



## Final report

SpinalWorks: The coordination of vocational education and training programs for people with recent spinal cord injury

November 2005

**This report has been prepared by  
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## **Executive summary**

### **Overview of project objectives**

SpinalWorks is funded by the NSW Board of Vocational Education and Training (BVET) and implemented by the NSW Department of Education and Training (DET) Disability Unit and TAFE NSW-Western Sydney Institute, Open Training and Education Network (OTEN).

SpinalWorks has been designed to better coordinate the delivery of vocational education and training (VET) programs for participants with spinal cord injury in three metropolitan spinal units. The units are the Royal Rehabilitation Centre (Moorong) in Ryde, Prince of Wales Hospital (POW) at Randwick and Royal North Shore Hospital (RNS).

The SpinalWorks project utilises a whole of government approach to service delivery and is part of a joint initiative with the Motor Accidents Authority (MAA) Community Participation Project (CPP) and the Department of Ageing, Disability and Home Care. The SpinalWorks project coordinator works with project coordinators from the Motor Accidents Authority (MAA) Community Participation Project (CPP) at the Ryde Rehabilitation Centre – Moorong.

The project was intended to expand and enhance programs of the earlier Australian National Training Authority (ANTA) funded partnership project *The Spinal Cord Injury Project* (2000).

The stated goal of the SpinalWorks as described in the project's management plan, has been to:

Provide seamless transition of VET programs to participants, commencing in acute rehabilitation phase through to community placement, including career planning and employment transition planning (Management Plan, 2004-2005).

### **Major achievements**

The SpinalWorks project has fulfilled its project milestones. These include:

- Appointment of a project coordinator
- Establishment of the project Steering Committee, which has met regularly during the project
- A literature review into the issues affecting the participation in VET of people experiencing spinal cord injury
- An audit of existing computer technology and assistive technologies. On the basis of this audit, new equipment has been procured for both the rehabilitation units and as loan items for clients after discharge.
- The development of a designated project website [www.spinalworks.net.au](http://www.spinalworks.net.au)
- Development of an information pack for clients who are to be discharged from the rehabilitation units. This pack includes information

on vocational counselling, the Law, transport and other topics which may assist clients who are planning a return to work or vocational training.

A key achievement of this initiative is the high level of participation in vocational education and training. Twenty-six of the 37 (70%) CPP referred-clients are currently participating in SpinalWorks. Clients have chosen courses as a means to either move into different vocational fields or to retrain with the intention of remaining in their pre-injury vocational industry. Participants reported that the Employment Skills course (9422) is especially useful for acquiring computer skills training and knowledge about adaptive technologies. Examples of participation include:

- A farmer is undertaking a farm welding Statement of Attainment course
- Two clients - one who worked as a panel beater, the other as a mechanic prior to injury - are studying Certificate III in Financial Services as a means of pursuing vocational possibilities in automotive insurance
- One client is currently enrolled in a Statement of Attainment in Manufacturing and Engineering in an attempt to continue the Diploma course he was studying prior to injury
- A client who was a builder pre-injury is now enrolled in a Building Quantities and Estimations Statement of Attainment course.

A mid-project ANTA funded evaluation reported that the project is delivering on its initial aims of implementing a 'whole of life' model and promises to continue to do so.

In addition to the official milestones, there have been a number of other successful SpinalWorks project outcomes, particularly in the establishment of interagency cooperation. The collaboration between the SpinalWorks coordinator and the Community Participation Project (CPP) coordinators has been a very useful means of exchanging information and of gaining material assistance. Computer equipment and internet access for seven clients have been procured as a result of networks developed between the MAA, TAFE and Technical Aid for the Disabled. In addition two SpinalWork clients have received scholarships with the support of project staff and coordination between ParaQuad and OTEN.

### **Major findings and conclusions**

The most important finding of the project has been the necessity of ensuring continuity of the face to face teaching carried out in the rehabilitation units. This early intervention approach to vocational education and training of the SpinalWorks project has a number of positive outcomes for clients and for TAFE NSW. The opportunity to integrate people into training either through OTEN or their local TAFE college after discharge has been greatly improved through this early contact in the rehabilitation units. Additionally, the provision of early intervention counselling, enrolment and training is enhanced by the

cross linkages emanating from collaboration in the Motor Accident Authority's (MAA) pilot Community Participation Project (CPP).

Training in the three rehabilitation units is a crucial component of the SpinalWorks project. The outcomes of this training have been greatly enhanced by the extended coordination and ongoing support to clients on discharge into the community enabled by the existence of a full time project coordinator. Providing support, advice and referral into educational institutions immediately after discharge have been identified both in the literature and by agency staff participating in SpinalWorks and the CPP project as essential to ensuring that clients do not "fall out" of the system or take a long period of time to consider training and vocational options.

The effectiveness of the extra support provided by coordination depends on attending to individual circumstances. Not all people with a recent spinal injury will be immediately ready to focus on their future vocational education and training needs. Research and experience have identified timing as arguably one of the most important variables that needs to be addressed. Provision needs to be made in projects for assistance being required either early in the rehabilitation process or much later depending on client need.

## **Project details**

### **A brief introduction to the history and aims of the project**

The SpinalWorks project is delivered as an interagency collaborative initiative, under the auspices of the Motor Accidents Authority's (MAA) Community Participation Program (CPP), which is attempting to develop a holistic, whole of government coordinated approach to client rehabilitation following catastrophic spinal cord injury. The MAA CPP project consists of approximately 40 project participants and runs over an 18 to 24 month period.

