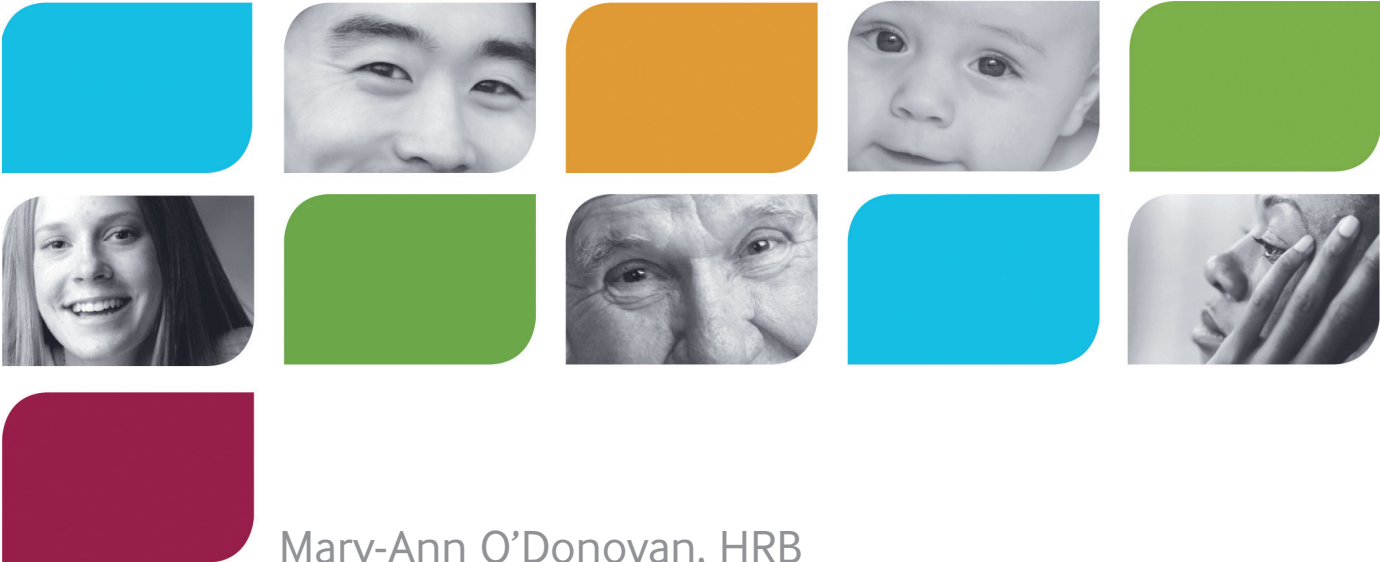


The National Physical and Sensory Disability Database (NPSDD) and people with Acquired Brain Injury (ABI):

A collaborative project between Health Research Board and Headway



Mary-Ann O'Donovan, HRB

Ciaran Nolan, Headway

Richard Stables, Headway

Acknowledgments:

We would like to acknowledge the contributions made by Sarah Craig (HRB), Kieran Loughran and Salvatore Giangrasso (Headway), Bernadette McGarvey & Grainne Moran (HRB Student Placement). We would also like to pay particular thanks to all those who undertook assessments for Headway, to HSE regional database teams who co-ordinated and conducted the NPSDD interviews and to all the participants who gave their time to the assessment and interview process thus greatly facilitating this work.

Joint Headway and Health Research Board (HRB) project

This paper outlines the purpose, process, findings and recommendations of a collaborative project between Headway and HRB.

Purpose:

The project was established to address concerns raised by Headway to the National Physical and Sensory Disability Database Committee (NPSDDC) regarding the administration and content of the NPSDD data form for people with an acquired brain injury (ABI).

Some of the key issues that Headway raised included:

- The limited insight of some individuals with acquired brain injury into the nature and effect of their condition
- The type of disability question does not include an appropriate category for people with acquired brain injury as they would not easily fit within 'physical', 'hearing', 'visual' or 'speech and language'
- The ability to report on current service use as well as recognising the future need for services may be impaired
- Difficulty in getting informed consent from a person with an acquired brain injury.

