



A National Measure of Functional Dependency for Home and Community Care Services in Australia:

Stage 2 report of the HACC dependency data items project

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The National HACCC Dependency Data Items Project: Stage Two Report

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Executive Summary and Recommendations

This is the Report of Stage Two of the HACC Dependency Data Items Project. Consistent with the terms of reference for this project, this report:

- incorporates the refinements to the instruments recommended in the Stage 1 report dated December 2000;
- reports the results of a field test of the recommended instruments conducted across a sample of HACC providers in March-April 2001; and
- presents a set of recommendations on policy and implementation issues associated with the recommended dependency instruments.

Stage 1 Report

The Stage 1 Report of the HACC Dependency Data Items Project was completed in December 2000 and updated in May 2001. The report:

- reviewed the suitability of existing instruments and scales to measure the dependency levels of the HACC target group; and
- made recommendations on whether one or more existing measures should be selected or whether a new measure is required.

The Stage 1 Report also included a detailed description of the methods and materials used in finalising the content of the instruments that have been field-tested in this second stage of the project. Additional background material on the recommended items was included in Appendices to the Stage 1 Report.

The Stage 1 report recommended that a field test be conducted to test the appropriateness of the recommended instruments. The report recommended the field test include a functional screening instrument, a self-care (motor function) assessment instrument, a domestic (instrumental functional assessment) instrument and a behavioural assessment instrument. Following consultation, it was agreed to also include a cognitive assessment instrument in the field test.

Stage 2: the field test

The field test of the recommended instruments was conducted by a sample of HACC service provider agencies in Adelaide, Alice Springs, Melbourne and Newcastle/Lake Macquarie during the period 24 March 2001 and 20 April 2001. A total of 105 staff from 40 participating agencies were trained in the use of the screening and assessment tools. Copies of the screening and assessment tools used in the field test are provided at Appendix 5 and Appendix 6 respectively.

For the purpose of the field test, participating staff were also asked to complete a series of evaluation questions. These were aimed at identifying issues related to:

- burden on staff associated with completing the tools;
- whether the tools were acceptable to clients;
- determining the appropriateness of the tools to managing client well-being;
- clarity of instructions; and
- compatibility with current practice.

During the data collection period, a total of 746 screens and 462 assessments were completed and compiled in a study database. Both a screen and an assessment form were completed on 456 clients.

Field Test Results

In summary, the results of the field test show that each of the 5 tools can be effectively used across a broad range of HACC service providers. The tools have a degree of familiarity for most front line and all second tier assessment staff and their technical performance is satisfactory.

The field test results can be summarised as follows:

- There was reasonable agreement between the assessments recommended by the screening tool and the judgements made by staff about the need for completing those assessments. However the screen was better able to identify clients requiring further self-care and domestic assessment than the interviewers. Interviewers were better able to identify clients requiring further behavioural assessments. There was no difference in the performance of the interviewers and the screen in recommending cognitive assessment;
- The thresholds that trigger a further assessment being recommended in the field trial were lower than the ones used by staff. However, erring towards recommending further assessment too often was considered to be preferable to missing clients who really needed further assessment. An analysis of different thresholds for referral within the screen resulted in some changes in rules to trigger an assessment in the final design of the screening instrument;
- The amount of time taken to complete the screen is acceptable with 44% of screens being completed in less than 5 minutes and 73% being completed in less than 10 minutes;
- Using the total assessment score as a guide, we can be confident that the screen works well in selecting the appropriate clients for further assessment;
- The assessment instruments for measuring domestic, self-care, cognitive and behavioural impairment do not appear to suffer from floor or ceiling effects, when staff recommendations about who should be assessed are taken into account.
- The burden on staff represented by the assessments appears to be acceptable. The length of time was dependent upon the number of instruments completed. When 1 or 2 instruments were used, more than 50% of assessments were completed in less than 10 minutes. When 3 instruments were used, more than 60% of assessments were completed in less than 20 minutes.

A detailed analysis of the field test results is contained in Section 4 and Appendix 7 of this report. The statistical analysis is mainly descriptive and where the number of linked scores makes it possible, more depth is included. Section 4 contains the summarised results of the screen and assessment testing in terms of burden, acceptability and interpretations of the range of scores. Appendices 2 and 3 include a description of the training issues and the results of the feedback from the participating staff.

Recommendations on Functional Screening and Assessment Tools

Recommendations on Preferred Tools

- 1 It is recommended that the functional dependency items be developed and implemented on the assumption of a two tiered assessment process. The first tier consists of a simple functional screening. The second tier consists of a more comprehensive functional assessment for those who require it.

- 2 It is recommended that the functional screening instrument at Appendix 8 be adopted as the HACC national standard functional screening instrument.
- 3 It is recommended that the HACC Officials approve two self-care assessment instruments – the Barthel Index and the Functional Independence Measure (FIM), with the Barthel Index as the standard measure of self-care for the sector.
- 4 It is recommended that the HACC Officials adopt the modified version of the Lawton's IADL measure as the standard measure of instrumental functioning.
- 5 It is recommended that the HACC Officials adopt the modified version of the Australian Residential Classification Scale as the standard measure of behaviour.
- 6 It is recommended that the HACC Officials adopt the Folstein Mini-Mental State Examination as the standard measure of cognitive function.
- 7 It is recommended that the functional assessment instrument at Appendix 9 be adopted for routine use.

Recommendations on Implementation

- 8 It is recommended that, after the current project is completed, work is commissioned to develop a data collection protocol that addresses the following issues:
 - 8.1 Who should receive a functional screening
 - 8.2 Who should undertake functional screening
 - 8.3 When and how often functional screening should be undertaken, including rules for re-screening those clients already in receipt of HACC services
 - 8.4 Who should receive a functional assessment
 - 8.5 Who should undertake functional assessment
 - 8.6 When and how often functional assessments should be undertaken, including rules for re-assessing those clients already in receipt of HACC services
 - 8.7 Data management
 - 8.8 Consumer participation and confidentiality.
- 9 It is recommended that staff training and guidelines be implemented on the various functional screening and assessment tools and on the data collection protocol recommended above.
- 10 It is recommended that Items 1 to 9 of the functional screening instrument at Appendix 8 be included in the HACC MDS.
- 11 It is recommended that consideration also be given to the inclusion of the total score for each of the 4 functional assessments in the MDS.
- 12 It is recommended that special one-off collections be established from time to time to collect sentinel assessment items and/or item level scores for the self-care, domestic and behavioural measures for research and development purposes. These collections could be established at either a national or jurisdiction level and might be restricted to those agencies able to report electronically.

1 Introduction

This is the second of two reports on the HACC Dependency Data Items Project.

The Stage 1 report:

- reviewed the suitability of existing instruments and scales to measure the dependency levels of the HACC target group; and
- made recommendations on whether one or more existing measures should be selected or whether a new measure is required.

This Stage 2 report:

- incorporates the refinements to the instruments recommended in Stage 1;
- reports the results of a field test of the recommended instruments conducted across a sample of HACC providers in March-April 2001; and
- presents a set of recommendations on implementation issues associated with the recommended instruments.

1.1 Background

The HACC dependency data items project was established to recommend for national use, validated and reliable instruments for measuring the dependency of people eligible for Home and Community Care (HACC services). The broad aims of the project were:

- to determine whether or not screening and assessment instruments chosen after a review of the literature were appropriate for the HACC and aged care target population when administered by HACC funded staff;
- to determine how easily the new screening and assessment procedures could be adopted into current practices, identifying potential barriers where possible.

The project was split into two stages. In the first stage, a review was undertaken of existing instruments designed to measure dependency in a variety of populations. A measure of dependency was defined to be a instrument that identifies areas in which a person requires assistance with daily living, and that quantifies the extent to which that person has to rely on someone else to help them carry out normal activities in their home and community.

Agreement was reached with the Steering Committee that the review should cover four domains of function:

1. Domestic (instrumental) function;
2. Self-care (motor) function;
3. Cognitive function; and
4. Challenging behaviour.

The review assessed a variety of instruments within each domain against a number of criteria considered to be important in relation to the instruments' use in the HACC target group. This review and the resulting recommendations about the preferred instruments are described in the Stage 1 report. In brief, the following tools were recommended for each domain:

1. Domestic functioning by use of the Lawton's Instrumental Activities of Daily Living (IADL) Scale¹;
2. Self-care by use of the Barthel Index (Collins scoring);
3. Cognition by use of the Mini-Mental State Examination (30-point); and
4. Behaviour by use of the behaviour items from the Resident Classification Scale².

In Stage 2, the selected instruments were field tested in a range of HACC agencies. The field test focussed on assessing their performance and acceptability to HACC staff and clients. It is this work that is described in this second project report.

1.2 Model of screening and assessment

The field test explored the feasibility of a two tiered problem identification and assessment system. The rationale for this is described in detail in the first report, but it will be briefly outlined again to provide readers with some background context. The ideas are illustrated in Table 1 below.

It was envisaged that, as a first tier, a simple screening tool could be applied to all current and potential consumers by staff in any service provider agency, with minimal training, irrespective of their background or qualifications. This screen could be applied on a routine basis and could be developed into a minimum data set. The primary aim in developing the screen was to provide a standardised mechanism for identifying clients who could benefit from services or who were at risk of functional decline.

The initial screen was not considered to be an assessment of client dependency. Instead, the results of the screen were envisaged as triggering a more in-depth assessment of clients using one or more of the four recommended instruments. This assessment would form the second tier in the functional assessment process. It would not be provided to all clients but rather only to those clients with identified needs and functional limitations. Moreover, the functional assessment of the clients might be targeted to specific domains, based on the screen results. The 2nd tier in this model was designed specifically to be a functional assessment. This functional assessment could occur as part of a more comprehensive assessment or could be undertaken separately.

¹ With modifications to make it suitable for the HACC program

² With modifications to make it suitable for the HACC program

Table 1 *The adopted 2-tier model that separates screening and assessment.*

	First Tier		Second Tier
	Eligibility Screen	Functional Screen	Functional Assessment
Purpose:	Determine whether client is eligible to receive services	To classify each person as low need, medium need and high need with respect to their functional ability. Only people screened as being of medium and high need would receive a more thorough functional assessment	To assess in detail the functional needs of consumers assessed as being in medium and high need
Performed on:	All those referred for service	All those accepted as clients.	All clients with problems as identified through problem screen.
Performed by:	Referring agency or HACC agency	Any service provider	Accredited assessor
Performed when:	Prior to being accepted for service	When referred to service	At least yearly or when there is a significant change in the person's functional needs (ie significant enough to necessitate a new package of community care services)
Methods:	Telephone or face to face interview		In-depth interview or examination, generally including home visit
Result:	Accepted or rejected for service	Functional problems identified and medium and high need clients referred for more detailed assessment	Determine functional needs and potentially also inform funding level and provision of specific interventions

1.3 Aims of the field test

As noted above, the broad aims of the evaluation were:

- 1 to determine if the screening and assessment instruments are appropriate for the HACC target population when administered by HACC funded staff;
2. to determine how easily the new screening and assessment procedures can be adopted into current practices, identifying potential barriers where possible.

The results of the evaluation were intended primarily for HACC and ACAP working group officials and other stakeholders, for reaching a decision on the inclusion of dependency items in the HACC MDS. However, staff who would potentially have to implement any of the adopted instruments were also regarded as stakeholders because they would be the end users of the data in the system and benefit directly from improvements in data quality.

The perspective of the field testing evaluation was developmental [Ovretveit 1998]; its main focus was on process and outcomes. One important focus of the evaluation was how easily the instruments could be used within the current system and how much change was likely to be involved in implementing the collection of this data within routine practice. Thus, a number of different aspects of the screening / assessment process were monitored.

Similar criteria were used for both the screen and assessment instruments to assess the impact completely such items would have on the processes followed by staff. These included:

1. Whether the tools were a reasonable burden on staff, as represented by the time it takes to complete a form;
2. Whether the tools were “compatible” with current practices and systems, noting that problems in the use of the tools may indicate a problem with either the tool or with current practice. Both of these dimensions would be considered, ie. how the tools need to be changed and how practice would need to change if the tools were implemented on a routine basis;
3. Whether the design of the screen was appropriate in terms of its content, or whether important items had been omitted and superfluous items included;
4. Whether the instructions for use were understandable and unambiguous;
5. What level and type of training was needed with different HACC staff groups.

The ability of the study to evaluate the effect of introducing the screen and assessments on client and service outcomes was limited. Indeed, assessment of their impact on clients was limited to assessing whether the instruments were acceptable to clients. Nonetheless, this was not a trivial issue. In terms of assessing service outcomes, it was assumed that the main effect of the tools would be in helping to design service interventions and care plans. In other words, it was assumed that a screen/assessment at the local level should produce information that helps the agency to understand the person’s needs in order to develop an appropriate plan of care. In this context, the outcome of screening/assessment can be considered as differentiating between people who:

1. Have no problems and need no services;
2. Have minor problems (ie. have low need), but need some HACC services (eg. meals, home maintenance) and do not need a full assessment;
3. Have medium to high needs and are likely to require a mix of services.

Consequently, as well as evaluating whether or not the screen / assessment instruments were acceptable to clients, the field test examined whether staff considered them to be appropriate and useful in managing client wellbeing.

The evaluation of the assessment instruments had one final component. This involved examining the assessment scores of clients for ceiling and floor effects. This was important, as the assessment tools have not been used extensively in the HACC population.

Finally, it is worth noting that the screen and assessment data would have other roles in addition to the ones explicitly mentioned above. At the State and National levels, the screen would produce information on the HACC and ACAP population, and their needs for services. When used for planning purposes, this should lead to a better match between need and supply by improving the data available for use in population and program planning. The ability of the dependency data items to fulfil this larger planning role cannot be evaluated directly through this current field test however. It will require a National or State data set to accumulate over time. The field-testing allows only limited inferences to be made about how useful the data might be for planning at the population level.