The SpinalWorks project commenced in November 2004 with the signing of the Letter of Agreement between DET NSW and the NSW Board of Vocational Education and Training and the commencement of the project coordinator. The current project was designed to expand on the experiences learnt in the previous *Vocational Rehabilitation of People with Recent Spinal Injuries* project, which commenced in 2000.

SpinalWorks endeavours to build on the success of the early intervention approach. This entails making contact with clients when they are in rehabilitation units and maintaining VET involvement after they are discharged and return home and to the community. This involves a widening of the scope of the original project, which focussed on the development of necessary computer skills and provision of adaptive technologies in the rehabilitation units.<sup>1</sup> This element has been retained and broadened in alignment with the CPP model of providing support in the home and community setting. In addition to this, SpinalWorks has placed emphasis on providing career counselling and job seeking skills as well as enrolling students, whenever possible, in on-campus vocational courses.

### **Project methodology**

Early in the project a literature review was undertaken to research and document the range of issues impacting on the participation of people with spinal cord injuries in VET. The literature review proved invaluable in informing the methodological approach subsequently adopted in the project. Two areas of particular importance were related to timing and the need to provide flexible, individually-tailored support to participants.

Operating within the Community Participation Projects' whole of government framework has resulted in coordination and service delivery being informed by an interdisciplinary, team-based approach. The Community Participation Projects' disability model of framing issues from a client's perspective means a client-centred participative approach to VET planning. The SpinalWorks coordination role has importantly enabled a critical period of extended support to clients on discharge from the rehabilitation units.

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<sup>1</sup> West, R. & Warth, S. (2002) Evaluation of the spinal cord injury project: final report, Sydney, WestWoodSpice

The principle of framing the project from the perspective of the client has informed much of the project's planning and implementation with emphasis given to client engagement and participation. Tools utilised by the coordinator to realise this include goal setting in consultation with the client and the development of individualised training programs based on the client's goals.

Coordination has also involved identifying and utilising existing services as well as identifying gaps and barriers that may affect access to these services. To assist clients with VET planning and study, the coordinator has utilised the following tools: advice, education, linking, referral and advocacy.

Regular meetings of the Steering Committee afforded strong project governance and provided a forum for seeking feedback on methodology and outcomes.

### **Project tasks and strategies**

As mentioned above, major tasks undertaken during the project were framed around the project milestones as prescribed in the project's management plan. A brief description of the milestones and commentary, where appropriate, follows:

#### **Milestone 1: Appointment of interim coordinator**

Graham Agnew commenced in the role of coordinator in December 2004. This was later than the stated date in the Draft Management Plan and resulted in the necessary re-alignment of completion dates for some milestones.

#### **Milestone 2: Continuous enrolment of participants, training delivery and monitoring of outcomes**

Initially, 17 CPP clients were referred to the project on commencement in 2004. Of these, nine agreed to participate, five declined, and four deferred making a decision until a later date. In 2005 the CPP has referred a further 20 clients and the number of SpinalWorks participants has increased to 26 (70%).

Table 1: CPP and SpinalWorks participation

Total CPP participants	37
SpinalWorks participants	26
SpinalWorks refusals	11

There were a number of reasons for some CPP clients declining to participate in the SpinalWorks project. They include:

- already being linked into a university program and receiving support from this institution
- family reasons such as not being able to pursue study due to the need to provide childcare to a new born baby and toddler
- wanting to concentrate on physiotherapy to maximise physical functional gains

- not feeling ready to commence vocational planning or training
- stated disinterest

It is important to reiterate the need to provide ongoing support and opportunity to people with recently acquired spinal injuries. The optimum timing of successful VET interventions varies greatly and is dependent on a number of variables, particularly attitudinal/psychological ones. Four clients who initially declined project assistance later agreed to participate.<sup>2</sup>

An outline of training and vocational pathways taken by SpinalWorks clients is provided below. The brief descriptions give a snapshot of some of the motivations and issues faced by this client group.

*1. Employment Skills Course 9422 - Computer Skills (8 students)*

Six clients are enrolled in introductory computer courses through OTEN in the Employment Skills 9422 course and two clients are studying face-to-face in TAFE programs with the support of the local Teacher/Consultant Disability. Four more clients are expected to be integrated into face-to-face delivery modes for 2006 – two from OTEN and two from the group of students who are still assessing VET options discussed below.

*2. Still Assessing (7 students)*

Six students who have consented to participate in the project are still assessing their options. Of these six, three have high-level injuries and are experiencing difficulties with their medical rehabilitation as well as attempting to resolve issues related to home modifications and appropriate home care. The other clients have been offered study advice and course counselling, but do not yet feel ready to commence a course of study for a number of factors including: the demands of physical rehabilitation, personal/family related reasons and psycho-attitudinal issues.

*3. Retraining (3 students)*

One client has decided to move from the mining sector. He has enrolled in a short course in Property Practice to assess whether he wants to pursue a career in the real estate industry.

Another client, who was serving in the armed forces as a tradesperson has started a Certificate III in Information Technology.

The other client operated heavy machinery prior to injury and is still involved in active rehabilitation. While he has a high level injury, there is a possibility of continued functional gain in his mobility and this may allow him to return to his pre-injury employment in some form. He is currently pursuing computer subjects related to small business management and inventory control. He will utilise these skills to pursue alternative

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<sup>2</sup> For a more detailed analysis of the predictors of successful return to work and training refer to the Literature Review Appendix A Section 4

employment options or as an adjunct to a gradual return to his previous industry.

