Mental Health Rehabilitation and Recovery Services in Ireland:
A multicentre study of current service provision, characteristics of service users and outcomes for those with and without access to these services

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Executive summary

Vision for Change[12] provided a template for the modernisation of Irish mental health services based on the needs of the population. The inclusion of rehabilitation and recovery community mental health teams for people with severe and enduring mental illness endorsed the importance of rehabilitation within an effective mental health service.

The main function of mental health rehabilitation services is to provide specialist treatment and support to help people with complex mental health needs to gain or regain skills and confidence to achieve the same kinds of goals in life as other citizens: to live as independently as possible; to engage in rewarding activity; to have good relationships with family and friends; to have adequate income to support these goals; and to participate in society.

In order to further develop specialist rehabilitation and recovery mental health services, it is important to define the needs of individuals with severe and enduring mental health problems who are most disabled by their illness. Without an understanding of the needs of this group, comprehensive assessments cannot be carried out, targeted interventions cannot be implemented coherently and service planners cannot develop appropriate services. Despite their complexity, lengthy admissions and cost to the health service, until now there has been no description of the characteristics of the users of mental health rehabilitation services in Ireland and no evidence about the costs or effectiveness of these services.

This report describes the current provision of mental health rehabilitation services for the first time in an Irish context. It describes the characteristics of users of these services and compares clinical outcomes and costs of care for those receiving rehabilitation with those receiving care from standard sector services and awaiting rehabilitation services.

A national survey of mental health rehabilitation services was carried out as part of this study in 2008 which found the number of consultant led rehabilitation and recovery mental health teams to have increased from five to sixteen since 2006. This falls short of what was recommended in the *Vision for Change* strategy. It is also noteworthy that ten of the sixteen specialist rehabilitation services were serving populations greater than the 100,000 recommended by *Vision for Change*. The survey also found that all the mental health rehabilitation services were under resourced in terms of multidisciplinary input. Community rehabilitation teams were not found to be operating with the recommended "assertive outreach" model, either because of lack of local consensus about the role and function of the community rehabilitation component of the service, or because of lack of resources. These findings reflect the absence of an implementation strategy in developing community rehabilitation/assertive outreach teams nationally.

Most of the rehabilitation and recovery mental health services in Ireland acknowledged the presence of "new long stay" patients in local acute mental health units. This finding is in keeping with a previous Irish report "We have no beds...."[35] which found that 45% of acute beds were occupied inappropriately by non-acute patients. The study found that 40% of specialist rehabilitation services (and 75% of non-specialist services) lacked short-term inpatient rehabilitation beds for assessment and initial interventions: this can be compared to the UK where 77% of services had such facilities[38]. Most services also lacked access to low secure rehabilitation services.

Over a period of eighteen months, those who were in receipt of rehabilitation services were eight times more likely to successfully progress than those in receipt of standard care in terms of gaining and/or sustaining community discharge (for those recruited into the study as inpatients, this outcome was defined as achieving and sustaining community discharge and for those recruited as community patients it was defined as sustaining the community placement or progressing on to a less supported placement). Those who received rehabilitation services were also more

likely to show improvement in their social functioning. These findings were most impressive for those recruited as community patients, where those receiving rehabilitation services were fourteen times (95% CI 3.79 to 54.54) more likely to progress successfully over the eighteen months than those recruited as inpatients. Participants with challenging behaviours were found to be less likely to progress. This is not surprising and highlights the complexity of the client group and the need to identify evidence based medical and psychosocial interventions that may attenuate such behaviours. However, our study was unable to identify specific components of rehabilitative care associated with better outcome; the only factor we identified was being a community patient (rather than an inpatient) at recruitment. The intractable nature of those recruited as inpatients who remained inpatients eighteen months later reflects the level of disability and complexity in this group and the fact that many long stay inpatient units lack the necessary staff and therapeutic interventions to address treatment resistant illness and reduce associated risk behaviours[51,52]. Special consideration needs to be given to this group, and the staff working with them, to maintain hope for their recovery and prevent institutionalisation.

The findings from this study have demonstrated that rehabilitation services can positively impact on outcomes for individuals with enduring and complex mental health problems. However for these gains to continue and to ensure ongoing access to these services for others, there has to be movement through the system of inpatient rehabilitation and community based supported accommodation. The Irish mental health system militates against the progression of people towards greater independence because of lack of investment in supported housing and community mental health teams to support the social inclusion of those leaving rehabilitation services. This perpetuates the process of “institutionalisation” in the community as individuals remain in facilities that provide a higher level of support than they require because they have nowhere to move on to[18]. The pathways of care that support people’s rehabilitation and recovery from severe mental health problems is

inadequately described and resourced in Ireland and cannot currently achieve the aims for social inclusion of this group outlined in *Vision for Change.*

The study findings provide evidence for the clinical effectiveness of mental health rehabilitation services in supporting people to achieve and sustain community tenure and facilitate improvement in their social functioning. They promote and facilitate social inclusion for individuals with enduring mental illness by providing support and access to housing, employment and social/leisure activities in the community. Such activities reduce the burden on the families of those with severe and enduring mental health problems and potentially reduce the costs to society associated with lengthy hospital admissions and lack of productivity amongst this group.

Accurate cost data in relation to rehabilitation mental health services in Ireland were difficult to obtain. However, in both the rehabilitation and non-rehabilitation groups, service users had complex problems related to their enduring mental illness and histories of high use of acute admission services. Overall, costs for individuals in receipt of rehabilitation services and those awaiting them were similar since although those receiving rehabilitation had fewer inpatient admissions over the 18 month study period (the most expensive component of care), admissions that did occur were longer than those awaiting rehabilitation services. Those receiving rehabilitation also had more contacts with professionals and were more likely to be living in supported accommodation. Informal care costs and carer burden were not estimated in our study but it is almost certain that these would have been higher for individuals awaiting rehabilitation as they were more likely to be living with family or friends. It therefore seems families and informal carers are absorbing a significant health care burden for Irish society. A cost-effectiveness analysis was not undertaken, but the better outcomes found for individuals in receipt of rehabilitation suggests that these services are a worthwhile investment.

The report includes recommendations for further development and implementation of rehabilitation and recovery mental health services which would provide a spectrum of services for services users with severe and enduring mental illness to achieve their individual goals with varying levels of support given their level of disability, which would improve their outcomes and enable them to progress towards community living and social inclusion in line with *Vision for Change*.

Chapter 1
Introduction

What is Mental Health Rehabilitation?

Rehabilitation can be defined as: "*A whole system approach to recovery from mental ill health which maximises an individual`s quality of life and social inclusion by encouraging their skills, promoting independence and autonomy in order to give them hope for the future and which leads to successful community living through appropriate support*" [1].

Rehabilitation services aim to support people with complex mental health problems to gain or regain cognitive, emotional, social, intellectual, and physical skills needed to live, learn, work and function as independently as possible in the community with the least interference by symptoms[2]

Wykes & Holloway[3] defined the rehabilitation client group as "*people with severe and long-term mental illness who have both active symptomatology and impaired social functioning as a consequence of their mental illness*".

Despite the increased emphasis on community based mental health care, admissions to mental health units are clearly still necessary for some people in acute mental health crisis, some of whom require an extended period of inpatient rehabilitation prior to discharge to appropriately supported community accommodation. Such individuals are, by definition, "treatment resistant" in some way and require a longer period of inpatient care than is usually available in an acute admission ward. They mostly have diagnoses of severe and enduring mental health problems such as schizophrenia, recovery from which is complicated by the negative cognitive and conative sequelae of the illness and/or by co-occurring problems such as substance misuse or challenging behaviors[4].

Although certain factors have been found to influence the degree and speed of recovery for patients with a diagnosis of schizophrenia, such as specific forms of cognitive impairment[5,6,7], these factors are not specific to rehabilitation service users. Indeed, cognitive dysfunction has been found in up to 15% of people with schizophrenia living independently[8,9]. There is encouraging evidence that even those patients whose difficulties are considered most challenging are ultimately able to progress to supported community living[10].

Whilst the practice of rehabilitation psychiatry empowers individuals with complex mental health problems to achieve their personal goals and move towards recovery, the principles provide the framework within which these practices are delivered. Rehabilitation specialists from all the usual professional disciplines (occupational therapy, nursing, psychiatry, psychology, social work and a range of other therapists) carry out comprehensive and complementary assessments of individuals' symptoms, functioning and understanding of their illness in order to identify the interventions most likely to be useful to that individual. These include medical and psychosocial interventions to minimize symptoms and maximize functioning (e.g. reviewing and introducing new, sometimes complex medication regimes and graded self-medication programmes; review and management of physical health issues; assessment of activities of daily living, including self-care; the introduction of graduated individual and group activity programmes; cognitive behavioural therapy, psychoeducation, relapse prevention, social skills training, family interventions and other psychological interventions). This list is not exhaustive but gives a flavour of the complexity and the range of approaches required for this client group.

The aim is to promote personal recovery "whilst accepting and accounting for continuing difficulty and disability" and promoting "therapeutic optimism"[11]. These principles are integral to the Recovery orientation of services that aim to provide person centred, collaborative care with service users as partners. The increasing use of peer support and specific approaches such as "Wellness Recovery Action Plans" are part of this approach. As service users progress and are able to access

the community, vocational rehabilitation services, supported employment services, and self-help groups can also be included in the interventions employed to support further recovery. In addition, supported accommodation of various types is required for many to enable their continued progress whilst providing appropriate, tailored support. It follows that positive outcomes of specialist rehabilitation are likely to include improvements in quality of life and progression towards more independent, sustained and rewarding community living.