Although initial concerns were raised by Headway in 2004, due to a number of issues including staff turnover in both organisations, it was not until 2007 that final protocols for the project were agreed and the project commenced. The main purpose of the exercise was to identify any possible discrepancies between the Headway assessment and NPSDD interview.

Overall, the main theme that arose in the analysis was the issue of insight or lack of insight into the nature and effect of the ABI. Difficulty in awareness of the effects of ABI and lack of/poor insight into the differences in physical and non-physical aspects that have occurred since the onset of an ABI is a common outcome (Bach et. al. 2006). Individuals with an ABI can under- or over-estimate the impact that the ABI has had on their physical and non-physical functioning. The range of deficits in self-awareness has been highlighted previously (Sherer et. al. 1998) as well as the existence of different awareness typologies (Ownsworth et. al. 2007). In many cases it has been found that family members' views on the effects of the ABI can be very different to the individual's. The findings from this project indicate that problems with insight can impact particularly on recording of service and diagnostic information. Additionally, a lack of insight will impact on an individual's willingness and ability to engage with rehabilitative training services, and has been identified as a key factor in determining successful outcome (Lam et al, 1988).

One concern in this regard is that awareness of deficits or impact of an ABI may change over time (Hart et al 2008), much like other physical and non-physical effects of ABI change in presentation. This means that individuals assessed at different points in time after their injury might present with very different levels of insight. As highlighted above, this is likely to influence the type of services that a client subsequently avails of, including rehabilitation services. Caregivers of individuals with limited insight into their difficulties are significantly more likely to experience high levels of distress, when compared with those who show accurate self-awareness (Prigatano et al. 2005). Since limited insight is so common among individuals with ABI, this finding in turn suggests a strong necessity for psychological or other support services to be made available for carers of individuals with ABI.

Process Summary:

Headway staff conducted their assessment with each of the identified clients and translated these onto the NPSDD data form. HRB staff then analysed the completed forms and accompanying assessment and compared them to the NPSDD forms completed within the HSE.

Step 1: Participants Identified

Headway referred a sample of clients from their waiting list to the regional database managers within the HSE. Initially it was agreed that ten NPSDD interviews would take place but due to difficulties in some areas in completing interviews an adjusted target of eight was agreed.

The list of clients was forwarded to the relevant Database Manager in the appropriate HSE region by Headway. Contact details for each Database Manager were provided by the HRB. The regional database staff contacted the referred client(s) following usual NPSDD protocols. The name and Personal Identification Number (PIN) of the individual was sent by the Database Manager in the HSE region to Headway along with a blank NPSDD data form. This procedure was followed each time a Headway client was referred directly from the Headway waiting list and interviews were carried out. This continued until the target number of eight interviews was reached.

Step 2: Completed NPSDD Data Forms

A copy of the NPSDD data form completed by the HSE, with all personal details (name, address, next of kin name and address) blacked out, was sent by the relevant HSE Area to the HRB or the PIN was sent to the HRB and the completed form was downloaded directly from the system. Access protocols ensure that HRB staff do not see names and addresses on the system.

Step 3: Headway Assessment

Headway conducted their assessment of the individuals as part of normal practice. The results of the assessment for the selected individuals upon registration on the NPSDD were translated onto the blank data form with all personal details (name, address, next of kin name and address) blacked out with the exception of the PIN provided by the HSE region. This was sent by Headway to the HRB.

In addition, the detailed assessment conducted by Headway was forwarded to the HRB so that any issues not captured by the NPSDD data form could be examined as part of the analysis. Again the PIN provided by the HSE region for this individual was provided on the assessment document and any identifiable information such as name and address was removed.

Step 4: Monitoring

The HRB monitored receipt of the completed data forms from the HSE regions and from Headway and notified both Headway and regional database staff when the target figure had been reached.