*4. Continuing with pre-injury studies, vocation or industry (5 students)*

Two clients, one a panel beater, the other a motor mechanic prior to injury, wanted to stay in the automotive industry and are pursuing vocational options in automotive insurance through Financial Services Courses in General Insurance. With the assistance of the coordinator and the Teacher/Consultant Disability at Newcastle TAFE College, they have been offered mixed enrolments in Diploma courses. They will do the majority of the course by distance through OTEN. One will complete the remainder of this year on campus at Newcastle and the other will complete his on-campus subjects at Bankstown TAFE College (see Case Study 3 below).

One client is currently pursuing a Statement of Attainment in Manufacturing and Engineering in an attempt to continue some of the Diploma course subjects he was taking prior to injury.

A client from the farming sector had enrolled in a Certificate II in Land Management. He has since withdrawn – see Case Study 1 below).

Another client from the farming sector has successfully completed an on-campus welding course and also receives some computer training in applications for running a small business. These skills will enable him to broaden his skill-base for working and managing his farm (see Case Study 2 below).

A client who was a builder pre-injury is now enrolled in a Building Quantities and Estimations Statement of Attainment course.

*5. Non TAFE/OTEN study or return to work programs (3 students)*

These clients were offered support, advice and other assistance by the SpinalWorks coordinator and have since gone to other training programs.

One client was enrolled in Computer Accounting Training Systems (MYOB) in the Employment Skills course. This served to complement his pre-injury degree studies in Commerce and kept the client engaged in the study while he was in rehabilitation and waiting to recommence in the second semester of this year (see Case Study 4 below).

Another client who was injured during his HSC year was offered advice and referrals from the coordinator who utilised contacts within OTEN and the Board of Studies. The client has since returned to that program.

Another client who received computer training during his time in the rehabilitation unit is now actively engaged in a Commonwealth Rehabilitation Services (CRS) program.

The following two figures summarise the spread of SpinalWorks participants across fields of study and courses.

Figure 1

### Study Pathways



Although taken from a small sample, the results in Figure 1 above tend to confirm the findings contained in the literature review (Appendix A), specifically that:

- There is great variance in the time frames associated with positive rehabilitation outcomes with 27% of referred SpinalWorks clients still assessing their study options.
- A high proportion of those who experience spinal cord injury remain with their pre-injury employer or industry, although often in a different capacity.

Figure 2

### Types of Course

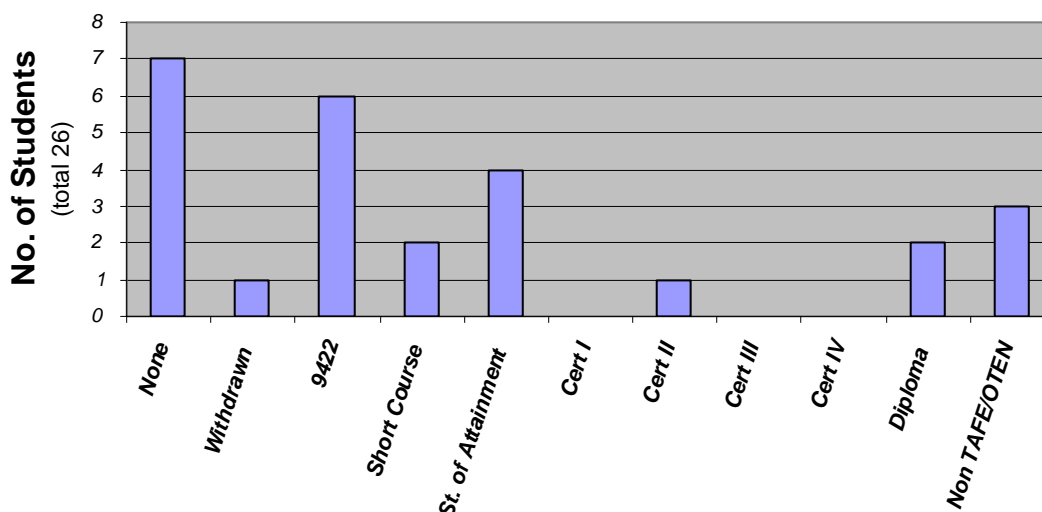


Figure 2 above indicates that retraining is a staged process in the early stages of rehabilitation, with only three clients taking higher-level TAFE/OTEN courses of study. The use of the Employment Skills (9422) course as a means to individually tailor study programs to meet individual client needs is highly effective, particularly as gaining computer competence is often an integral part of successful reintegration back into the workforce after spinal cord injury.

**Milestone 3: Establishment and initial meeting of the project Steering Committee**

The Steering Committee convened regularly throughout the project and provided focus and project governance. Project parameters, roles and responsibilities of the project partners were clearly delineated from the outset of the project. The first Steering Committee meeting established the Terms of Reference, protocols, and ratified the VET project management plan and milestones.

**Milestone 4: Research into the issues impacting on participation of spinal cord injury patients in VET training**

This was completed by February 2005 and copies distributed to Steering Committee members and other stakeholders.

The research informed much of the ensuing project activity and confirmed the importance of the early intervention approach to rehabilitation and training. Other factors identified by the literature review included the significance of computing skills, individually-tailored programs and the pre-injury employer. Refer to Appendix A for a full copy of the project literature review.

**Milestone 5: Adaptive technology audit and adaptive technology supply**

An adaptive technology audit identified the increasing obsolescence of existing project equipment in the rehabilitation unit as a major impediment to training delivery.

It is difficult to generalise about post-discharge equipment needs as these vary greatly due to factors such as type of injury, compensability and computer literacy. However, a high proportion of clients are enrolled in introductory computer courses under the Employment Skills 9422 course, and in many cases it is sufficient to provide reconditioned computers.

