Winston Churchill Memorial Trust of Australia

Report by: Elissa Morriss

Churchill Fellow 2005

The Bob and June Prickett Fellowship to study "Support for Adults with Brain Injury and Family/Carers"

Signed:  **Dated: May 1, 2008**

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Executive Summary

The Bob and June Prickett Churchill Fellowship was completed in April – May 2006. The focus of this fellowship was to examine the brain injury rehabilitation services and to visit brain injury practitioners in the community providing innovative approaches to management of severe and challenging behaviour. The aim was also to address issues of how best to support individuals and their family or carers to understand, manage and cope with severe and challenging behaviour.

Highlights

- Visiting the Brain Injury Rehabilitation Trust facilities in the UK including Daniel Yorath House, York House and Redford Court, and the Community Services.
- Meeting the Clinical Neuropsychologist and other therapy staff at the Leeds Community Brain Injury Rehabilitation Team
- Consulting with Dr Tim Feeney, Dr Mark Ylvisaker and Paul Akers, consultants with School and Community Support in New York State, USA
- Meeting Dr Laura Schopp and other professionals to discuss the outcome of the Missouri Tele-rehabilitation Project and to visit Rusk Rehabilitation Centre.
- Observing an Aphasia Connection Group, facilitated by Dr Fran Tucker, for individuals with aphasia.
- Observing the clinical practice of Dr Tedd Judd Clinical Neuropsychologist, in Bellingham, Washington State. With his support I also visited professionals at the University of Washington Neuro-rehabilitation Programme, Seattle, GF Strong Rehabilitation Centre, Vancouver, Canada, and Rehab Without Walls in Seattle.

Implementation and Dissemination

The opportunity I have had in my Churchill Fellowship has been invaluable in consolidating my own professional knowledge, skills, and goals for further professional learning and development. I am already taking opportunities to disseminate this valuable information through the following:

- I am sharing information and resources with my professional organisations and networks throughout Queensland and Australia.
- I am sharing information and key concepts in behavioural assessment and management, through Queensland-wide training of support workers, professionals in government and non-government organisations.
- I have involvement in discussions in government and non-government organisations regarding key policy, legal and service delivery issues.
- I am currently working on a journal article for publication in a discipline specific professional journal.
- I have developed a number of new rehabilitation resources incorporating key concepts from my Churchill Fellowship, which will be disseminated both in Queensland and Australia-wide in rehabilitation and neuropsychology professional networks.
- I am continuing to maintain and develop professional networks, both in Australia and in the United Kingdom and United States, for exchange of ideas, information and resources.

Elissa Morriss
26 Dean Street
Toowong 4066
Queensland
elissa_morriss@health.qld.gov.au

Schedule 2006

Institution	Professionals	**Dates**
Brain Injury Rehabilitation Trust UK (Leeds, Liverpool, York) • Daniel Yorath House • York House • Redford Court • Community Services	Dr John Freeland, Andrew James, Janet Hodgeson, Jacqueline Woods, Dr Miles Rogish, Julia Morley	April 13 – April 27th 2006
School and Community Support Schnectady New York State	Dr Tim Feeney, Mr Paul Akers, Dr Mark Ylvisaker	May 1st – May 5th 2006
Missouri TBI Demonstration Project, University of Missouri, Colombia, Missouri	Dr Laura Schopp, Dr Weldon Webb, Dr Stephanie Reid-Arndt, Dr Dan Orme, Dr Cheryl Shigaki, Dr Janet Farmer, Dr Brick Johnstone, Dr Steve Kanne, David Roberts	May 8th – May 12th 2006
Rusk Rehabilitation Centre Colombia, Missouri	Dr Renee Stuckey	
Aphasia Connection Group, Barnes Jewish Extended Care Hospital, St Louis; Missouri, Rehabilitation Institute Washington University, St Louis	Dr Fran Tucker Dr Rob Fucetola Dr Carolyn Baum	May 12th – May15th 2006
Dr Tedd Judd, Clinical Neuropsychologist, Private Practice, Bellingham, Washington State	Dr Tedd Judd	May 22nd – May 28th 2006
University of Washington Medical Center – Neurorehabilitation Program Seattle	Dr Mary Pepping, Karen Ball, Kurt Johnson, Dr Sureyya Dikmen	
GF Strong Rehabilitation Centre, Vancouver, Canada	Dr John MacDonald and Dr Verna Arnell	
Rehab Without Walls	Seattle	

Introduction

Acquired brain injury is defined as an: "injury to the brain which results in deterioration of cognitive, physical, emotional or independent functions. It can occur as a result of trauma, substance abuse, stroke, hypoxia, infection or degenerative neurological disease. Impairments to cognitive abilities, sensory or physical functioning can be either temporary or permanent and can cause partial or total disability or psychosocial maladjustment".