2 Design of the functional screening instrument

2.1 Introduction

A search of the literature failed to identify a screening instrument designed specifically for an environment such as Home and Community Care services. Indeed, much of the literature was concerned with screening for comprehensive geriatric assessment in a more medical environment. As such, the instruments we regarded as "assessment scales" in the Stage 1 report were frequently considered as "screening" instruments for needs identification, prior to more in-depth geriatric / comprehensive (medical) assessment. Consequently, we were unable to identify any suitably brief screening tools in the literature, resulting in the less satisfactory option of either testing a widely used, although unvalidated tool, or designing our own instrument. In the end, the latter course of action was chosen.

2.2 Adopted approach

In considering a screening tool, we have assumed that such a tool would:

1. Need to be quick to administer;
2. Require minimal training for its administration;
3. Be suitable for use over the telephone;
4. Be suitable for self-report or proxy report;
5. Identify when a more in-depth assessment should be undertaken.

After considering a number of options, it was decided to design a screening tool from a subset of the self-care (ADL) and domestic (IADL) assessment scales. A theoretical justification for this approach exists in the form of a common model in which it is assumed that "people lose abilities and become disabled" in the opposite order to that in which "primary biological and psychosocial functions are acquired" (Dunlop 1997). In other words, ADL and IADL activities form a hierarchical order in which some activities are generally lost before others. Thus, if one screens on the functions lost early, a negative response from the client (that is, no dependency identified) means that asking the client further questions from more detailed assessment scales are unnecessary.

That domestic (IADL) and self-care (ADL) tasks are hierarchical was first proposed by Katz (1963) and there is now considerable published research to support this assumption. Two types of study can be identified. The first has examined the hierarchy between sets of questions, and has led to the definition of broad bands of function. These bands typically contain a number of IADL and ADL items (questions). The second type of study has looked at the hierarchy of individual items within domestic or self-care scales. A selection of recent studies which consider the hierarchical relationship between self-care and domestic activities of daily living are summarised in Table 2. The table lists the items in the order in which they were reported as being lost.

In summary, the literature suggested that there is scientific validity in creating a screening tool based on the hierarchical nature of basic and instrumental activities of daily living. However, it also indicated that such a screen would still need to be designed with care. Firstly, while the studies found hierarchies to hold on average, there was always some variation. A notable exception was listed in the hierarchy of IADL items by Spector et al. (1987). Here, clients could be dependent in shopping and bathing but not transport, or could just require transport.

Secondly, the studies have concentrated on older people, where the HACC population includes not just frail and disabled older people, but young clients with disabilities as well. It was not clear what impact this would have on the effectiveness of the screen.

Finally, an observed hierarchical effect would seem dependent upon the instrument being used. One analysis of many items demonstrated that different questions on the same basic activity pick up disability at different points of the "continuum of dependency" (McHorney et al. 2000). One reason for the consistency shown in the studies listed in Table 2 is probably because most studies used the same set of questions, namely: the IADL or ADL items from the OARS instrument.

Table 2 *Recent studies into the hierarchical nature of IADL and ADL dependency*

Study	Dunlop et al. 1997	Spector et al. 1987	Thomas et al. 1998	Fillenbaum 1985	Hoeymans et al. 1996
Population	Community dwelling Older Americans (75+)	One population based sample, 2 services based samples	Community sample of elderly Canadians	Random sample of elderly (min age)– North Carolina (65), Virginia (60), Cleveland (65)	Random sample of elderly men living in Zutphen (Zutphen Elderly Study)
Activities	Incident Disability - age of onset from younger to older:	Frequency of functional dependencies, from highest to lowest:	Reported dependence from most dependent to least dependent (factor):	From Most to least difficult (Guttman scaling)	Order of loss from early to later:
Scale used	OARS	OARS	OARS	OARS	WHO questionnaire
Type of Hierarchy	Within items	Within items	Sets of items	Within items	Sets of items
Hierarchy	ADL Walking Bathing Transfer Dressing Toileting Feeding	IADL Shopping Transportation ADL Bathing Dressing Transfer Feeding	Group 3: Handle money, Phone use, Self medication Group 2: Housework, Shopping, Transportation, Bathing, Prepare meals, Walk indoors Group 1: Dressing Grooming Toileting Transfer Feeding	IADL Housework Transportation Shopping Prepare meals Handle finances	IADL Cooking, Light housework, Heavy housework Mobility Move outdoors, use stairs, Walk at least 400m, Carry heavy object for 100m ADL Walk between rooms, Feeding, Transfer, Toileting, Dressing, Wash/bathing

Key: Group (1): basic self-care, (2): intermediate self-care, (3): complex self-management

2.3 The functional screening instrument

The screen instrument developed for the field test is presented in Appendix 5. It was created in two sections. The first consists of a total of 7 items (5 IADL and 2 ADL) which were selected using the evidence from the studies reviewed (including those in Table 1). The first 3 items in the first section are early loss instrumental activities. The next 2 items were selected from the complex self-management tasks proposed by Thomas et al. (1998) and act as markers of cognitive impairment. The final 2 items in the first section are late loss ADL items.

The second section consists of an additional two questions that cover cognitive and behavioural problems. These were added to improve the effectiveness of the screen at detecting behavioural and cognitive problems. However, the questions are not suitable for use with a client. This section was only to be administered in the case of a carer, friend or other person contacting the service on behalf of the client.

The individual items in the first section of the screen were selected from the OARS Multidimensional Functional Assessment. The IADL items from the OARS have three levels (versus 4 and 5 in the Lawton's), as do the ADL items (versus only 2 for 'bathing' in the Barthel). Therefore, the responses are not strictly comparable to the full scales selected in the Stage 1 report, but they appear to be the most suitable for telephone administration. Other work has shown that a three-level distinction is the maximum that respondents can make reliably (Fillenbaum 1985). Further, these items can be administered by a trained interviewer, with at least high school education. They are also suitable for self-administration (Fillenbaum 1985).

The wording of the individual items has been widely tested. The full IADL and ADL scales from the OARS instrument have been subjected to tests of reliability and validity, with good results (McDowell and Newell 1996). However, since the items in the proposed screen have been abstracted from the longer scale, as a set, they cannot be assumed to have the validity and reliability of that scale (Personal communication with G. Fillenbaum, 15/2/01).

The items are copyright of the Duke Center. Permission has been granted for the use of the items on the condition that that the Duke Center copyright appear on the face of all reproductions of the instrument and that any modifications of the instrument must be noted on the face page, reported to the Duke Center, and noted in publication of results (Personal Communication with H.J Cohen 15/02/01).

3 Study design

3.1 *Outline of field test*

The field test of the instruments covered a four week period from 26 March to 20 April 2001. The HACC agencies used in the study were selected with assistance from the steering committee. It was agreed that the sites would need to:

1. cover the broad range of ages that exist within the HACC target group;
2. cover a mix of agency sizes;
3. include staff that had a mix of skills; and
4. cover ethno-specific agencies (eg. for ATSI or NESB clients).

Sites were selected from whole geographic regions as this provided the opportunity to provide joint training. A list of sites involved in the study is included in Appendix 2.

The field test was approved by the University of Wollongong Research Ethics Committee.

3.2 *Integration of the screen/assessment forms into routine practice*

Agencies involved in the study tested either the screen only or both the screen and assessment forms. Whether or not a site used only the screening tool depended upon which type of HACC service it was and/or where it fitted within local arrangements around assessment.

It was assumed that, in routine practice, functional screening would occur in the following situations:

- When a potential client contacted a service provider to request a new service;
- When a carer, friend, or other person (e.g another service provider) contacted a service provider to request a new service for an aged or disabled person;
- When an existing client contacted a service provider to change an current service or to request a new service;
- When a carer, friend, or other person (e.g another service provider) contacted a service provider to change a current service or request a new service for an existing aged or disabled client; and
- Perhaps also at regular (six or twelve monthly) intervals.

Thus, in general, the screen would be applied in routine practice whenever contact is made with the service provider for new or additional services.

The conditions of the field test differed from how the screen would be applied in routine practice in two ways:

- The screening instrument was tested on all existing clients seen during the testing period, whether or not they required a change in the services they were receiving.
- However staff were requested not to apply the screen more than twice to any one client if the client was seen multiple times.

Similar instructions were issued to the sites with respect to the assessment of clients using one or more of the assessment instruments. The ability to collect client data from both the screen and the assessment forms was important in testing how the tools performed. Thus, sites were asked to assess clients, even if the screen had not recommended assessments, and even though this did not reflect how the instruments would be used in practice. However, because the field test was conducted within the constraints of normal practice, the decision about how many clients would be assessed was left to the sites to determine.

Finally, it is worth noting that the screen was administered in a variety of ways: face-to-face, over the telephone and from a review of records. The assessment forms were only administered face-to-face with clients. The exception was when staff were getting information from a carer or other informant.

3.3 Data collection forms

The data collection forms were split into three sections. The first part contained questions designed to capture basic information about the client and the assessor. For the client, data items included:

- a unique client number (site generated) and HACC letters of name;
- sex, date of birth, main language spoken at home, and indigenous status;
- source of referral; and
- whether or not this was a repeat assessment.

For the assessor, the form included data items on:

- a unique ID (site generated);
- job title and years of experience; and
- whether or not the person had experience undertaking assessments with a recognised instrument.

The second part contained questions related to evaluating the use of the instrument, while the third part contained that actual instrument and accompanying instructions.

The evaluation questions included on the screening and assessment forms were based on the evaluation criteria, ie:

1. burden on staff;
2. whether the tools were acceptable to clients;
3. determining the appropriateness of the tools to managing client well-being;
4. clarity of instructions; and
5. compatibility with current practice.

The burden to staff represented by the new tools was measured for each client by staff recording the time the instrument took to complete. There are potentially a number of ways to measure acceptability of the tools to clients but the constraints of the trial meant that the only possible approach was to rely on staff interpreting the reaction of clients.

Thus, staff were asked to record on the forms any questions that clients found unsettling. This was a simple approach but it was not ideal as it relied on staff interpreting the reaction of clients.

Several approaches were used to measure factors related to the appropriateness of the screen. One approach was based on collating the scores of the screen and the assessments for those clients that receive both. This gave some indication of the screen's "specificity" – that is, the degree to which those clients recommended for assessment were rated using the assessment instruments as having a functional impairment. In addition, staff were asked to write down whether or not they would have recommended that a client be referred for further assessment. The second approach was based on staff rating the usefulness of the screen questions by using the following two questions:

1. Were any of the items inappropriate for this client? If so, list item and explain why;
2. Does this client require assistance with daily living in areas that were missing in the assessment? If so, what is missing?

These data were collected during each individual application of the screen.

A similar approach was used to assess the usefulness of the assessment forms. Staff completing the assessments forms were asked to answer the same questions (1) and (2) above plus:

3. Did this assessment tell you anything useful about the client that you didn't already know? If so, what was it?

This subjective approach was augmented by examining the range of scores of assessed clients to determine whether there are any ceiling and floor effects. This did not require any special data to be collected. But, to assist in the interpretation of the acceptability and appropriateness measures, it made use of some characteristics of the client being screened or assessed.

A critical issue influencing the utility of the screen is its reliability. Ideally, the screen should have been tested for inter-rater reliability. However, the agencies did not have the resources for this. Thus, the trial was limited to an alternative, less powerful approach in which staff were asked to rate the confidence that they had in their application of the tools. Two questions on the forms were used to capture the staff's ratings, namely:

4. How difficult was it to make the ratings?
5. How confident do you feel that the ratings you have recorded are accurate?

Both responses to both questions were measured using a 5-point Likert scale.

However, it was possible that some staff would visit a client more than once in the data collection period. This would potentially provide some crude data on test-retest reliability. Consequently, to aid the interpretation of multiple scores for the same person, staff were asked whether the person's needs changed between assessments (yes/no/don't know). It was recognised that the scores would probably only detect very poor performance as the answers given by staff to the above question would be subjective and the number of clients who were assessed more than once was likely to be small.

Data on the compatibility of the tools with current practice was not measured directly. However, space will be left at the bottom of the test instruments for comments and HACC staff were encouraged to document comments relating to the instruments and their applicability during the trial.

In addition to capturing data on the assessment forms, a register of critical events was created and maintained at the CHSD. "Critical event" forms were provided for staff to fill in and forward to the CHSD. Alternatively, staff could contact the CHSD with a comment/suggestion that was documented in the register. The register was created to enable any one-off issues to be recorded, issues that staff would not be able to easily comment on using the screen/assessment forms. In particular, the register was intended to record:

1. comments on or suggested changes related to user's perception of reliability;
2. comments on or suggested changes to the instructions of use;
3. comments related to inappropriate items or missed aspects of dependency;
4. comments related to the acceptability of the tool to clients;
5. skill and training needs;
6. changes made to either instructions or tools.

3.4 Pre-field test activities

Before the 4-week field test was begun, a number of activities were performed to reduce the chance of unforeseen problems arising. Firstly, initial drafts of the screen and assessment forms were circulated to the steering committee for review and comment. This was then followed up by pilot testing of the forms in one HACC agency and one ACAT in NSW.

Secondly, training was conducted at the sites involved in the field test and sites were also given a site manual. This contained an overview of the project and its aims and contained detailed instruction on how the screen and assessment forms should be used and completed.

3.5 Data analysis

Sites returned the completed forms to the CHSD for data entry and analysis. Data on complete screen/assessment forms were entered into a Microsoft Access database and analysed using Microsoft Excel and SAS.