The coordinator has a loan arrangement with Technical Aid for the Disabled (TAD) NSW whereby project clients are referred to this organisation for re-imaged and reconstituted Pentium 3 computers. A number of TAD's computer systems are donated by the Motor Accidents Authority, and the SpinalWorks coordinator has utilised this existing arrangement to obtain equipment for CPP/SpinalWorks clients.

The Australian Capital Territory TAD provides a low cost Internet account for clients with disabilities and the coordinator has organised the first year's computer loan and Internet service for seven clients. Of the seven systems provided to clients, interim funding for five systems for one year has been provided by the CPP and the other two with SpinalWorks funds.

Clients with higher-level tetraplegia require higher performance systems than those described above. In addition to the project funded equipment acquisitions, the CPP has provided funding for laptop computer equipment and adaptive technology (such as RAM, processing power and the voice activated software *Dragon*). These were purchased for the project and as per the agreement with the CPP and are provided on long-term loan to clients with appropriate needs.

As the project progressed, it became evident that a need existed for the provision of additional post-discharge loan equipment such as trackballs, head pointers and adaptive software.

#### **Milestone 6: Website development**

Two significant areas identified as important for the website are accessibility and equity. Part of the designer's brief was to ensure the site is compatible with older browsers (a cut off point of Netscape v. 5 was agreed, as this will be capable of being viewed by most systems operating on Windows '98). This is an important consideration given that a number of people with spinal cord injury experience financial hardship. As the project utilises Technical Aid for the Disabled (TAD) reconstituted and re-imaged systems (refer to discussion in Milestone 5) it was thus necessary for the site to be capable of being loaded by earlier browsers.

Accessibility is very relevant for the client group and the web developer made a number of suggestions to ensure the ease of site navigation, particularly for people using head pointers and puff-and-blow switches. In addition, the site was designed to ensure that people with visual, hearing, psychiatric and cognitive disabilities are accommodated.

The literature review indicated a number of areas and relevant groups that could usefully be provided with targeted information. This may not be achievable due to time constraints and concerns about the website's longevity. The primary objective of the website, as agreed at the second Steering Committee meeting, was to provide client focused VET information tailored to people with spinal cord injury.

The website, in addition to meeting its brief to provide clients specific information related to vocational education and training, also provides information targeted to employers. The literature review identified the importance of the employer in the return to work and consequently a section providing information regarding the employment of people with disabilities targeted at prospective employers was developed and incorporated into the website.

The website is available at the following URL address:

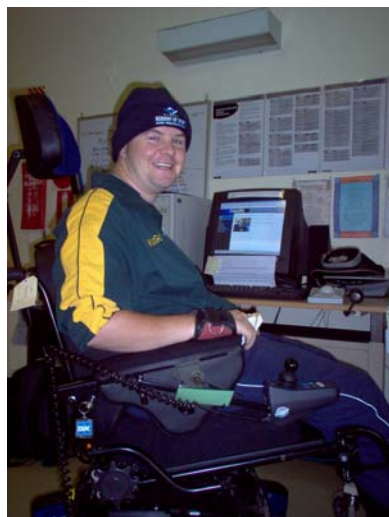
[www.spinalworks.net.au](http://www.spinalworks.net.au)

## **Milestone 7: Development of customised resource package 'Workplace issues for people with spinal cord injuries'**

This is available to be distributed to clients in hard copy and an online version is also available on the project website. It provides a broad overview of vocational counselling, employers, disclosure, the law, discrimination and transport information for clients who are about to be discharged from spinal rehabilitation centres, and who intend pursuing work and vocational training.

### **Issues and challenges**

- Varying levels of commitment exist between TAFE NSW Institutes and teaching sections regarding understanding disability specific issues and provision of reasonable adjustments to accommodate these.
- Information sharing between the coordinator and Teacher/Consultants and flexibility in the application of policy and practice are often necessary to ensure that clients do not drop out of the education and training sector for extended periods of time.
- There is a need to continue the development of cross-linkages within TAFE NSW and collaboration with other agencies in order to extend VET opportunities.
- Uncertainty about ongoing funding for the SpinalWorks project and for the delivery of the related teaching project in the Rehabilitation Units has impacted on the ability to make long term plans, decisions and commitments.



## **Case Studies**

The following case studies exemplify some of the issues which have arisen during the project and demonstrate some of the methods adopted by the coordinator to overcome obstacles. The case studies also serve to illustrate applied methodology, and demonstrate how the project is achieving its objectives.

### **Case Study 1**

*This client was a farmer in a remote part of NSW and his accident occurred when he was thrown from his horse while working on his property. He is a C5 incomplete tetraplegic and has made significant progress in his recovery, now being able to walk limited distances with a cane.*

*His initial contact with the TAFE NSW Spinal Cord Injury training project was in the acute unit and later the rehabilitation unit of Prince of Wales Hospital in Randwick. He received a great deal of training in the basics of computer operation as prior to injury he had limited computer exposure and he saw this as a useful part of his vocational rehabilitation process. Since training commenced, he has gained an understanding of computer operation, learned to use the internet and email, as well as receiving training in word processing and the use of spreadsheets.*

*In early December 2004 as his expertise and rehabilitation progressed, he agreed to participate in the SpinalWorks project, and in addition to his computer studies, he assessed vocational training options, which would be applicable to his experience and situation. He eventually decided that he would like to undertake a course in Conservation and Land Management as this would utilise his existing knowledge of the land and give him the opportunity to extend this into an understanding of environmental management and potentially give him the opportunity to move into land management programs. He first enrolled to do a Certificate II by distance through OTEN, but ongoing issues regarding attendance at practical sessions in Sydney led the SpinalWorks coordinator to contact the disability support Teacher/Consultant from the North Coast Institute. She was in the process of co-enrolling at OTEN and the Wollongbar campus to enable the client to more easily accomplish the practical components of his course and to provide a closer point of contact for the provision of any tutorial support he might need. However, the client withdrew from the course at this point.*

