order). The final model included type of management of the RF, former admission to a MH, social support, GAF score and length of stay in the RF as variables significantly ($p<0{\cdot}001$ for all comparisons) and independently associated with the probability of expected discharge. No significant interaction was found and residual analyses did not show outliers or influencing observations. Odds ratios together with 95% confidence intervals for the final model are reported in Table 5. The prediction of discharge was higher for those patients living in public RFs, never admitted to a MH, with an available and effective social support system, a higher GAF score and a shorter length of stay in the current RF.

DISCUSSION

The PROGRES project is the largest and most representative survey of patients in residential facilities to date. Although it is a cross-sectional survey, its large scale makes it possible to draw conclusions about the care of the severely mentally ill in a country that no longer has any MH establishments. It provides data that may be helpful to clinicians and policy makers in other nations facing similar policy changes in the system of mental health care.

The two main sources of information in the study were clinical records and staff evaluations. We did not carry out interviews with patients themselves, and this may have resulted in some inaccurate responses. However, most questions could be answered clearly by the facility managers and staff. It is clear from this survey that highly disturbed and/or difficult to treat patients, who have been the focus of concern in other countries (Lelliott *et al.* 1996; Lamb & Bachrach, 2001), are living in residences together with patients characterized by high social disability who have a precarious adjustment in the community.

Overview of residents

Residents were typically middle aged, predominantly single males suffering unremitting schizophrenic symptoms since early adulthood, who seldom abused alcohol or drugs other than tobacco. They lacked vocational skills and have never worked. Residential care was paid entirely by public funds but disability pensions helped provide personal needs. Despite extensive

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psychiatric treatment, only few have shown any progress towards recovery. These findings are similar to those of earlier smaller surveys (Andrews *et al.* 1990; Mowbray *et al.* 1992; Segal *et al.* 1993; Okin *et al.* 1995), as well as of the only large survey, carried out in the UK (Lelliott *et al.* 1996).

Only 1 in 20 had a co-morbid substance abuse. This contrasts with reports of frequent drug abuse among the mentally ill (Weaver *et al.* 2003). In a survey of 68 RFs managed by the Veterans Administrations in the USA, with a mean number of almost 43 patients in each facility, Timko *et al.* (2003) found a rate of 52·5% of dual diagnoses among patients admitted per month; it should be noted that these patients had an average length of stay of only 14·4 weeks. The low rate of substance abuse in our sample may be due to intake screening that excluded residents with either alcohol or drug problems in more than half (59·1%) the residences. The specific clinical needs of dual-diagnosis patients merit further scrutiny and may reveal problems that are not currently being addressed by the current system of long-term care.

Identification of resident populations

We found that patients previously admitted to a MH or a forensic MH differed from patients never detained in these institutions. It may be questioned whether it is opportune to have these different patient populations living together. Heterogeneous populations may present difficulties in group environments and treatment programmes need to address patients' specific individual goals. However, the few attempts made so far to propose different objectives for RFs have rarely been based on a detailed assessment of residents' characteristics (Coulton *et al.* 1985; Segal & Kotler, 1993). An essential step forward would be to devise typologies of residential care that are based on data from representative surveys such as this.

Antisocial behaviours

About one-quarter of patients had a history of antisocial behaviour. However, the rate of violent behaviours reported during the stay in the current residence was low, and limited to a very small group of patients. This result is consistent with figures obtained in other studies (Mowbray *et al.* 1992; Flannery *et al.* 2000; Trieman & Leff, 2002). Many patients with antisocial behaviour are, therefore, likely to settle down in appropriate environments, but a small minority persist with aggression and violence, warranting specific programmes for their treatment.

Participation in chores

As in other surveys (Andrews *et al.* 1990; Segal & Kotler, 1993), nearly half of the residents did not participate in any chores within the residence. Although many inactive patients are old and cognitively impaired, specific pharmacological and psychosocial treatment of residual negative symptoms of schizophrenia may enhance activity among younger patients and should be disseminated in RFs (Falloon *et al.* 1998).

Physical infirmity

Despite their age, residents did not have high physical morbidity, and most general health needs appeared to be met. Physical limitations did not appear to play a significant role in the inactivity among residents.

The death rate was more than three-fold that of the general population; this is consistent with two other Italian studies carried out among long-stay psychiatric patients (Valenti *et al.* 1997; D'Avanzo *et al.* 2003). The reasons are not clear, but may involve poor nutritional habits, physical inactivity, heavy smoking and long-term exposure to psychoactive drugs. In a comprehensive study of 393 residents of sheltered facilities in California, Segal & Kotler (1991) found a similar SMR of 2·85. In the same cohort, two-thirds of the sample rated their health as good or excellent and were comparable to a low-income general population sample in terms of self-reported health status (Segal *et al.* 1993). Sheltered care was related to positive health status, probably due to the improved medical supervision.

