TEM House and Milton Keynes Services

Annual Report 2009

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INTRODUCTION

Our history

Thomas Edward Mitton House is the heart and soul of the Brain Injury Rehabilitation Trust (BIRT), which has developed a network of specialist brain injury rehabilitation facilities, including residential and community services, throughout much of mainland Britain. Also known as 'TEM' House, the unit was the nucleus from which BIRT's continuum of services expanded and evolved. Officially opened in 1991, it was at the forefront of brain injury rehabilitation service evolution as one of the first community-based services in Britain.

Although TEM House has developed its service in line with current best practice since its inception, it remains solidly based on the internationally recognised 'neuro-behavioural' model, established by Professor Roger Ll. Wood. As such, TEM House is grounded in a solid and long-established skill base with proven outcomes, the results of which have been published in professional journals. The neuro-behavioural model of management, which guides the BIRT philosophy, provides for the systematic and structured observation and monitoring of behaviour and skills. In this way we can understand the meaning of behavioural patterns and work out how to enhance positive behaviours and discourage less welcome ones, as well as gradually to build on abilities.

Our Services

TEM House is a post-acute residential rehabilitation unit offering a specialist service to people between the ages of 16-65 years who have an acquired brain injury. The unit is one of BIRT's Community Integration Units (CI's), since joined by West Heath House (Birmingham), the Woodmill (Collumpton, Devon), Daniel Yorath House (Leeds) and more recently Fen House (Ely, Cambridge) and Kerwin Court (Horsham). York House (in York) and Graham Anderson House, Glasgow offer a service for extremely challenging behaviour and can take those detained under the Mental Health Act). At TEM House we have 16 single occupancy rooms, one of which is a fully self-contained training flat, allowing for a step up in terms of independence within the unit. All rooms have en-suite bathrooms facilities. As a registered care home, we can also provide a limited number of longer term, slow stream placements.

The service at TEM House is provided by a team of dedicated specialist professionals and rehabilitation support workers. The clinical team includes clinical psychology, occupational therapy, speech and language therapy, physiotherapy as well as vocational preparation. The TEM House team, as with BIRT's other rehabilitation facilities, is led by a consultant clinical neuropsychologist.

TEM House's service users also have the benefit of input from a consultant neuropsychiatrist who provides advice to the team as well as the general practitioners who look after the medical needs of service users during their stay at TEM House or one of its TLU's. Another key member of the team is the Head of Care, whose role includes integrating the therapists' input with the input of the rehabilitation support workers. The role of rehabilitation support worker is a key feature and component of the rehabilitation, as these are the staff with the most intensive contact and involvement with the services users.

TEM House's services have been expanded and improved since its inception. The first Transitional Living Unit (TLU) opened nearby in Bletchley, offering service users the opportunity to more smoothly make the transition back to community living. The TLU is available to those who have progressed to the stage of being capable of resuming independence in the core tasks of community living such as shopping, looking after a home and going out to pursue work or other productive and leisure activities. The success of the TLU was reflected in an increased demand for places, and a second TLU was opened in the Brownswood area of Milton Keynes.

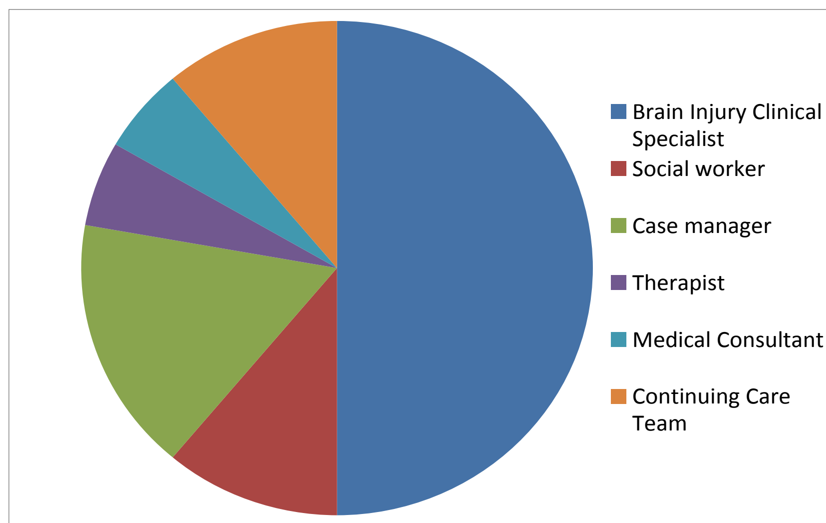
PROFILE OF SERVICE USERS AND FUNDING AGENCIES

In 2009 TEM House admitted 18 service users, one more than was admitted in 2008. As in previous years, many of these service users had complex needs including challenging behaviour, which is not surprising as BIRT is well known for being able to meet the needs of this client group.