Evaluation questions inviting comments or requiring long answers were coded for analysis in a two-stage process. Responses from a sample of completed forms were considered carefully by a team of analysts to determine the main point (or points) that had been raised. A preliminary list of categories was compiled to cover these areas of concern. As forms were entered into the database, they were coded according to this list of categories. If a new issue could not be allocated to an existing category, a new one was created. The final lists of categories contained between 11 and 25 options.

In the second stage of the process, the categories for each question were allocated to three or four broader groups. Comments were collected under headings relating to these groups. There was some overlap between the issues raised in different questions. However, with related comments grouped together, it was easier to draw out the main threads amongst the issues raised by the interviewers.

4 Analysis of the Results

4.1 Introduction

Staff were asked to complete both a screen and an assessment whenever possible, even if the screen did not indicate a need for further functional assessment. This was so that a full range of scores could be obtained to assist with the evaluation of the tools. There were 746 screens and 462 assessments returned. There were both a screen and an assessment form completed for 456 clients. The following analysis makes use of the complete set of screens and the complete set of assessments where appropriate. For some analyses, only those with both forms will be included. Three clients had more than one screen or assessment completed during the field trial.

4.1.1 Description of the clients

Some basic demographic information was collected on both the screen and the assessment forms. A summary of these data provided the following information.

- Screening forms were completed on 331 males and 409 females. The sex was not reported for six clients. The numbers of males and females for whom assessments were performed was 196 and 264 respectively;
- The main language spoken at home was English on 85% of the screens and 92% of the assessments. The next most frequently reported languages were Greek and Italian;
- Approximately 3% of clients were Aboriginal or Torres Strait Islander in both the screening and the assessment data sets;
- The source of referral data is summarised in Table 3 below. For both assessments and screens, the most common source of referral was “existing client” followed by hospital. Only 6% were new referrals from a GP.

Table 3 *Numbers of clients reporting for each source of referral*

Source of Referral	Screen		Assessment	
	Number of clients	Percentage of clients	Number of clients	Percentage of clients
Existing client	284	38%	214	47%
New client:	451	60%	242	52%
<i>Self-referred</i>	36	5%	19	4%
<i>Family or carer</i>	74	10%	57	12%
<i>GP</i>	48	6%	28	6%
<i>Hospital</i>	203	27%	73	16%
<i>Other</i>	90	12%	65	14%
Unknown	11	2%	6	1%

The age distribution of clients who had been screened is graphed in Figure 1 below. The age distribution of clients with assessments is graphed in Figure 2. As expected, a large proportion (more than 50%) of clients were between 71 and 90 years old.

Figure 1 Age distribution of clients screened

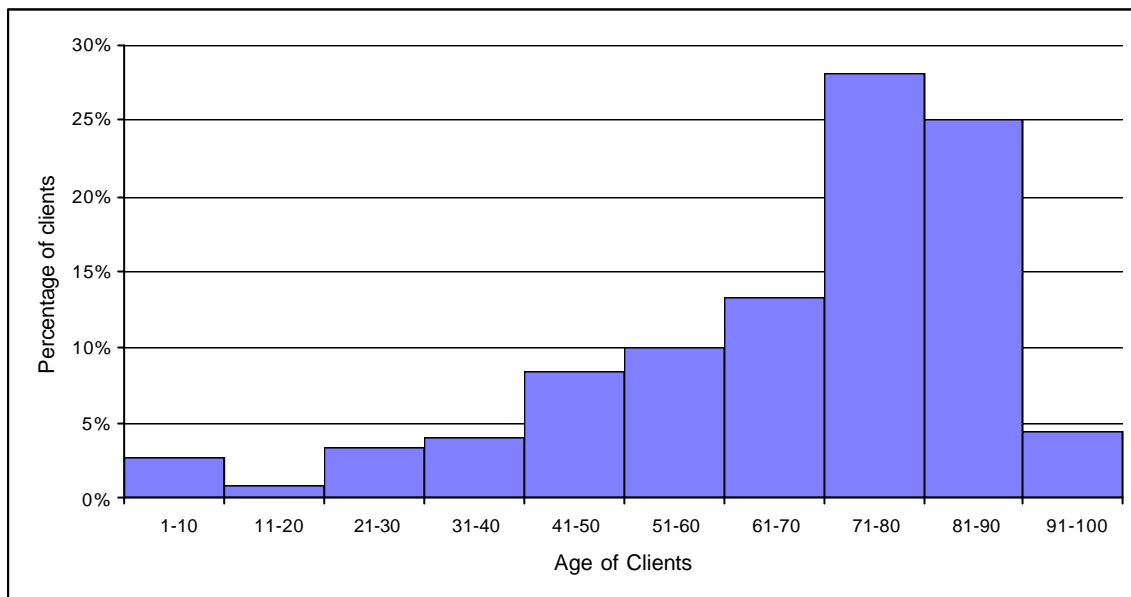
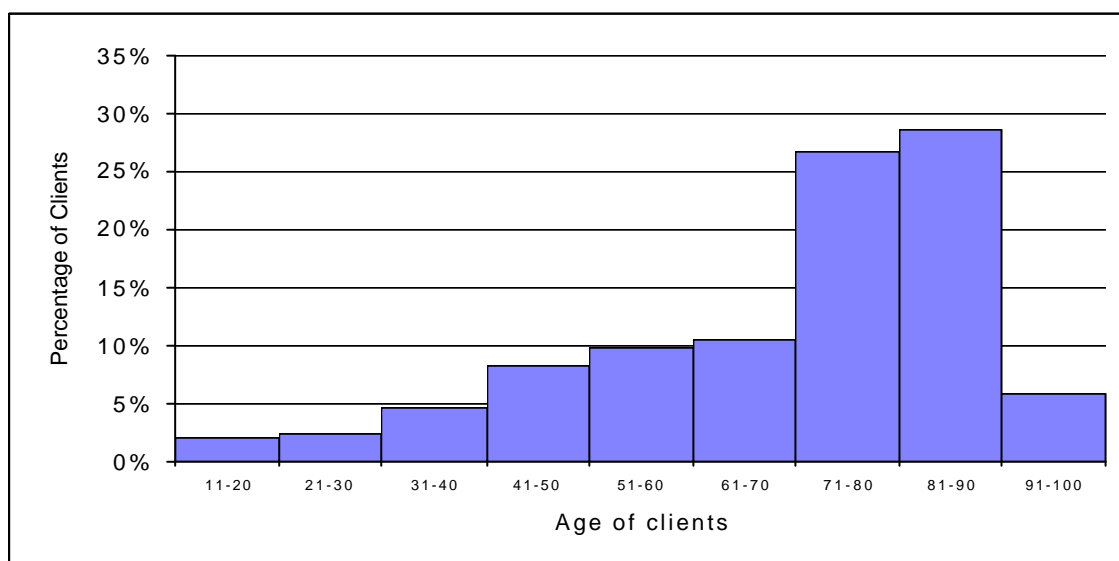


Figure 2 Age distribution of clients assessed



4.1.2 Description of participating agencies and staff

Forty agencies participated in the field trial. They were from four geographical locations – Melbourne, Adelaide, Newcastle and Alice Springs. Between them, they covered a wide range of HACC services. Participating services included ACAT teams, brain injury services, respite care, community options, community allied health, community nursing, meals services, transport services, volunteer services, home maintenance and personal care. In this group, there was perhaps an over-representation of health services and an under-representation of welfare agencies.

Almost 100 members of staff provided the data for the trial. They were asked what job they did. A variety of answers were provided and are listed in Table 4. Analysis by professional group would not be possible as, for many jobs listed (such as Case Manager, Project Coordinator, etc), it is impossible know if they are nurses, allied health professionals, welfare workers or something else.

Table 4 *Self-description of jobs held by staff conducting the interviews*

Job Title	Job Title
ACAS AX Officer	Occupational Therapist
ACAS Officer	Options Coordinator
Assessment Officer	OT
Care Coordinator	OT (SAACAT)
Case Manager	Physiotherapist
Chief Social Worker	Podiatrist
Community Health Nurse	Program Manager
Community Liaison Officer	Project Coordinator
Community Nurse	Registered Nurse
Community Nurse RN	Registered Nurse Div1
Community Officer	RN - Ax Officer
Coordinator	RN Community Nurse
Coordinator / Director	SAACAT Assessor
Dietitian	SAACAT Assessor - Social Worker
Director/Coordinator	Senior Case Manager
Div1 Community Nurse	Social Worker
Div1 RN Community Nurse	Speech Pathologist
Ethnic Food Services Coordinator	Team Coordinator

The following points provide a summary of the information about the staff obtained in the field trial.

- 77% of the screens and 80% of the assessments were completed by staff with professional health qualifications. 16% of the screens and 19% of the assessments were completed by staff with welfare or other related qualifications.
- Staff completing both the screens and the assessments reported between one and 37 years' experience in the community care sector, with an average of 10.5 years and a standard deviation between 6.5 and 7.
- 68% of screens and 84% of assessments were completed by interviewers with previous experience in undertaking assessments with a recognised instrument.
- 46% of screens and 54% of assessments took place in the client's home or usual place of accommodation. 14% of screens were conducted over the phone. Very few screens, but about 11% of assessments were conducted in the staff member's office. "Other" was selected for location of screen on 26% of the screens and 19% of the assessments.

4.2 Results for the functional screening instrument

4.2.1 Results by item

The purpose of the screen was to identify further assessment appropriate to the client. If a client scored low (0 or 1 on questions 1-7 and 0 on questions 8-9 meaning more dependent), on any item, the recommendation was to proceed with a particular assessment tool that would give further insight into the problem identified in the item on the screen. Three items in the screen identified the need for a domestic assessment and two items triggered a self-care assessment. Two items that could be answered by the client and a further two items that could be answered by a carer triggered both a behavioural and a cognitive assessment. A score of 0 or 1 on any single item was enough to trigger the appropriate assessment.

Table 5 shows the results at the item level for the 746 screenings undertaken. As would be expected with this target population, Item 1 (housework) triggered more assessments than any other item, with 83% of all clients screened as needing some help with this activity. Nearly half of all clients were reported as being completely unable to do housework.

Table 5 Results of the functional screen by item

Item	Question	Score	Count	%
1	Can you do your housework...			
	Without help (can clean floors etc)?	2	111	15%
	With some help (can do light housework but need help with heavy housework)?	1	293	39%
	Or are you completely unable to do housework?	0	330	44%
	Missing		12	2%
	Total		746	100%
2	Can you get to places out of walking distance...			
	Without help (can drive your own car, or travel alone on buses or taxis)?	2	196	26%
	With some help (need someone to help you or go with you when travelling)?	1	439	59%
	Or are you completely unable to travel unless emergency arrangements are made for a specialised vehicle like an ambulance?	0	104	14%
	Missing		7	1%
	Total		746	100%
3	Can you go out for shopping for groceries or clothes (assuming you have transportation)...			
	Without help (taking care of all shopping needs yourself)?	2	157	21%
	With some help (need someone to go with you on all shopping trips)?	1	316	42%
	Or are you completely unable to do any shopping?	0	260	35%
	Missing		13	2%
	Total		746	100%
4	Can you take your own medicine...			
	Without help (in the right doses at the right time)?	2	375	50%
	With some help (able to take medication if someone prepares it for you and/or reminds you to take it)?	1	206	28%
	Or are you completely unable to take your own medicines?	0	111	15%
	Missing		54	7%
	Total		746	100%
5	Can you handle your own money...			
	Without help (write cheques, pay bills etc)?	2	320	43%
	With some help (manage day-to-day buying but need help with managing your chequebook and paying your bills)?	1	213	29%
	Or are you completely unable to handle money?	0	163	22%
	Missing		46	6%
	Total		746	100%

Item	Question	Score	Count	%
6	Can you dress and undress yourself...			
	Without help (pick out clothes, dress and undress yourself)?	2	412	55%
	With some help?	1	230	31%
	Or are you completely unable to dress and undress yourself?		94	13%
	Missing		10	1%
	Total	0	746	100%
7	Can you take a bath or shower...			
	Without help?	2	372	50%
	With some help (eg, need help getting into or out of the tub)?	1	248	33%
	Or are you completely unable to bathe yourself?	0	118	16%
	Missing		8	1%
	Total		746	100%
8	Does the person have any memory problems or get confused?			
	No	2	102	14%
	Yes	0	131	18%
	Missing		513	68%
	Total		746	100%
9	Does the person have behavioural problems for example, aggression, wandering or agitation?			
	No	2	174	24%
	Yes	0	63	8%
	Missing		509	68%
	Total		746	100%

This was followed by Item 3 (shopping), with 77% of all clients screened as needing some help with this activity. Just over one third of all clients were reported as being completely unable to shop.

At the other extreme, the two late loss ADLs (Items 6 and 7 on dressing and bathing) triggered the least assessments, with at least 50% of clients being independent on these items.

Items 4 and 5 had more missing scores than the other items, with about 7% of these items not being completed on the screening form. This is consistent with staff feedback on these two items (see Appendix).

Items 8 and 9 were only completed if the informant was a proxy for the client. They were completed for about one third of all clients. For the clients for whom these items were completed, over half were reported as having problems with memory and a quarter were reported as having behavioural problems.

Table 6 shows total scores on the screening instrument. For the purposes of calculating a total score, items 8 and 9 were excluded and missing items were scored as 2 on the basis that no problems were recorded. The lower the total score, the more dependent the client.

Note that the results reported in Table 6 are crude total scores only. Further analysis would be required (including the possibility of perhaps excluding some items or weighting the various items) to investigate the feasibility of classifying clients as being of low, medium or high need on the basis of their functional screen.