Mental Health Rehabilitation Services in Ireland

Successive mental health strategies and policy documents in Ireland have recommended the development of specialist rehabilitation mental health services to meet the needs of individuals with enduring mental illness[12,13,14] . In Ireland rehabilitation services for this group of patients evolved from the resettlement programmes that developed supported community residential accommodation for long-stay patients following the closure of large psychiatric institutions. The number of inpatients in psychiatric hospitals decreased from 19,801 in 1963 to 3,314 in 2007[15]. In parallel with this reduction in hospital beds there has been a significant rise in community based facilities. There were 942 places in community residences in 1983 increasing to 3065 in 2004[16].

However, despite the supportive policy, specialist rehabilitation services in Ireland are not well developed, particularly in urban areas where there can be high levels of socioeconomic deprivation, poor community supports and areas of rapid urbanisation. They have developed in a piece meal way nationally, with some regions being well provided for and others completely lacking any rehabilitation service provision. Similarly, their relationship to supported housing schemes varies across the country with resultant heterogeneity of systems and approaches. Where supported housing services do exist, they can have a rather limited vision of rehabilitation, perhaps due to the fact that they evolved from resettlement programmes, and they often lack multidisciplinary input. Therefore they have not

delivered active rehabilitation interventions to enable their service users to progress towards more independent living[16]. For these reasons many patients remain in supported community residential programmes for prolonged periods of time and only a minority move on to more independent living and reintegrate into local communities.

Added to this, there is still a significant number of "old long stay" patients residing in psychiatric hospitals who are difficult to place in the community due to the degree of disability they experience. Furthermore, the Mental Health Commission Annual Report of 2007 highlighted the increasing number of "new long stay" patients (patients in hospital for between one and five years) in acute admission units across Ireland, suggesting that this group may have more complex needs preventing their discharge that could be amendable to rehabilitation[15]. This is a heterogenous group with a range of diagnoses and needs who often exhibit challenging behaviours that make their care outside a hospital setting problematic[17]. This group has significant resource implications since inpatient service use is the most expensive component of mental health care[18].

The most recent mental health strategy in Ireland, *Vision for Change*[12], highlighted the under provision of specialist rehabilitation and Recovery oriented clinical services, inadequate access to vocational training programmes and employment opportunities, inadequate housing and accommodation options, lack of advocacy and peer support for individuals with enduring mental illness and the significant burden of care being provided by family and other informal carers.

Vision for Change[12] provided a template for the modernisation of Irish mental health services based on the needs of the population. The inclusion of rehabilitation and recovery community mental health teams for people with severe and enduring mental illness endorsed the importance of rehabilitation within an effective mental health service. It recommended the expansion and development of specialist rehabilitation and recovery services in Ireland. Thirty nine specialist rehabilitation

and recovery community mental health teams were to be developed with one multidisciplinary team per 100,000 population (i.e. around three per mental health catchment area). Each team was expected to have a consultant psychiatrist, team co-ordinator and practice manager. Teams were encouraged to adopt the assertive outreach approach in providing intensive community based support and interventions[19].

Further recommendations included the provision of specialist mental health supported accommodation and vocational rehabilitation. Thirty 24-hour-staffed residences in large urban areas (with a maximum of ten beds per unit) and fewer in areas with lower deprivation levels were suggested. In addition, it was recommended that opportunities for independent housing for service users to move on to as they gained independent living skills should be provided by local authorities in order to ensure move through from these higher supported placements. Rehabilitation and recovery services were also advised to develop local connections with statutory and voluntary service providers of employment and training and one or two day centres per catchment area were also recommended to provide individualised programmes for service users unable to use community based employment or recreational activities[12].

Vision for Change[12] emphasised a strong commitment to the principle of recovery and the need for training in recovery oriented clinical practice for all staff working in rehabilitation and recovery services. It also recommended the development of specialist services such as the psychiatry of old age and learning disability services. Finally, it recommended that evaluation of rehabilitation and recovery services should incorporate quality of life measures and assess the benefit of these services to service users and their families. However, *Vision for Change*[12] has not been fully implemented. As a result, mental health services in Ireland continue to be mainly medical and nurse led services. There is a lack of access for service users to psychological, social and occupational therapies. Rehabilitation mental health services, which have a particular need for multidisciplinary involvement, are still

poorly developed and remain inaccessible to the majority of individuals with severe and enduring mental illness who live in the community.

Aims of the study

In order to further develop specialist rehabilitation and recovery mental health services, it is important to identify the needs of individuals with enduring mental illness who are most disabled by their illness. Without an understanding of the complex needs of this group, comprehensive assessments cannot be carried out, targeted interventions cannot be implemented coherently and service planners cannot develop appropriate specialist rehabilitation and recovery services. Despite their high needs, lengthy admissions and cost to the health service, there is no current description of the characteristics of the rehabilitation service users in Ireland and no evidence about the costs or effectiveness of these services.

This study attempted to address some of these evidence gaps. It was carried out between 2007 and 2010 and aimed to:
i) describe current rehabilitation service provision in Ireland;
ii) describe a representative sample of users of these services and investigate clinical outcomes and costs for those receiving and those wait listed for rehabilitation;
iii) investigate service and service user characteristics associated with better clinical outcomes.

The report first describes the methods and results of the national survey of rehabilitation services in Chapter 2. Chapter 3 describes the methods and results of the prospective study comparing outcomes for users of rehabilitation services and those referred to them (wait listed). Chapter 4 describes the methods and results of the health economic component of the study. Chapter 5 discusses the interpretation of the results of all components of the project. Chapter 6 draws conclusions and makes some recommendations based on the findings of this study.

Chapter 2
National survey of mental health rehabilitation services in Ireland

Methods

The national survey of mental health rehabilitation services was conducted between January 2008 and March 2008. AI and EL identified 26 of the 31 mental health catchment areas of the Health Service Executive (the national body for health service provision in Ireland) where mental health rehabilitation services existed in some form[15]. A 23 item questionnaire was developed by the authors (available on request) and sent to the consultant psychiatrist responsible for each mental health rehabilitation service. The questionnaire collected information about service structures, staffing, case load, referral process, remit of the service and access to other services. Definitions were provided to categorise hospital and community based facilities as described in Box 1 below. The questionnaire was mailed or emailed and non-responders received a telephone reminder after one month.

Data analysis

Data were entered into the statistical software package SPSS v. 12[20]. Descriptive statistics were used to describe service characteristics.

Results

Response

Fifteen of the 26 mental health areas that had a rehabilitation service fulfilled the *Vision for Change*[12] criteria for specialist mental health rehabilitation services. All 15 areas had dedicated rehabilitation teams and a consultant psychiatrist who was the clinical leader. One area had two specialist rehabilitation teams (Dublin North West).

All 16 specialist teams responded to the survey. Of the remaining 11 mental health areas, completed questionnaires were received from four, giving an overall response rate of 73% (19/26). Three of these four areas regarded their service as providing rehabilitation, despite the fact that they were not led by a full time consultant psychiatrist. These are referred to as "non-specialist" services. The remaining service was a general adult service that provided some rehabilitation interventions and due to its major deviation from the usual configuration of rehabilitation services, it was excluded from the results.

The role of the specialist rehabilitation mental health service

Respondents were asked what they felt the main role/s were for rehabilitation services. Responses were received from 11 specialist and two non-specialist services and grouped into similar themes (see Table 1). The majority felt that rehabilitation services focused on improving the functioning of service users with complex mental health needs. There was also recognition of the importance of vocational rehabilitation and addressing future accommodation needs in this aim, though some respondents appeared to use more old fashioned terms such as "resettlement".

Table 1. The role of mental health rehabilitation services

	N=13*
Service for individuals with severe and enduring mental illness and complex needs	6
Recovery oriented/based service	5
Increase biopsychosocial functioning	4
Maximise functioning of clients	4
Co-ordination of vocational rehabilitation inputs	4
Management of complex cases and treatment resistance	2
Resettle long stay patients/rehabilitation patients/ address accommodation needs	4
Provide care in least restrictive environment	1
Client centred care planning	1
Share care with clients	1
Advice on out of area treatments	1

*multiple responses from individual respondents included

Population size and context

Table 2 shows the population and bed provision in each service. The mean population for the catchment areas of the fifteen specialist rehabilitation mental health services was 147,328 (range 83,000-260,000). Four services (26%) were urban (Dublin South and Southwest, Dublin North West, Dublin North and North Co Dublin), five (33%) were rural (Kerry, North Cork, Sligo/Leitrim, Cavan/Monaghan and Mayo) and six (40%) covered both urban and rural areas (Clare, Donegal, Laois/Offaly, Limerick, Waterford and Wexford). The urban services had a mean population of 207,000 (range 143,000-260,000), the rural services had a mean population of 110,000 (range 83,000-140,000) and the mixed urban and rural services had a mean population of 138,106 (range 110,800-183,863). All the specialist mental health rehabilitation services had one team except Dublin North West where there were two (total 16 teams in 15 specialist mental health rehabilitation services). Nine (56%) teams were community and hospital based, five (31%) were solely community based and two (13%) solely hospital based. Six teams had access to acute beds in a psychiatric hospital and the remaining ten had access to acute beds in a psychiatric unit in a general hospital.