Referring and Funding Agencies

As shown in Figure 1, a variety of professionals have made a referral to our service (including TEM House and associated transitional living units; TLUs). Brain Injury Clinical Specialists are the most common referrer; 50% of the service users admitted were referred by these specialists. However referrals were received from a number of other sources, such as case managers (n=3), continuing care teams (n=2), social workers (n=2) therapists (n=1) and medical consultants (one n=1).

Figure 1: Source of referral

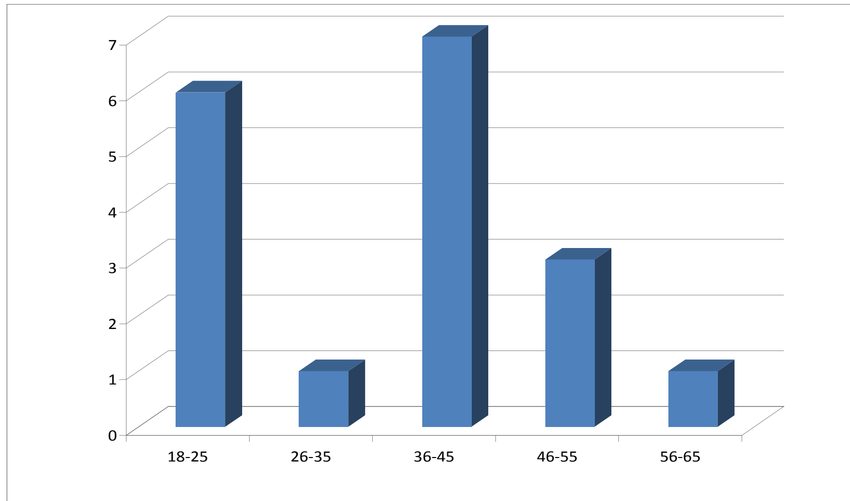


Funding for the majority of service users was provided by their local PCT (78%). Other funding sources include social services/community care teams (n=2), and medico-legal/personal injury funds (n=2).

Services Users Characteristics

The majority of the 18 people admitted to our service were men; approximately 75% (n=13). One third were aged between 18-25 years old and a little more than one third were aged 36-45 years old (see Figure 2).

Figure 2: Ages of service users at admission



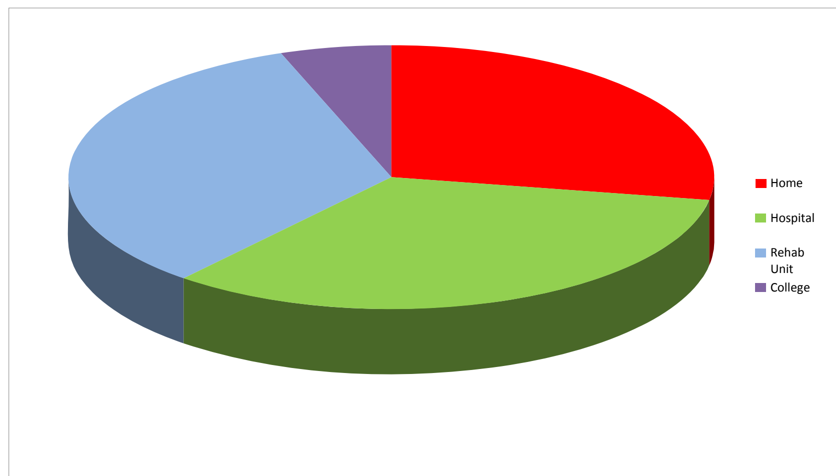
Service users originated from a variety of localities (Table 1), with the majority from Milton Keynes and nearby counties (67%).