Table 6 *Total scores on the screening instrument*

Total Score	Count	Percentage	Cumulative total
0	33	4.4%	4.4%
1	22	2.9%	7.4%
2	21	2.8%	10.2%
3	30	4.0%	14.2%
4	33	4.4%	18.6%
5	47	6.3%	24.9%
6	56	7.5%	32.4%
7	65	8.7%	41.2%
8	61	8.2%	49.3%
9	71	9.5%	58.8%
10	54	7.2%	66.1%
11	76	10.2%	76.3%
12	49	6.6%	82.8%
13	60	8.0%	90.9%
14	68	9.1%	100.0%
All	746	100.0%	100.0%

4.2.2 Differences between screen recommendations and staff judgements

In addition to the recommendation for further assessment resulting from scores on the screening tool, a second recommendation could be made by the interviewer. When the recommendations differed, the interviewer was asked to note the reason on the form.

There was some concern that brain injury and post acute clients would be different from other HACC clients with regard to the tools recommended by the screen as well as the tools recommended by the interviewer. The percentage of clients in all three of these service groups for whom assessments were recommended by the screening tool are presented in Table 7.

Table 7 *Percentage of clients recommended for further assessment by the screening tool for each service group*

Assessment Tool	All except brain injury and post-acute (393 clients)	Brain Injury (118 clients)	Post-acute (235 clients)	All (746 clients)
Domestic	93%	80%	87%	89%
Self-care	55%	37%	55%	52%
Behaviour	65%	75%	34%	57%
Cognition	65%	75%	34%	57%

Fewer brain injury and post acute clients were recommended for a domestic or self-care assessment than other HACC clients. However, the biggest discrepancy is with the behaviour and cognition assessments. Very few post acute clients were recommended for either of these assessments. Brain injury clients, on the other hand, were the group most likely to be recommended for one of these assessments.

The corresponding calculations for assessments recommended by the interviewer are detailed in Table 8.

Table 8 Percentage of clients recommended for further assessment by the interviewer for each service group

Assessment Tool	All except brain injury and post-acute (393 clients)	Brain Injury (118 clients)	Post-acute (235 clients)	All (746 clients)
Domestic	59%	53%	68%	61%
Self-care	46%	33%	44%	43%
Behaviour	19%	43%	8%	19%
Cognition	32%	62%	11%	30%

Clearly there are some discrepancies between the need for further assessment recommended by the screen compared with the recommendations of the interviewer. In most cases, the screening tool seemed to be overly sensitive and was prone to select more clients for further assessment than the staff felt were necessary. In other cases, the interviewer felt that, although the screening tool had not identified a problem, the client really should be assessed further.

On balance it would appear to be better in practice for the screen to more often flag the possibility of further assessment which might then be over-ruled by staff judgements, rather than a situation where a screen fails to prompt a necessary assessment.

This has some implications with respect to the costs associated with implementing the regular use of the screen as currently designed. In fact, there is a trade-off between missing some clients who need further assessment and over-reporting by selecting too many. Each option has a set of associated costs that needs to be considered. This issue is further analysed and discussed in Appendix 7.

The agreement between the two different sets of recommendations is presented in Table 9.

Table 9 Number of clients classified by assessment recommendation

Domestic assess recommended by screen?	Domestic assess recommended by interviewer?	
	Yes	No
Yes	444 (65%)	168 (24%)
No	11 (2%)	62 (9%)
Self-care assess recommended by screen?	Self-care assess recommended by interviewer?	
	Yes	No
Yes	256 (39%)	105 (16%)
No	63 (9%)	240 (36%)
Behaviour assess recommended by screen?	Behaviour assess recommended by interviewer?	
	Yes	No
Yes	130 (22%)	214 (37%)
No	13 (2%)	225 (39%)
Cognitive assess recommended by screen?	Cognitive assess recommended by interviewer?	
	Yes	No
Yes	200 (32%)	183 (29%)
No	22 (4%)	217 (35%)

It would be expected that the discrepancies between the screening tool and the interviewer recommendations may not be consistent across all service types. However, even though this did at times appear to be the case, the numbers of clients in some groups were too small for us to be confident that this was a feature that would be common to the wider population. Comments are made on the interviewers' recommendations below. When there appear to be differences between the service types and the numbers in the respective groups are sufficiently large, these differences have also been reported

- Domestic assessment – 15% of clients rejected by the screen were judged to need the assessment while one quarter of the people who were selected do not need it according to the staff judgements. If post-acute agencies are omitted from the calculation, the proportion of those selected who do not need it rose to 30%.
- Self-care assessment – 21% of clients rejected by the screen were judged to need the assessment while 29% of the people who are selected do not need it according to the staff judgements.
- Behaviour assessment – about 5% of clients rejected by the screen were judged to need the assessment while more than 60% of the people who were selected do not need it according to the staff judgements. Thus the screen was seen as selecting too many for further assessment, but not missing many who really need it.
- Cognitive assessment – fewer than 10% of clients rejected by the screen were judged to need the assessment while almost half of the people who are selected do not need it according to the staff judgements, although more of these clients were from post acute than from HACC and Aged Care agencies. When the post-acute centres were omitted from the calculation, the proportion who were incorrectly rejected rises to 15%, but the proportion accepted incorrectly falls to 42%. Thus the screen was seen as selecting too many for further assessment, but not missing many who really need it.

Analysis of the screen and staff recommendations is detailed in Appendix 7. In particular, the relationship between these recommendations and the total assessment scores is examined. It was found that the screen was better able to select those in need of further domestic and self-care assessment. On the other hand, staff were better able to select those in need of further behavioural assessment. The analysis of the relationship between the screen and staff recommendations and the assessment scores was repeated, with these clients dropped from the data set. Even when these clients were dropped from the data set, the results were the same. Further discussion of the relationship between screen and assessment scores can be found in Section 4.3.6.

Often when the screening tool recommended further assessment, staff disagreed with this recommendation either because adequate support services were already in place or because they already knew the information and felt that further assessment would be unnecessarily intrusive for the client. While this makes good sense, staff need to be sensitive to any decline in functional status of clients. Specific requirements regarding the frequency of repeat screening will help staff detect such changes. Specific protocols on the frequency of repeat screening will help staff detect such changes. Special training of staff required to screen and assess clients will also improve their skills in this area.

4.2.3 Screening results for new versus existing clients

If routine functional screening is to be introduced, it will be necessary to resolve whether screening is restricted to new clients or whether there is also periodic screening of those already receiving services. In order to inform this issue, the test sites collected screening data on both new and existing clients. The results at the item level are shown in Table 10.

Table 10 Screening results for new versus existing clients

Item	Question	Score	Existing clients	% existing clients	New clients	% new clients
1	Can you do your housework...					
	Without help (can clean floors etc)?	2	36	12.7%	59	15.9%
	With some help (can do light housework but need help with heavy housework)?	1	108	38.0%	159	42.7%
	Or are you completely unable to do housework?	0	140	49.3%	147	39.5%
	Missing		0	0.0%	7	1.9%
	Total		284	100.0%	372	100.0%
2	Can you get to places out of walking distance...					
	Without help (can drive your own car, or travel alone on buses or taxis)?	2	73	25.7%	106	28.5%
	With some help (need someone to help you or go with you when travelling)?	1	165	58.1%	210	56.5%
	Or are you completely unable to travel unless emergency arrangements are made for a specialised vehicle like an ambulance?	0	46	16.2%	50	13.4%
	Missing		0	0.0%	6	1.6%
	Total		284	100.0%	372	100.0%
3	Can you go out for shopping for groceries or clothes (assuming you have transportation)...					
	Without help (taking care of all shopping needs yourself)?	2	59	20.8%	80	21.5%
	With some help (need someone to go with you on all shopping trips)?	1	130	45.8%	153	41.1%
	Or are you completely unable to do any shopping?	0	94	33.1%	131	35.2%
	Missing		1	0.4%	8	2.2%
	Total		284	100.0%	372	100.0%
4	Can you take your own medicine...					
	Without help (in the right doses at the right time)?	2	131	46.1%	208	55.9%
	With some help (able to take medication if someone prepares it for you and/or reminds you to take it)?	1	92	32.4%	83	22.3%
	Or are you completely unable to take your own medicines?	0	58	20.4%	34	9.1%
	Missing		3	1.1%	47	12.6%
	Total		284	100.0%	372	100.0%
5	Can you handle your own money...					
	Without help (write cheques, pay bills etc)?	2	101	35.6%	183	49.2%
	With some help (manage day-to-day buying but need help with managing your chequebook and paying your bills)?	1	97	34.2%	93	25.0%
	Or are you completely unable to handle money?	0	86	30.3%	51	13.7%
	Missing		0	0.0%	45	12.1%
	Total		284	100.0%	372	100.0%
6	Can you dress and undress yourself...					
	Without help (pick out clothes, dress and undress yourself)?	2	152	53.5%	209	56.2%
	With some help?	1	71	25.0%	136	36.6%
	Or are you completely unable to dress and undress yourself?	0	61	21.5%	20	5.4%
	Missing		0	0.0%	7	1.9%
	Total		284	100.0%	372	100.0%
7	Can you take a bath or shower...					
	Without help?	2	129	45.4%	198	53.2%
	With some help (eg, need help getting into or out of the tub)?	1	87	30.6%	137	36.8%
	Or are you completely unable to bathe yourself?	0	68	23.9%	31	8.3%

Item	Question	Score	Existing clients	% existing clients	New clients	% new clients
	Missing		0	0.0%	6	1.6%
	Total		284	100.0%	372	100.0%
8	Does the person have any memory problems or get confused?					
	No	2	35	12.3%	55	14.8%
	Yes	0	47	16.5%	62	16.7%
	Missing		202	71.1%	255	68.5%
	Total		284	100.0%	372	100.0%
9	Does the person have behavioural problems for example, aggression, wandering or agitation?					
	No	2	60	21.1%	85	22.8%
	Yes	0	24	8.5%	33	8.9%
	Missing		200	70.4%	254	68.3%
	Total		284	100.0%	372	100.0%

In general, existing clients were screened as having more functional problems than new clients. There are two possible explanations. The first is that screening staff took into account their existing knowledge of current clients when undertaking the screen. The second is that existing clients do have more functional problems than those newly referred. Whatever the explanation, both possibilities suggest that screening clients only at referral is likely to underestimate the functional needs of the total HACC population.

4.2.4 Alternative rules to trigger an assessment

The screening tool needed to be examined to answer two questions:

- Are the items appropriate?
- Are the thresholds for triggering further assessment correct?

Details of this analysis and the results can be found in Section A7.2 in Appendix 7. The main points are presented below.

Individual items were assessed in terms of their acceptability to clients and staff as well as their correlation with the assessment scores and with each other. A number of changes are proposed.

1. Items 6 and 7 on dressing and bathing were found to be too highly correlated with each other. 83% of clients scored the same on each item. Other ADL items had been collected in the self-care assessment (the modified Barthel). The item on mobility was considered to be a better choice than the item on dressing. Only 56% scored the same on both of these items. The combination of bathing and mobility was also found to discriminate between those needing and those not needing further assessment a little better than the combination of dressing and bathing. Thus we are recommending that the OARS item on mobility be substituted for Item 6 on the current screen form.
2. Items 8 and 9 enable a third party to report confusion or behavioural problems of the client. It is proposed that staff are also able to rate these items based on other information they have including their own observation of the client. This will broaden the scope of these two questions and should improve the usefulness of the screen.

The other items currently in the screen performed well. We would be happy to recommend the inclusion of these items in the HACC minimum data set.

The first five items in the screen are all IADL items. When the clients were grouped according to the number of dependencies they reported, the items were found to be hierarchical. The order of these items was found to be housework (Item 1), shopping (Item 3), transport (Item 2), finances (Item 5), medication (Item 4). The coefficient of reproducibility was 0.9674. Any value over 0.9 is considered to be good. This statistic gives a measure of how well a scale score will predict the respondent's response pattern on all items.

We also addressed the question of whether or not the thresholds for triggering further assessments were correct. To determine this, a number of different options for thresholds and combinations of scores that could be used to trigger an assessment recommendation were considered. These are judged relative to the total score on the appropriate assessment. We had no other indication of the client's need for further assessment. For each of the assessments, we defined "need" as a low score and "no need" as a high score. Specifically

- Self-care – Clients who scored less than 19 on the self-care assessment were considered to 'need' the assessment, those who scored 19 or 20 were considered to not 'need' it;
- Domestic – Clients who scored less than 26 on the domestic assessment were considered to 'need' the assessment, those who scored above 25 were considered to not 'need' it;
- Behaviour – Clients who scored less than 20 on the behaviour assessment were considered to 'need' the assessment, those who scored 20 were considered to not 'need' it;
- Cognition – Clients who scored less than 25 on the cognitive assessment were considered to 'need' the assessment, those who scored more than 24 were considered to not 'need' it.

The different options of trigger points were compared with regard to their sensitivity and specificity. Sensitivity is a measure of how likely a test is to correctly identify a need, while specificity is a measure of how likely a test is to correctly identify no need.

The relative costs of incorrect results of the test need to be assessed. If the screen recommends an assessment when it is not required there is a cost associated with staff time, client time and administrative resources. If the screen fails to recommend an assessment when one would be appropriate, there is a cost to the client and his/her family and carers. In our analysis, erring towards recommending further assessment too often was considered to be preferable to missing clients who really needed further assessment.