The three non-specialist mental health rehabilitation services were: Kildare West (mixed) rural and urban population of 205,000); South Tipperary (rural population of 84,000) and East Galway (rural population of 110,000). All three non-specialist mental health rehabilitation services had one rehabilitation team each. The East Galway team had access to acute beds in psychiatric hospitals whilst the other two teams accessed acute beds in the psychiatric units of their local general hospitals.

Inpatient and community rehabilitation beds

Inpatient and community rehabilitation beds were defined as shown in Box 1. The total number of rehabilitation beds per service was calculated by adding hospital based rehabilitation (non-acute) beds (intensive rehabilitation, long stay, low secure

beds under the clinical responsibility of rehabilitation team) and community rehabilitation beds (high, medium and low support hostel beds excluding group homes).

Box 1. Definitions of hospital and community based rehabilitation facilities.

Hospital based facilities

Intensive rehabilitation units: Dedicated mental health inpatient rehabilitation units
Long stay units: Dedicated inpatient units for "old long stay" patients (inpatients for over 5 years).
Low secure units: Dedicated inpatient units that deliver intensive, multidisciplinary treatment and rehabilitation for detained patients who present with serious behavioral disturbance.

Community based facilities

High Support Hostel: Community based unit with 24 hour nursing care on site.
Medium support Hostel: Community based unit with 12 hour nursing care on site and 24 hour care support staff (unqualified) available/on call.
Low Support Hostel: Community based unit with 12 hour care staff availability and visiting nursing staff.
Group home: Community based unit with visiting nursing staff support only.

The number of hospital and community based beds available in each service is shown in Table 2. The mean number of beds per 10,000 total population in the specialist mental health rehabilitation services was 4.1 for urban services, 6.4 for rural services and 7.0 for mixed urban/rural services. For non-specialist rehabilitation services the corresponding numbers were 6.9 for rural services and 1.3 for mixed urban/rural services. There were no statistically significant differences in total bed numbers per 10,000 population between urban, rural or mixed urban/rural services.

Nine of the 16 specialist rehabilitation services (56%) reported the availability of intensive rehabilitation inpatient beds (mean 21, range 8-40) which were available to two of the five specialist rural services and three of the five specialist urban services.

Eight (50%) specialist rehabilitation services (three rural and five mixed) reported the availability of long stay beds (mean 31, range 10-68). Two specialist rehabilitation services (both rural) had low secure units under their clinical responsibility and two specialist rehabilitation teams (one rural one urban) had access to beds in a local low secure unit, not under their clinical responsibility (mean beds 18, range 10-32).

Amongst the non-specialist services, intensive inpatient rehabilitation beds were available only in South Tipperary (22 beds). Long stay beds were available in South Tipperary (60 beds) and East Galway (16 beds). None of the three non-specialist rehabilitation services had access to local low secure unit beds.

Community based rehabilitation beds

Fourteen of the 16 specialist rehabilitation services had high support hostel beds (mean 41, range 6-128); seven had medium support hostel beds (mean 21, range 4-42); seven had low support hostel beds (mean 21,range 8-43); and ten had group home beds (mean 26, range 4-46).

All three non-specialist services had high support hostel beds (mean 17, range 10-26). There were no medium or low support hostel beds under the clinical responsibility of the three non-specialist services.

Table 2. Population size, number and types of rehabilitation service beds in 16 specialist rehabilitation services

Service name	Catchment area population	Setting	Intensive rehab beds	Long stay beds	Low secure beds	High support hostel beds	Medium support hostel beds	Low support hostel beds	Group home beds	Total rehab Beds*	Rehab beds per 10,000 popn
Specialist services (Urban)											
Dublin north A7	143,333	Urban	19	0	0	16	0	0	0	35	2.44
Dublin north west A6 Team 1	185,000	Urban	0	0	0	61	32	10	0	103	9.56
Team 2			0	0	32†	67	0	7	0	74	
Dublin south and southwest A4/5	260,000	Urban	22	0	0	43	20	15	31	100	3.84
North Co Dublin A8	240,000	Urban	30	0	0	31	42	8	0	111	4.63
Total	**828,333**		**71**	**0**	**32†**	**218**	**94**	**40**	**31**	**423**	**5.1**
Specialist Services (Rural)											
Cavan/Monaghan MHS	107,951	Rural	0	0	0	58	0	0	42	58	5.37
Mayo MHS	129,000	Rural	10	40	10††	6	0	0	15	66	5.12
Kerry MHS	140,000	Rural	0	22	20††	34	0	0	46	76	5.43
NorthCork MHS	83,000	Rural	21	30	0	42	4	0	28	97	11.69
Sligo/Leitrim MHS	93,000	Rural	0	0	10†	19	0	0	4	19	2.04
Total	**552,951**		**31**	**92**	**10†, 30††**	**159**	**4**	**0**	**135**	**316**	**5.7**
Specialist services (Mixed urban/rural)											
Waterford MHS	125,000	Mixed	40	68	0	27	0	0	44	135	10.8
Wexford MHS	131,615	Mixed	15	30	0	0	15	25	0	85	6.46
Limerick MHS	183,863	Mixed	21	0	0	74	29	16	0	140	7.61
Clare MHS	110,800	Mixed	8	10	0	57	0	29	15	104	9.39
Donegal MHS	139,432	Mixed	0	21	0	20	0	0	30	41	2.94
Laois/Offlay MHS	137,927	Mixed	0	29	0	31	8	43	9	111	8.05
Total	**828,637**		**84**	**158**	**0**	**209**	**52**	**113**	**98**	**616**	**7.4**
Non-Specialist Services (Rural)											
South Tipperary MHS	84,000	Rural	22	60	0	10	0	0	0	92	10.95
East Galway MHS	110,000	Rural	0	16	0	16	0	0	4	32	2.90
Total	**194,000**		**22**	**76**	**0**	**26**	**0**	**0**	**4**	**124**	**6.4**
Non-Specialist Services (Mixed)											
Kildare west MHS	205,000	Mixed	0	0	0	26	0	0	17	26	1.26

*Total number of rehabilitation beds includes all hospital and community units as described in Box 1 except group homes and low secure units not under clinical responsibility of Rehabilitation team.

SBH=St Brendan's hospital; MHS=Mental health service.

†† = Low secure beds under clinical responsibility of rehabilitation team. † = Low secure beds with rehabilitation team access.

Staffing

Table 3 shows the full time equivalents of core multidisciplinary team staff in each service. It was not possible to gain accurate numbers of community nurses as many worked across services and these are therefore not included in Table 3. Gaps in multidisciplinary provision were common: 73% of specialist services had no specialist psychiatrist registrar or clinical psychologist, 86% lacked a clinical nurse specialist, 35% lacked an assistant director of nursing, 40% lacked a full time occupational therapist, 26% had no social worker, 13% lacked a full time junior doctor and 13% lacked a clerical officer.

Non-specialist services had even fewer staff. Though all three services had medical input, only one had a consultant psychiatrist (0.5 WTE), only one had an occupational therapist and only one had a social worker.

Table 3. Staffing of the 16 specialist rehabilitation services in Ireland in whole time equivalents

Service name	CON	SR	SHO	CC	CNS	ADN	CP	SW	OT	Therapist	CS	Total staff*
Specialist Services (Urban)												
Dublin north A7	1	0	1	0	0	0	0.5	0.5	1	0	0.5	4.5
Dublin north west A6 Team 1	1	0	0	0.5	0	0.5	0	0	0	0	0	2
Team 2 (SBH)	1	0	2	0	0	1	0	1	1.5	0	0	6.5
Dublin south and southwest A4/5	1	0	1	0	0	1.5	0	1	1	0	0	5.5
North Co Dublin A8	1	1	1	0	0	1	0	1	1	0	1	7
Specialist Services (Rural)												
Cavan/Monaghan MHS	1	1	1	1	12	0	0	1	1	1 (CBT)	1	20
Mayo MHS	1	0	1	0.5	0	0.5	0	0.5	0.5	1 (Art)	0.5	5.5
Kerry MHS	1	1	0	0	0	0.5	0	0.5	0	0	1	4
NorthCork MHS	1	0	1	0	0	0	0	0	1	0	1	4
Sligo/Leitrim MHS	1	0	1	1	0	1	0	1	1	0	1	7
Specialist Services (Mixed)												
Waterford MHS	1	0	1	0	1	0.5	0	1	0	0	1	5.5
Wexford MHS	1	1	1	0	0	0.8	0.5	1	0.5	0	0.5	6.3
Limerick MHS	1	0	1	0	0	1	0	0	1	0	1	5
Clare MHS	1	0	1	0	0	1	1	0.8	0	0	1	5.8
Donegal MHS	1	0	1	1	0	0	0.5	1	1	0	1	6.5
Laois/Offlay MHS	1	0	0.5	0.5	0	0	0	0	0	1 (Art)	0.5	3.5
Non-Specialist services (Rural)												
South Tipperary MHS	0.5	0	1	0	0	S	S	0	1	0	0.5	4 + S
East Galway MHS	0.5	0	1	0	0	0.5	0	1	0.5	0	0.5	4
Non-Specialist services (Mixed)												
Kildare west MHS	0.5	1	1	0	0	0	0	0.5	0	0.5	0	3.5

CON=Consultant Psychiatrist SR=Senior Registrar SHO=Senior House Officer/Registrar CC=Clinical Co-ordinator CNS=Clinical Nurse Specialist
ADN=Assistant Director Of Nursing CP=Clinical Psychologist SW=Social Worker OT= Occupational Therapist
Therapist = Other therapist (AT = art therapist, CBT = cognitive behavioural therapist) CS= Clerical Staff
*Sessional input was classified as 0.5 WTE where number of sessions was not given

Case load and referrals

The mean case load for the 16 specialist rehabilitation services was 127 (range 30-220) and the mean referral rate per annum (last 12 months) was 31 (range 5-102). The mean case load for urban specialist services was 103 (range 30-170) and the annual referral rate was 26 (range 5-48). For mixed urban/rural specialist services the mean case load was 150 (range 93-220) and the annual referral rate was 37 (range 10-102). For rural services the mean case load was 106 (range 38-160) and the annual referral rate was 21 (range 12-30) (see Table 4). Two of the urban specialist services also commented that due to increasing demand and resource shortages they were providing rehabilitation interventions while patients were still under the clinical responsibility of local mental health services. For the non-specialist services the mean case load was 54 and the mean referral rate per annum (last 12 months) was 17. The breakdown of caseloads in terms of inpatients and community patients per team is shown in Table 4.