Findings:

The HRB analysed both the completed data forms and the qualitative data from the Headway assessment reports to address the concerns outlined above and to identify discrepancies. The key findings based on this analysis are:

- Headway identified half of respondents as having poor insight into the nature and effect of their condition during the assessment.
- Identification of problem with insight was not evident in the NPSDD interview but only through comparison of the information recorded on the data forms and in the assessment report
- Differences identified in service information, WHODAS II (World Health Health Organization's Disability Assessment Schedule II) and diagnosis between HSE and Headway interviews indicate problems with individual's insight into service needs and the impact of their condition on everyday activities
- Physical disability is the most commonly selected type of disability in HSE and Headway interviews
- Not all effects of ABI are captured within type of disability, diagnostic and WHODAS II questions
- One individual in the HSE interview compared to three in the Headway interviews had a secondary diagnosis of depression
- Some level of difficulty was recorded across all WHODAS II domains by Headway but not by the HSE
- Differences in service use and needs were recorded. This suggests that Headway potentially are under assessing the level of need of clients
- Technical aid and appliance (TAA) use and need captured in NPSDD but not captured in Headway assessment

Discussion

Insight into nature and effect of ABI

The Headway assessment reports illustrate how half of the respondents had poor insight into their condition. That is, they did not recognise changes that had occurred in areas such as memory and mood since the onset of their ABI. In three cases this was compounded by the family member/partner highlighting the differences that they had perceived in the individual since the onset of acquired brain injury.

The NPSDD interview does not seek to identify if problems with insight exist. Crucially, it is the comparison of the information captured through the interviews with HSE staff to the information recorded by Headway that facilitates an examination of the potential lack of insight on the part of the individual with acquired brain injury. This insight issue was explored specifically through a comparison of the service information, WHODAS II and diagnostic information provided.

As a service planning tool it is vital that the information provided by the individual to the NPSDD is a true reflection of his/her current status and future perceived need. Thus, insight into service use and need can be examined by comparing the responses to the service questions recorded through HSE interviews and Headway interviews. Differences in current and future service reporting were identified. This will be explored in detail under the service information section.

The effect of ABI on performing daily activities can be measured in the WHODAS II. This is a standardised measure of difficulty in performing daily activities over a 30 day period. The extent of difficulty can be 'none', 'mild', 'moderate', 'severe', 'extreme/cannot do'. This information can be compared to the section on daily living needs recorded by Headway in their assessment.

There was some level of difficulty recorded across all WHODAS II domains on the Headway completed NPSDD forms. This was not the case with the interviews completed by the HSE with the individual.

Table 1:
Comparison between Headway and HSE of the numbers recorded as experiencing difficulty on WHODAS II

WHODAS II Domain	Number of people recorded as experiencing no difficulty (HSE)	Number of people recorded as experiencing no difficulty (Headway)
Concentrating	1	0
Learning new task	4	0
Standing	4	0
Walking long distances	6	0
Washing	6	0
Dressing	6	0
Dealing with strangers	4	0
Maintaining friendships	3	0
Maintaining household responsibilities	3	0
Day to day work/school	1	0
Joining in community activities	2	0

Similarly, when compared to people with primary diagnosis of head injury¹ who completed the MAP section of the NPSDD in June 2007 (212 people), a similar trend was found in that there were cases where no difficulty at all was experienced on all WHODAS II domains.

In comparing the Headway assessment reports to the Headway completed NPSDD forms the degree of difficulty within WHODAS II is not always reflected in the reports. Some reports actually state that the individual does not have any difficulty with activities of daily living. Thus, there is some inconsistency between the assessment reports and completed forms. Such differences could be due to the NPSDD forms being completed post assessment by Headway staff and without the individual present. Although the assessment reports are used as a guideline the forms were essentially completed by proxy on behalf of the individual and the individual was not present when the form was completed. As such it may entail inference being drawn based on the knowledge of the individual outside of the assessment report. It should be stressed that Headway did indicate on a number of occasions the difficulty they encountered in answering the WHODAS II section in particular by proxy.

It is important to explore why the difference in level of functioning in everyday activities is recorded. Is this due to lack of insight into the nature and effect of the ABI? Is it due to a difficulty in proxy completion of these sections of the form? Or is it that in the 30 days prior to the NPSDD interview with the HSE staff the individual did not experience these difficulties?