Full details of all the options tested are in Appendix 7. Our final recommendations were:

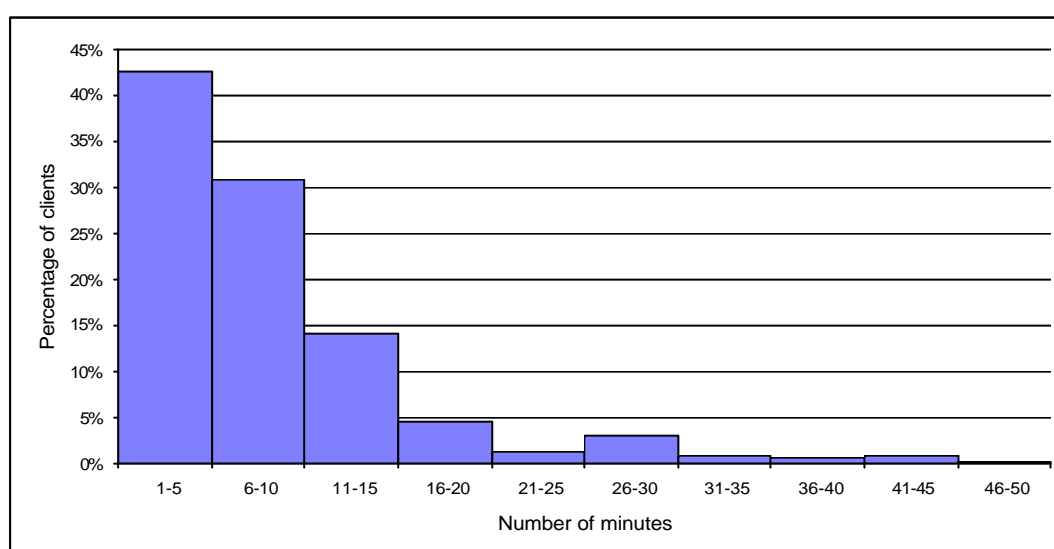
1. The rule for triggering a self-care assessment remains unchanged. A client must score 0 or 1 (indicating some level of functional dependence) on the new Item 6 on mobility or Item 7 on bathing
2. The rule for triggering a domestic assessment has changed. It requires counting the number of times a score of 2 was recorded for Items 1 – 5 (not Items 1 – 3 as in the field trial). If the number of 2's is less than 3, the screen recommends a domestic assessment.
3. The rule for triggering a behavioural assessment has changed. Items 8 and 9 allow the interviewer to rate the client on confusion and behaviour. To trigger a behavioural assessment, the client needs to score less than 2 on either Item 4 on medication or Item 5 on management of finances, or to score 0 on Item 9 on behaviour.
4. The rule for triggering a cognitive assessment has changed. Items 8 and 9 allow the interviewer to rate the client on confusion and behaviour. To trigger a cognitive assessment, the client needs to score less than 2 on either Item 4 on medication or Item 5 on management of finances, or to score 0 on Item 8 on confusion.

4.2.5 Burden

The burden to the staff was measured by the time taken to complete the screen. For 89 clients, the total time was recorded, rather than times for the screen and for the assessment separately. These forms have not been included in the current analysis as estimates of the division of time between the screen and the assessment could not be made confidently. Some staff recorded times to the nearest minute, but most times were reported to the nearest five minutes.

Summary statistics were calculated for the 631 screens for which this data item was completed. Just over 73% of screens were completed in 10 minutes or less, while almost 92% were completed in 20 minutes or less. Times reported varied from 2 minutes to 60 minutes. The average time taken was 10.9 minutes. Figure 3 shows the percentage of clients graphed by five-minute time intervals.

Figure 3 Time taken to complete the screen



Further investigations were undertaken to determine if other variables appeared to affect the time taken for the screen.

- Staff could select one of four options for the screen location – by phone, in the client’s home or usual accommodation, at the assessor’s office or elsewhere. There were no real differences in the time taken at the first three of these locations. The fourth location, “other”, generally meant that the screen was conducted in hospital, often from the patient’s notes. Screens in this group took significantly less time than those conducted in the other locations ($p < 0.001$).
- Staff fell into one of three groups according to their professional qualifications. Those with professional health qualifications took significantly less time to perform a screen than those with welfare or other relevant qualifications and those with no relevant qualifications ($p < 0.001$).
- Screenings by post-acute agencies took significantly less time than those from other agencies ($p < 0.001$). This result was not surprising as 72% of those who selected “other” for their screening location were from post-acute agencies. Most of this group reported shorter times as many assessments were conducted in hospital using patient files.
- There was a somewhat unexpected result that those with previous experience at assessments took longer ($p < 0.001$). 86% of staff members with no previous assessment experience who recorded time were from post-acute agencies. This can be understood in the light of the screen location, which was often in hospital, using the patient’s case notes.

- There were no statistically significant differences in times when clients were grouped by age.

4.2.6 Acceptability

An analysis of responses to open questions on any survey form is difficult and can be misleading as usually only a small number of people write anything. It is possible that many others have similar difficulties, but it is also possible that very few others would consider the comment to be relevant. However, it is useful to consider all comments even though it is impossible to gauge how widespread the problem is.

On the screening form, a number of open-ended questions were asked. The responses provide insight into the acceptability of the screening tool to both clients and to the staff who have to administer it. Information was provided regarding client hostility or distress, inappropriateness of items and staff members' difficulty in rating a client as well as their judgment as to whether an appropriate recommendation had been made.

A detailed summary of the responses to each question can be found in Appendix 3 and an overview of the issues raised is contained in Section 4.4.

4.2.7 Appropriateness for groups with special needs

While every attempt was made to test the screening instrument on groups with special needs, the number of completed screens was very small. As previously noted, 3% of the clients were of ATSI background and 15% spoke a language at home other than English. Whilst these percentages are an acceptable sample, the actual numbers are small, allowing no statistically significant testing to be undertaken.

4.2.8 Key points relating to the screen

- There was reasonable agreement between the assessments recommended by the screening tool and the judgements made by staff about the need for completing those assessments. However the screen was better able to identify clients requiring further self-care and domestic assessment than the interviewers. Interviewers were better able to identify clients requiring further behavioural assessments. There was no difference in the performance of the interviewers and the screen in recommending cognitive assessment;
- The thresholds that trigger a further assessment being recommended in the field trial were lower than the ones used by staff. However, erring towards recommending further assessment too often was considered to be preferable to missing clients who really needed further assessment. An analysis of different thresholds for referral within the screen resulted in some changes in rules to trigger an assessment in the final design of the screening instrument;
- The burden on staff represented by the screen would seem to be acceptable. 44% of screens were completed in 5 minutes; 73% were completed in 10 minutes.
- Using the total assessment score as a guide, we can be confident that the screen works well in selecting the appropriate clients for further assessment (see Section 4.3.6).

4.3 Results for the Functional Assessment

4.3.1 Overview of assessment data

At least one of the instruments on the assessment form was completed for 462 clients in the evaluation. The combination of instruments completed differed for many clients. The actual combinations recorded are summarised below in Table 11. The most common instrument not completed was the cognitive measure, the Mini-Mental Scale. This was only completed in 88 cases. To some degree, this was due to no clients in the brain injury service completing the instrument as it was regarded as being inappropriate for this sub-population, but it was probably not required for many other clients as well. It was performed on 23% of clients who were aged 65 or over, but only 13% of clients aged under 65.

The self-care and domestic care instruments were performed on the most clients, the evaluation having completed scores for 399 and 443 clients respectively. Three hundred and ninety clients had scores for both. Client age was again broadly associated with whether the instrument was performed. The self-care measure was performed on 94% of clients aged 65 and over but only 80% of those aged less than 65. The percentages for these age groups for domestic measure were 97% and 94% respectively. There was no difference between these age groups in the use of the behaviour scale.

Table 11 Summary of instrument combinations performed on clients

Instrument Combination	Total clients	All except brain injury and post-acute	Brain Injury	Post-acute care
S/D/C/B	77	46	0	31
S/D/B	239	134	76	29
S/D/C	7	7	0	0
S/D	67	35	7	25
D/B	15	1	14	0
D	35	14	4	17
Other	22	11	6	5
Total	462	248	107	107

Key: S = Self care, D = Domestic, B = Behavioural, C = Cognitive

4.3.2 Item level results for the functional assessment instruments

We did not know if some clients were new to the agency or already on their books. There were not many of these and we have omitted them from the tables in this section. This was done to focus attention on any differences between new and existing clients.

4.3.2.1 Self-care

Table 12 shows the results for the self-care measure (the Barthel Index), with separate results reported for new and existing clients. As with the screening results, existing clients tended to have lower levels of function than those newly referred for HACC services.

The percentage of clients reported as being completely independent (1, 2 or 3 depending on the item) varied from 30% for stairs to 73% for bowels. Conversely, the percentage of clients reported as being completely dependent (a score of 0) varied from 7% for transferring between a bed and a chair to 57% for bathing.

Table 12 *Item level results for the Self-Care measure*

Item	Score	Description	Frequency			Percentage		
			Existing Client	New Client	All Clients	Existing Client	New Client	All Clients
1. Bowels	0	Incontinent (or needs to be given enema)	34	13	47	17.9%	8.1%	13.4%
	1	Occasional accident (once/week)	25	23	48	13.2%	14.3%	13.7%
	2	Continent	131	125	256	68.9%	77.6%	72.9%
	All		190	161	351	100.0%	100.0%	100.0%
2. Bladder	0	Incontinent, or catheterised and unable to manage	50	27	77	26.3%	16.8%	21.9%
	1	Occasional accident (max. once per 24 hours)	40	41	81	21.1%	25.5%	23.1%
	2	Continent (for over 7 days)	100	93	193	52.6%	57.8%	55.0%
	All		190	161	351	100.0%	100.0%	100.0%
3. Grooming	0	Needs help with personal care	85	48	133	44.7%	29.6%	37.8%
	1	Independent face/hair/teeth/shaving	105	114	219	55.3%	70.4%	62.2%
	All		190	162	352	100.0%	100.0%	100.0%
4. Toilet use	0	Dependent	46	15	61	24.3%	9.3%	17.4%
	1	Needs some help, but can do something alone	34	32	66	18.0%	19.9%	18.9%
	2	Independent (on and off, dressing, wiping)	109	114	223	57.7%	70.8%	63.7%
	All		189	161	350	100.0%	100.0%	100.0%
5. Feeding	0	Unable	26	8	34	13.8%	4.9%	9.7%
	1	Needs help cutting, spreading butter etc	56	34	90	29.6%	21.0%	25.6%
	2	Independent (food provided in reach)	107	120	227	56.6%	74.1%	64.7%
	All		189	162	351	100.0%	100.0%	100.0%
6. Transfer	0	Unable - no sitting balance	21	4	25	11.0%	2.5%	7.1%
	1	Major help (one or two people, physical), can sit.	34	20	54	17.8%	12.3%	15.3%
	2	Minor help (verbal or physical)	34	23	57	17.8%	14.2%	16.1%
	3	Independent	102	115	217	53.4%	71.0%	61.5%
	All		191	162	353	100.0%	100.0%	100.0%
7. Mobility	0	Immobile	24	13	37	12.6%	8.0%	10.5%
	1	Wheelchair independent including corners etc.	49	4	53	25.8%	2.5%	15.0%
	2	Walks with help of one person (verbal or physical)	8	33	41	4.2%	20.2%	11.6%
	3	Independent (but may use any aid, eg. stick)	109	113	222	57.4%	69.3%	62.9%
	All		190	163	353	100.0%	100.0%	100.0%
8. Dressing	0	Dependent	58	13	71	30.7%	8.1%	20.3%
	1	Needs help, but can do about half unaided	53	70	123	28.0%	43.5%	35.1%
	2	Independent (including buttons, zips, laces, etc.)	78	78	156	41.3%	48.4%	44.6%
	All		189	161	350	100.0%	100.0%	100.0%
9. Stairs	0	Unable	101	61	162	52.9%	37.9%	46.0%
	1	Needs help (verbal, physical, carrying aid)	37	49	86	19.4%	30.4%	24.4%
	2	Independent up and down	53	51	104	27.7%	31.7%	29.5%
	All		191	161	352	100.0%	100.0%	100.0%
10. Bathing	0	Dependent	113	86	199	59.5%	53.1%	56.5%
	1	Independent	77	76	153	40.5%	46.9%	43.5%
	All		190	162	352	100.0%	100.0%	100.0%

Table 13 summarises the item level results shown in Table 12. The table is ordered based on the percentage of clients reported as requiring any level of assistance with self-care. A client was defined as requiring some help if they scored other than a maximum score for the item (a 1, 2 or 3 depending on the item). Over half of all clients were reported as requiring some level of assistance with climbing stairs, bathing and dressing.

Table 13 Percentage of clients rated as requiring some help with self-care

Item	Completely independent	Requires any level of assistance
9. Stairs	29.5%	70.5%
10 Bathing	43.5%	56.5%
8. Dressing	44.6%	55.4%
2. Bladder	55.0%	45.0%
6. Transfer	61.5%	38.5%
3. Grooming	62.2%	37.8%
7. Mobility	62.9%	37.1%
4. Toilet use	63.7%	36.3%
5. Feeding	64.7%	35.3%
1. Bowels	72.9%	27.1%

4.3.2.2 Domestic

Table 14 shows the item level results for the domestic measure. Again, separate results are reported for new and existing clients. As before, existing clients tended to have lower levels of function than those newly referred for HACC services.

The percentage of clients reported as being completely independent (a score of 3 or 4 depending on the item) varied from 9% for housekeeping to 53% for telephone usage. Conversely, the percentage of clients reported as being completely dependent (a score of 1) varied from 13% for telephone usage to 49% for laundry. Nearly half of all clients were reported as being completely dependent on 3 items – laundry, food preparation and housekeeping.

