THE UTILITY OF THE RESIDENT ASSESSMENT INSTRUMENT FOR HOME CARE (RAI-HC)

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TABLE OF CONTENTS

The Utility of the Resident Assessment Instrument for Home Care (RAI-HC) 5

What is the RAI-HC? 5

Putting the RAI-HC into Practice 7

Uses of the RAI 7

Client Assessment and Care Planning 7

Outcome Measures 8

Quality Indicators 8

Case Mix Funding Systems 9

Epidemiological Data and Cross-Cultural Comparisons 9

Psychometric Properties of the RAI 9

Use of the RAI-HC in the Victorian Coordinated Healthcare Trial 10

Conclusion 11

References 13

The Utility of the Resident Assessment Instrument for Home Care (RAI-HC)

This paper provides a description of the Resident Assessment Instrument for Home Care (RAI-HC), including an outline of the domains assessed by the instrument, as well as a discussion of how it is put into practice. Additionally, some of the many and varied uses of the RAI series of instruments are presented, as are the psychometric properties of the tools. Finally, the value of the RAI-HC for use within the Victorian Coordinated Healthcare Trial is discussed.

What is the RAI-HC?

The Resident Assessment Instrument for Home Care (RAI-HC) is a comprehensive, standardised instrument for assessing the needs, strengths and preferences of older adults living in the community (Morris et al., 2002). It is a client-centred assessment instrument used to inform and guide care planning in a home based environment. The RAI-HC was developed by an international and multidisciplinary group of clinicians. It has been adopted in many countries and has been translated into numerous languages (Fries et al., 1997a). The RAI-HC is clinically useful for a wide variety of client populations, ranging from medically complex clients needing close attention to relatively well older adults who receive and require less formal support (Morris, Carpenter, Berg, & Jones, 2000).

The RAI-HC is one of a series of RAI tools, which include those applicable for use in nursing home environments, Post Acute Care situations, Acute Care situations and those specific to Mental Health problems (Hirdes et al., 1999). All of the RAI tools are based on the same fundamental principles. That is, they each involve a person-specific assessment whereby data is recorded on a Minimum Data Set form. Additionally, the measures incorporate guidelines to assist with problem-oriented interpretation of this assessment data.

The RAI-HC consists of two elements. The first is the Minimum Data Set for Home Care, an assessment component, which enables the clinician to assess multiple domains of function, health, social support and service use. Where applicable, this component also provides the assessor with details about carer burden and the ability of carers to continue caring for their dependent within the home. Table 1 displays the domains assessed by the RAI-HC. Some of the items act as “triggers” in identifying those who could benefit from further evaluation or who are at risk for functional decline (Morris et al., 1997). The second element incorporates 30 Clinical Assessment Protocols (CAPs), which provide the assessor with general guidelines for further assessment and individual care planning for triggered problems. These CAPs can aid the assessor in identifying service requirements for the client and also allow for referrals where necessary.

Table 1. Domains Measured by the Resident Assessment Instrument for Home Care (RAI-HC)

RAI-HC Domain	Total Number of Items in the Domain
Cognitive Patterns	4
Communication/Hearing Patterns	3
Vision Patterns	3
Mood and Behaviour Patterns	12
Social Functioning	5
Informal Support Services	15
Physical Functioning	
IADL Self Performance	7
ADL Self Performance	8
Locomotion/Stamina	5
Functional Potential	3
Continence	4
Disease Diagnosis	27
Health Conditions	39
Nutrition/Hydration Status	8
Dental Status	3
Skin Conditions	21
Environmental Assessment	10
Service Utilization	52
Medications	9
Total Items	238

Putting the RAI-HC into Practice

The RAI-HC was designed for use by clinical professionals such as nurses, social workers, therapists and physicians. Although it is not a questionnaire, it does require direct questioning of the older individual and their primary caregiver if applicable. Information is also gathered via observation of the client and their living environment and from other available health-related documents.