Table 4. Case loads and referrals of the rehabilitation services in Ireland

Service name	Overall case load	Referral rate per annum	Num inpatients	Num patients in supported residences	Num patients living independently
Specialist services (Urban)					
Dublin north A7	51	48	19	32	0
Dublin north west A6 Team 1	30	8	27	3	0
Team 2 (SBH)	109	5	15	74	20
Dublin south and southwest A4/5	153	42	22	78	53
North Co Dublin A8	170	25	30	80	60
Specialist services (Rural)					
Cavan/Monaghan MHS	170	24	-	-	-
Mayo MHS	150	50	60	50	40
Kerry MHS	120	-	42	78	0
NorthCork MHS	160	12	54	55	51
Sligo/Leitrim MHS	38	30	1	17	20
Specialist services (Mixed)					
Waterford MHS	121	40	32	27	62
Wexford MHS	140	10	45	40	55
Limerick MHS	220	102	19	119	82
Clare MHS	163	25	18	80	65
Donegal MHS	93	35	22	51	20
Laois/Offlay MHS	140	10	5	27	108
Non-specialist services (Rural)					
South Tipperary MHS	90	12	80	10	0
East Galway MHS	36	17	16	20	0
Non-specialist service(s) (Mixed urban/rural)					
Kildare west MHS	36	-	1	26	9

New Long Stay patients

Fourteen (88%) specialist and all non-specialist services reported the presence of new long stay patients (length of stay of over one year) in their local acute admission units. A mean of 3.4 new long stay patients per annum (range 1-10) were reported by the specialist services and 3.1 (range 2-5) by the non-specialist services over the previous five years.

Availability of other specialist mental health services

Eight (50%) of the 16 specialist rehabilitation services reported that the other specialist mental health services recommended by *Vision for Change*[12] (older people's services and services for those with intellectual disability) were available locally. This was the case for two of the five urban and three of the five rural specialist rehabilitation services. A further six specialist rehabilitation services reported that either older people's or intellectual disability services were available locally. Of the three non-specialist rehabilitation services only one reported an additional specialist service locally (older people's service).

Access to structured day time activities and employment

Ten (63%) of the 16 specialist rehabilitation services reported that they had at least one day centre within their service. Three (19%) services reported access to day centers run by other mental health services and three (19%) reported no access to day centres. All specialist rehabilitation services reported some access to local vocational training organisations with a mean of two different organisations locally. The most common were the National Learning Network and EVE Ltd.

Of the three non-specialist services, none had a day centre within their service but all reported access to local vocational training organisations

Chapter 3
To describe characteristics of a representative sample of rehabilitation service users, compare outcomes with a sample of service users wait listed for rehabilitation and identify predictors of successful progress.

Methods

The study was carried out in five mental health services located in urban and rural areas of Ireland: St Ita`s Hospital, Dublin; St Loman`s Hospital, Dublin; Cavan/Monaghan; Clare; St Senan`s Hospital, Wexford. A total of 200 participants were recruited from across these sites. Eligibility criteria were having a clinical diagnosis of a severe and enduring mental health problem (schizophrenia, schizoaffective disorder, bipolar affective disorder) and a history of high use of inpatient services (at least six admissions over their lifetime or at least three admissions or 180 inpatient days within the last two years). Each centre aimed to recruit 25 participants in receipt of rehabilitation services and 15 participants receiving standard care from the local mental health service who had been referred for rehabilitation (wait listed). Comparisons between these two groups were made to take account of any differences that might affect outcomes assessed in the third part of the study. In order to minimise a "dose" effect of rehabilitation, those most recently taken on for rehabilitation (within the last 12 months) were recruited first. Recruitment was extended to those who had received rehabilitation longer than this only if 25 participants had not been recruited. Participants wait listed for rehabilitation were identified by the local collaborator in each site.

Ethical approval for the study was gained at each centre before recruitment commenced. All participants were recruited and interviewed between September 2007 and December 2008 by A.I. who was trained in the use of the assessment instruments by E.L. and H.K. Potential participants were given verbal and written

information about the nature and purpose of the study and written informed consent was obtained from all those who agreed to take part.

Descriptive data were collected from case files and participants: demographic data (gender, age, marital status, education, current employment, current accommodation); diagnosis; length of contact with mental health services; previous inpatient service use (voluntary and involuntary). Diagnoses recorded in the case files of the first ten participants recruited at each site were checked using the computerised software "OPCRIT"[21].

Details of participants' previous history of risk (contact with forensic services, self-harm, violence towards others and arson) was gathered from the case notes.

Participants' symptoms were assessed through face to face interviews using the Positive and Negative Syndrome Scale (PANSS) [22], cognitive functioning was assessed using the Mini Mental State Examination (MMSE) [23] and quality of life was assessed using the Manchester Short Assessment of Quality of Life (MANSA) [24]. Staff rated participants' social functioning using the Life Skills Profile (LSP) [25], challenging behaviours using the Special Problems Rating Scale (SPRS) [26], drug and alcohol use using the Clinician Alcohol and Drugs Scale (CADS)[27] and mental health needs using the short version of the Camberwell Assessment of Needs[28]. Problems associated with community discharge were assessed by the researcher using the Community Placement Questionnaire (CPQ)[29], with ratings made on the basis of collation of information from participants, staff and case notes.

Data on interventions and treatments received over the preceding three months were collected from staff and case files for each participant including medications, psychosocial interventions (family interventions, cognitive behavioural therapy or other psychological interventions) and hours per week engaged in a meaningful occupation (attendance at day centre/vocational rehabilitation centre/voluntary or paid work/educational course).

Successful progress over the 18 month study period was defined in two ways:
1) If recruited as an inpatient, having been discharged from hospital and able to maintain a community placement without placement breakdown or readmission to hospital; if recruited as a community patient, maintaining the community placement or moving to less supported accommodation without any admission to hospital;
2) Statistically significant improvement in social functioning as assessed by the Life Skills Profile[25].

Data management and analysis

A database was developed using the statistical software package SPSS (v 14.0)[20]. Frequencies and descriptive statistics were examined for each variable. Comparisons between service users in receipt of rehabilitation services and those awaiting these services were made using parametric tests for normally distributed continuous data and non-parametric tests for non-normally distributed and categorical data as appropriate. Baseline variables were examined as predictors of successful progress using regression models, adjusted for clustering (by recruitment site) and LSP score at recruitment. A further regression analysis was carried out to investigate whether specific interventions were associated with positive outcome for participants who received rehabilitation. Guidance on the sample size required for these kinds of analyses suggests that 10-20 participants are required for each variable included as a potential predictor. Our sample size (126) therefore allowed us to investigate between six and twelve potential predictors.

Results

Response

A total of 229 patients were approached for participation across the five centers and 200 (87%) recruited. Of these, 126 (63%) were in receipt of mental health rehabilitation services and 74 (37%) were wait listed for rehabilitation. The

proportion of participants in receipt of rehabilitation services and standard care (wait listed) at each recruitment site did not vary. A very high response rate was achieved at 18 month follow-up with 192/200 (91%) participants being interviewed. Five patients had died (three rehabilitation service users and two in the wait listed group) and three could not be traced (all three were in the wait listed group). Of the participants receiving rehabilitation, 109/126 (87%) were living in the community at the time of recruitment and 17/126 (14%) were inpatients. For those awaiting rehabilitation services, 66/74 (89%) were living in the community and 8/74 (11%) were inpatients.

Sociodemographics, diagnosis and past psychiatric history

A total 128 (64%) participants were male with a mean age of 45 years, 166 (83%) had never married or cohabited and 50% had gained some form of further education qualification. There was 100% agreement between OPCRIT[21] generated diagnoses and case note diagnoses for the first ten participants in each centre. The diagnosis recorded in the case notes was therefore accepted for the remaining participants at each centre. Three quarters of participants (151, 76%) had a diagnosis of schizophrenia, 19 (10%) schizoaffective disorder and 26 (13%) bipolar affective disorder. Participants had a mean length of illness of 22 years (range 1 to 48, SD 11). There were no statistically significant differences in age, gender, marital status, education, diagnosis or length of illness between participants who were and were not in receipt of rehabilitation services.

Participants who were receiving rehabilitation were more likely to be living in supported accommodation than those awaiting rehabilitation (56/126 [44%) vs 3/74 [4%], $\chi^2 = 67.93$, $p<0.001$) whereas those awaiting rehabilitation were more likely to be living with family or friends (45/74 [61%] vs 25/126 [20%], $\chi^2 = 66.02$, $p<0.001$).