¹Head Injury is the diagnostic category under which people with acquired brain injury are recorded on the NPSDD. ABI does not exist as a separate diagnostic category at present.

The nature of ABI would suggest that it is unlikely that the effects would be experienced intermittently as can be the case with some other neurological conditions such as epilepsy or migraine.

In addition, there are some differences noted in recording diagnosis. One individual specified his/her primary diagnosis as epilepsy and secondary diagnosis as head injury in his/her HSE interview. By contrast, all Headway completed forms recorded primary diagnosis as head injury. Only one individual in the HSE interview compared to three individuals in the Headway interviews had secondary diagnosis of depression recorded. In addition, unspecified eye complaint and unspecified musculo-skeletal disability were recorded once each as secondary diagnosis in the HSE interviews, while meningitis was recorded as secondary diagnosis for one individual on the Headway completed forms. These differences raise the question of the individual's ability to recognise the specific primary and secondary diagnosis of his/her condition.

The differences noted in diagnosis may be a result of a number of things. Firstly, from the individual's perspective when completing the NPSDD interview with HSE staff there may be a difficulty with insight into diagnosis. Related to this, there may be an element of non-disclosure around the issue of depression, in that the individual may not feel comfortable in this setting to discuss the issue. Alternatively, there may be a training need in relation to ABI with staff who complete the NPSDD interviews.

Outside of this Headway project, a working session on diagnostic issues took place in November 2008 and addressed a number of diagnostic issues that have arisen over the years by agency and HSE staff. The purpose of the session was to bring clarity on why diagnostic information is collected, how it will be used and its relationship to registering on the Database. The findings from this report will be considered in conjunction with any recommendations from the diagnostic session.

Type of Disability

The type of disability is captured under the category 'physical' for all cases in both the HSE and Headway interviews. This is not surprising as in answering question 103 'Type of Disability' currently the category that best describes the condition is 'physical'. There are two occurrences where additional type of disability 'visual' is recorded for an individual in a Headway interview. Visual disability is not recorded on any of the HSE completed NPSDD forms.

In reviewing the data forms only, the difference found is minimal. Insight into this can be gained from analysing the assessment reports provided by Headway. First, the assessments were reviewed to ascertain if all aspects of ABI are sufficiently covered by the response category 'physical'. Secondly, it provided an opportunity to explore why visual disability is recorded on Headway forms but not on the HSE completed forms.

Within the assessment reports there is evidence of non-physical effects of the ABI. Examples of additional effects of ABI include problems with short term memory, delayed memory, attention and concentration difficulties, fixation with ideas, slow speed of processing and depression. Some of these non-physical effects of disability are addressed on the NPSDD through the WHODAS II section. For example, difficulties in concentrating for more than ten minutes and difficulty learning a new task are captured as well as difficulty in social interactions such as maintaining friendships and dealing with strangers.

However, issues such as depression, inappropriate behaviour/lack of inhibition and emotional regulation/irritability are not captured. Depression could possibly be recorded under diagnosis but as detailed above only one individual in the HSE interviews compared to three individuals in the Headway interviews detailed depression as a secondary diagnosis.

It is important to explore the relationship between type of disability and diagnosis. As mentioned, although 'physical' disability was recorded for all individuals in HSE and Headway completed forms visual disability was recorded as an additional type of disability for two people on Headway completed forms. This is not reflected in the diagnostic information recorded. In contrast, one person on the HSE completed form specified a secondary diagnosis that was visual specific but this is not reflected in the type of disability.

Overall, the analysis shows that a number of non-physical effects of ABI exist and are evident in the Headway assessment reports. These effects would be categorised as 'cognitive' effects of ABI. Although there is scope to capture some of these through the WHODAS II section there is also a need to question if 'physical' disability is sufficient in its description of the type of disability that ABI fits best. This certainly captures the physical effects such as poor dexterity, poor motor functioning but does not reflect the non-physical effects that the person is experiencing. Does an additional category of 'non-physical' or 'cognitive' disability need to be included to capture the difficulties in memory, slow processing and depression? What is the value of including this additional response category? How many other diagnostic categories would now fall within this categorisation? It is difficult to answer these questions with the information provided for this exercise and so piloting a question which includes this additional response category would be a valuable exercise. The relationship between the type of disability question and diagnosis was discussed in the working session on diagnosis and it was felt that in the majority of cases there should be a clear link between type of disability and diagnosis. For example, if visual diagnosis is recorded then it would be expected that under type of disability 'visual' would be selected.