Table 1: Service users' locality

Bedfordshire	5
Milton Keynes	2
Middlesex	2
Hertfordshire	1
Buckinghamshire	1
Oxfordshire	1
Cambridgeshire	1
Berkshire	1
West Essex	2
East Sussex	1
Hampshire	1

The majority of service users were admitted from either a hospital or rehabilitation unit (see Figure 3). Broadly, there were equal numbers admitted from hospital, rehabilitation unit or the community (i.e. home or college). Two service users neuro-behavioural rehabilitation for those with extremely challenging behaviour. As such, the move to TEM House represented progress towards increased independence for these individuals.

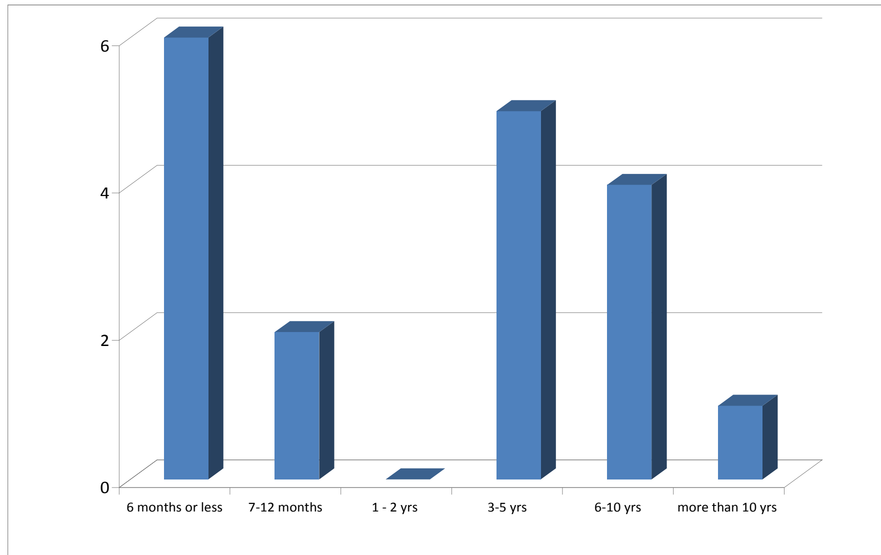
Figure 3: Service users' location prior to admission



Traumatic brain injury (TBI) was by far the most common cause of the acquired brain injury (ABI); 78% of the service users admitted during 2009 had suffered a TBI. The causes of this included road traffic accidents, falls and assault. The remaining service users (4) had suffered a cerebro-vascular accident (also known as a stroke). It is worth mentioning that BIRT, including TEM House, admit people whose acquired brain injury (ABI) has resulted from a wide range of non-degenerative causes such as anoxia/hypoxia, overdose and space occupying lesion (e.g. brain tumour).

The period of time which has elapsed since the service users suffered an ABI varied considerably (see Figure 4). One third of people admitted had suffered an ABI within the preceding six months. The date of onset was within one year for just under half of the people admitted (44%). As Figure 4 indicates, some of BIRT's service users have suffered an ABI several years prior to being admitted. In the case of 2009, 28% had suffered an ABI six years or more before being admitted, including one person whose injury occurred more than 10 years earlier.