Overall, 118/200 (59%) participants were unemployed, but those receiving rehabilitation were more likely to be in sheltered employment/training than those awaiting rehabilitation (49/126 [49%] vs 11/74 [15%], $\chi^2 = 53.10$, $p<0.001$).

Table 1 shows participants` sociodemographic characteristics, diagnoses, length of illness and previous admissions.
Thirty-seven (19%) participants had had previous contact with forensic psychiatry or criminal justice services, 99 (50%) had a history of self-harm and 65 (33%) had a history of significant violence towards others. Although there were no statistically significant differences in contact with forensic or criminal justice services for service users receiving and awaiting rehabilitation, more wait listed participants had a history of physical violence towards others and had self-harmed in the last two years compared to rehabilitation service users.

Table 2 shows participants' previous risk history, contact with forensic services and the criminal justice system.

Table 1. Participants' sociodemographics and psychiatric history

		Receiving rehabilitation N = 126 (%)	Awaiting rehabilitation N = 74 (%)	Chi square	df	p
Gender (%)	Male	82 (65)	46 (62)	0.17	1	0.68
Marital status (%)	Never married/ cohabited	108 (86)	58 (78)	2.87	2	0.24
	Married/cohabiting	7 (6)	9 (12)			
	Div/sep/widowed	11 (9)	7 (9)			
Education (%)	None/Primary	72 (57)	37 (50)	1.37	2	0.50
	Secondary	44 (35)	32 (43)			
	Higher education	10 (8)	5 (7)			
Current employment (%)	Unemployed	66 (52)	52 (70)	14.4	3	0.002
	Supported employment/ training/education	49 (39)	11 (15)			
	Open employment (including vol work)	10 (8)	8 (10)			
	Retired	1 (1)	3 (4)			
Current accommodation (%)	Acute inpatient ward	2 (2)	8 (11)	67.68	7	0.000
	Rehabilitation inpatient ward	15 (12)	0 (0)			
	High support hostel	24 (19)	1 (<1)			
	Medium support hostel	20 (16)	2 (2)			
	Low support hostel	12 (10)	0 (0)			
	Family/friends	25 (20)	45 (61)			
	Independent tenancy/own home	27 (22)	15 (20)			
	Homeless	1 (1)	3 (4)			
Diagnosis (%)	Schizophrenia	101 (82)	50 (67)	5.26	3	0.153
	Schizoaffective	10 (8)	9 (12)			
	Bipolar	12 (10)	14 (19)			
	Other	3 (2)	1 (<1)			
				Mean difference	**95% CI**	**p**
Mean age (SD)		45 (12)	43 (12)	2.17	-1.30 to 5.63	0.23
Mean (SD) length of illness in yrs		22(11)	20(11)	2.71	-0.53 to 5.96	0.747
Mean (SD, median) previous voluntary admissions		9 (10,8)	9 (12,7)	-0.227	-3.25 to 2.79	0.453
Mean (SD, median) previous involuntary admissions		N=125 1.8 (2.4,1)	N=73 1.5 (2.2,1)	0.349	-0.329 to 1.02	0.185

Table 2. Participants' history of risk

		Receiving rehabilitation services N= 126 (%)	Awaiting rehabilitation services N= 74 (%)	Chi square	df	p
Contact with criminal justice system	Minor charge/caution	11 (9)	13 (18)	4.24	2	0.120
	Forensic psychiatry service assessment/ forensic admission/ custodial sentence	7 (6)	6 (8)			
Self Harm	Ever	61 (48)	38 (51)	16.61	2	0.00
	Last 2 years	9 (7)	20 (27)			
Physical Violence	Ever	33 (26)	32 (43)	8.96	2	0.011
	Last 2 years	22 (9)	17 (23)			
Arson	Ever	6 (5)	2 (3)	0.821	2	0.663

Table 3 shows participants' standardised assessment ratings of symptoms (PANSS), cognitive impairment (MMSE), social functioning (LSP), challenging behaviours (SPRS), substance misuse (CADS), needs (CANSAS) and suitability for community placement (CPQ) at recruitment and 18 month follow up. There were no statistically significant differences in these ratings for participants in receipt of rehabilitation and those wait listed for rehabilitation at recruitment.

Table 3. Participants' standardised ratings at recruitment and 18 months later.

		Recruitment		18 Months Follow Up	
		Awaiting rehabilitation n=74	**Receiving rehabilitation n=126**	**Awaiting rehabilitation n=74**	**Receiving rehabilitation n=126**
Symptoms (PANSS) mean (sd)	Positive symptoms	14 (5)	13 (4)	13 (6)	11 (4)
	Negative symptoms	16 (5)	17 (6)	16 (6)	15 (5)
	General psychopathology	31 (8)	30 (7)	31 (9)	29 (8)
Needs (CANSAS) mean (sd)	Met needs	10 (5)	12 (4)	13 (4)	15 (3)
	Unmet needs	5 (3)	3 (3)	4 (2)	1 (1)
Cognitive impairment (MMSE) mean (sd)		27 (4)	27 (3)	28 (3)	28 (2)
Challenging behaviours (SPRS) mean (sd)	Total	1.3 (2.4)	0.4 (0.8)	1.1 (1.8)	0.7 (1.6)
	Type A: risk to others, physical, sexual, arson.	0.2 (0.6)	0.4 (0.8)	0.1 (0.4)	0.1 (0.3)
	Type B: verbal abuse, destroys property, begging, stealing	0.4 (1.0)	0.2 (0.4)	0.2 (0.6)	0.3 (0.8)
	Type C: substance abuse; non-adherence with meds; absconding; wandering	0.4 (0.9)	0.1 (0.4)	0.5 (1.0)	0.2 (0.7)
	Type D: harm to self, incontinence	0.3 (0.6)	0.0 (0.2)	0.3 (0.6)	0.1 (0.4)
Alcohol use (CADS) n (%)	Abstinent	43 (58)	72 (57)	33 (48)	60 (48)
	Use without impairment	19 (26)	39 (31)	26 (38)	51 (41)
	Abuse	9 (12)	13 (10)	9 (13)	11 (9)
	Dependence	3 (4)	1 (1)	0 (0)	2 (2)
	Dependence with institutionalisation	0 (0)	1 (1)	0 (0)	0 (0)
Illicit substance use (CADS) n (%)	Abstinent	61 (82)	118 (94)	59 (87)	118 (95)
	Use without impairment	2 (3)	1 (1)	1 (1)	1 (1)
	Abuse	10 (14)	6 (5)	8 (12)	4 (3)
	Dependence	1 (1)	1 (1)	0 (0)	1 (1)
Appropriateness for community placement (CPQ) mean (sd)	Social functioning and performance	3.2 (0.5)	3.3 (0.5)	3.1 (0.5)	3.3 (0.5)
	Hard to place score	4 (5)	3 (3)	3.9 (4.4)	1.8 (2.9)
	Problem behaviours	5 (3)	3 (3)	4.4 (3.3)	2.2 (2.3)
Social functioning (LSP) mean (sd)	Total score	128 (14)	132 (13)	126 (15)	135 (12)

Of the 109 (87%) participants in receipt of rehabilitation services who were living in the community at the time of recruitment, two had been transferred to standard care from their local mental health services at 18 month follow-up. Of the remaining 107, one was an in-patient at the time of follow up and 106 (99%) were living in the community. During the 18 month study period, 23 (21%) had at least one admission to an acute mental health unit (mean admissions 0.3, SD 0.9, range 0-8).

Of the 17 (13%) participants in receipt of rehabilitation services who were inpatients at the time of recruitment, 12 (70%) were inpatients 18 months later, four had been discharged to the community (one to supported accommodation and three to nursing homes) and one had passed away due to a medical condition. During the eighteen month period, 14/17 (82%) had at least one further admission to an acute mental health unit.

Of the 63 (89%) participants awaiting rehabilitation who were living in the community at the time of recruitment, 49 (78%) were still awaiting rehabilitation services 18 months later of whom 48 (98%) were still living in the community and one was an inpatient. During the eighteen month study period, 36/49 (73%) had at least one admission to an acute mental health unit (mean admissions 1.5, SD 1.8, range 0-10).

Of the 8 (11%) participants awaiting rehabilitation services who were inpatients at the time of recruitment, four were still awaiting rehabilitation services 18 months later. Three of these four (75%) were inpatients in an acute mental health unit at the time of follow up and one (25%) had been discharged to the community. During the eighteen month period, all four had at least one further admission to the acute mental health unit.

Table 4 shows results of the regression analyses investigating factors associated with successful progress over the 18 month study period.

Service users with access to rehabilitation services were 8.44 times more likely to successfully progress on our binary outcome as those without access to rehabilitation services (95% CI 4.16 to 17.16). They also had higher social functioning scores (as assessed by the LSP) at 18 months (an average of 6.15 points higher than those without access to

rehabilitation; 95% CI 3.28 to 9.02). This represents an improvement of 5% in the mean LSP score. A number of other factors assessed at recruitment were independently associated with a reduced chance of successful progress on our binary outcome; greater unmet needs, greater challenging behaviours (all types), harmful use of substances, poorer social functioning and performance as assessed by the CPQ, and higher CPQ "hard to place" score. Challenging behaviours and harmful use of substances at recruitment were also independently associated with reduction in LSP scores over the 18 months: service users with Type D behaviours (these include harm to self and incontinence) had an LSP score 4.33 points lower on average than those with no Type D behaviours at 18 month follow-up, and those who used illicit substances to a harmful degree had an LSP score 5.73 points lower on average than those who did not at 18 month follow-up.