(Commonwealth Department of Health and Aged Care, 2001)

Acquired brain injury (ABI) is common in Australia, with 1 in 45 Australians (432, 700 people) reporting an ABI with limitations on activity or participation due to disability.[1] Almost three quarters of these people were aged less than 65 years. People with ABI tend to have complex disability with a range of cognitive, physical, communication, and behavioural impairments. These profound changes can affect a person's ability to live independently, to return to work, to drive, to access activities and supports in the community and to have satisfying lives. Providing support to individuals and their carers and family members is therefore a key aspect of brain injury community rehabilitation.

It is behavioural changes that are reported consistently by both individuals with brain injury, and their family and carers as the major barrier to achievement of life goals, and the major contributor to carer stress and burden long term. Common changes in behaviour include irritability, anger, aggression, lack of initiation, egocentricity and disinhibited or impulsive behaviour, and can be substantial barriers to independence and inclusion in the community following a brain injury.

Behaviour problems also present the greatest challenge to rehabilitation professionals, particularly in community settings. It is often the case that in many of the services that currently exist in the community, staff may have limited experience in working with adults with brain injury, limited understanding of models of rehabilitation, and limited understanding and skills in the assessment, prevention, and management of severe and challenging behaviour.

At the Acquired Brain Injury Outreach Service, where I have worked as a Clinical Neuropsychologist for ten years, assessment, consultation and education about brain injury, and coping with behavioural changes (anger, socially inappropriate behaviour, impulsivity) is a key priority service delivery.

Intervention must be practical, resilient, and long lasting in the context in which people are living, sometimes in metropolitan Brisbane, but also in rural and remote locations throughout Queensland. The long distances in Queensland mean that direct face to face contact is limited, so the use of telephone, email contact, and videoconferencing technology all allows us to increase access to specialist consultation and education. I was keen in my Churchill Fellowship to visit services with a community focus in providing rehabilitation, and also to meet with professionals in services who had utilised videoconferencing technology to provide services in rural and remote locations.

The Bob and June Prickett Churchill Fellowship allowed me to visit specialist services and experts in the United Kingdom and the United States who had developed innovative, flexible and collaborative approaches to providing support and assistance to individuals who have problems with their behaviour as the result of their brain injury.

[1] Australian Bureau of Statistics" (ABS) 2003 Survey of disability, Ageing and Carers.

Brain Injury Rehabilitation Trust UK

The Brain Injury Rehabilitation Trust (BIRT) is a charitable organization in the UK providing specialist services for individuals with acquired brain injury. They have developed their own system of brain injury rehabilitation known as the neurobehavioral approach which utilizes evidence based scientific methods of training and changing behaviour. The rehabilitation approaches aim to utilize social and interpersonal interaction within a residential and community context as a means of selectively reinforcing appropriate behaviours. Individuals are encouraged to use strategies to raise awareness of behaviour. Although BIRT offers a number of residential facilities in the UK e.g. Daniel Yorath House, York House, the focus of rehabilitation also includes real life settings, such as going to the shops, using public transport, supported employment or voluntary work, and participating in community activities.

Individuals with brain injury also may be taught strategies to help them compensate for impairments e.g. memory strategies, planning skills, communication skills, and management of anxiety, depression or other emotional concerns. Each person is encouraged to participate in planning and goal setting with rehabilitation staff, specific goals are agreed, and progress towards goals is carefully monitored and discussed. Regular reviews occur to discuss progress towards goals, with opportunity to set new goals and directions. Family and carer participation is also encouraged.