Table 14 Item level results for the domestic function measure

Item	Score	Description	Frequency			Percentage		
			Existing Client	New Client	All Clients	Existing Client	New Client	All Clients
1. Telephone	1	Does not use telephone at all	30	19	49	14.3%	10.6%	12.6%
	2	Answers telephone but does not dial	23	22	45	11.0%	12.2%	11.5%
	3	Dials a few well-known numbers.	55	36	91	26.2%	20.0%	23.3%
	4	Operates telephone on own initiative	102	103	205	48.6%	57.2%	52.6%
	All		210	180	390	100.0%	100.0%	100.0%
2. Shopping	1	Completely unable to shop	60	63	123	28.4%	34.8%	31.4%
	2	Needs to be accompanied on any shopping trip	76	75	151	36.0%	41.4%	38.5%
	3	Shops independently for small purchases	46	25	71	21.8%	13.8%	18.1%
	4	Takes care of all shopping needs independently	29	18	47	13.7%	9.9%	12.0%
	All		211	181	392	100.0%	100.0%	100.0%
3. Food preparation	1	Needs to have meals prepared and served	108	74	182	51.4%	41.8%	47.0%
	2	Heats and serves prepared meals, or prepares meals but not does maintain adequate diet	42	49	91	20.0%	27.7%	23.5%
	3	Prepares adequate meals if supplied with ingredients	25	17	42	11.9%	9.6%	10.9%
	4	Plans, prepares, serves adequate meals independently	35	37	72	16.7%	20.9%	18.6%
	All		210	177	387	100.0%	100.0%	100.0%
4. House keeping	1	Does not participate in any housekeeping tasks	109	72	181	51.9%	40.0%	46.4%
	2	Performs some light daily tasks but not at acceptable level	43	58	101	20.5%	32.2%	25.9%
	3	Performs light daily tasks eg dishwashing, dusting	37	38	75	17.6%	21.1%	19.2%
	4	Maintains house independently	21	12	33	10.0%	6.7%	8.5%
	All		210	180	390	100.0%	100.0%	100.0%
5. Laundry (excludes ironing)	1	All laundry must be done by others	120	69	189	57.1%	38.3%	48.5%
	2	Launders small items - rinses socks, stockings etc	24	47	71	11.4%	26.1%	18.2%
	3	Does personal laundry but needs help with heavier items such as bedding and towels	30	42	72	14.3%	23.3%	18.5%
	4	Does personal laundry completely	36	22	58	17.1%	12.2%	14.9%
	All		210	180	390	100.0%	100.0%	100.0%

Item	Score	Description	Frequency			Percentage				
			Existing Client	New Client	All Clients	Existing Client	New Client	All Clients		
6. Mode of transportation	1	Requires manual assistance from more than 1 person or does not travel at all	36	31	67	17.2%	17.0%	17.1%		
	2	Travel limited to taxi or automobile with assistance of one other person	109	100	209	52.2%	54.9%	53.5%		
	3	Travels on public transportation when assisted or accompanied by another	10	20	30	4.8%	11.0%	7.7%		
	4	Travels independently on public transportation or drives own car. Includes arranging own travel via taxi but not otherwise using public transport.	54	31	85	25.8%	17.0%	21.7%		
	All				209	182	391	100.0%	100.0%	100.0%
7. Responsibility for own medications	1	Is not capable of dispensing own medication	71	50	121	34.1%	27.8%	31.2%		
	2	Takes responsibility if medication is prepared in advance in separate dosages	54	31	85	26.0%	17.2%	21.9%		
	3	Responsible for taking medications in correct dosage at correct time	83	99	182	39.9%	55.0%	46.9%		
	All				208	180	388	100.0%	100.0%	100.0%
8. Ability to handle finances	1	Incapable of handling money	66	46	112	31.4%	25.3%	28.6%		
	2	Manages day-to-day purchases, but needs help with banking, major purchases etc	93	70	163	44.3%	38.5%	41.6%		
	3	Manages financial matters independently (budgets, writes cheques, pays rent, bills, goes to bank), collects and keeps track of income	51	66	117	24.3%	36.3%	29.8%		
	All				210	182	392	100.0%	100.0%	100.0%

Table 15 summarises the item level results shown in Table 14. The table is ordered based on the percentage of clients reported as requiring any level of domestic assistance. A client was defined as requiring some help if they scored other than a maximum score for the item (a 3 or a 4 depending on the item).

Table 15 *Percentage of clients rated as requiring some help with domestic activities of daily living*

Item	Completely independent	Requires any level of assistance
4. Housekeeping	8.5%	91.5%
2. Shopping	12.0%	88.0%
5. Laundry	14.9%	85.1%
3. Food preparation	18.6%	81.4%
6. Mode of transportation	21.7%	78.3%
8. Ability to handle finances	29.8%	70.2%
7. Medications	46.9%	53.1%
1. Telephone	52.6%	47.4%

4.3.2.3 Behaviour

Table 16 shows the results for the behaviour, with separate results again reported for new and existing clients. While the numbers reported as having any level of behavioural disturbance is low, existing clients again tended to have lower levels of function than those newly referred for HACC services. This is particularly so in relation to emotional dependency.

Table 16 *Item level results for the behaviour measure*

Item	Score	Frequency			Percentage		
		Existing Client	New Client	All Clients	Existing Client	New Client	All Clients
1. PROBLEM WANDERING OR INTRUSIVE BEHAVIOUR							
Extensively	1	8	8	16	4.7%	6.1%	5.3%
Intermittently	2	5	1	6	2.9%	0.8%	2.0%
Occasionally	3	13	3	16	7.6%	2.3%	5.3%
Not applicable	4	144	119	263	84.7%	90.8%	87.4%
All		170	131	301	100.0%	100.0%	100.0%
2. VERBALLY DISRUPTIVE OR NOISY							
Extensively	1	4	8	12	2.4%	6.1%	4.0%
Intermittently	2	11	5	16	6.5%	3.8%	5.3%
Occasionally	3	21	9	30	12.4%	6.9%	10.0%
Not applicable	4	134	109	243	78.8%	83.2%	80.7%
All		170	131	301	100.0%	100.0%	100.0%
3. PHYSICALLY AGGRESSIVE							
Extensively	1	2	7	9	1.2%	5.3%	3.0%
Intermittently	2	6	4	10	3.5%	3.1%	3.3%
Occasionally	3	16	1	17	9.4%	0.8%	5.6%
Not applicable	4	146	119	265	85.9%	90.8%	88.0%
All		170	131	301	100.0%	100.0%	100.0%
4. EMOTIONAL DEPENDENCE							
Extensively	1	24	19	43	13.7%	14.6%	14.1%
Intermittently	2	15	4	19	8.6%	3.1%	6.2%
Occasionally	3	42	15	57	24.0%	11.5%	18.7%
Not applicable	4	94	92	186	53.7%	70.8%	61.0%
All		175	130	305	100.0%	100.0%	100.0%
5. DANGER TO SELF OR OTHERS							
Extensively	1	13	9	22	7.7%	6.9%	7.3%
Intermittently	2	8	8	16	4.7%	6.1%	5.3%
Occasionally	3	16	13	29	9.5%	9.9%	9.7%
Not applicable	4	132	101	233	78.1%	77.1%	77.7%
All		169	131	300	100.0%	100.0%	100.0%

As was anticipated, the percentage of clients reported as having some level of behavioural disturbance was very low. The percentage varied from 12% for physical aggression to 39% for emotional dependence. Significantly, 22% of all clients were reported to be a danger to themselves or others. The summary results by item are shown in Table 17.

Table 17 *Percentage of clients rated as having any behavioural disturbance*

Item	Any level of problem reported	No problem reported
3. Physically aggressive	12.0%	88.0%
1. Problem wandering or intrusive behaviour	12.6%	87.4%
2. Verbally disruptive or noisy	19.3%	80.7%
5. Danger to self or others	22.3%	77.7%
4. Emotional dependence	39.0%	61.0%

An analysis was undertaken of the relationship between behaviour and age. There was a very low correlation between the total score on the behaviour scale and age (0.12). However, correlation measures the linear relationship between the variables. There was no suggestion that the relationship would be linear across the whole range of values. (This would be the case if it were thought that, as the client grew older, behaviour gradually improved or gradually got worse.) Instead, the hypothesis was that there was a group of young people who were different from the older clients in that their behaviour scores would be lower. HACC clients are more often from an older age group, so this group of younger clients would be a special group with particular needs.

To test this, the set of clients were divided into two groups. In the first analysis, the 'young' group was defined to be less than 40 years and the 'old' group was defined as greater than or equal to 40. This provided groups with 37 and 303 clients respectively. The average total behaviour scores for the groups were calculated to be 16.8 and 18.3 respectively. This difference was not large, but was statistically significant at a 5% level of significance (p-value for one-sided t-test = 0.012). In the second analysis, the age split was set at 50 years. When the groups were split at 50, the average behaviour total scores were no longer statistically different.

4.3.3 Burden

The burden to the staff was measured by the time taken to complete the assessment. The time taken to perform the assessments was available for 340 clients. Some staff recorded times to the nearest minute, but most times were reported to the nearest five minutes.

All four assessments were completed for 78 of the clients for whom time data were provided. The remaining 262 clients were assessed using a subset of the tools. Since the time taken could be expected to vary according to the number of assessments completed, summary statistics have been calculated for each of these four groups and are presented in Table 18.

Table 18 Summary statistics for time taken to perform the assessments

Number of Assessments	Number of Clients	Median	Minimum	Maximum	Mean	Standard Deviation
1	30	10	3	75	16.1	19.5
2	64	10	2	90	18.9	18.4
3	168	20	1	90	26.0	16.4
4	78	30	5	120	32.6	21.4

As would be expected, the more assessments that were done, the more time was taken. More than 50% of the clients were assessed in 10 minutes or less if only one or two assessments were completed. Of those clients who had all four assessments, more than 60% were completed within 30 minutes. Overall, only thirteen clients took more than 60 minutes.

An analysis was undertaken to test whether more dependent clients look longer to assess. This involved examining the relationship between the total time for all assessments, the time for each assessment and total scores for each of the four assessments. There were no statistically significant differences.

This analysis was extended to look for differences between those aged 65 or more and those aged less than 65 years. Again, there were no differences. Finally, we tested whether those clients with either behavioural or cognitive problems took longer to assess than other clients. As before, there were no statistically significant differences.

4.3.4 Other impacts on time

Further investigations were undertaken to determine if other variables appeared to affect the time taken for the assessments. All times were considered together in this process, as the subgroups became too small if clients with different numbers of assessments were considered separately. The following points emerged.

- Staff could select one of three options for the assessment location – in the client's home or usual accommodation, at the assessor's office or elsewhere. There were no real differences in the time taken at the first two of these locations. The third location, "other", generally meant

that the assessment was conducted in hospital, often from the patient's notes, or occasionally, over the phone. Assessments in this group took significantly less time than those conducted either at the client's home or in the staff member's office ($p=0.006$).

- As with the screens, assessments conducted by post-acute agencies took significantly less time than those from other agencies ($p<0.001$). In addition, there was less variability amongst these times. Again, this result was not surprising as a large proportion of those who selected "other" for their assessment location were from post-acute agencies. Most of this group reported shorter times as many assessments were conducted in hospital using patient files.
- We again found the somewhat unexpected result that those with previous experience at assessments took longer. But 86% of staff members with no previous assessment experience who recorded time were from the post-acute agencies. This can best be understood in the light of the assessment location.
- There were no significant differences in time taken between those staff members with professional health qualifications and than those with welfare or other relevant qualifications. Only three assessments were undertaken by staff with no relevant qualifications.

Clients were grouped as either less than 65 years of age or greater than or equal to 65. Assessments for the older group took significantly longer than those for the younger group ($p=0.001$). At least part of the reason for this is that the older group often had a larger number of assessments - all four assessments were completed for 24% of the older clients, compared with only 6 % of the younger group.

4.3.5 Range of assessment scores

An important criterion in selecting appropriate instruments for use by HACC agencies was the potential for floor and ceiling effects. In other words, when used on HACC clients, the distribution of scores should be across the whole spectrum of functional ability measured by an instrument; the majority of scores should not be clumped at either the top (ceiling effect) or the bottom (floor effect) of the scale.

4.3.5.1 Self-care

The scores for the Barthel (self care) measure were spread across all possible values. The distribution is summarised in Table 19 below, grouping the scores based on the categories suggested by Shah et al. (1989). It suggests that, for both age groups, there would appear to be neither a ceiling or floor effect for this instrument. However, it would seem that the distribution of scores is affected by agency type, although it is difficult to draw strong conclusions about this as most agencies had few observations. The table shows the distribution for the three agencies with the most assessed clients. The post-acute care agency has a marked number of clients that are very dependent. The other two sites have a distribution that is skewed towards scores indicating the least level of dependency. Nonetheless, this is not so strong as to suggest the Barthel measure would suffer from a significant ceiling effect in many agencies.

Table 19 *Distribution of Barthel scores*

Score ranges	Clients aged <65		Clients aged 65 +		All clients	
	No.	%	No.	%	No.	%
0-4	20	14.6%	20	7.9%	41	10.4%
5-12	40	29.2%	109	42.9%	149	37.9%
13-18	31	22.6%	63	24.8%	94	23.9%
19-20	46	33.6%	62	24.4%	109	27.7%
Total	137	100.0%	254	100.0%	393	100.0%

Score ranges	All except brain injury and post-acute		Brain Injury		Post-acute	
	No.	%	No.	%	No.	%
0-4	10	4.6%	4	4.7%	27	30.7%
5-12	109	49.8%	22	25.6%	18	20.5%
13-18	46	21.0%	16	18.6%	32	36.4%
19-20	54	24.7%	44	51.2%	11	12.5%
Total	219	100.0%	86	100.0%	88	100.0%

Key: 0-4 = total dependency, 5-12 = severe dependency, 13-18 = moderate dependency, 19-20 = slight or no dependency.