*This experience is indicative of some of the problems students with disabilities face when there is a need for reasonable adjustment to be made to enable them to pursue a course of study.*

### **Case Study 2**

*Another client from the farming sector suffered a similar injury and had similar physical rehabilitation outcomes to the client described in Case Study 1. After meeting the SpinalWorks coordinator in the rehabilitation unit and discussion of training options, he received training in computer operations and office applications useful to running a small business. On return home he was referred to the local Teacher/Consultant Disability and Welding teaching section. He was enrolled and supported in an on-campus Statement of Attainment course in Farm Welding, and has successfully completed a semester. In addition, the coordinator organised a loan computer and Internet account, as well as tuition through the local TAFE Business teaching section.*

*These computer and welding courses will enable him to broaden his skill-base for working on and managing his farm. This case study demonstrates how coordination, referral and information sharing can maximise opportunities for the transition into vocational planning and training after injury.*

### **Case Study 3**

*This case study illustrates the different experiences of two clients who share similar demographic and injury characteristics. They would have had very different experiences with the TAFE NSW system and its support services had it not been for the intervention and advocacy of the coordinator.*

*One client at the time of his accident was a qualified panel beater. His injury left him with C 5-6 complete tetraplegia and he decided that he could not return to his pre-injury profession. He did, however, want to remain in the automotive industry. After assessing his options with the coordinator, he decided to pursue a Financial Services course in General Insurance. Initially he wanted to do a Certificate III course solely by distance through OTEN, but this was not possible, as the course had been closed to new enrolments. The coordinator contacted the nearest TAFE college to the client offering an appropriate course. After a series of discussions between the coordinator, the client, the Business Faculty and the Teacher/Consultant for students with physical disabilities, the client has now co-enrolled in Financial Services - General Insurance at Diploma level (9700). His enrolment was split between OTEN and his local TAFE. This means he will complete most of his subjects by distance using OTEN materials. This study program is supported by the Teacher/Consultant from his local TAFE where he will also be able to complete two subjects not run by OTEN. He has the option to exit at Certificate III or IV if he finds the course overly demanding. In addition to the support the student has received getting him into this course, as part of the general VET program in the rehabilitation units, the client received training in basic computer operation. This provided a necessary foundation for his subsequent enrolment.*

*The other client with C5 incomplete tetraplegia was a motor mechanic prior to injury. Similarly to the previous client he decided that while a return to pre-injury was not practicable, he still wanted to be involved in the automotive industry. He chose the same course as the client described above and the SpinalWorks coordinator attempted to engage the assistance of a Teacher/Consultant at another TAFE college. This proved more problematic as there was less flexibility offered in the type and timing of enrolment, meaning that the client would have needed to wait eight months before he could commence study. As the client was ready and motivated, the coordinator attempted to utilise the 9422 Employment Skills course to provide an opportunity for the client. This proved unworkable due to issues related to the linking of the subjects to this course code. The coordinator then found another umbrella course to which he was able to link three modules. The client has completed two of the three modules and has almost completed the third since the provision of a loan computer needed to complete the module. Following completion of the current module, he is intending to start three more modules.*

#### **Case Study 4**

*When he had his accident, this client was studying at university and was into the fourth year of a five-year double degree in Commerce and Law. He has finished the Commerce component, which was in Human Resource and Marketing. He was just about to do his fourth year exams when he had his accident, which resulted in C 5-6 complete tetraplegia.*

*To finish the Law component, he now needs to do another one and a half years of study. He re-enrolled in his degree but owing to the demands of his rehabilitation had to wait until the second semester of this year to restart. He was enrolled in a MYOB subject, which will augment his Commerce degree, using the Employment Skills 9422 course.*

*This client had a lot of existing computer expertise but during his time in rehabilitation has had to adapt to his changed circumstances, which he did through tuition and use of the project's adaptive technologies and software. In addition, with the assistance of the SpinalWorks coordinator and his teacher, the client successfully applied for a \$5000 scholarship, which will allow him to buy adaptive technologies and study materials for use when he returns home and to his university studies.*

*The use of the 9422 Employment Skills course meant that a highly motivated student did not lose contact with the study process while waiting to resume his tertiary studies.*

## **Project findings**

### **1. Continued coordination will increase outcomes achieved by participants**

Coordination is time and resource intensive and requires an ongoing funding commitment if the work of the project is to continue. In addition to meeting the project milestones the coordinator's role has also included:

- coordinating the delivery of vocational courses across the three spinal units in Sydney
- working closely with coordinators from the CPP
- facilitating interagency partnerships
- visiting the rehabilitation units to provide counselling and course advice
- enrolling students in flexible and appropriate learning programs
- liaising with TAFE NSW vocational teachers and Teacher Consultants
- providing advocacy to ensure students receive equitable treatment and reasonable adjustment
- dispatching learning materials to participants
- procuring and distributing adaptive technology and other project equipment
- supporting clients after discharge from rehabilitation units
- disseminating information.

### **2. Relationship between SpinalWorks and the Rehabilitation Unit Teaching Project**

A coordinated approach to the transition from the acute rehabilitation phase through to community placement can only be achieved with the continuation of the in-unit teaching project that has for several years been funded through Australians Working Together funding and a small core funding commitment from the three TAFE NSW Institutes involved in delivery. This is a fundamental part of engaging the client in VET as well as 'normalising' vocational retraining early in the rehabilitation process. A minimum of 25 teaching hours per week is required to maintain the current teaching delivery program in the three rehabilitation units. Even this level of delivery has been evaluated as inadequate to meet client needs.