At BIRT I met with Dr John Freeland (Consultant Neuropsychologist), a skilled clinician in the rehabilitation field, who has worked in BIRT for many years. He previously was Director of the Casa Colina Brain Injury Rehabilitation Programme in California with extensive experience in brain injury rehabilitation. He has been involved in the development of a new measure called the BIRT Aggression Rating Scale (BARS) which is used widely across the BIRT programmes throughout the UK. I also met individually with Clinical Neuropsychologists Andrew James, Janet Hodgeson, and Dr Miles Rogish who all provided valuable insights regarding their approach to behavioural rehabilitation.

Daniel Yorath House - Leeds

Daniel Yorath House is a residential rehabilitation service for individuals with acquired brain injury (caused by traumatic brain injury, stroke, or illness). The program is designed to assist people re-learn skills lost as a result of acquired brain injury. The nature of rehabilitation activities varies depending on the individual, but focuses on returning to as independent a life as possible, moving from high levels of dependence to independent living options. Support is gradually reduced as the individual learns the skills they need to manage independently.

Daniel Yorath House

The Neuropsychologists within Daniel Yorath House are closely involved in the neuropsychological assessment of cognition, personality and behaviour, and the development of individual rehabilitation intervention programmes. Residents who have challenging behaviour as the result of their brain injury will have comprehensive behavioural assessments completed (utilizing behavioural recording and charts). Intervention programmes will then be developed and carefully monitored to measure the outcome of therapy and to implement further therapy and support. The Neuropsychologist is also involved in the development of individual strategies and programmes to assist with cognitive impairments, and also provides individual counseling and therapy to assist with adjustment and coping following brain injury.

York House - York

York House is a 28 bed secure neuro-behavioural residential unit. It provides intensive neuro-behavioural assessment and rehabilitation for individuals with severe cognitive, physical, and behavioural and emotional changes following brain injury. Many of the residents are considered to have complex needs, including dual diagnosis (mental health disorders or drug and alcohol disorders) and severe and challenging behaviour (verbal and physical aggression, social inappropriate behaviour, disinhibition) or severe mood disturbance. Individuals can be detained under sections of the Mental Health Act (1983), which means they are able to be kept in a secure or locked facility for assessment and rehabilitation.

The general age range of individuals residing at York House is 18-65 years, although most residents are aged 20-40 years. This age demographic is consistent with Australian statistics which indicate that younger people are more likely to sustain severe traumatic brain injury. Individuals can be admitted at any stage post-injury, from acute rehabilitation to many years post-injury. Placements are generally for 6-24 months, depending on rehabilitation needs, and individuals may stay for longer depending on the complexity of their needs and the success of rehabilitation interventions. Similarly to other BIRT facilities, York House also provides intensive neurobehavioral assessment. The Rehabilitation team there consists of a range of rehabilitation professionals, including neuropsychologists, clinical psychologists, nurses, occupational therapists, physiotherapist, speech and language therapists, and rehabilitation support workers. It is the neuropsychologists who are closely involved in the assessment and rehabilitation of the severe behaviour disorders which prevent individuals being managed in the community or in other residential communities, and the expertise and skills of these staff are central to the rehabilitation model and process.

Redford Court - Liverpool

Redford Court is a longer term residential rehabilitation centre within the BIRT system, for people with longer term care needs (e.g. requiring high levels of supervisory or physical support or care). Individuals are able to have their own private rooms with ensuite bathrooms, but are able to access all other facilities within the centre and day activities (residential and community based). It provides a structured residential option for people with long-term care needs, or those who require slow stream rehabilitation (rehabilitation over a longer period of time) although some individuals do progress to more independent living options. Like other BIRT facilities it uses a neuro-behavioural model, and is able to accept individuals with complex needs, including those with severe and challenging behaviour.

Attached to Redford Court are four transitional living units which allow for graduated transition to community living but with the proximity of support should individuals require this. Consumer involvement at Redford Court is encouraged, and is facilitated through meetings which provide opportunity for feedback regarding the service and for residents to have input into decision making. Involvement in individual goal planning is also encouraged.

Community Services Supported Accommodation - York

The Community Services Supported Accommodation within BIRT offer options for individuals to live in residential accommodation with 24/7 support in the community.

The emphasis in this service is community living activities and encouraging independence. Individual two and three bedroom houses are available with rehabilitation support workers who provide in-home support. A mobile team, which includes a neuropsychologist can provide high levels of support when required. Individual behaviour management plans are developed and monitored by the neuropsychologist.