Figure 4: Time since injury

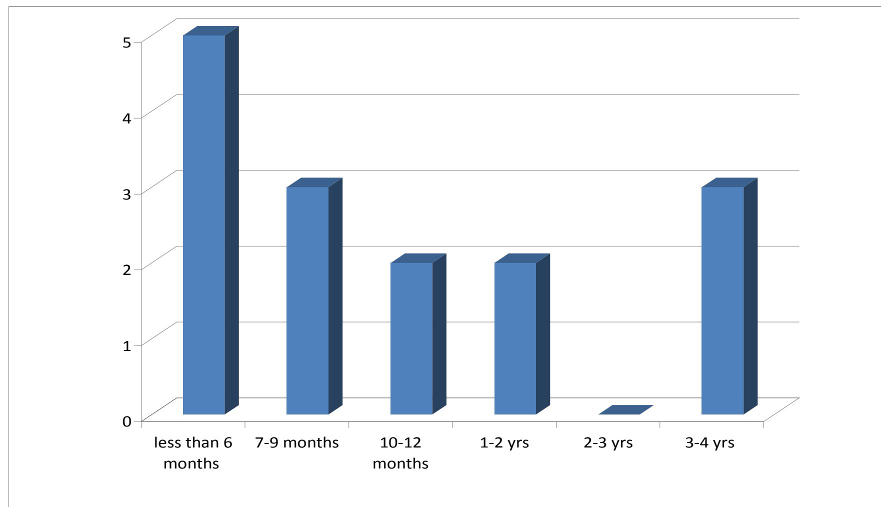


In addition to the service users described above, two people were admitted to our service for a short, 'respite' period. One, a man in his mid-twenties, was admitted on two separate occasions for a period of one week. Another was a woman in her late thirties admitted for a period of respite of slightly less than one week. Both Health and Social Services funds were used for these periods of respite.

OUTCOMES

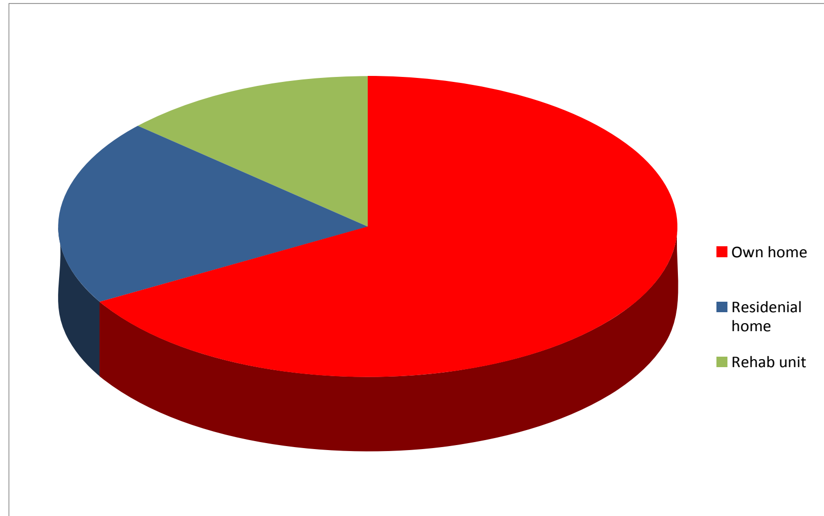
Fifteen service users were discharged during 2009. Although the average duration of rehabilitation was approximately one and quarter years (14 and a half months) this statistic does not provide a clear indication of the duration of rehabilitation. As can be seen in Figure 5, the most common period of rehabilitation was six months or less, with 28% of service users admitted for that period. Two thirds (66%) undergo a period of rehabilitation lasting less than 12 months. The remainder of service users discharged in 2009 underwent periods of rehabilitation lasting up to three and half years. Typically such individuals progress from the Community Integration Unit (TEM House) to a TLU before being discharged, and more than half of these people were able to move into their own home in the community.

Figure 5: Duration of rehabilitation



Overall 66% of the people who were discharged this year had progressed to the level of being able to live in the community with a 'package' of support. Only a small minority of service users continue to require either continuing rehabilitation (n=2) or residential care (n=3)

Figure 6: Placement on discharge (n=15)



CARF TARGETS

BIRT is accredited by CARF (Commission on Accreditation of Rehabilitation Facilities) who review our units regularly to ensure the quality of our services. As part of their report they make recommendations regarding areas for development. Those which are relevant to our own annual review relate to reducing the frequency of challenging behaviour, increasing service users' life skills and maintaining high levels of satisfaction amongst services users and their relatives as well as the agencies that use our services. There are also several BIRT-wide targets, including target figures for the Neurobehavioural Rating Scale, the Supervision Rating Scale and the BIRT Aggression Rating Scale.

1) Reduce the frequency of challenging behaviour

As in other BIRT facilities, a neuro-behavioural approach is used to modify and manage challenging behaviour. Essentially this combines neuropsychological knowledge, to facilitate our understanding of each individual's strengths and weaknesses resulting from their brain injury, with theory and methods derived from behavioural psychology. The latter is used to guide the design of the rehabilitation environment and specific interventions aimed at modifying challenging behaviours. The main method of measuring such behaviours is the BIRT Aggression Rating Scale, or BARS. This tool contributes to the analysis of the behaviours and evaluation of the outcome of rehabilitation.