4.3.5.2 Domestic

Like the Barthel measure, the assessed clients had a distribution of scores for the Lawton’s scale (Domestic) that covered the complete range of the scale. The distribution was fairly evenly spread, as can be seen from Figure 4 below. The graph shows the cumulative distribution of client scores by agency type. The agency caring for brain injury clients had a slightly lower proportion of clients rated as severely dependent, but the distribution of scores were fairly similar overall. There was clearly little evidence of a ceiling or floor effect in any agency group.

There was some comment by agencies concerning difficulties in completing the Lawton’s scale for male clients. Indeed, in other studies, male subjects have not been asked the questions about performing the laundry, housework or meal preparation. The distribution of scores was therefore examined to see whether there was any difference between the scores of male and female clients. There was a statistical difference between the distributions, but the absolute difference was small. This suggests that the scale is applicable to both groups, but further analysis would be needed to give insight into whether or not scoring difficulties influenced the distribution of scores. This analysis was not within the scope of this project given the design of the study and the sample size.

The distribution of Lawton’s scores was also examined by age group (see Table 20). These also suggested that the scale suffered no ceiling or floor effects in these client sub-populations.

Figure 4 Cumulative distribution of Lawton’s scores by agency type

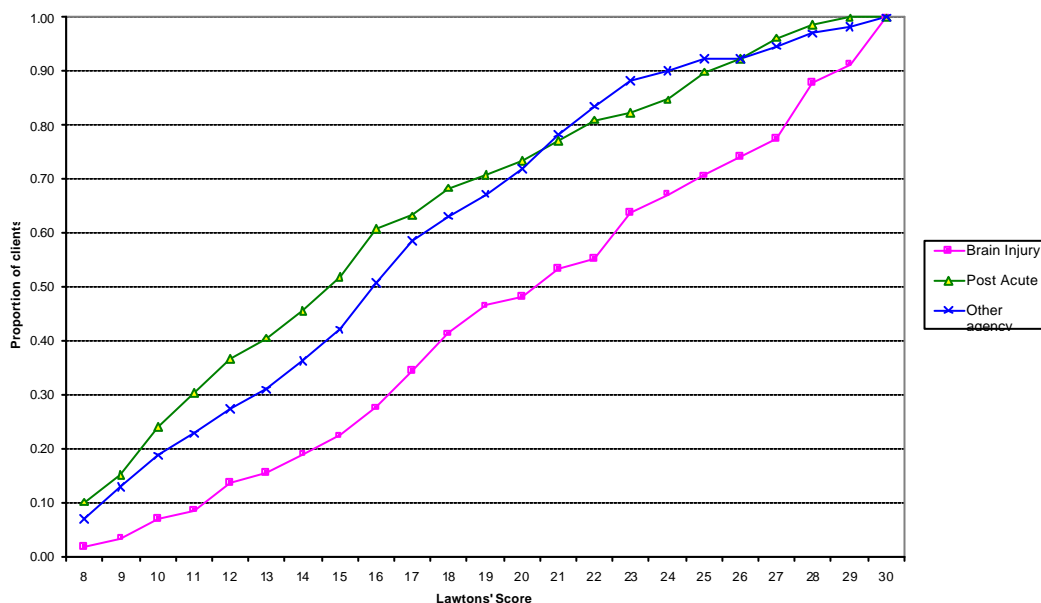


Table 20 *Distribution of Lawton's scores by sex and age group: proportion of clients by band of scores*

Lawton's scores	Male 18-64	Male 65 +	Female 16-64	Female 65+
8-13	23%	45%	29%	26%
14-19	18%	22%	24%	25%
20-25	32%	21%	32%	41%
26-30	27%	12%	15%	7%
All	100%	100%	100%	100%

Note: The lower the score, the more dependent

4.3.5.3 Cognition

The client data available for analysis on the cognitive measure (the MMSE) limited the analysis into floor and ceiling effects to a fairly rudimentary examination of scores that indicate cognitive impairment and those that do not. The cut-off point used was the commonly used 24/25 point threshold.

As the cognitive scale was designed for use with clients suspected of having dementia, it was suspected that the MMSE assessments would differ between age groups. This tended to be the case. Only 22 clients under the age of 65 were assessed using the MMSE. Of these, 17 had a score greater than 24. However, four of the remaining five had scores of 5 or below, the lowest MMSE scores recorded. In contrast, 31 of the 64 clients aged 65 or over had a MMSE score associated with cognitive impairment.

There was also a difference between agencies in the application of this measure. Sixteen of the twenty-four clients aged less than 30 were assessed by a post-acute care agency targeting neurological conditions, while only 8% of the clients assessed by other HACC agencies were aged under 65. However, this would seem to be a reflection of the age groups seen by these agencies rather than a characteristic of the agency type. (As noted previously, the MMSE was not used by the brain injury service in the evaluation sample.)

4.3.5.4 Behaviour

Finally, the range of behaviour scores was examined. Unlike the scores for the other instruments, the distribution of scores for this instrument was skewed heavily towards the "no problems" end of the scale. In particular, over 60% of the assessed clients in post-acute or HACC and Aged Care agencies had no rated behavioural problem. While this would be indicative of a ceiling effect if the scale was used on all HACC clients, this would not be the intention. This measure was always intended for use on only a specific sub-population. Consequently, it is important that these scores are interpreted in the context of the screen / interviewer recommendations.

To do this, clients with a behaviour assessment were classified as having no problem if they had a total score of 20 or a mild problem if they scored 2 or 3 on one dimension only and 4 (the maximum) on the other dimensions. Others were classified as having a moderate problem. A mild problem was generally on the emotional dependence dimension.

The clients who had had a behavioural assessment were also grouped according to both the screen's recommendation and the judgement of the interviewer. Details regarding the proportion in each of these groups who fell in each of the behavioural problems groups are presented in Table 21.

Table 21 Relationship between behavioural problem and recommendation for assessment

	No Problems	Mild Problems	Moderate or Severe Problems
Recommended by screen (n=271)	50%	14%	36%
Not recommended by screen (n=67)	82%	7%	10%
Recommended by interviewer (n=125)	26%	14%	60%
Not recommended by interviewer (n=171)	80%	12%	8%

As expected, clients for whom an assessment had been recommended were more likely to have severe problems and less likely to have no problems than those for whom no further assessment seemed appropriate. This effect was more noticeable for the interviewer recommendations than for those recommended by the screen.

4.3.6 Relationship between assessment scores and recommendation for assessment by the screen

During the field test, clients were assessed whether it was recommended or not. We would expect that the scores would be higher for clients who had not been recommended for assessment than for those who had. If this is not the case, we can infer one of two things – either the assessments were not accurate or the ‘wrong’ people were being recommended for assessment. The reliability of the assessment tools is well established and the interviewers were confident that the scores were accurate. Consequently, if we found that the scores of those for whom assessments had been recommended were lower than the scores of the other clients, we would have to question the appropriateness of the recommendations for further assessment. To test if the screen and the interviewers are recommending the ‘right’ people for further assessment, we could investigate the relationship between scores and recommendations.

For a substantial number of clients, however, staff decided not to assess despite the recommendation of the screen, either because adequate support services were already in place or because they already knew the information and felt that further assessment would be intrusive and unnecessary. For these clients, the staff member’s decision was not based on his or her judgement of the client’s ‘need’ for assessment because of functional limitations. It was not appropriate to assess the staff recommendations by the ‘need’ of these clients since the recommendation was made for different reasons. These clients were therefore excluded from those analyses that are based on the staff recommendations.

Detailed results can be found in Appendix 7. The main results were:

- Scores on all assessments were indeed higher for the clients for whom there had been no recommendation for further assessment;
- The screen appeared to be better able to identify clients requiring further self-care assessment than the interviewers;
- The screen appeared to be better able to identify clients requiring further domestic assessment than the interviewers;
- Staff appeared to be better able to identify clients requiring further behavioural assessment than the screen;
- The number of clients who had a cognitive assessment was small. However it did appear that staff and the screen were equally capable of selecting appropriately.

Using the total assessment score as a guide, we can be confident that the screen works well in selecting the appropriate clients for further assessment.

4.3.7 Acceptability

Four open-ended questions were asked on the assessment form. These related to the appropriateness of the questions for the client, whether anything was missing, if any new information had arisen from the assessment and why the interviewer found the ratings difficult or was not confident with the accuracy of the results. A detailed summary of the responses to each question can be found in Appendix and an overview of the issues raised is contained in Section 4.4.

4.3.8 Appropriateness for groups with special needs

As with screening, every attempt was made to test the assessment instruments on groups with special needs. However, the number of completed assessments was very small. As previously noted, 3% of the clients were of ATSI background and fewer than 10% spoke a language at home other than English. Whilst these percentages are an acceptable sample, the actual numbers are small, allowing no statistically significant testing to be undertaken.

4.3.9 Key points relating to the assessment

- The assessment instruments for measuring domestic, self-care, cognitive and behavioural impairment do not appear to suffer from floor or ceiling effects, when taking account of staff recommendations about who should be assessed.
- The burden on staff represented by the assessments would seem to be reasonable. The length of time was dependent upon the number of instruments completed. When 1 or 2 instruments were used, 50% of assessments were less than 10 minutes. When 3 instruments were used, 60% of assessments took less than 20 minutes.

4.4 Summary of Key Results

4.4.1 What did we learn from the field test?

- The burden on staff represented by the screen is acceptable with 44% of screens being completed within 5 minutes and 73% being completed within 10.
- There was reasonable agreement between the assessments recommended by the screening tool and the judgements made by staff about the need for completing those assessments.
- The assessment instruments for measuring domestic, self-care, cognitive and behavioural impairment do not appear to suffer from floor or ceiling effects, when taking account of staff recommendations about who should be assessed.
- The burden on staff represented by the assessments would seem to be acceptable. The length of time was dependent upon the number of instruments completed. When 1 or 2 instruments were used, 50% of assessments were less than 10 minutes. When 3 instruments were used, 60% of assessments took less than 20 minutes.

4.4.2 Was the screen instrument acceptable to clients?

In total, 69 responses directly addressed this issue.

- Overall, it can be said that the screen instrument items were acceptable to clients. It was noted that some questions could not be answered by very young clients or by clients with a very high level of disability.
- Client sensitivity was raised as an issue in some cases where items highlighted the client's level of disability. For example, the desire to remain independent was very strong for some clients. They reported that they were able to do some tasks, but in reality it was very difficult or unsafe for them.
- In other cases, clients with a high level of functioning reported feeling that the questions were intrusive, degrading or demeaning.
- Clients who were hostile or aggressive posed a threat to the interviewer.

4.4.3 Did staff feel that the items in the screening instrument were relevant and appropriate?

In total, 94 responses directly addressed this issue.

- There was some doubt that the items on management of finances and medication should trigger a cognitive and a behavioural assessment. Many clients had difficulty in these areas, but it was because of physical or medical problems rather than cognitive or behavioural issues.
- Currently, if cognition is flagged for further assessment by the screen, behaviour is as well. Some respondents questioned the recommendation of both assessments when often only one of these dimensions is a problem.
- The questions related to dressing and bathing as well as to management of finances and medication seemed inappropriate as they were too intrusive for many clients with a high level of functioning who only required a specific service.
- Some problems of clients were not picked up by the screen. Motivation of clients was mentioned often – clients were physically capable of doing things but were not motivated or may have needed some prompting. The screen was hard to apply to clients with varying levels of function.

4.4.4 Did staff consider the screen useful in managing client wellbeing?

Almost all staff rated the difficulty and their confidence in the ratings. They were also asked why they disagreed with the screen's recommendation. Responses on this were received on less than half of the 746 screens completed.

- 87% of staff said it was easy or moderately easy to make the ratings.
- 84% of staff were very confident or fairly confident of the accuracy of the ratings.
- Staff recorded the client's responses where appropriate, but in some cases felt that they would have rated differently. Other information known about the client often cast doubt on his/ her response.
- Deafness, language and speech problems and other difficulties sometimes made it difficult for the interviewer to be sure if the client had understood the question.
- Sometimes the interviewer did not recommend further assessment when one had been triggered by the screen. Many reasons for this related to the applicability of the assessment (usually the cognitive and/or the behavioural assessment) to the particular client. Medical or physical limitations of the client were also cited as reasons.

- Sometimes the interviewer did recommend further assessment when one had not been triggered by the screen. Usually this was because it was felt that the screen had missed some important feature of the client.
- Many staff raised the issue of the frequency with which the screen should be administered and whether all questions on the screen would be needed for all clients or at all agencies. Many of the clients screened were already well known to staff. Usually they had adequate support services in place and further assessment was considered unnecessary.

4.4.5 Did staff find the assessment items relevant to their clients?

Responses on this were received on more than half of the 462 assessments completed.

- Some staff felt that the assessment tools were most relevant for clients with low to moderate level of disability.
- Many staff felt that the cognitive assessment was not relevant to the client, generally because of physical or medical conditions, but also due to sensitivity for the client, the client's family and the interviewer.
- In some cases, the domestic assessment was felt to be unnecessary because of the client's living arrangements (eg in an Independent Living Unit).
- Many of the clients assessed were already well known to staff. In these cases, adequate support services were in place and further assessment was considered unnecessary.
- It was difficult to score some items because the client had never done the activity (such as laundry, housework, finances).
- Some clients needed a domestic assessment of their need for help with their finances. The relevant item in the screen had triggered a cognitive and a behavioural assessment instead.
- Some individual items did not contain sufficient detail to identify the client's problem. In some of these cases, the client was physically able to perform tasks, but lacked the motivation or needed prompting.
- Many clients needed help in a specific area. Staff indicated a preference to be able to identify needs such as falls prevention, home maintenance and home nursing assistance.