Services such as this allow individuals with brain injury to transition into more independent living options in their local communities.

I met with Julia Morley, Clinical Neuropsychologist, who works in the Community Services Supported Accommodation service within York. Originally trained in Australia, she provides comprehensive neuropsychological assessment, assessment of behaviour, and develops behavioural intervention programmes which can be implemented by rehabilitation support workers.

Leeds Community Brain Injury Team

The Leeds Community Brain Injury Team is a small interdisciplinary team created in 1992, providing community based rehabilitation to people with traumatic brain injury (less than five years post-injury) and support to their families. The approach is collaborative, client centered and aims to enhance participation in meaningful activity – individual goal planning is seen as essential to the rehabilitation process. Family and carers are also involved in the assessment and development of a rehabilitation plan.

The team is funded by the National Health System in the UK and located at Willow House, St Mary's Hospital. The team maintains links with Chapel Allerton Hospital and other specialist brain injury services. Neurobehavioral assessment and rehabilitation is provided to help individuals increase independence in their own community. Services provided by the team include behaviour management, social and recreational activities, vocational rehabilitation, and support for family and carers.

Focus at this visit was discussion of resources for management of anger problems following brain injury with discussion of resources such as Controlling Anger and Learning to Manage it (CALM) and use of the Anger Disorders Scale (ADS). We also discussed risk assessment tools and their use in community based rehabilitation and other cognitive rehabilitation strategies used in the community.

I met with Australian trained clinical neuropsychologist Jacqueline Woods, team coordinator, and attended an initial rehabilitation assessment at a community home visit and observed rehabilitation reviews at the Chapel Allerton Hospital.

School and Community Support, Schenectady, New York State, USA

Dr Tim Feeney is Executive Director of the School and Community Support Services (SCSS) and has extensive experience working in the community with children and adults with acquired brain injury and challenging behaviour.

With Dr Feeney I visited Belvedere Brain Injury Progam in Albany, New York State, with the opportunity to observe their day rehabilitation services. The program they offer includes behavioural management, cognitive remediation, and opportunity for social interaction and support. The program uses the concepts of self-coaching, which a process of rehabilitation therapy used to assist individuals with brain injury to improve self-regulation of behaviour.

With Dr Feeney, I also visited Fletcher Elementary School, Schuylerville High School and Hoosic Valley Elementary School for behaviour consultations. Dr Feeney and his staff frequently provide specialist consultation, intervention, education and support to staff managing students with cognitive and behavioural impairments. They provide valuable training and mentoring to assist in the development of the key knowledge and skills necessary for staff and families to complete detailed behavioural assessments, to develop individual behaviour intervention programmes, and the ability to evaluate the effectiveness of the interventions over time.

Tim and Chris Feeney

"Helping individuals with brain injury construct a sense of personal identity that is satisfying, organized, and realistic"
Dr Tim Feeney

Dr Mark Ylvisaker is an Associate Professor of Communication Disorders at the College of Saint Rose, Albany, New York. Dr Tim Feeney and Mark Ylvisaker have worked collaboratively for many years, and have written a number of books and articles about community rehabilitation. They have both been closely involved in the development of self-coaching and self-regulatory interventions with individuals with executive and self-regulation impairments living in the community.

Paul Akers is a consultant with SCSS with extensive experience in the community working with individuals with disability to achieve independence. With him I visited Flower City Health Traumatic Brain Injury Services and Pralid in Rochester; both services provide support to individuals with ABI living in the community.

Self-Coaching

Self-coaching in brain injury rehabilitation is a metaphor used to describe a set of procedures and therapeutic ideas used to support individuals with brain injury to understand and to participate in self-management of executive and cognitive impairments. The self-coaching framework of ideas provides opportunity for insight and reflection regarding behaviour for individuals with self-regulatory impairments. It also supports the person to achieve greater independence and effective achievement of goals. Self-coaching is the use of personally meaningful self-talk metaphors and scripts to guide social behaviour, to encourage strategic thinking, and to improve self-monitoring and awareness. It is based on the idea that self-regulation will be more effective than external regulation of behaviour alone, particularly for young people with brain injury.