Table 4. Predictors of Successful Progression: Random Intercept Models (Adjusted for Clustering)

		Successful progress					Social functioning (LSP) at 18 months follow-up			
		OR	**95% CI**	**s.e.**	**p value**	**coef.**	**95% CI**	**s.e.**	**p value**	**ICC**
Access to rehabilitation	Wait listed for rehabilitation	1								
	Receiving rehab	**8.44**	(4.16 to 17.16)	3.05	**<0.001**	**6.15**	(3.28 to 9.02)	1.46	**<0.001**	0.009
Age	Per 10 years	1.08	(0.85 to 1.37)	0.13	0.530	-0.85	(-2.04 to 0.34)	0.61	0.162	0.006
Gender	Male	1								
	Female	1.43	(0.78 to 2.60)	0.44	0.249	1.85	(-1.12 to 4.82)	1.52	0.223	0.009
Length of Illness	Per 5 years	1.06	(0.92 to 1.21)	0.07	0.421	-0.49	(-1.14 to 0.17)	0.33	0.143	0.008
PANSS positive symptoms score		0.96	(0.90 to 1.03)	0.03	0.241	-0.07	(-0.42 to 0.28)	0.18	0.692	0.007
PANSS negative symptoms score		1.00	(0.95 to 1.06)	0.03	0.919	0.19	(-0.10 to 0.48)	0.15	0.195	0.009
PANSS general psychopathology		0.97	(0.94 to 1.01)	0.02	0.169	-0.06	(-0.29 to 0.17)	0.12	0.636	0.005
CANSAS unmet needs score		**0.76**	(0.66 to 0.88)	0.06	**<0.001**	-0.39	(-1.05 to 0.27)	0.34	0.249	0.01
MMSE Total Score		1.03	(0.94 to 1.13)	0.05	0.537	-0.01	(-0.53 to 0.50)	0.26	0.961	0.006
SPRS Total Score		**0.51**	(0.35 to 0.75)	0.10	**0.001**	-0.76	(-1.75 to 0.23)	0.51	0.132	0.01
SPRS Type A Score	No Type A behaviours	1								
	Has type A behaviours	**0.38**	(0.15 to 0.92)	0.17	**0.033**	-1.36	(-4.84 to 2.12)	1.78	0.443	0.008
SPRS Type B Score	No Type B behaviours	1								
	Has type B	**0.50**	(0.26 to 0.95)	0.16	**0.035**	-0.15	(-2.67 to 2.37)	1.29	0.906	0.006

	behaviours									
SPRS Type C Score	No Type C behaviours	1								
	Has type C behaviours	**0.40**	(0.20 to 0.77)	0.13	**0.006**	-1.41	(-3.73 to 0.91)	1.18	0.234	0.01
SPRS Type D Score	No Type D behaviours	1								
	Has type D behaviours	**0.17**	(0.05 to 0.55)	0.10	**0.003**	**-4.33**	(-7.72 to -0.93)	1.73	**0.012**	0.01
CADS substance use	Abstinent/non-harmful use	1								
	Harmful use	**0.13**	(0.04 to 0.47)	0.08	**0.002**	**-5.73**	(-10.49 to -0.97)	2.43	**0.018**	0.02
CPQ Social Functioning & Performance		**1.97**	(1.09 to 3.59)	0.60	**0.026**	-0.91	(-5.38 to 3.56)	2.28	0.690	0.005
CPQ Hard to Place Score		**0.86**	(0.78 to 0.94)	0.04	**0.002**	-0.24	(-0.66 to 0.18)	0.22	0.262	0.007

Table 5 shows the results of the regression analysis investigating the components of care associated with successful progression for the 126 participants receiving rehabilitation services. Service users with access to rehabilitation services who were living in the community at baseline were 14 times more likely to progress successfully over the 18 month study period than services users receiving inpatient rehabilitation (95% CI from 3.79 to 54.54). No other components of care investigated were found to be statistically significant predictors of successful progress.

Table 5. Components of rehabilitative care that predict successful progress.

Component		Odds Ratio (se)	95% CI	p value
Rehabilitation setting	Hospital	0		
	Community	**14.39** (9.78)	3.79 to 54.54	**<0.001**
Vocational rehabilitation activities	Hours per week	1.01 (0.01)	0.98 to 1.04	0.508
Psychosocial interventions (CBT, family interventions)	Number of sessions in last 6 months	1.00 (0.02)	0.96 to 1.05	0.827
Length of time in rehabilitation service	Months	1.02 (0.01)	0.99 to 1.05	0.183
Prescribed Clozapine	No	0		
	Yes	1.56 (0.64)	0.70 to 3.50	0.280
Prescribed antipsychotics	% BNF max for all antipsychotics prescribed	1.00 (0.00)	1.00 to 1.00	0.686

Chapter 4
To investigate the use and costs of services by those receiving and those wait listed for rehabilitation services over 18 months.

Information on service utilisation was collected for each participant at baseline and 18 month follow up using a modified version of the Client Service Receipt Inventory (CSRI)[30]. This collects detailed information on service utilisation over the previous six months including the number of days spent in hospital (including admissions for physical as well as mental health problems), the number of days spent in supported accommodation, visits to the GP, psychiatrist or other doctors, and contacts with psychologists, social workers, counsellor/therapists, community psychiatric nurses, day hospitals, day centres as well as details of medication prescribed.
At baseline and six-month follow-up service use was measured for the previous six months. At 18-month follow-up the service use was for the whole period. Therefore, the data presented below for the first follow-up is a subset of the 18-month data.

Unit costs of services have to be applied to the service use data, and these unit costs need to take account of salaries, overheads, capital costs and activity levels. It was not feasible to obtain Ireland-specific unit costs but 2008/9 costs were available for the UK[31]. Although there are service similarities between Ireland and the UK differences do exists and healthcare prices will also vary. Therefore, we have adjusted the costs in the UK using purchasing power parity data (which reflect cost of living differences between countries) from the OECD[32] (www.oecd.org) and reported the costs in Euros.

Table 6 shows the use of services and costs in the six months prior to baseline assessment. The rehabilitation group were more likely to have contacts with psychologists, social workers, and day care services than the non-rehabilitation group but were less likely to use inpatient care. However, for those who were admitted to hospital the number of inpatient days was higher for the rehabilitation

group. The rehabilitation patients who had nurse contacts had substantially more than those in the non-rehabilitation group. Hospital costs over the six months were similar between the groups but community service costs and (not surprisingly) accommodation costs were much higher in the rehabilitation group. Total costs were 42% higher in the rehabilitation group but because of the large standard deviations this was not statistically significant.

During the six month period prior to eighteen-month follow-up a much lower proportion of rehabilitation patients had inpatient stays compared to non-rehabilitation patients, but they were more likely to have social worker, nurse and counsellor contacts (Table 7). The number of days in hospital for those who were admitted was again higher for the rehabilitation patients and again the number of nurse contacts was higher.

Over the entire 18-month follow-up period (Table 8) inpatient use was more than twice as likely in the non-rehabilitation group but number of days in hospital for those who were admitted was 42% higher for rehabilitation patients. Hospital costs were higher in the non-rehabilitation group but accommodation costs were higher in the rehabilitation group. Overall, costs were slightly greater in the non-rehabilitation group, but this was not statistically significant.

Table 6: Service use and costs (2008/9 €s) for six months prior to baseline assessment.

Service use	No Rehab group (n=74)		Rehab group (n=126)		Total (n=200)	
	N (%) using service	Mean (sd) number of contacts[a]	N (%) using service	Mean (sd) number of contacts[a]	N (%) using service	Mean (sd) number of contacts[a]
Inpatient days	28 (38)	88(69)	36 (29)	124(67)	64 (32)	109 (70)
GP contacts	50 (68)	3 (3)	78 (62)	3 (2)	128 (64)	3 (2)
Psychiatrist contacts	63 (85)	5 (2)	108 (86)	6 (5)	171 (86)	6 (5)
Other doctor contacts	8 (11)	2 (1)	16 (10)	1 (0)	21 (11)	1 (1)
Psychologist contacts	3 (4)	8 (11)	18 (14)	9 (9)	21 (11)	9 (9)
Social worker contacts	10 (14)	8 (9)	45 (38)	5 (6)	55 (28)	5 (6)
Community mental health nurse contacts	34 (46)	19 (24)	64 (51)	73 (68)	98 (49)	27 (51)
Counsellor contacts	4 (5)	15 (11)	9 (7)	25 (22)	13 (7)	22 (20)
Day hospital contacts	7 (9)	33 (27)	72(34)	2 (14)	11 (6)	47 (34)
Day care contacts	18 (24)	64 (37)	40 (32)	89 (36)	58 (29)	81 (40)
Support group contacts	6 (8)	9 (8)	7 (6)	16 (17)	13 (7)	13 (13)
Police contacts	0	0 (0)		0 (0)	0	0 (0)
Prison number of days	0	0 (0)		0 (0)	0	0 (0)
Total cost of all hospital services (€)		11935 (21505)		12646 (23685)		12383 (22850)
Total cost of all community services (€)		2655 (2393)		4358 (3903)		3728 (3514)
Total cost of all medications (€)		1202 (769)		1665 (1057)		1494 (984)
Total cost of all accommodation (€)		467 (1809)		5013 (6344)		3331 (5597)
Total costs (€)		13605 (21623)		19324 (22229)		17208 (16636)

[a] Number of contacts is for those using services only

Table 7: Service use and costs (2008/9 €s) for six months prior to 18-month follow-up.

