

The Rehabilitation Effectiveness for Activities for Life (REAL) study: a national programme of research into NHS inpatient mental health rehabilitation services across England

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Scientific summary

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Scientific summary

Background

The REAL (Rehabilitation Effectiveness for Activities for Life) study was a national programme of research into NHS mental health rehabilitation services, funded by the National Institute for Health Research (NIHR) and supported by the Mental Health Research Network. The fundholders were Camden and Islington NHS Foundation Trust and the research was a collaboration between University College London, King's College London, Sheffield Hallam University and South London and Maudsley NHS Foundation Trust.

This programme focused on one of the most socially excluded groups in society: people with longer-term, complex mental health problems. Most have a diagnosis of schizophrenia and all have additional problems that complicate their recovery and impact negatively on their social and everyday function such that they require inpatient rehabilitation. Although only relatively few people require these services (around 10% of NHS inpatient beds are designated as rehabilitation beds), owing to the complex nature of their problems, lengthy admissions and high support needs on discharge from hospital, they consume 25–50% of the total national mental health budget. In other words, they are a 'low-volume, high-needs' group. Despite this, there has been little research to guide practitioners and commissioners in providing the most effective interventions and services for this group. This research programme aimed to address this gap, and had four main objectives:

1. to provide a detailed understanding of the scope of current NHS mental health rehabilitation services in England, including the characteristics of those who use them and the content and costs of care delivered
2. to develop a staff training intervention to facilitate service users' activities
3. to test the clinical effectiveness and cost-effectiveness of the staff training intervention through a cluster randomised controlled trial
4. to carry out a longitudinal study to identify the components of care associated with better clinical outcomes.

Objective 1

Objective 1 was addressed in the first phase of the programme, a national survey of NHS mental health rehabilitation services. We found more NHS mental health rehabilitation services in operation in England than previously estimated (133 units were included in the survey). Almost all NHS trusts had at least one inpatient rehabilitation unit. Most were community based, provided an average of 14 beds and had an average length of stay of 18 months. One-third of service users were in receipt of clozapine treatment, confirming the complex and treatment-resistant nature of this group, and around half had a significant history of risk, most commonly in terms of harm to self and self-neglect.

Most unit managers reported that their service users participated in activities on and off the unit, despite around one-third of service users being difficult to engage. However, very few service users were receiving the evidence-based psychological interventions recommended by the National Institute for Health and Care Excellence for the treatment of schizophrenia. A greater focus is required on the training and supervision of nurses and other staff by clinical psychologists to deliver psychological interventions.

The quality of care provided was assessed using the Quality Indicator for Rehabilitative Care (QIRC), a standardised measure developed for longer-term mental health units that provides ratings on seven domains of care. We found that the quality of care on all domains was higher than the average for similar units across Europe. Units with a higher proportion of older service users, male service users and service users detained involuntarily were of poorer quality, although the influence of these characteristics on service quality was small. The psychiatric morbidity of the local area had a greater impact on service quality, although it influenced only one aspect, namely the quality of the built environment.

All QuIRC domain scores were positively associated with service users' ratings of their autonomy, their experiences of care and the therapeutic milieu of the unit. The cross-sectional nature of our data means that we cannot be sure of the direction of these associations, but they are encouraging; it seems that NHS rehabilitation services are providing a positive experience of care that facilitates individuals' autonomy, which is the main aim of mental health rehabilitation services.

Our health economic analysis in phase 1 found that the costs of care were not associated with the quality of service. This is an important finding, as it suggests that ongoing (rather than greater) investment in NHS rehabilitation services is needed to continue to deliver high-quality care that promotes recovery. Investment in the local supported accommodation pathway is also needed to ensure that service users have an appropriate place to move on to when they are ready to leave the rehabilitation unit.

The qualitative interviews in phase 1 identified that, although staff were generally clear about the aims of rehabilitation services, they had some difficulty in defining their role in the process. This was especially the case for nursing staff. As well as the presence of 'unsuitable' service users, commonly cited barriers to successful rehabilitation were the built environment and lack of staffing. We identified a number of facilitators of rehabilitation that we included in phase 2 of our programme: the development of the staff training intervention to facilitate service users' activities.