Specific aspects of self-coaching include:

- Talking with the person about their behaviour and goals for change
- Providing the person with opportunities to identify and solve their own problems and to come up with solutions that work for them
- Establishing positive images and associations associated with goals for change
- Practice to improve self-awareness of behaviour. Individual and group processes are used in developing insight, getting feedback, getting encouragement
- Development of strategies for specific difficulties e.g. memory, impulsivity, anger management, motivation
- Encouraging the person to put in place strategies that are meaningful for their lives
- Practice of strategies, including use of videos for repetition, practice, and to enhance motivation. The opportunity to observe and learn from others in using the strategies is valued.
- Mentoring and support from therapists and also from peers as the person works towards their chosen goals. The concept of "coaching" is used to reflect the role of therapist in

collaboration with the individual to meet their own goals.

- Awareness of the individuals strengths and support needs in their environment (work, social, family) may be facilitated through education and training

Metaphors are frequently used to express meaning for each individual, with "scripts" to guide practice and increase competence. The benefit of metaphors and scripts are that individuals are able to identify and own goals regarding their behaviour.

Self Regulation and Scripts

Script	Description
Big Deal/Little Deal?	Allows rating of importance of an activity, social interaction or to self evaluate behaviour
Easy/Hard?	Allows appraisal of level of anticipated difficulty of task – gauges preparedness for action; may encourage thinking about support needed to do it.
Lets Think about That	Encourages the person to stop and think before acting Enables the person to self-appraise and consciously think about what they need to do – encourages waiting and choosing.
Am I Ready? Am I sure?	Encourages self monitoring and evaluation of statements, beliefs, ideas, requests – good for self reflection
What about you?	Encourages other-directed thoughts, and concepts; development of emotional awareness of others.
Respect?	Encourages thought about social and community rules and expectations – allows this to guide selection of appropriate behaviour.
Hang in There	Encourage persistence, patience, and endurance, all of which people with ABI may lack

Feeney & Ylvisaker, 2006

"Teaching people to think … out loud… out loud a lot"

Dr Tim Feeney

Missouri TBI Demonstration Project, University of Missouri, Colombia, Missouri

Missouri TBI Demonstration Project was initially funded in 1997 and completed in 2001. The demonstration project coordinated several TBI support and outreach programs under a three-year grant from the US Department of Health and Human Services. I met with Dr Laura Schopp (Neuropsychologist) who was involved in the project development, implementation and evaluation. The Missouri TBI Demonstration Project utilized teleconferencing technology to educate rural clinicians about brain injury and management of behavioural changes. Teleconferencing was considered uniquely suited to provide this education and ongoing supervision because of cost effectiveness, time efficiencies, facilitation of direct communication and collaborative relationships, and immediacy in service delivery. Teleconferencing was seen to be an interactive and engaging form of learning, allowing effective transfer of knowledge and skills to practitioners. This project recognized the fact that rural practitioners often have generalist training without specialist knowledge of brain injury and rehabilitation management approaches.

These concepts have direct application in the Queensland context where individuals with brain injury in rural and remote locations have limited access to generalist community health services and even less to specialist brain injury consultation. Traumatic brain injury is a national concern in Australia as it is in other countries throughout the world. Advances in research, improvements in trauma recovery and acute treatment have increased the numbers of survivors from severe brain injury and resulting in many long term rehabilitation and social challenges. People who live in rural areas are known to be at greater risk of brain injury, but

may lack access to mainstream health and specialist acquired brain injury services. These individuals will have the same range of severe physical, cognitive, communication and behavioural impairments as individuals living in metropolitan areas but not the same level of services or support to assist them to adjust and cope. Individuals with TBI and their families will often find it difficult to understand and adjust to physical, cognitive, communication and behavioural impairments, and the effect these have on ability to resume independent lives in the community. There is also burden of care and stress for carers who are coping without support.

Telemedicine appears to be an effective, efficient, and viable alternative or supplementary model for increasing access to essential health services both overseas and in Australia. It has the potential to facilitate access to a whole range of medical and specialist professional services and support. Innovative telecommunication technology (e.g. videoconferencing) can be a time and cost effective means of providing specialist education, consultation and support to these individuals and families. Videoconferencing can also be a mechanism to train and support medical, allied health, and community support services in facilitation of service delivery in rural and remote locations.