Service	Awaiting rehabilitation (n=74)		Receiving rehabilitation (n=126)		Total (n=200)	
	N (%) using service	Mean (sd) number of contacts[a]	N (%) using service	Mean (sd) number of contacts[a]	N (%) using service	Mean (sd) number of contacts[a]
Inpatient days	44 (59	66 (63)	27 (21)	95 (84)	71 (36)	77 (73)
GP contacts	49 (66)	3 (2)	95 (75)	2 (2)	144 (72)	2 (2)
Psychiatrist contacts	61 (82)	4 (3)	110 (87)	5 (4)	171 (86)	5 (4)
Other doctor contacts	8 (11)	3 (2)	29 (23)	3 (3)	37 (19)	3 (3)
Psychologist contacts	6 (8)	4 (4)	15 (12)	7 (7)	21 (11)	6 (6)
Social worker contacts	8 (11)	5 (3)	27 (21)	6 (6)	35 (18)	6 (5)
Community mental health nurse contacts	31 (42)	21 (32)	72 (57)	53 (44)	103 (52	44 (50)
Counsellor contacts	11 (15)	8 (7)	39 (31)	9 (9)	50 (25)	9 (9)
Day hospital contacts	2 (3)	72 (34)	0		2 (1)	72 (34)
Day care contacts	15 (20)	55 (33)	28 (22)	61 (41)	43 (22)	59 (38)
Support group contacts	2 (3)	5 (1)	7 (6)	26 (32)	9 (5)	22 (29)
Police contacts	0 (0)	-	0 (0)	-	0 (0)	-
Prison number of days	0 (0)	-	0 (0)	-	0 (0)	-
Total cost of all hospital services (€)		13981 (20796)		7187 (19229)		9701 (20043)
Total cost of all community services (€)		2050 (2408)		2992 (2934)		2643 (2783)
Total cost of all medications (€)		1220 (870)		1825 (2658)		1601 (2191)
Total cost of all accommodation(€)		2258 (5267)		4714 (6437)		3805 (6133)
Total costs (€)		19508 (20882)		16718 (17606)		17750 (18881)

[a] Number of contacts is for those using services only

Table 8: Service use and costs (2008/9 €s) for eighteen months prior to 18-month follow-up.

Service use	Awaiting rehabilitation (N=74)		Receiving rehabilitation (N=126)		Total (N=200)	
	N (%) using service	Mean (sd) number of contacts[a]	N (%) using service	Mean (sd) number of contacts[a]	N (%) using service	Mean (sd) number of contacts[a]
Inpatient days	54 (73)	152 (178)	38 (30)	216 (242)	92 (46)	178 (208)
GP contacts	49 (66)	7 (6)	97 (77)	6 (5)	146 (73)	6 (5)
Psychiatrist contacts	61 (82)	13 (10)	111 (88)	14 (12)	172 (86)	14 (12)
Other doctor contacts	8 (11)	8 (17)	30 (24)	4 (4)	38 (19)	5 (9)
Psychologist contacts	7 (9)	6 (7)	19 (15)	25 (23)	26 (13)	20 (21)
Social worker contacts	10 (14)	10 (7)	30 (24)	14 (16)	40 (20)	13 (14)
Community mental health nurse contacts	32 (43)	60 (96)	73 (58)	166 (164)	105 (53)	128 (154)
Counsellor contacts	13(18)	13 (10)	53 (42)	13 (13)	66 (33)	13 (13)
Day hospital contacts	3 (4)	127 (97)	2 (2)	28 (31)	5 (3)	87 (89)
Day care contacts	16 (22)	165 (112)	30 (24)	122 (117)	46 (23)	173 (117)
Support group contacts	2 (3)	11 (10)	6 (5)	39 (28)	8 (4)	32 (28)
Police contacts	1 (1)	1 (-)	0 (0)	-	1 (1)	1 (-)
Prison number of days	0 (0)	-	0 (0)	-	0 (0)	-
Total cost of all hospital services (€)		39260 (58879)		22929 (58011)		28971 (58720)
Total cost of all community services (€)		5785 (6545)		8834 (8729)		7706 (8109)
Total cost of all medications (€)		3377 (2515)		4039 (2703)		3794 (2648)
Total cost of all accommodation(€)		5441 (12562)		14346 (18266)		11051(16913)
Total costs (€)		53863 (57932)		50148 (52512)		51522 (54466)

[a] Number of contacts is for those using services only

Chapter 5
Discussion

This report describes the current provision of mental health rehabilitation services in Ireland and for the first time in an Irish context, describes the characteristics of service users with severe and enduring mental illness in rehabilitation services and compares clinical outcomes for those service users in rehabilitation services with those service users waiting for rehabilitation services who are still in standard sector services.

The *Vision for Change*[12] strategy recommended the development of specialist rehabilitation and recovery mental health services to provide specialist services for people disadvantaged by a range of problems that can develop with severe mental illness and which cannot be met adequately by the general adult CMHTs. It is acknowledged that these groups of services users are one of the most vulnerable in the mental health service and society in general.

The Inspector of Mental Health Services reported that "*there is a serious lack of development of the necessary range of specialist mental health services nationally and no HSE area has the full complement of services of sufficient quality to provide comprehensive mental health care*"[33]. The same lack of development was borne out in this survey with the majority of rehabilitation services reporting a lack of development of other specialist services such as psychiatry of later life and intellectual disability services. This could have implications for services users in rehabilitation mental health services which are already poorly developed and lacking in adequate levels of resources, leading to further inequity in the overall mental health system for service users and families.

In relation to the development of rehabilitation and recovery mental health services, the survey indicated that the number of consultant led rehabilitation and recovery mental health teams increased from five to sixteen between 2006 and

2008. This falls short of what was recommended in the *Vision for Change*[12] strategy and it noteworthy that ten of the sixteen specialist services were serving populations greater than the 100,000 recommended. The survey also highlighted that mental health rehabilitation services nationally were under-resourced in terms of multidisciplinary input. This finding is consistent with other reports and surveys[33-36].

The survey also found that all the mental health rehabilitation services were under resourced in terms of multidisciplinary input. Community rehabilitation teams were not found to be operating with the recommended "assertive outreach" model, either because of lack of local consensus about the role and function of the community rehabilitation component of the service, or because of lack of resources. These findings reflect the absence of an implementation strategy in developing community rehabilitation/assertive outreach teams nationally.

The lack of true multidisciplinary input, particularly clinical psychology and occupational therapy has implications in relation to the delivery of a comprehensive range of therapeutic rehabilitation interventions to meet the needs of services users with severe and complex mental health problems[36].

This survey found that most services acknowledged the presence of new long stay patients in the local acute units. This finding is in keeping with a previous Irish report "*We have no beds....*"[37] which found that 45% of acute beds were occupied inappropriately by non-acute patients. Readmissions to inpatient mental health services continue to account for 70% of all admissions to Irish psychiatric units[38]. This may imply that the lack of adequately resourced community mental health teams and true multidisciplinary input with lack of access to a range of social housing options cannot be effective in preventing relapse or maintaining patients in community based services[39].

In our study, 40% of specialist (and 75% of non-specialist) rehabilitation services lacked short-term inpatient rehabilitation beds for assessment and initial interventions: this can be compared to the UK where 77% of services had such facilities[40]. Most services in this survey lacked access to low secure mental health rehabilitation services (available in three rural areas and one urban area). It has been suggested that providing adequate local low secure services prevents reliance on medium/high secure services by providing early intervention for challenging behaviours[41]. Moreover most patients needing medium/high secure services come from urban areas[42,43].

In the UK, disinvestment in rehabilitation services has led to a major expansion in independent sector provision of a wide range of longer-term provision including secure care, rehabilitation and continuing care. This in turn has lead to an increase in "out of area" treatments which have a significant cost burden to the public sector and are more expensive than local provision[44,45]. In 2004-2005, they cost the NHS £222 million, an increase of 63% over the previous year[46]. In Ireland a recent report highlighted that 55 people with learning disability were placed in Out of Area Treatments (outside the state), representing an increase of 20 people (57%) since the publication of *Vision for Change*[12], with an estimated annual cost at just under €5 million[47].

Vision for Change[12] noted that the lack of services for those with severe and enduring mental illness means that such individuals are at high risk of "*ending up homeless, becoming involved in petty crime, being inappropriately imprisoned, or being in a state of social isolation and dereliction*". One of the principal tenets of the de-institutionalisation process was to reduce stigma associated with mental illness by allowing people to be treated in their own community. However, in countries where community services are not already in place, it only services to increase stigma[39]. In Europe, evidence suggests that we are entering an era of reinstitutionalisation, with the expansion in secure care, as mental hospital beds have declined and residential care has expanded to fill the gap[48]. There are

concerns throughout Europe over the quality of long-term care, both within and outside the hospital sector[49-51].

In Ireland, without the proper investment and implementation of a broad spectrum of specialist rehabilitation mental health services (from inpatient to community-based services), that have adequate infrastructure and resources, there is a risk that individuals with complex mental health needs who require longer term rehabilitation, will be further institutionalised and excluded from society.