The BARS provides information about aggressive behaviours, both verbal and physical, and socially inappropriate behaviours (e.g. sexually inappropriate behaviour). An overall measure of challenging behaviour is obtained weighting each type of behaviour according to its relative severity to provide a 'Weighted BARS' score for each week of an individual's rehabilitation. The outcome of rehabilitation can thus be evaluated by comparing weighted BARS scores at time of discharge with scores in the initial period after admission.

Analysis of Admission weighted BARS scores with Discharge scores in 2009 shows that the mean weighted BARS score fell from 7.7 on admission to 3.4 on discharge (n=15), indicating that rehabilitation produced a highly significant reduction in the level of challenging behaviour. For those service users who scored at a reasonably high level on this scale on admission, there was a reduction of 59% by discharge. This was well above the BIRT target of a 20% reduction.

2) Reduce the frequency of violent behaviour

Another target recommended by CARF specifically regarded reducing the frequency of violent behaviour. This can be demonstrated through analysis of behavioural recordings of physical aggression. Using the BARS we distinguish three forms of violent behaviours; non-destructive physical aggression (directed at objects), destructive physical aggression and physical aggression directed towards another person. Using recordings from a sample of eight out of 15 discharged service users, it was found that within four weeks of admission the highest frequency of physical aggression was nine instances. At discharge there had been a reduction of violent behaviour with all service users within the sample demonstrating no physical aggression. Again, this suggests that the process of rehabilitation had a significant effect on violent behaviour, with cessation of physical aggression by discharge for those discharged this year.

3) Increase Service User's life skills

All of our service users have rehabilitation goals that relate to increasing their level of functioning and independence in life skills or activities of daily living. The progress made towards these goals is reflected not only through achieving the goals but also through the use of outcome measures such as the Neurobehavioural Rating Scale (Levin, High, Goethe, et al., 1987), the Supervision Rating Scale (Boake, 1996) and the BIRT Community Disposition Rating Scales. Figure 7 illustrates the changes in these outcome measures when admission and discharge ratings are compared in those 15 individuals discharged in 2009.

The Supervision Rating Scale indicates the level of support required to maintain the person in a 'reasonably safe and satisfactory state'. A higher Supervision Rating Scale rating score indicates that a greater level of support is required, with a reduction indicating an increase in life skills. The average Supervision Rating Scale score on discharge (6/13) was in fact lower than the average on admission (8.9/13; n=15), indicating an increase in independence and reduction in the level of support required. On the Supervision Rating Scale, 79% of service users achieved a reduction of 1 point or more and some achieved as many

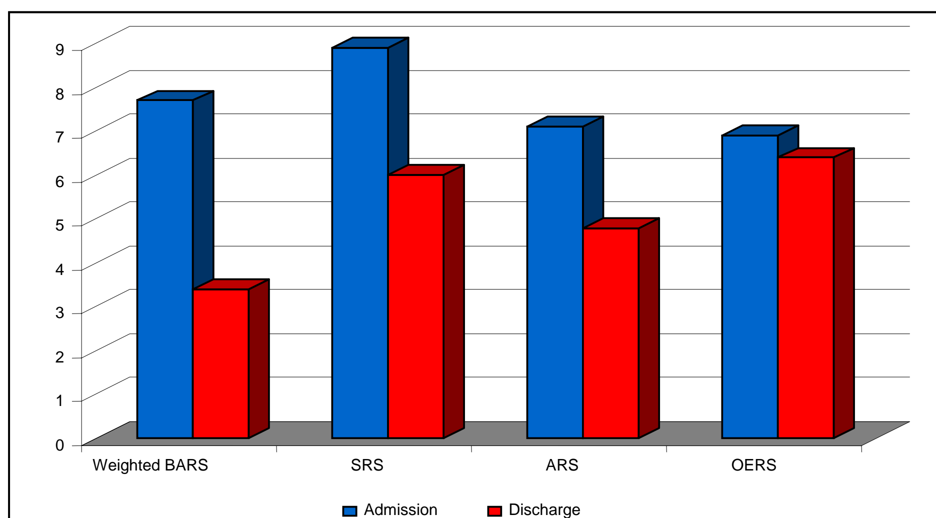
as 8 points reduction, indicating that many service users achieved substantial reductions in the level of supervision they required by discharge. This achieved the BIRT target.