Another option could be to introduce a body function measure based on the International Classification of Functioning, Disability and Health (ICF). At present the NPSDD includes a number of elements of the ICF – environment (through the barriers and challenges section), participation (through the participation restriction section), activities (through the WHODAS II section) and personal factors (through the administration and client detail sections). Body functions are defined as "the physiological functions of body systems (including psychological functions)" (WHO, 2001: 10). A body function section could potentially offer more detail in terms of the type of functioning difficulties at body level the individual is experiencing, be it physical or non-physical in nature. "With respect to body functions in the ICF, the cognitive functioning aspects have been addressed under the domain of 'mental functions' (b), which further enumerates specific cognitive skills such as attention, memory, and other higher functions. It is vital to evaluate and interpret a person's overall cognitive functioning in terms of specific skills, since it has been found to have varying patterns across different neurological conditions. Taking this aspect into consideration, the ICF can be an ideal tool to interpret the subtle changes occurring in the above array of cognitive skills. Research has emphasized the nature, progression, and types of cognitive deficits with respect to specific neuro-psychological conditions" (Arthanat et al. 2004).

Some of the NPSDD Committee have been involved in an exercise to develop a body function questionnaire and this has fed into the work of the Measure of Activity and Participation (MAP) subgroup. This is still in development stages as the draft that is available at present is quite detailed. There is potential for including this body function element in the MAP section of the NPSDD at a future date in order to complete the coverage of all ICF components. However, it is felt that a shorter, more specific version may be better suited to the NPSDD and its purpose. This is worth exploring particularly in relation to capturing any non-physical effects of conditions such as ABI.

Service Use and Need

Service information recorded on the HSE completed forms and Headway completed forms were compared (See Tables 2 and 3). The sections highlighted in red refer to similarities between both sets of forms. Although differences were noted in both the current and future service needs, the main differences occurred in the future service needs section. These differences were in the service type, in the number of people requiring particular service types and also in the level of service. Level of service requirement refers to if the individual has been assessed for this future need or requires assessment, if the individual requires an enhanced service or assessment for enhanced service or if the individual is on a waiting list for the service.

Table 2: Comparison of current services recorded

HSE	HEADWAY
Continence advisor x 1	Continence advisor x 1
OT x 1	OT x 0
Social worker x 2	Social Worker x 0
Psychologist x 2	Psychologist x 1
Counsellor x 3	Counsellor x 0
Complementary therapy x 0	Complementary therapy x 1
Driving instructor x 1	Driving Instructor x 0
Peer support x 3	Peer support x 1
Community Rehabilitation Worker x 0	Community Rehabilitation Worker x 1
Day service 1: Specialised day service for people with head injury x 1 Rehabilitative training x 1 Vocational training x 1 Full-time open employment/self employment x 1 Rehabilitation services (physical and sensory) x 1	Day service 1: Other x 1 Rehabilitative training x 2
Day Service 2: 0	Day Service 2: Vocational training x 1
Residential service: 0	Residential service: Living independently with no support x 1
TAA1 x1 TAA2 x1 TAA3 x 1	TAA x 0