Vision for Change[12] recommended that specialist rehabilitation and recovery mental health services should be evaluated in relation to improvements in quality of life for service users, increased social networks, reduced admissions and re-integration into the community. To date there has been no patient data available to inform the planning of comprehensive rehabilitation and recovery mental health services, that offer a range of provision from inpatient to community rehabilitation services and that meet the needs of the various target populations at national level. This study for the first time describes the characteristics and clinical outcomes of service users in receipt of rehabilitation services and those awaiting them.

We found that both groups had similar profiles in terms of socio-demographics, diagnosis and past use of psychiatric services. Most were middle aged, single, unemployed men with a diagnosis of severe and enduring mental health problems (85% had schizophrenia or schizoaffective disorder) and a long duration of illness. Half had a history of self harm and one third had a history of physically assault on others but these risks were more recent for those awaiting rehabilitation. This could be interpreted in two ways; either rehabilitation services are filtering out this group (hence they are wait listed) or rehabilitation services provide an environment that is more successful at reducing these behaviours than standard care.

Participants who were in receipt of rehabilitation services were eight times more likely to gain and/or sustain community living in supported residential programmes and to show significant improvement in their social functioning over 18 months compared to participants awaiting rehabilitation. Furthermore, those with access to rehabilitation services who were living in the community at recruitment were fourteen times more likely to progress successfully over the eighteen month period than services users receiving inpatient rehabilitation.

Challenging behaviours were found to be a key predictor of outcome, a finding in keeping with previous studies. The TAPs project[52] found that challenging behaviours were a major impediment to discharge for longer term inpatients at the time of deinstitutionalisation. Similarly, Holloway et al followed up new long stay patients and found that those who sustained discharge from hospital over two years had significantly fewer challenging behaviours than those still in hospital[53]. The fact that ongoing challenging behaviours predict poorer outcomes is not surprising and highlights the complexity of the client group and the need to focus on the identification of evidence based medical and psychosocial interventions that may attenuate these. Our investigation of six components of rehabilitative care did not shed any light on this since the only predictor of better outcome was being a community patient rather than an inpatient at recruitment. Clearly community patients are, by definition, likely to have fewer challenging behaviours than those still in hospital and therefore more likely to progress. Nevertheless the negative impact of prolonged hospitalisation on challenging behaviours also needs to be considered. The intractable nature of those recruited as inpatients who remained inpatients 18 months later reflects the level of disability and complexity in this group and the fact that many long stay inpatient units lack the necessary staff and therapeutic interventions to address treatment resistant illness and reduce associated risk behaviours[53,54].

The TAPs project[52] found that 15% of “difficult to place” patients who were discharged to supported residential accommodation were readmitted in the first

year. Another Irish study[55] also found that 12% of patients discharged to supported community rehabilitation residences required readmission in that timeframe. In our study we found similar results, as four of twenty-five (16%) patients who were recruited whilst inpatients progressed to community discharge but were readmitted during the 18 months of the study. Three of these four participants were receiving rehabilitation services and one was awaiting rehabilitation services.

Our findings strongly suggest that rehabilitation services are effective in supporting people in sustaining community tenure and facilitate improvement in their social functioning. Two thirds of community patients awaiting rehabilitation services in this study were living with family or friends. Given the complexity of their mental health problems and poor level of functioning, this represents a significant level of potentially avoidable carer burden.

We found that 27/175 (15%) of patients recruited from the community moved on to less supported settings over the 18 months, but 20 (11%) achieved independent living. This suggests that there is a lack of lower supported housing to support a move through care pathway, and may reflect inadequate implementation of community mental health services including community rehabilitation, recovery and assertive outreach teams that could provide flexible and intensive support to service users ready to move to independent housing.

People with enduring mental health problems are particularly vulnerable to social exclusion[56]. The nature of their illness impacts on their ability to engage in consistent employment but in this study, participants in receipt of rehabilitation services were much more likely to be engaged in vocational activities including voluntary employment and training programmes than those awaiting rehabilitation. There is a strong association between unemployment and mental ill health[57-59]. In Ireland of all occupational groups, the unskilled group has had the highest rate of admission for mental health problems for the last thirty

years[60]. The 2000 Labour Force Survey in the UK revealed that unemployment among those with mental health problems is as high as 84%[61,62], higher than that of people with physical and sensory impairments[63]. This is despite the fact that research has repeatedly shown that when adequately supported, as many as 60% of people with more serious mental health problems can gain and sustain open employment [61, 64,65]. In addition, a range of initiatives have also shown that they can successfully engage in mainstream education[66] and a range of social and leisure opportunities. The results from this study clearly demonstrate that rehabilitation services have a key role in promoting and supporting social inclusion for individuals with enduring mental illness by providing support to gain access to housing, employment and social/leisure activities.

Accurate cost data in relation to rehabilitation mental health services in Ireland were difficult to obtain. However, in both the rehabilitation and non-rehabilitation groups, service users had complex problems related to their enduring mental l illness and histories of high use of acute admission services. Overall, costs for individuals in receipt of rehabilitation services and those awaiting them were similar since although those receiving rehabilitation had fewer inpatient admissions over the 18 month study period (the most expensive component of care), admissions that did occur were longer than those awaiting rehabilitation services. Those receiving rehabilitation also had more contacts with professionals and were more likely to be living in supported accommodation. Informal care costs and carer burden were not estimated in our study but it is almost certain that these would have been higher for individuals awaiting rehabilitation as they were more likely to be living with family or friends. It therefore seems families and informal carers are absorbing a significant health care burden for Irish society. A cost-effectiveness analysis was not undertaken, but the better outcomes found for individuals in receipt of rehabilitation suggests that these services are a worthwhile investment.

Chapter 6
Conclusions and recommendations

The main function of a mental health rehabilitation service is to provide specialist treatment and support to service users to gain or regain the skills and confidence to achieve the same kinds of goals as ay other citizen: to live as independently as possible; to engage in rewarding activity; to have good relationships with family and friends; and to have adequate income to support these goals.

The findings from this study have shown that rehabilitation services can positively impact on outcomes for individuals with enduring and complex mental health problems, but for these gains to continue and to ensure ongoing access to these services for others, there has to be movement through the system of inpatient and community based supported accommodation. The Irish mental health system militates against the progression of this group towards greater independence through lack of investment in less supported housing and community based mental health teams who can support the social inclusion of those leaving rehabilitation services. This perpetuates the process of "institutionalisation" in the community with individuals remaining in facilities that provider a higher level of support than they require because they have nowhere to move on to.

Although the *Vision for Change*[12] mental health strategy recommended the development of comprehensive specialist rehabilitation and community recovery services across the country, in fact there has been a lack of implementation, a lack of clarity on pathways of care, and there remains inadequate resources and infrastructure to achieve the aims of social inclusion and recovery for those with longer term and complex mental health problems outlined in the strategy.

The findings from this study suggest that rehabilitation services are effective in supporting people in sustaining community tenure and facilitate improvement in their social functioning. This study has shown that rehabilitation services have a key role in promoting and supporting social inclusion for individuals with enduring mental illness by providing support to gain access to housing, employment and social/leisure activities. This has important implications in relation to reducing the mental/physical health and social burden for service users with severe and enduring mental health problems and their families and for society in general.

Recommendations

Our primary recommendation is to further develop mental health rehabilitation services (both inpatient and community based services) and to invest in supported housing to provide a comprehensive care pathway for service users as they progress in their recovery. These services should be adequately resourced with an appropriate multidisciplinary skill mix to provide evidence based treatments and interventions to people with severe and enduring mental health problems and complex needs. The whole system approach envisaged should interface with primary care services and secondary and tertiary mental health services and work in partnership with housing and vocational rehabilitation providers to facilitate service users' access to community based services and socially inclusive activities at the earliest opportunity.

In more detail we recommend:

- There is a service gap for those service users most disabled who require specialist forensic rehabilitation inpatient services and intensive inpatient rehabilitation services. Such services should be established nationally based on population needs and socio-deprivation index.

- The development of Community Rehabilitation and Recovery/Assertive Outreach Mental Health Teams with true multidisciplinary input to meet the

needs of individuals with major psychosis, who are difficult to engage and are high users of acute mental health services. These teams will also liaise and interface closely with General Adult sector teams to identify and meet the needs of individuals with severe and enduring mental illness, with ongoing disability and who require high levels of rehabilitation input.

- Evaluation of community rehabilitation high support residential units in terms of provision of dedicated multidisciplinary rehabilitation team input which deliver therapeutic rehabilitation interventions to service users and their families and which enable service users with enduring mental health illness and complex needs progress towards independent living.
- Create links and work with social housing providers and Local Authority Housing Departments so that individuals with mental health problems can have access to a range of housing options and the support they require.
- Provision of education and training for staff in recovery oriented clinical practice and therapeutic rehabilitation interventions which are evidence-based, in addition, provision of training in leadership and innovation roles, relationship, clinical, liaison and advocacy skills and specialist skills in particular areas (assessing cognitive functioning, detailed functional assessment, behavioural analysis, motivational interviewing, family interventions and skills training in work rehabilitation).
- Further research is needed in epidemiology research in patients with severe and enduring mental illness and outcome research into the treatment and prevention of mental ill health and research on the economics of mental health services.
- Promotion and implementation of Social Inclusion Model in collaboration with other key stakeholders which enables individuals with mental health problems to access accommodation, education/employment and social/leisure activities in the community and which promotes the role of citizenship through a range of community networks outside the mental health services which in turn will enable the reduction of stigma and discrimination.

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