At this visit I had valuable discussions about tele-rehabilitation and health issues with Dr Weldon Webb, Dr Reid-Arndt, Dr Orme, Dr Brick Johnstone, Dr Steve Kanne, and Dr Laura Schopp.

Laura and Steve Schopp

Rusk Rehabilitation Centre, Columbia, Missouri

Rusk Rehabilitation Centre provides inpatient and outpatient bran injury rehabilitation services in Missouri. It consists of a phased rehabilitation model of short focused rehabilitation intervention. This rehabilitation facility works towards readiness to return to living in the community and return to employment. Rusk Rehabilitation Centre also provides services to individuals with spinal injury. At Rusk Rehabilitation I met with Dr Renee Stucky, Dr Janet Farmer (Thompson Center for Autism and Neurodevelopmental Disorders), and Dr Cheryl Shigaki.

ThinkFirst Missouri is an award-winning trauma prevention program of the University of Missouri School of Medicine, Department of Physical Medicine & Rehabilitation and was established in 1980. The office of ThinkFirst Missouri is located in the Howard A. Rusk Rehabilitation Center in Columbia, Missouri, where I visited.

The mission of ThinkFirst Missouri is to prevent traumatic injuries through the education of individuals, community leaders and people involved in the development of public policy. The program is presented by survivors of brain injury and spinal injury, targeting schools, community groups and services. The innovative and dynamic programs of ThinkFirst strive to educate people, especially high-risk young people, about their vulnerability to brain and spinal cord injury, common causes of these injuries, and how to prevent them.

Aphasia Connection Group— Barnes Jewish Extended Care Hospital, St Louis Missouri

Aphasia is a communication disorder caused by damage to the language centres of the brain and can affect a person's ability to understand and produce spoken and written language.

The Aphasia Connection is a group programme to assist people with aphasia. People meet weekly at the Barnes-Jewish Extended Care. This small group aims to assist stroke survivors to have conversation with others who are dealing with aphasia, enhances social interaction skills, and increases participation in social communication. People have the opportunity to gain confidence in facing the challenges presented by aphasia in a supportive and positive setting, and have opportunity to communicate successfully within the limitations of their aphasia, and improve their overall quality of life. Trained group facilitators enhance and support communication among the group participants, but primarily communication and activities are guided by the individual needs and preferences of the participants.

I met with Dr Fran Tucker, an experienced and gifted Speech Pathologist, and was invited to observe a facilitated group session of people with aphasia. It was inspiring to meet these individuals with significant aphasia who were reconstructing a sense of identity, supporting and encouraging each other in setting goals and providing social and emotional support.

Dr Fran Tucker
Aphasia Connection Group

Rehabilitation Institute Washington University St Louis, Missouri

The Rehabilitation Institute was established in 2001, providing an 80-bed rehabilitation hospital. It provides rehabilitation, research, education and community services to individuals with brain injury (traumatic brain injury, stroke). I met with Dr Rob Fucetola at the Stroke and Brain injury Program who described their specialist Aphasia assessment and rehabilitation program which uses evidence-based approaches to ensure patients receive the most effective therapies available.

The Brain Injury Program also provides neuro-rehabilitation aimed at improving functional and cognitive recovery after brain injury. Inpatient and community re-integration services, behaviour management, patient and family support groups and neuropsychological assessment are all available.

Rehabilitation Institute Washington University, St Louis

I met with rehabilitation staff and was provided with a tour of the Job Station Program, which aims to integrate rehabilitation strategies and assist with return to work goals by practicing real-life work tasks and skills in a supported environment.

At Washington University in St Louis, I met with Dr Carolyn Baum and discussed practical concepts in encouraging full participation in community activities, and approaches to rehabilitation that focus on strengths not just impairments. Dr Baum is an Occupational Therapist with a specific interest in rehabilitation towards independence in the community.

Dr Tedd Judd Clinical Neuropsychologist – Private Practice, Bellingham, Washington State

Dr Tedd Judd is a Clinical Neuropsychologist in private practice. He is the author of "Neuropsychotherapy and Community Integration: Brain Illness, Emotions, and Behaviour" published in 1999. He has also taught extensively in the US and in Central America, making the neuropsychology field accessible and practical for practitioners and family alike.