Clinicians who use the RAI-HC are trained in its use and guided in their assessments by a comprehensive manual. This manual provides detailed information to facilitate consistent and accurate assessments of clients in the home environment. The Manual offers specific instructions for each item within the RAI-HC, which detail the intent of the items, the definitions of each item and the procedures or sources through which the clinician should obtain the assessment information. Additionally, the manual provides numerous examples to assist clinicians in accurately completing the assessment. Due to the specified instructions and procedures detailed in the Manual, and the resulting standardised training that clinicians receive, the RAI-HC can be administered in a universal way and thus elicit consistent assessment information.

Uses of the RAI

The RAI instruments, including the RAI-HC, offer numerous benefits to different audiences in need of valid and reliable health information. Ultimately, the measures have multiple applications for multiple users. The RAI series of assessments are fundamentally similar, yet applicable to different care environments, and thus can be combined to form an integrated series of health information linking home care facilities, long term care, acute care and mental health services. The following section incorporates a discussion of some of the main uses of the RAI instruments. Generally, the uses can be categorised under the headings of Client Assessment and Care Planning, Outcome Measures, Quality Indicators, Casemix Funding Systems, Epidemiological Data and Cross-Cultural Comparison.

Client Assessment and Care Planning

The most common and primary use of the RAI is for comprehensive client assessments and the determination of client care plans. When used in its entirety, the assessment tool can help identify problems, risks, and changes over time, as well as offering information to provide better care and monitor progress (Fries, 1997). Thus, through standardised assessment, the RAI can help staff mould care plans that address individual client needs. That is, the RAI is designed to be a clinical instrument that triggers individualised, targeted care planning efforts (Hirdes et al., 1999). Put simply, when the RAI is administered complete with the Clinical Assessment Protocols, it can help the assessor to understand what they actually need to do with the assessment data in order to help the client most (Fries, 1997).

Such is the proposed utility of the RAI in designing client care plans, that in the United States the RAI has been mandated nation-wide for use in nursing homes to improve the quality of care. This is based on the assumption that improved assessment of an older adult will improve the comprehensiveness and appropriateness of the care plan, and in turn, improve the quality of the care provided (Fries et al., 1997).

Research has indicated that the RAI instruments have indeed been useful in improving the care provided to older adults in certain environments. Hirdes and Carpenter (1997) noted that three years after its introduction into US nursing homes, the RAI was associated with a reduction in the prevalence of pressure sores, the use of restraints, the decline in ADL ability, as well as a dramatic decrease in the rate of transfers to hospitals. The authors suggested that this was likely due to the RAI allowing assessors to gain a better understanding of the needs of older adults. Thus, in this instance the use of the RAI was threefold. Firstly, it was used to comprehensively assess the needs of clients. Secondly, on the basis of this assessment, appropriate care plans were developed. Finally, the RAI was also used as an outcome measure, to track changes over time and to determine whether the implemented care plans improved clients' conditions. It is this latter use of the RAI which will be discussed in more detail below.

Outcome Measures

Another extremely important role that the RAI has played is as an outcome measure. Outcome measures are important for a number of reasons. Firstly, they can improve the quality of life of older adults by identifying interventions that produce the greatest positive changes. Secondly, they are useful in identifying cost effectiveness. It has been argued that for maximum utility, outcome measures should be embedded in the information that home care professionals routinely collect or use (Morris & Carpenter, 2000). This practice minimises the burden on staff because the primary clinical data can also be used for secondary purposes of performance measurement. Tools from the RAI series of assessments have been found to be very effective in this regard (Hirdes et al., 1997). That is, as well as being the basis of assessment and care planning, when repeat administrations over time are conducted, the RAI tools provide the basis for an outcome-based assessment of the client's response to an intervention or program of care.

It has been argued that the use of the RAI should stimulate evaluations to determine how best to provide care to older adults in a variety of care environments (Morris, Fries, & Morris, 1999). For such purposes, it is not necessarily essential that the entire RAI be administered. Particular outcome measures of interest may be selected and used in isolation. Indeed, a number of outcome measures have been developed and validated for use with the RAI (Hirdes et al., 1999).