### **3. Measuring outcomes**

Project outcomes measured by project participation and module completions are useful indicators of the level of engagement in training and return to work planning and activity. However, there is a need also to include mechanisms to measure the more generic and holistic skills gained by the clients participating in this project.

#### **4. The right time for intervention**

Throughout the project and in the literature the need for allowing for individual differences in the timing of VET interventions has emerged as a key issue. The time frames required to support these clients require long-term relationship building between agencies and flexibility in the practices of the enrolling organisations.

#### **5. Co-enrolments**

It is recommended that the use of co-enrolments between OTEN and face-to-face TAFE colleges be further developed and utilised as a means of providing flexibility and maximum support for clients during integration into training after injury.

#### **6. Provision of support services across TAFE Institutes**

There is a need for flexibility and uniformity in both service provision and interpretation of policy by Teacher Consultants across the TAFE network.

### **Conclusion**

The project has been in operation for just under one year. This can still be regarded as the incipient stage of such a project. There is insufficient data in the form of course completions and return to work at this stage to make definitive statements regarding the effectiveness of the project in facilitating the return to work of project participants. However, the case studies above and the experience of other clients discussed in the report indicate great promise in realising the stated project goal of providing seamless transition through VET programs to people with recent spinal injuries in the acute rehabilitation phase through to community placement.

## Appendix A: Literature review

### Research into the issues impacting on participation of spinal cord injury (SCI) patients in vocational education and training (VET)

*People with disabilities have the same right to work as any other Australian. Access to employment is basic to our quality of life, our financial independence, and it brings the opportunity for increased self-esteem and community participation.* (Kemp 1997, p.1)

#### Report Overview

This report fulfils Milestone 4 described in the document *Motor Accidents Authority Community Participation Project VET Provision for 2004-2005: Management Plan*:

Detailing issues that need to be addressed to provide seamless transition through VET programs to community placement and employment planning.

This report is divided into six main sections:

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## *1. Introduction – Spinal Cord Injury (SCI) and work*

Australian Bureau of Statistics (ABS) figures (1998) show that 18% of Australians have a disability and about 12 000 people in Australia have Spinal Cord Injuries (Cripps, 2002, p.1). Significant advances in medical treatment of SCI have meant that there is both a higher rate of survival from injury and that those affected by SCI live longer (ibid) (Buys et al, 1999, p. 8-11) (ANTA, 2000) (Yasuda 2000, p.177) (Murphy 2003, p.276) (Conroy and McKenna, 1999, p. 624).

The reemployment rate after SCI in Australia is about 47%<sup>1</sup> (Murphy 2003, p.276). A large number of those people with SCI who remain outside the workforce consider themselves as capable of working (Tomassen, 2000, p.51).

Non-participation in the workforce, overrepresentation in unskilled or lower skilled jobs, (Buys et al 1999, p.15) not sustaining employment (Conroy 1999, p.624) and restrictions on the numbers of hours worked (Athanasou 1999, p.20) lead to marginalisation, inequity, and a denial of human rights (Kent 1997, p. 15).

## *2. The benefits of VET programs*

There is a raft of financial and quality of life issues resulting from SCI, many of which may be redressed through training and engagement in the workplace.

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<sup>1</sup> This figure can vary greatly depending on definitions of employment, timing and country. Tomassen (2000, p.51) in a Dutch study gives a figure of 37%, which he claims is consistent with other research findings. Much variance in cited employment rates for SCI is due to terminological difference. The Australian Bureau of Statistics distinguishes between those (participating) “in the labour force” or “not (participating) in the labour force”. The former include those working or looking for work, the latter being those not working and looking for work. The importance of including those who are looking for work as workforce participants is that those with SCI who make a concerted effort to find employment are mostly successful (Murphy et al 2003, p.278). In 1996 Murphy et al list three methods of assessing vocational achievement. These are vocational status (employed, unpaid productive and unemployed), labour force status (employed, unemployed and not in the labour force) and vocational mode (positive vocational vs not in positive vocational mode). Manns et al use the term occupation to include paid employment, housework volunteer work and school. Whiteneck et al’s definition is even broader covering activities which are socially beneficial, such as work, school, housekeeping and parenting (Quoted in McKinley et al (2004) .

Three significant areas of benefit identified by research are: quality of life, medical improvements and economic benefit.

Education and employment have been identified as important determinants of the quality of life and feelings of self worth experienced by those with SCI (Yasuda 2002, p. 181) (Murphy 1997, p.238)(McKinley et al, 2004) (Young 2003, p.18) (Bricout, 2004).

Research also indicates that participation in the workforce is linked with decreased need for medical treatment and increased survival prospects (Yasuda 2002, p.180)(McKinley 2004, p.142) (Tomassen 2000, p.51).

In addition, there are economic benefits to both the individual and society. Increasing the number of people in work generates tax-revenue (Yasuda 2002, p. 177). The Government benefits by reduced welfare spending and an increase in the tax base, while the individual potentially benefits from the ensuing financial autonomy that paid employment can provide (Bricout, 2004).

### ***3. Barriers to reintegration into the workforce after SCI***

There is a large number of barriers identified in the literature as impediments to the successful entry or return to the workforce. While not all aspects fall within the scope of this report, the employment framework is a composite of many interrelated aspects: political, legal, economic, institutional, societal, teaching, attitudinal and psychological and physical (OECD, 2003) (Buys et al, 1999). Many barriers are created by the lack of adequate links or collaboration between the various training and education institutions (Barnett et al 1997).