Objective 2

Objective 2 was addressed in phase 2 of the programme, led by Sarah Cook and Cathy Hill from Sheffield Hallam University. It involved an iterative process of consultation with occupational therapists (OTs), service users and rehabilitation practitioners to develop a 'hands-on' staff training intervention to facilitate service users' involvement in activities on and off the unit. This intervention (the 'GetREAL' intervention) was refined further through piloting in two units, and the manual describing it in detail is available in *Appendix 6*. In short, the intervention had three main stages: predisposing, enabling and reinforcing. The predisposing stage involved engaging each unit's senior staff in supporting the implementation of the intervention. Two senior rehabilitation psychiatrists (the chief investigator and one coapplicant) met with the unit's senior staff to explain the nature of the intervention, answer any queries and ensure their support for the process. There was then a 5-week enabling stage delivered by a small team (an OT, an activity worker and a service user expert: the 'GetREAL' team). During this period, the OT and the activity worker worked full-time in the unit alongside staff. They delivered structured teaching (involving the service user expert) and hands-on modelling of specific techniques to engage service users in activities. Finally, the reinforcing stage involved the agreement of an activity plan with the unit manager and the staff team to clarify how best to incorporate the skills acquired into the usual structures and processes of the service. Ongoing support to the unit staff in continuing the intervention was available through e-mail contact with the GetREAL OT for the subsequent year.

Objective 3

Phase 3 of the REAL research programme addressed our third objective, the evaluation of the GetREAL intervention through a cluster randomised controlled trial (reference ISRCTN25898179). The trial started in April 2011 and the intervention phase was completed in August 2012, with final data collection completed 12 months later. Forty units were randomised to receive the GetREAL staff training intervention or to continue to provide their usual care to patients. The outcomes were assessed 12 months after baseline, with the primary outcome being the degree to which service users were engaged in activities (time-use diary score). Disappointingly, the GetREAL intervention was not found to be associated with greater service user activity than that in comparison units [coefficient 1.444, 95% confidence interval (CI) -1.351 to 4.238] and there was no evidence for its effectiveness on a number of secondary outcomes (social function, length of admission, proportion discharged and quality of care provided). The health economic analyses suggested that the GetREAL intervention was more likely to increase costs, but the difference in costs between intervention and comparison units was not statistically significant.

Our cost-effectiveness analysis suggested that a willingness to spend > £100 for each percentage point increase in time service users spent engaged in activity would be required for the intervention to be more likely to be cost-effective than not. In other words, it is equivocal whether or not the intervention can be considered cost-effective. However, if the intervention were refined such that it enabled a small increase in service user activity, it would be more cost-effective.

The qualitative aspect of phase 3 suggested that our results may have been due to staff failing to continue to implement the skills learned during the enabling stage of the intervention once the GetREAL teams left. The reasons for this include resistance to taking on new roles, turbulence and uncertainty in the system due to the economic recession, and increasing, competing demands on staff time. The findings may also reflect the 'treatment-resistant' nature of this complex patient group. Finally, the quality of care in NHS mental health rehabilitation units is higher than that in other European countries and, therefore, although we focused our intervention on units that scored below the national average on quality, our results may be due to a ceiling effect.

We carried out a realistic evaluation to inform our findings from phase 3 further. This included a rapid realist review of relevant published literature and study documentation, from which candidate programme theories were developed and tested, using qualitative methods, against case studies of three of the intervention sites. The association between study outcomes and GetREAL intervention fidelity scores was also investigated quantitatively. The realistic evaluation suggested specific modifications to strengthen the intervention, including greater senior staff support and the proactive supervision of staff to deliver the intervention routinely.