"In my work .. there is an element of faith that I will find in each person … a valuable being, worthy of respect, and deserving a place in society" Dr Tedd Judd

Dr Tedd Judd

Dr Judd's area of key expertise is the practice of neuropsychotherapy, which refers to the practice of integrating knowledge about neurological disorders and rehabilitation, theories of cognitive rehabilitation and the concepts of psychotherapy. Key ideas include understanding the unique individual and family experience of brain injury, the process of natural recovery following brain injury, and functional and practical approaches to cognitive remediation and adaptation. Neuropsychotherapy is an approach that is particularly suited to individuals with behavioural and emotional problems after brain injury that affects the person's ability to resume full participation in the community. It provides the individual and their family with practical ideas and strategies to compensate for and cope with a range of physical, cognitive, behavioural and emotional changes following brain injury. Dr Judd provided the opportunity to observe his clinical practice, and also facilitated visits to the University of Washington Medical Centre, GF Strong Rehabilitation, and Rehab Without Wall

University of Washington Medical Center - Neurorehabilitation Program Seattle

The Brain Injury Rehabilitation Clinics (BIRC) and Out-Patient Neuro-Rehabilitation Programs at the University of Washington Medical Center offer a wide range of services directed toward helping clients 18 years of age and older cope with the complex and long-term consequences of brain injury. Brain injury can be due to a variety of causes, including trauma, stroke, tumour, aneurysm, hypoxic/anoxic injury, demyelinating disease, or other brain injury. The Centre offers comprehensive and individually tailored programs for return to work, living in the community, or return to study. Rehabilitation of communication and speech impairments is also provided, in addition to training in memory and cognitive strategies, management of anger, depression, anxiety and other behavioural changes.

The Neuro-Rehabilitation Programs offer a range of services, including a Cognitive Psychotherapy Group which constitutes a six week program to provide structured information about brain injury, compensatory strategies, communication skills development, and to discuss adjustment issues. A Cognitive Behaviour Therapy framework is used in treatment, and the benefits of peer support and feedback are seen as key elements. The group includes practical components and homework exercises.

At the University of Washington Medical Centre I met with a number of rehabilitation professionals including:

- Mary Pepping (Clinical Neuropsychologist**)** - clinical interests include outpatient neuropsychological evaluation for adults and adolescents with acquired neurological disorders, outpatient brain injury rehabilitation programs with a particular interest in running therapy groups for people with brain injury; program development; and interdisciplinary staff development and training.
- Karen Ball (Rehabilitation Counsellor) who interests are in supporting return to work planning and rehabilitation interventions.
- Kurt Johnson (Chief Vocational Services) – interests in rehabilitation counselling, vocational medicine, assistive technology and vocational rehabilitation.
- Dr Sureyya Dikman - research interests include the neuro-behavioural outcome of individuals with traumatic brain injury, particularly mild traumatic brain injury.

GF Strong Rehabilitation Centre, Vancouver Canada

GF Strong Rehabilitation Centre

Vancouver Canada

The Acquired Brain Injury Program at GF Strong Rehabilitation Centre is for adults who have sustained a brain injury as the result of trauma, stroke, lack of oxygen to the brain (hypoxia, anoxia), tumours, infections (meningitis, encephalitis) or toxic exposure to chemicals. It offers Inpatient, Outpatient and Outreach services staffed by a range of disciplines including neuropsychologists, physiotherapists, occupational therapist, speech pathologists etc.

At GF Strong I met with Dr John MacDonald and Dr Verna Arnell. We discussed the Mild Traumatic Brain Injury Early Response Brain Injury Service (ERBIS) which is an early intervention service for individuals on the Vancouver coast with concussion or mild traumatic brain injury. People may be seen initially in person for assessment, but followed up through telephone, neuropsychology support. Essentially this involves the use of a mentoring or coaching process to achieve therapeutic gains in the early stages following mild traumatic brain injury to improve functional outcomes.

Intervention typically includes early contact with the individual, provision of written information about brain injury, and practical suggestions and strategies for coping with symptoms. The mentoring approach aims to positively facilitate and encourages resumption of normal roles and activities following a mild brain injury. They have found this an effective and time/resource efficient use of neuropsychology resources in maximizing recovery and outcomes for individuals with mild brain injury.