The Neurobehavioural Rating Scale rates the severity of various behaviours which commonly occur following acquired brain injury. Those service users discharged in 2009 had an average score of 43 on discharge 10 points better than their score on admission of 53. This achieved the target of a 3 point improvement on this scale.

The Community Disposition Rating Scales include an Accommodation Rating Scale which indicates the type of accommodation needed to support the client. A higher Accommodation Rating Scale rating is associated with a higher need for support and thus a lower level of independence in activities of daily living. The average Accommodation Rating Scale rating at the time of admission was 7.1/10 compared to an average rating of 4.8/10 at the time of discharge, indicating an increase in independence over the period of rehabilitation in these service users.

The Community Disposition Rating Scales also include the Occupational Engagement Rating Scale, which reflects the level of engagement in productive activity, such as employment. A higher Occupational Engagement Rating Scale score indicates a greater degree of dependency (i.e. a lower level of ability to engage in productive activity). Improvement was also found on this measure; service users' mean rating at the time of discharge was slightly lower than it was at the time of admission (6.4/8 compared to 6.9/8), indicating that following a period of rehabilitation at TEM House these individuals were able to engage in a higher level of productive activity.

Figure 7: Comparison of Outcome Measures at Admission and Discharge (n=15)



4) Maintain satisfaction levels of 90% amongst Service Users', their families and the agencies who admit Service Users to our services.

In 2009, those families who completed the BIRT Satisfaction questionnaire indicated that they were 100% satisfied overall with TEM House, achieving this goal. Eighty eight per cent those referring Service Users to TEM House and 86% of Service Users themselves indicated that they were satisfied with TEM House.. . Whilst this is slightly less than the goal of 90%, we will continue to work to achieve a satisfaction of 90% by all stakeholders in the overall service that TEM House provides.

KEEPING ABREAST OF DEVELOPMENTS IN BRAIN INJURY REHABILITATION

Members of the TEM House team attended a range of conferences and training events in 2009 to maintain knowledge of current developments in the field of brain injury. These conferences included the International Neuropsychological Society mid-year meeting in Helsinki, Finland, the 6th Annual Symposium on Neuropsychological Rehabilitation in Tallin, Estonia, the British Neuropsychiatric Association 23rd Annual General Meeting in London,

and the BPS New Wave Therapies conference in Bristol.

All TEM clinicians attended the BIRT Clinicians Training day in November 2009, with presentations from Dr John Freeland and Dr Drew Alcott, Consultant Neuropsychologists with BIRT, and a team from Kerwin Court, a BIRT Community Integration unit in Horsham. The day was an excellent chance for clinicians to network and learn more about the various units, and highlighted the wealth of knowledge and expertise within BIRT.

Contributing to brain injury knowledge and awareness

In September 2009, BIRT held a very successful two day conference entitled 'Innovations: Models and Management of Brain Injury Rehabilitation' in Birmingham. The conference included speakers from the United Kingdom, Australia and the United States of America, with a strong emphasis on the functional implications of a range of cross-disciplinary topics.

Dr Ramsden presented posters at the international Neuropsychological Society mid-year meeting and the Annual Symposium on Neuropsychological Rehabilitation, reporting research that has been completed at BIRT units. This includes research investigating how the brain allows us to develop music skills, and research into how one can involve service users with severe brain injuries in setting rehabilitation goals.

TEM House had a successful drive to raise awareness about brain injury in Brain Injury Awareness Week. This included setting up a stand in the Milton Keynes City Centre; as well talks to two schools. Additionally students from two schools participated in an art competition to design a poster as well as creating a slogan for "Looking After your Head.

TEM House also hosted a successful seminar in November 2009 entitled "Neurobehavioural Rehabilitation: Issues, Costs and Outcomes", and further seminars are planned for 2010.