Morris et al. (1999) used selected items from the RAI to evaluate how weight training and rehabilitative care programs in nursing homes impacted on resident's Activities of Daily Living (ADL) performance. They were able to utilise the RAI to determine whether there was a difference in ADL performance between residents before and after these programs and also between control and intervention clients. Thus, the RAI tools also make it possible to conduct direct comparisons of the experiences of different individual's with like characteristics who may undergo different treatment conditions (Hirdes & Carpenter, 1997). Others have conducted similar outcome studies using the RAI (e.g., Fries et al., 1997b).

Quality Indicators

Another important role of the RAI has been to assess the types of services being utilised by older adults. In doing so, the RAI can offer valuable information about the amount and quality of care currently being provided (Fries, 1997). This can be done by comparing the services received across groups. The RAI has also been

shown to be useful in enabling regional comparisons and international benchmarking on quality-related performance indicators. It allows for comparison of service standards across regions and internationally (Hirdes et al., 1999).

Case Mix Funding Systems

The data from the RAI has also been used to identify Resource Utilisation Groups, which are clusters of older adults defined by particular characteristics (Fries et al., 1994). These clusters can then be used to estimate resource use, as those within a particular group are likely to require similar services. It is possible then to detail the financial requirements of each group (Hirdes et al., 1999).

Epidemiological Data and Cross-Cultural Comparisons

As the assessment tools in the RAI series have been translated into a number of languages and are utilised internationally, they have been used to obtain epidemiological data and to examine differences in functional abilities and service utilisation across cultures (Morris et at., 2000; Fries et al., 1997a). The RAI has also been used to compare these characteristics among different client groups. Therefore, the RAI instruments have been found to offer the opportunity to compare outcomes and services cross-nationally (Morris et al., 2000).

Specific domains measured by the RAI have also been used for a number of purposes. For example, Hirdes et al. (2000) used the RAI to determine the degree of cross-national variability in the identification and treatment of depression with antidepressant medication. The authors also examined the quality of care being provided to depressed patients across countries using the RAI. They concluded that the detection of depression in older adults would be improved by the incorporation of tools such as the RAI (Hirdes et al., 2000).

Additionally, the RAI instruments allow researchers, service providers and policy makers cross-nationally to speak a common language by focussing on a standard set of items with known measurement properties (Hirdes & Carpenter, 1997). This is likely to improve communication and facilitate comparisons across countries (Morris, Fries, & Morris, 1999).

Psychometric Properties of the RAI

RELIABILITY

Before considering the utility of the RAI for various purposes, its ability to actually provide a consistent description of the client, or its reliability, must be examined. One important requirement is that a measurement instrument provides a consistent assessment of a client regardless of who the assessor is. This is integral in ensuring that the assessment accurately reflects the client's status rather than any variability between assessors. Hirdes and Carpenter (1997) reported at least acceptable levels of inter-rater reliability for all areas of the RAI, suggesting that different clinicians assessing the same clients obtained similar results. Others have also reported good inter-rater reliability of the RAI-HC, supporting the utility of the measure in the comparison of groups assessed by different clinicians (Morris et al., 1997; Morris, Fries & Morris, 1999; Sgadari et al., 1997). Additionally, the inter-rater reliability of the RAI has been found to be similar across cultures (Sgadari et al., 1997). These favourable results are extremely important because they indicate that the RAI provides a consistent assessment of clients independent of who performs the

assessment. This is not surprising given the training provided to clinicians and the manualised assessment, which ensures standardised procedures across assessors.

Using international data from a number of countries, Morris et al. (2000) found that the domains measured by the RAI displayed adequate internal consistency, indicating that each item within a particular domain measure essentially the same thing. These outcome measures were found to be equally reliable in terms of internal consistency cross-nationally (Morris et al., 2000). Hirdes, Morris et al. (1999) also reported high internal consistency for the RAI domains. Additionally, Hirdes et al. (1999) indicated that the RAI displayed acceptable test-retest reliability, meaning that assessments completed using the tool remained stable over time.