Rehab Without Walls

Rehab Without Walls is a private organisation, founded in 1991, that offers community based neuro-rehabilitation of individuals with traumatic brain injury, stroke, spinal cord injury, Parkinson's, Multiple Sclerosis etc. It was established to provide a community based alternative to traditional centre-based rehabilitation facilities. It offers an interdisciplinary team which is typically neuropsychology led and focuses on offering services in the community situations in which people are living – their homes, their workplaces, study or school environments, or participating in community activities. The emphasis is on learning skills in the setting that they need to perform them.

Individual assessment & rehabilitation programs are provided with emphasis on recovery of skills which may have changes as the result of brain injury. It offers consultation and education regarding management of behaviour through BMAC (Behavioural Management for Adults and Children). This is a program developed to provide skilled behaviour management services in the community for both children and adults with disability, including brain injury. Challenging behaviour problems are defined as those that interfere with a person's ability to resume participation education, employment, or to resume independence in living or in social/personal relationships. The BMAC programme offers detailed behaviour analysis, specialist behaviour management interventions in the community which are customised to suit individual needs.

Conclusions

Behavioural and cognitive changes are the most common and concerning consequences of acquired brain injury and requiring innovative and practical approaches to the rehabilitation and long term support offered to survivors and their family and carers.

The provision of community based services for individuals with severe and challenging behaviour following brain injury has significant benefits. Neuropsychologists are a discipline ideally placed to provide detailed, expert assessments behavioural problems, and can effectively develop individually responsive behavioural intervention programmes and strategies which can be implemented in the community contexts in which individuals and family/carers are living after acquired brain injury.

The benefits of education and skill development, collaboration and mentoring are key elements in many of the services I visited during my Churchill Fellowship, and as countries such as Australia are moving away from centre-based rehabilitation models and services, rehabilitation professionals need to adapt, develop and implement rehabilitation interventions which reflect the circumstances in which people are living following their brain injury. Interventions must also reflect the need for long-term supports and interventions that can be flexibly used and adapted by a range of people (individuals with brain injury, family/carers, other community workers and professionals) across an individual's lifespan and changing circumstances.

The most exciting element of my Churchill Fellowship, was exposure to professionals and rehabilitation professionals utilising key concepts of mentoring, teaching and supporting people with brain injury and their family and carers to use strategies for self-regulation of cognitive and behavioural impairments. A strong focus of these practitioners has been their commitment to the dignity and autonomy of individuals with brain injury, and making these the focus of clinical goal setting. In my work in brain injury rehabilitation with the Acquired Brain Injury Outreach Service in Queensland, and in my work with Open Minds and other professional organisations, I plan to develop and implement these ideas and strategies.

Recommendations

It is important that:

i. Individuals and their families have access to early education and intervention to assist them in developing effective rehabilitation strategies that can be used in the situations in which they are living. Insufficient professional intervention and time is committed in acute and secondary rehabilitation environments to the assessment, understanding and management of personality, emotional and behavioural changes following brain injury. This needs to be given greater emphasis and priority.

ii. Rehabilitation professionals need to also have access to education, training and mentoring in behavioural assessment and intervention. Traditionally rehabilitation professionals have focussed on rehabilitation of physical and cognitive impairments, and have frequently had little or no training in behavioural rehabilitation. This training should ideally occur at the University level, but opportunities should also be provided within the acute, secondary and tertiary rehabilitation settings. Behavioural assessment and intervention requires high level clinical and neuropsychological assessment and therapeutic skills.

iii. The experience in visiting services in the UK and USA is that specialist assessment and behavioural interventions utilising evidence-based concepts, interventions and resources is a key tool for enhancing service delivery for individuals with brain injury and their carers and family members across the rehabilitation spectrum (hospital through to community).

ACKNOWLEGEMENTS

I would like the thank the Winston Churchill Memorial Trust for providing my Fellowship and I am grateful to Dusty Bob Prickett, who has been passionate about the aims of the Winston Churchill Memorial Trust, and has had the vision and foresight to support this endeavour through the Bob and June Prickett Fellowship.

Dusty Bob Prickett
Government House 2005

I would like to express my appreciation for the support of my family, Justin, Isabelle and Alexander Kenardy. Without their love and encouragement, I would not have been able to take this unique opportunity to extend my professional knowledge and expertise.

"In every conceivable manner, the family is link to our past, bridge to our future." Alex Haley

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