Both separately, and in combination, these factors pose a challenge for adult career development theories to adequately describe, predict, influence and account for the vocational behaviour of those with disabilities (Athanasou 1999, p. 22). Nonetheless, studies indicate that there is a number of

identifiable, controllable and non-controllable factors, which determine the likelihood of successful reintegration back into the workforce after SCI.

#### ***4. Predictors of return to work***

##### ***4a) Non manipulable demographic factors***

Predictors that are not amenable to intervention include: impairment type, age, age at injury, time since injury, gender, pre injury job and classification and pre injury education. While not controllable, these factors must be taken into account when assessing client needs and designing appropriate training programs. These demographic determinants interact in complex ways and should be considered in combination rather than individually as presented below.

##### *Impairment type*

There seems no real consensus in the literature regarding this issue. Yasuda (2002, p. 179) states that the relationship between work and severity of injury is inconclusive, although paraplegia and incomplete lesions (injuries) are more likely associated with return to work than tetraplegia and complete lesions. Conroy and McKenna (1999, p.628, 630) also discuss completeness of lesion as a predictor of vocational outcome. Murphy's 1997 study indicated that impairment type was a predictor of return to work, but his 2003 paper states that recent studies indicate less conclusive links between the type of impairment and employment outcomes.

##### *Age*

This is identified as a highly important determinant of vocational outcomes after SCI with individuals younger at the onset of injury being more likely to return to work (Murphy 2003 p.276) (Yasuda, 2002). Conroy and Mc Kennas' study (1999, p630) had 51% of those under 30 in employment as opposed to 35% of participants aged over thirty. Suggested reasons for this difference are the perceived flexibility of the young and the fact that younger people have a longer timeframe in which to adjust to their new circumstance after injury (ibid). In light of this, a reasonable recommendation would be the provision of

extra assistance and monitoring for older people, particularly those who were in lower-scale pre injury employment (ibid).

### *Gender*

Tomassen et al (2000) found that 40% of men return to work after injury as opposed to 23% of women. Yasuda et al (2002, p.178) posit that while gender is not a significant factor in predicting return to work, it does correlate with type of work. They found that men had twice the likelihood of returning to paid employment as women, and that those women who found work generally worked fewer hours. Women, however, were more productive overall due to higher levels of involvement in non-paid productive work such as studying, volunteering and homemaking.

### *Pre injury job*

While having a job before injury has been identified as of limited significance in predicting post injury employment, the type of job held before injury is of significance in predicting future employment (Conroy, 1999). Possibly due to the financial disincentives of returning to work, i.e. loss of benefits and government funding, "lower scale", pre injury work was associated with less likelihood of being currently employed than "higher scale" jobs (ibid, p. 630,631).

### *Pre injury education*

Education and occupational scale are linked, meaning that a lower level of pre injury education is associated with employment in lower scale occupations both before and after injury (Conroy and McKenna 1999, p 631) (Murphy 1997) (Yasuda et al 2002).

### ***4b) Post Injury Education and Training***

This is identified in the literature as a key area in vocational rehabilitation for people with SCI. However, programs need to be carefully managed to achieve optimum benefit for students with disabilities, as VET students with disabilities are not currently achieving the same completion and employment outcomes as students without disabilities.

NCVER (NCVER 2000) statistics indicate, for example, that VET students who reported a disability in 2000 achieved a smaller proportion of successful subject outcomes than VET students overall. The NCVER 2000 statistics also indicated that TAFE graduates reporting a disability who did manage to secure employment did not achieve the same level of income as Australians as a whole.

In Murphy's 1997 study, two thirds of respondents with SCI indicated that they had undertaken no further study since injury thus potentially exacerbating their vocational disadvantage.

Despite the disparity with the population as a whole in achieving successful outcomes, post injury education and training still appears to significantly improve an individual's likelihood of returning to work after injury (Murphy et al 1996 & 1997) (Tomassen et al 2000).

#### ***4c) Psychological variables***

Studies indicate that psychological factors have a highly influential, if not primary, role in predicting employment outcomes. This is highly significant as these variables are more amenable to rehabilitation than injury or demographic ones (Murphy 2003, p.281).

Demographic, injury and personality factors were found to explain 30% of the variance in the employment criterion: "in the labour force" vs "not in the labour force". However including the psychological factors<sup>2</sup> of work attitude and locus of control contributes significantly to the efficacy of predicting vocational outcomes.

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<sup>2</sup> One of the key psychological variables involved is *locus of control*. Locus of control describes an individual's sense of empowerment and independence. This personal control variable appears likely to make a contribution to understanding post injury employment and is a complementary measure of work value. The measure of work value seems in turn to correlate to job seeking efforts. Job seeking is a necessary last step in the vocational rehabilitation process and once the individual reaches this last step in the process they are often successful in gaining employment. (Murphy, 2003).

Consequently, it seems reasonable to conclude that any VET programs would significantly benefit from the input of vocational psychology.

#### *4d) Timing of VET programs*

The most appropriate timing for delivery of VET programs to people with SCI is much discussed but unresolved in the literature. The clearest consensus appears to be that successful vocational rehabilitation initiatives need to take a long-term approach and to allow for individual difference.

In one study (Murphy et al, 1996) 49 per cent of individuals who found work, did so within 12 months of discharge, while another 14 per cent took more than five years after hospital discharge.