Table 3: Comparison of future services recorded

HSE	HEADWAY
Physio x 4 (assessment required)	Physio x 2 (assessment required)
OT x 2 (assessment required)	OT x 2 (assessment required)
SLT x 2 (assessment required)	SLT x 0 (assessment required)
Chiropodist x 1 (assessment required)	Chiropodist x 0 (assessment required)
Nutritionist x 1 (assessment required)	Nutritionist x 2 (assessment required)
Public Health Nurse x 2 (assessment required)	PHN x 3 (assessment required)
Social Worker x 2 (assessment required)	Social Worker x 5 (assessment required)
Social Worker x 1 (assessment required for enhanced service)	
Psychologist x 1 (assessment required)	Psychologist x 4 (required: assessed and on waiting list)
Psychologist x 1 (assessment required for enhanced service)	Psychologist x 1 (assessed as requiring enhanced service)
Counsellor x 3 (assessment required)	Counsellor x 3 (required: assessed and on waiting list)
Counsellor x 1 (assessed as requiring enhanced service)	
Counsellor x 1 (assessment required for enhanced service)	
Complementary Therapy x 3 (assessment required)	Complementary Therapy x 0
Community Resource Worker x 1 (assessment required)	Community Resource Worker x 4 (assessment required)
PA x 1 (assessment required)	PA x 3 (assessment required)
Home Help x 0	Home Help x 3 (assessment required)
Home Care x 0	Home Care x 2 (assessment required)
Peer Support x 3 (assessment required)	Peer Support x 3 (required: assessed and on waiting list) Peer Support x 1 (assessed as requiring enhanced service)
Contenance Advisor x 1 (assessment required)	Contenance Advisor x 0
Planned home based respite x 0	Planned home based respite x 1 (assessment required)
Breakaway and Befriending scheme x 0	Breakaway and Befriending scheme x 2 (assessment required)
Holiday respite placement x 1 (assessment required)	Holiday respite placement x 0
Day Service 1: Supported employment x 1 Specialised Day service for people with head injury x 2	Day Service 1: Resource centre for people with a physical or sensory disability x 1 Rehabilitative training x 2
Day Service 2: Rehabilitation service (physical and sensory disability) x 2 Rehabilitative training x 1	Day Service 2: Vocational Training x 2
Day Service 3: Specialised Unit for people with head injury x 1	Day Service 3: 0
Residential Service: Specialist unit (e.g. group home for people with brain injury) x 1 Living independently in community with house adapted or rehousing x 1	Residential Service: Living independently in community with no support x 1
TAA1 x 2 TAA2 x 1	TAA x 0

In addition, to differences in how services are recorded, there were some services captured within the Headway assessment but which are not in the main body of the NPSDD form. These include family therapy, neuropsychological assessment, psycho-education and psychotherapy. Services not specified in the main body of the NPSDD form can be recorded in the additional services section on the NPSDD. Some additional services currently captured in this field and relevant to this study include neurologist, neurosurgeon, GP and psychiatrist.

By contrast, the use of and need for technical aids and appliances are captured through the NPSDD interview but not the Headway assessment. Although only a small number of aids were recorded in this exercise, it is an area not currently captured by Headway.

The differences in service information suggest that recording current service usage is more straightforward in that the individuals are more aware of the actual services they are linked in with. However, anticipating what services are needed over a five year period could prove more difficult. Coupled with a difficulty with insight into the nature and effect of condition the individual may not have clarity on whether services are needed or what type of services are needed.

The Headway completed forms are a reflection of the service needs as recommended by the assessors and then discussed with the individual and his/her family member. The HSE completed forms are solely based on what the individual anticipates as his/her future need during the NPSDD interview.

The role of the family in the NPSDD interviews could be explored to address differences in insight with diagnosis and service need. At present the interview is conducted between the data collector and the individual. Any change in protocol in this regard will have to give serious consideration to the practicalities of involving more people in the interview process and also take into consideration the issues of capacity and the rights of the individual to provide consent to participate in the process. How could family participation be guided? Is it a matter of giving the individual the opportunity to have a family member present? If conflicting views are presented in the interview what does the interviewer record on the NPSDD data form and how can such conflicting views be resolved?

Informed Consent

Obtaining informed consent from people with ABI was one aspect of the NPSDD process that Headway had concerns about. Under the current protocols an individual can refuse to consent to register on the NPSDD at a number of stages:

- When asked by the voluntary agency for permission to provide name and contact details to NPSDD masterlist
- When contacted by HSE database staff inviting them to register on the Database and arranging time/place for interview
- At time of interview
- Post interview an individual can request that his/her details be removed from the NPSDD.