Objective 4

The fourth objective was addressed in phase 4 of the REAL programme, which ran concurrently with phase 3. It comprised a cohort study to investigate outcomes over 12 months for service users in 50 rehabilitation units that were rated as above the national average on quality in phase 1. We investigated the service and service user characteristics associated with better clinical outcomes (being successfully discharged to the community and improvement in social functioning). A total of 349 service users were recruited, and follow-up data were gathered for 97% of these service users 12 months later from a key staff contact. Although over half of the participants had been successfully discharged during this time, our initial analysis did not find any association with this outcome and quality of care (assessed using the seven QuIRC domains) or service user characteristics (sex, length of illness, length of admission). We therefore carried out further exploratory multivariable regression analyses comparing those who did and those who did not achieve successful discharge. These analyses were repeated including those who were considered ready for discharge as well as those who had been successfully discharged. We found that three factors assessed at recruitment were associated with successful discharge: the communication subscale score of the Life Skills Profile (which assesses service users' social skills) [odds ratio (OR) 1.13, 95% CI 1.04 to 1.24], the time-use diary score (which assesses service users' level of activity) (OR 1.03, 95% CI 1.01 to 1.05) and the recovery-based practice domain score of the QuIRC (which assesses the unit's performance on this aspect of care) (OR 1.04, 95% CI 1.00 to 1.08). Two factors were associated with service users' reduced chance of successful discharge/readiness for discharge: the length of their current admission (OR 0.99, 95% CI 0.99 to 1.00) and if they had a history of fire-setting (OR 0.35, 95% CI 0.13 to 0.92).

The health economic component of phase 4 showed a decrease in the costs of care over the 12 months of the cohort study as the majority of service users moved to the community. Quality of care was not associated with costs of care. The complexity of service users' mental health problems (lower score on the Global Assessment of Functioning scale and being involuntarily detained) was associated with costs of care at 12 months. Our cost–outcome ratio analysis showed that the cost of every point increase in our measure of social function (Life Skills Profile) was around £200. The mean score increased by 4 points over the 12 months of the cohort study, an improvement that would, therefore, cost around £800 per service user to achieve (£67 per month). This seems a relatively small investment to make to improve social functioning and achieve the high rate of successful discharge found in the cohort study.

Summary of main findings

In summary, the REAL research programme was completed according to protocol and on time. The main findings were:

- Quality of care (i.e. all seven QuIRC domains) was positively associated with service users' autonomy, experiences of care and perceptions of the therapeutic quality of the inpatient rehabilitation unit.
- The staff training intervention we developed to improve service users' engagement in activities was not found to be clinically effective when assessed in our cluster randomised controlled trial, although it cost no more than usual care. This appears to have been because of a lack of sustained, long-term change in practice.
- Through a 'realistic evaluation', we identified modifications that could strengthen the intervention.
- Over half of the service users in our cohort study were successfully discharged from hospital over 12 months. We found service user activity, service user social skills and the extent to which the unit delivered care using recovery-based practice to be associated with this.
- Quality of care was not associated with costs of care. A relatively small investment (£67 per service user per month) was required to achieve the improvement in everyday functioning that we found in our cohort study.

Conclusions

- People who require NHS inpatient mental health rehabilitation are a 'low-volume, high-needs' group. Despite this, these services are able to successfully discharge most people to the community within 18 months.
- Our results suggest that this may be facilitated by a focus on recovery-orientated practice that promotes service user activities and social skills.
- Further research is needed to identify effective interventions that enhance such practice to deliver these outcomes for this group.
- Our staff training intervention was not found to be effective at improving service user engagement in activities but could be strengthened and re-evaluated.
- We found that the quality of care provided in NHS mental health rehabilitation facilities in England is higher than that in similar facilities across Europe.
- Higher-quality care was associated with greater service user autonomy and greater satisfaction with care, but not with costs of care.
- Our programme of research provides evidence that NHS mental health rehabilitation services deliver high-quality care that successfully supports service users with complex needs in their recovery.
- Further research into secure NHS mental health rehabilitation facilities and mental health rehabilitation facilities provided by the independent sector is needed, as these areas were outside the scope of the REAL study.

Trial registration

The randomised controlled trial in this study is registered as ISRCTN25898179.

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