Residents' perspectives and prediction of discharge

Our hypothesis that the likelihood of predicted discharge would have been very low for most residents coming from former MHs was confirmed. However, the similarly low predicted discharge rate for the other patients was not predicted.

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Viewed from a deficit perspective, patients' short-term prospects would appear grim, as reflected by the pessimism expressed by the managers, who considered that very few residents could achieve a more independent lifestyle. Similar lack of achievement of social rehabilitation goals has been observed in the USA (Geller & Fisher, 1993; Segal & Kotler, 1993; Okin *et al*. 1995) and in the UK (Trieman *et al*. 1998). However, our survey revealed some potential resources for these severely ill patients. Almost one-fifth of them were considered to have an effective and available social support system, usually their family, who may be able to provide considerable assistance in case of discharge. Other studies have also found fairly good degrees of social support for residents (Nelson *et al*. 1997). Segal & Kotler (1993) estimated that living for 10 years in sheltered care is likely to reduce the probability of the average resident's family contacts by 31%. Residential programmes should do as much as they can to encourage emotional and practical support from families and friends, even when living together does not appear a viable option for many patients.

A logistic regression analysis showed that those residents who were less dysfunctional, had an effective social support system outside the residence, had not been long in residential care, and lived in public facilities were the most likely candidates for early discharge. Higher functioning and a shorter time spent in residential care suggest less severe disability. As expected, the availability of social support outside the system of care was associated with an increased likelihood of predicted discharge. This finding again underscores the need for clinicians to make efforts to preserve existing natural social support systems for patients requiring residential care, since this can significantly increase patients' ability to be discharged and move to more independent accommodation.

The much lower odds of predicted discharge observed in patients living in privately managed facilities raises some concern. Possibly, in these facilities more incentives should be provided to staff to promote discharge. Further, after 1·5 years of stay in a RF the odds of being a candidate for discharge decreased substantially. This finding may indicate a possible critical period for patients' rehabilitation, when extensive efforts may be particularly fruitful. However, due to the cross-sectional design of our study, residents who had spent more time in RFs were over-represented in our sample, and this precludes any firm conclusions about prospects of discharge. Prospective studies are needed to clarify this important clinical and social issue.

Treatment facilities or 'homes for life'?

It is likely that, even when optimal treatment is provided to all long-term patients, a small but substantial proportion of poor responders will remain, and for many patients residential facilities will probably be 'homes for life' (Trieman *et al*. 1998). Research studies on optimal residential options for different groups of patients are urgently needed, especially to identify specific typologies of residences that match specific patients' goals and needs with specific therapeutic environments and programmes. RFs should be improved in order to provide a greater range of rehabilitation services including social, occupational and therapeutic activities.

Some authors have argued that residential care has merely replaced large institutions with small asylums. However, several studies have shown that patients in RFs report a higher quality of life than those in traditional hospital settings (Warner & Huxley, 1993; Shepherd *et al*. 1996; Chan *et al*. 2003). In the 5-year TAPS (Team for the Assessment of Psychiatric Services) study, the most dramatic changes reported by patients discharged to a variety of community residences were their greatly increased freedom and their satisfaction with the community homes. Despite persisting symptoms, many patients were able to adapt well to community life (Leff & Trieman, 2000). Therefore, gains in quality of life and autonomy are important benefits that may be associated with the move to a variety of smaller residences.

CONCLUSIONS

A cross-sectional survey such as this may underestimate several issues. Patients who move quickly through the system either because they progress rapidly towards independent living, or are found to abuse substances or to exhibit unacceptable antisocial behaviour may be poorly represented, whereas the most disabled,

https://doi.org/10.1017/S0033291704003502 Published online by Cambridge University Press

who have little prospect of discharge, may continue to accumulate. It would be advisable to follow-up this unique cohort to improve our understanding of the benefits and limitations of residential resources.

Little is known about the optimal approaches to provide for the entire range of residential care needs. Most national and international policies have been based on economic and humanistic concerns for adequate housing resources, rather than scientific evidence for effective rehabilitation of patients. In particular, the specific needs of very difficult patients, such as patients at high risk of violent behaviours and patients with dual diagnosis, seem to be met only marginally by the current Italian system and may require urgent solutions, based on evidence-based strategies of care.

RFs should be clearly differentiated based on their objectives: while some facilities should be clearly considered 'homes for life', providing a long-term, stable accommodation for severely ill and disabled patients with limited perspectives of independent living, other facilities should provide intensive rehabilitative care for a limited period of time to young patients characterized by greater chances of recovery; based on this distinction, individual targeted clinical and psychosocial treatment plans for each patient should be formulated and pursued.

APPENDIX

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ACKNOWLEDGEMENTS

The study was supported by a grant from the Italian National Institute of Health within the framework of the 'National Mental Health Project'. Dr Paola Bollini, Professor Tom Burns, Dr Paul Lelliott, Dr Tony Korris, Dr Mauro Percudani and Dr Richard Warner provided helpful comments on an earlier draft of the manuscript.

DECLARATION OF INTEREST

None.

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