NPSDD invitation letters and information leaflets provide detailed information on the purpose of the Database and the type of information collected. This is then re-iterated and explained by the HSE database staff on contacting to arrange interview and at time of interview. A consent form is signed by the individual on the day of the interview. Consent is sought from the individual and not from family members. Informed consent is obtained from the individuals by Headway when they apply to Headway for services. There are two consent forms. One seeks consent to pass client information to other professionals and the other seeks consent to obtain client's medical information. In the majority of cases the individual will fill out the consent form. In some cases however, the individual will give verbal consent and the family member will sign the consent form on his/her behalf, for example, if the individual has difficulty writing.

Although problems with insight were highlighted in recording diagnosis and service information it was not possible to examine the consent process as part of this project to the same extent. This would require direct contact with the data collectors to ascertain their experience of gaining consent from people with ABI. During the process one individual decided not to register onto the NPSDD as he/she did not think he/she had any future service needs. On reviewing the assessment report by Headway some services were recommended including peer support, neuropsychological assessment and perhaps some family therapy. However, it is also noted that the individual was reluctant to engage in any therapeutic intervention at the time of assessment and as such this could be the reason why he/she did not see future services relevant to him/her. Also, another individual completed the NPSDD interview with HSE but did not want the Headway assessment at the time. Neither of these individuals was included in the exercise as a corresponding NPSDD form was not received.

Recommendations:

Based on the findings and discussion above the following recommendations are proposed across each key area.

Insight

- To explore the possibility for additional training on ABI for staff conducting NPSDD interviews.
- To evaluate proxy administration of the NPSDD data form but in particular for the MAP section of the form.

Type of Disability

- To pilot change to question on type of disability introducing new category of disability
- To link in with development of body function questionnaire and explore feasibility of incorporating into the NPSDD.
- To address differences in type of disability and diagnosis in training of data collectors to ensure consistency of recording.

Service Use & Need

- To recommend that NPSDD interviews for people with ABI are conducted by an ABI key worker.
- To explore ways in which family members are included in the other data collection exercises.

Informed Consent

- NPSDD protocols on informed consent are guided by data protection legislation. It is not recommended that the manner in which consent is received should change following this exercise.

Additional Recommendations

- It is vital that the current database staffing structures in the HSE are addressed as full implementation of these structures never took place and as such continues to impede development and management of the Database regionally. Resources need to be put in place to support the work of the Database.
- The HRB should continue to engage with non-statutory agencies and seek to provide agencies with direct access to the NPSDD system.

References:

Arthanat, S. et. al. (2004) *The international classification of functioning, disability and health and its application to cognitive disorders*, Disability and Rehabilitation, Volume 26, 235-245

Bach, L. et. al. (2006) *Self-awareness after acquired and traumatic brain injury*, Neuropsychological Rehabilitation, 16 (4), 397-414

Hart, T., Seignourel, P.J. & Sherer, M. (2009) A longitudinal study of awareness of deficit after moderate to severe traumatic brain injury. *Neuropsychological Rehabilitation*, 19 (2), 161-176.

Lam, C. S., B. T. McMahon, Priddy, D.A., & Gehred-Schultz A. (1988). Deficit awareness and treatment performance among traumatic head injury adults. *Brain Injury*, 2(3), 235- 242.

Owensworth, T. et. al. (2007) *Awareness typologies, long-term emotional adjustment and psychosocial outcomes following acquired brain injury*, Neuropsychological Rehabilitation, 17 (2), 129-150

Prigatano, G.P., Borgaro, S., Baker, J. & Wethe, J. (2005) Awareness and distress after traumatic brain injury: a relative's perspective. *Journal of Head Trauma Rehabilitation*, 20 (4), 359-367.

Sherer, M. et. al. (1998) *Characteristics of impaired awareness after traumatic brain injury*, Journal of International Neuropsychological Society, 4, 380-387

World Health Organisation (2001) *International Classification of Functioning, Disability and Health*. Geneva: World Health Organisation