The early-intervention approach of the initial TAFE NSW Spinal Cord Injury Project (See Appendix A for more detail) has proven highly effective as a means of providing necessary early training, and support (West, 2002). For administrative and teaching purposes, it has been convenient for TAFE NSW staff to contact and train people while they are in the rehabilitation units. This approach is supported by Murphy et al (2003, p. 276), who argue that vocational rehabilitation should begin as early as possible with a return to work presented as a normal scenario.

However, after injury the progress of rehabilitation - both clinical and vocational - differs greatly depending on a variety of factors. Murphy et al (1996) state that there is no logical development in the process and that vocational rehabilitation proceeds in fits and spurts. Conroy (1999) posits that an interval of 2 to 10 years post injury is the key time for assessing vocational potential, while Young (2003, p.20) describes a lack of consensus as to when to offer intervention and argues that the best follow up time varies according to the individual.

In light of the preceding discussion, any project involvement should be structured to provide support, information and training during rehabilitation, as well as flexible enough to meet the needs of individuals whose vocational rehabilitation may take longer.

## ***5. Return to work and study after SCI: opportunities and considerations***

### ***5a) The employer***

Informal methods of finding work seem to be the most successful after SCI. Murphy et al (1996) found that only 5% of jobs were found through advertisements or employment services.

Young (2003, p. 22) identifies contact with the pre injury employer as having an important role in the return to work for a substantial proportion of individuals who have experienced SCI. Although most returning to work do so to a new job, those who return to previous employment do so much earlier than those who found new work. (Yasuda et al, 2002, p178).

Innovative rehabilitation approaches such as employer support services are necessary to supplement and extend more traditional vocational assistance. This is particularly relevant as perceived discrimination and lack of employer understanding is associated with non-participation in the workplace and employment in lower scale occupations (Conroy and McKenna 1999, p.631)

Employers both with and without experience in hiring workers with disabilities express a strong desire for information regarding what they can expect and what they might be required to do when employing a worker with a disability (McLoughlin 2002). Job-site enabling is an active process that involves providing assistive technologies, training, support and advocacy (McKinley 2004, p.143).

Young et al (2003) cite the need for employer support services through which prospective employers are informed of the nature and extent of injuries as well as the capabilities, limitations and needs of potential employees who may have SCI.

Gaining the active involvement of the employer is thus crucial for ensuring both the integration of both the employee and any assistive technologies into the workforce and by extension crucial to the success and longevity of the employment itself (Driscoll 2001).

#### ***5b) Individually tailored training programs***

A common theme and recommendation throughout this literature search has been the need for long-term vocational rehabilitation and re-education which can be individually tailored, particularly to accommodate those traditionally associated with less successful vocational outcomes. (Young et al, 2003) (Driscoll, 2001) (Tomassen, 2000) (Conroy and McKenna, 1999) (Murphy, 1997). With access to individual support, the graduation rate of those with disabilities occurs at a similar rate to that of the general student population (Buys, 1999, p.35). This is an outcome that should in turn lead to increased levels of employment.

The content and structure of such programs needs to be flexible enough to deliver specific skills while responsive to the particular circumstance of the individual. This means that in addition to gaining qualifications, more generic employment-related skills are a necessity for many who experience SCI and need to change career. Areas that need to be addressed include time management, negotiation skills, goal determination, career counselling, transportation, and access issues.

Obtaining job interviews appears to be associated with improved employment outcomes (Murphy 1996, p.30). Therefore the formal provision of skills such as resume writing, interview techniques and even how to 'cold-call' potential employers may be a useful addition to any VET project.

### ***5c) Computing***

After injury there is a career shift toward administration, clerical, financial professional technical roles (Yasuda 2002 P. 178) (Engel, 1998). The majority of those employed with SCI obtain more work involving computers than manual labour (Yasuda 2002 P. 178), and it is difficult to overestimate the significance of computer training to addressing mobility limitations (McKinley 2004 p.143) (West, 2002).

### ***5d) Provision of extra information***

This is an area of critical importance in enabling the individual to make well-informed career choices and deal with changed circumstances. Easy access to information regarding topics such as: redressing workplace discrimination, transportation options, availability and use of adaptive technologies would be a useful adjunct to any VET program.

Young (2003) found the most common request amongst research participants with SCI was for discussion of alternatives and options with only a small number requesting traditional vocational assistance. Interestingly, many respondents in this study requested mentoring in the form of interactions with others who have successfully returned to work (ibid).

Provision of targeted information and support could provide a useful means of addressing the double disadvantage experiences by some groups such as: Indigenous people with SCI, people with SCI from language backgrounds other than English and people from rural and regional areas (NSW Board of Adult Education and Community Education, 2004, p.14-15) (Young, 2003, p.21) (Buys, 1999, p.29).

## ***6. Conclusion***

While there are many individual recommendations that result from the preceding, one overall theme emerges when designing VET programs for students with disabilities; that being the need to address the social psychological and emotional needs of students as well as the academic

ones. This means that in addition to assisting with the vertical transitions involved with moving into and through training courses (Buys et al, 1999, p16), it is also necessary to assist with the horizontal barriers (ibid). This involves understanding the potentially daunting non-academic issues which students face in areas such as housing, care, transport and support. As many of these services are government provided, a coordinated, case managed approach is advantageous (ibid). Students can then be integrated into vocational education and training through the use of individually tailored training programs, which are responsive to the wider challenges faced by those with SCI.

Overall, the barriers “created by the lack of adequate links or collaboration between the various training and education institutions and across the different sectors” (Barnett et al, 1997) can be perhaps best be addressed within the framework of a holistic, whole-of Government approach, such as that currently being piloted by the Community Participation Project.

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