VALIDITY

It is also important to establish whether the RAI actually measures what it is intended to measure, that is, whether it is a valid instrument. A substantial amount of research has been dedicated to establishing and documenting the validity of the RAI. Hirdes et al. (1999) reported that the RAI displays good face validity and content validity, meaning that it appears to measure what it aims to measure and covers relevant concepts in the area being evaluated. This was largely assured by the RAI development team, which was made up of leading researchers in each specific topic area (Hirdes et al., 1999).

Additionally, the RAI has been reported to display very high levels of convergent validity, with similar concepts being related to each other in the assessment outcome. Aspects of the RAI have also been documented to display good predictive validity, indicated by their ability to predict subsequent functioning in older adults (Hirdes et al., 1999).

Morris et al. (2002) demonstrated that different client groups obtained different outcomes on RAI items thus suggesting that clinical groups demonstrate expected divergence.

In summary, the research suggests that assessors can be confident that the RAI will provide consistent client assessments over time and regardless of the clinician performing the assessment. Additionally, the RAI appears to measure what it sets out to measure, is able to differentiate between different client groups and can predict future functioning in older adults.

Use of the RAI-HC in the Victorian Coordinated Healthcare Trial

The Victorian Coordinated Healthcare Trial based in the North Eastern Suburbs of Melbourne, is a research trial designed to test the effectiveness of a new model of community service assessment, care planning, coordination and provision for chronically ill older people. The Coordinated Healthcare Trial aims to determine whether or not having "Coordinated Healthcare" makes any difference to a person's health, satisfaction and well being and whether it can be provided in a manner that is financially viable. Coordinated Healthcare is a way of delivering and funding services for chronically ill older people. Put simply, it involves a partnership between the client, their GP (Care Coordinator) and a Service Coordinator (Health Professional) to determine what services are required and the appropriate service provider. These services are then paid for by the Coordinated Healthcare Trial, utilising funds that have been pooled by a range of Government and Stakeholder Agencies.

The RAI-HC is the principal assessment tool used in the Victorian Coordinated Healthcare trial. Once recruited to the Coordinated Healthcare Trial, clients

undergo a comprehensive assessment conducted by a Service Coordinator, who is a senior registered community nurse. Service Coordinators make use of the RAI-HC during this assessment. While the RAI-HC is the basis of this assessment, Service Coordinators also utilise their own expertise in providing clients with a thorough evaluation. Thus, the expertise of Service Coordinators in conjunction with the use of the RAI-HC leads to a detailed description of the problems, needs and strengths of all clients involved in the Coordinated Healthcare Trial.

On the basis of the assessment information obtained by Service Coordinators, they are able to determine exactly what care services the client requires. Again, it is the data from the RAI-HC in combination with the specialist knowledge of the Service Coordinators which ensures that clients are provided with the optimal services.

In addition to assisting Service Coordinators to assess clients and identify any services that they may require, the RAI-HC is also used to measure client outcomes in the Victorian Coordinated Healthcare Trial. Through the use of repeated administrations, specific aspects pertaining to the health, cognitive, social and environmental status of clients can be monitored over time. As a result, the RAI-HC makes it possible to determine whether the services put in place for clients improves these specific aspects of their life. This type of evaluation is imperative in identifying interventions that produce the greatest positive changes in clients as well as those that are cost effective.

Conclusion

The RAI-HC is an instrument used for assessing the needs, strengths and preferences of older adults living in the community. It is one of a series of RAI tools all based on the same fundamental principles. The RAI instruments have been used for a variety of purposes including Client Assessment and Care Planning, Outcome Measures, Quality Indicators, Casemix Funding Systems, Epidemiological Data and Cross-Cultural Comparison. Research has indicated that the RAI instruments appear to be reliable and valid, essential considerations when examining the utility of a measurement device.

In the context of the Victorian Coordinated Healthcare Trial, the RAI-HC acts as a central, multi-purpose tool. In addition to assisting Service Coordinators to provide clients with a comprehensive assessment, the RAI-HC helps inform the necessary service provision for these clients. Additionally, it is used to evaluate whether these services and the client's overall involvement in the trial, have an impact on important aspects of the client's functioning and well being. Importantly, the RAI-HC is able to do so without imposing further demand on Service Coordinators who are already collecting the data as part of their routine assessment procedure.

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