4.4.6 Did staff find the assessment tools easy to use?

All staff provided information on the difficulty and accuracy of the ratings.

- 91% found the assessment tools very or moderately easy to score.
- 89% were very or fairly confident of the accuracy of the ratings.

Comments were received only from some staff reporting specific difficulties.

- Some staff reported difficulty in rating just the functional ability of the client. They wanted to include medical information, or details relating to the client's lack of motivation or need for prompting.
- Only 33 responses were received to the question asking if any new information had been learnt about the client.
- Several staff thought that, if they answered on the client's behalf, the responses would be different. Lack of insight into the client's own condition was often given as the reason for this.
- Fluctuating functional ability was also mentioned as a reason for finding the rating difficult.

5 Discussion, conclusions and recommendations

In summary, the results of the field test show that each of the 5 tools can be effectively used across a broad range of HACC service providers. The tools have a degree of familiarity for most front line and all second tier assessment staff and the results of the field test suggest that their technical performance is satisfactory.

However, it should be noted that, while every attempt was made to ensure that the sample in the field trial was representative of the total HACC population, we have no way of verifying that this is the case. It may be that results such as sensitivity and specificity will differ with other samples or when the data are routinely collected on a national basis. There would be value in reviewing the results after sufficient data have been collected on a routine basis.

5.1 The functional screening instrument

In general, the results suggest that the functional screening instrument is satisfactory for the purposes for which it was designed:

- There was reasonable agreement between the assessments recommended by the screening tool and the judgements made by staff about the need for completing those assessments;
- There was reasonable agreement between the assessments recommended by the screening tool and the judgements made by staff about the need for completing those assessments. However the screen was better able to identify clients requiring further self-care and domestic assessment than the interviewers. Interviewers were better able to identify clients requiring further behavioural assessments. There was no difference in the performance of the interviewers and the screen in recommending cognitive assessment;
- The thresholds that trigger a further assessment being recommended in the field trial were lower than the ones used by staff. However, erring towards recommending further assessment too often was considered to be preferable to missing clients who really needed further assessment. An analysis of different thresholds for referral within the screen resulted in some changes in rules to trigger an assessment in the final design of the screening instrument; and
- The amount of time taken to complete the screen is acceptable with 44% of screens being completed in less than 5 minutes and 73% being completed in less than 10 minutes.
- Using the total assessment score as a guide, we can be confident that the screen works well in selecting the appropriate clients for further assessment.

The triggers incorporated in the final screening instrument shown in Appendix 8 differ from those used in the field test based on the statistical analysis shown in Appendix 7. The 3 changes made are:

1. The rules for triggering a domestic assessment are changed so that a domestic functional assessment is triggered if the count of dependencies on the first 5 items is 2 or less (a count of 0, 1 or 2).
2. An item on mobility has replaced the item on dressing. However, the rule for triggering a self-care assessment remains unchanged.
3. The tool has been re-designed so that the interviewer completes items 8 and 9 based on all information available to them. This could include their judgement based on interviewing or

observing the client, information contained in a referral letter, client notes or information provided by a proxy respondent, such as a friend, relative, carer or referring agency.

We propose that items 4 and 5 continue to trigger behavioural and cognitive assessments until such time as the results of the third change are subjected to empirical testing.

It should be noted that the sample size in the current field test was insufficient to test the appropriateness of the screening instrument for special needs groups such as ATSI consumers and consumers who do not speak English. This issue can only be assessed when the tool is introduced into routine practice as the sample size achieved in a one-off field test will continue to be insufficient to test the appropriateness of the instrument for low-volume groups.

5.2 The functional assessment instrument

Again, the results suggest that the functional assessment instruments are satisfactory for the purposes for which they were selected:

- The assessment instruments for measuring domestic, self-care, cognitive and behavioural impairment do not appear to suffer from floor or ceiling effects, when staff recommendations about who should be assessed are taken into account.
- The burden on staff represented by the assessments would seem to be acceptable. The length of time was dependent upon the number of instruments completed. When 1 or 2 instruments were used, 50% of assessments were less than 10 minutes. When 3 instruments were used, 60% of assessments took less than 20 minutes.

These functional assessment measures are designed to be generic assessments of function and are not designed to replace specialist assessments undertaken by individual professions. Rather, they are designed to be complementary.

In relation to the specific measures:

5.2.1 Self-care

The results for the Barthel Index support its use. Previous research has demonstrated that the FIM can be successfully mapped to the Barthel Index and, as was proposed in our Stage 1 report, both measures should be approved for use in the HACC sector, with the Barthel Index as the preferred tool.

5.2.2 Domestic

The results for the modified Lawtons IADL scale support its use in the HACC program. As noted elsewhere, training is required to address issues relating to some specific items.

5.2.3 Behaviour

Given the low volume of clients with behavioural problems, it is reasonable to question whether or not a measure of behaviour is required. However, the behavioural domain was not included because it was expected to be high volume.

It was originally included on the assumption that, while it was likely to be low volume, the impact on carers and on the need for community support services would be high. There is nothing in the current field test to suggest that this is not the case.

On that basis, it is recommended that it remain as an element of the functional assessment until such time as the relationship between behavioural disturbance and need for community care is measured in routine practice. The modified RCS behaviour measure appears to be suitable for this purpose.

5.2.4 Cognition

Similar comments are relevant to cognition. Cognitive problems were not expected to be common but it was thought that the impact on carers and on the need for community support services would be high. There is again nothing in the current field test to suggest that this is not the case. On that basis, it is recommended that it remain as an element of the functional assessment until such time as the relationship between cognitive function and need for community care is measured in routine practice. The MMSE is a suitable instrument although health professionals may also use other instruments.

5.3 Options for inclusion of measures of functional dependency in the HACCC Minimum Data Set

We are proposing that functional measurement be undertaken on a routine basis across the whole spectrum of HACCC services in Australia and that functional data be included in the HACCC Minimum Data Set.

The level of detail that should be incorporated in the national MDS needs to be determined by the purposes to which the data will be used, taking into account the administrative burden of the collection. At the national level, there are three possible uses of the data:

1. For program planning and monitoring:
 - To measure the functional status of clients using services funded under different programs
 - To measure the functional status of clients in different regions
 - To measure the functional status of clients using different types of HACCC services
 - To measure the functional status of clients over time.
2. For evaluating and refining the functional measures over time.
3. For research and development purposes, including the potential development of a comprehensive client classification system for the HACCC program³.

Table 22 sets out the 5 possible levels of detail that could be included in the MDS and evaluates each in relation to the possible uses of the data and the level of administrative burden associated with each option.

In the ideal world all 33 items would be included in the national data collection as this would maximise the utility of the data for program planning, monitoring, research and development and

³ It is beyond the scope of the current project to address issues surrounding the potential development of a client classification. However, we note that there are 2 possible methods. The 1st is to develop such a classification using data in a routine collection such as the MDS. The 2nd is to develop such a classification using data collected in one-off studies. The discussion above assumes that the 1st option is the preferred approach.

evaluation purposes. However, this would represent a significant cost at both the service provider and the national levels.

At the other extreme, collecting only the crude total score for the functional screen would pose little additional administrative burden to the system. However, it would provide little information of value for any of the 3 intended purposes.

Table 22 Options for the level of detail to be included in the MDS

Option	Description	No of Items	Usefulness for program planning and monitoring	Usefulness for R & D	Usefulness for evaluation	Administrative burden
1	Only total score for functional screen incorporated in MDS	1	★	★	★	★★★★★
2	Item level scores for each of the 9 items in the functional screen	9	★★	★★	★★	★★★★
3	As per 2, plus the total score for each of the 4 functional assessments	13	★★★	★★★	★★★	★★★
4	As per 3, plus scores for sentinel assessment items (eg, continence and feeding)	15	★★★★	★★★	★★★	★
5	Item level scores for both the functional screen and the functional assessment	33	★★★★★	★★★★★	★★★★★	★

Note: the more stars the better

It is clear that Options 2 and 3 provide the best balance between usefulness and administrative burden. Option 4 would provide better data for monitoring purposes. However, this benefit is more than offset by the administrative complexity involved in reporting and collecting sentinel assessment items.

We propose that the 9 items in the functional screen be incorporated into the MDS and that consideration also be given to the inclusion of the total score for each of the 4 functional assessments.

We also believe that there would be considerable value in establishing special one-off collections from time to time to collect sentinel assessment items and/or item level scores for the self-care, domestic and behavioural measures for research and development purposes. These collections could be established at either a national or jurisdiction level and might be restricted to those agencies able to report electronically.

5.4 Recommendations on Functional Screening and Assessment Tools

5.4.1 Recommendations on Preferred Tools

1. It is recommended that the functional dependency items be developed and implemented on the assumption of a two tiered assessment process. The first tier consists of a simple functional screening. The second tier consists of a more comprehensive functional assessment for those who require it.
2. It is recommended that the functional screening instrument at Appendix 8 be adopted as the HACC national standard functional screening instrument.

3. It is recommended that the HACC Officials approve two self-care assessment instruments – the Barthel Index and the Functional Independence Measure (FIM), with the Barthel Index as the standard measure of self-care for the sector.
4. It is recommended that the HACC Officials adopt the modified version of the Lawton's IADL measure as the standard measure of instrumental functioning.
5. It is recommended that the HACC Officials adopt the modified version of the Australian Residential Classification Scale as the standard measure of behaviour.
6. It is recommended that the HACC Officials adopt the Folstein Mini-Mental State Examination as the standard measure of cognitive function.
7. It is recommended that the functional assessment instrument at Appendix 9 be adopted for routine use.

5.4.2 Recommendations on Implementation

8. It is recommended that, after the current project is completed, work is commissioned to develop a data collection protocol that addresses the following issues:
 - 8.1. Who should receive a functional screening
 - 8.2. Who should undertake functional screening
 - 8.3. When and how often functional screening should be undertaken, including rules for re-screening those clients already in receipt of HACC services
 - 8.4. Who should receive a functional assessment
 - 8.5. Who should undertake functional assessment
 - 8.6. When and how often functional assessments should be undertaken, including rules for re-assessing those clients already in receipt of HACC services
 - 8.7. Data management
 - 8.8. Consumer participation and confidentiality.
9. It is recommended that staff training and guidelines be implemented on the various functional screening and assessment tools and on the data collection protocol recommended above.
10. It is recommended that Items 1 to 9 of the functional screening instrument at Appendix 8 be included in the HACC MDS.
11. It is recommended that consideration also be given to the inclusion of the total score for each of the 4 functional assessments in the MDS.
12. It is recommended that special one-off collections be established from time to time to collect sentinel assessment items and/or item level scores for the self-care, domestic and behavioural measures for research and development purposes. These collections could be established at either a national or jurisdiction level and might be restricted to those agencies able to report electronically.

6 Where to from here?

The purpose of this project was to develop a measure of functional dependency that can serve a number of different purposes:

- To assist consumers receive services that are appropriate to their needs;
- To assist providers to systematically assess the needs of individual consumers and provide services appropriate to those needs;
- To assist managers and planners to evaluate the appropriateness and success of the program. Aggregated dependency data is required to inform the development of effective planning strategies and funding mechanisms of HACC services, including the increasing use of funding linked to individuals and different consumer types.

The instrument/s were designed to:

- Be appropriate for use in a variety of different settings, with consumers with diverse needs and by providers who have different training and skills.
- Yield information that is useful at the individual level – if providers do not find the information useful, its collection will become a burden for providers and the subsequent data quality will be poor.
- Yield information that is useful at an aggregate level – if funders and managers do not find the information useful, there will be little ongoing commitment to resourcing its collection or to improving it over time.

Our Stage 1 report, coupled with the results of Stage 2, indicate that a common national approach to the measurement of function is desirable and clearly feasible. We anticipate that most implementation problems will be political rather than technical, in the sense that the politics within and between the various professions and sectors, and within and between the States and Territories and the Commonwealth, will need to be carefully managed. A clear and incremental national implementation strategy and an associated training and communication strategy should be able to prevent any difficulties.

6.1 A short-term work program

Adoption of the above recommendations implies a practical work program to make it happen.

6.1.1 Data collection protocol

The Stage 2 field test focussed on testing the various instruments and each study site selected the staff that they thought should function as screeners and assessors. The study protocol included the provision of training and support to these staff. However, it was beyond the scope of the current project to determine who should be screened or assessed or to determine who should undertake the screens and assessments. Likewise, it was beyond the scope of the current study to consider implementation issues such as data management and confidentiality.

A data collection protocol is required that takes into account parallel initiatives in the sector (see the review of current practice in the Stage 1 report) as well as the longer term strategic agenda in relation to client classification and costing.

While there will be a need to take into account the needs of each jurisdiction, every attempt should be made to achieve a nationally consistent approach. This implies that a national data collection protocol is developed and that, if necessary, the various jurisdictions then modify it to take account of their own specific situation.

6.1.2 Resource issues

Implementation of any new data system requires resources for training, collection, analysis and feedback. HACC Officials will need to consider the source and amount of resources available, in the light of competing priorities.

6.1.3 Training issues

HACC staff undertaking both screenings and assessments need to be competent for the task. The experience of the field test suggests that staff from a wide variety of educational and professional backgrounds can undertake both screening and assessment. However, in order to do so, training is required.

Training is thus an essential component of implementation. A training handbook and approximately 3 hours of training was provided to staff participating in the field test and this appeared to be adequate (see Appendix 3). During that time, staff received training in all instruments except for the cognitive assessment tool (the MMSE). The study protocol stated that the MMSE should only be completed if the rater was trained in its use, otherwise this section was left blank.

A comprehensive training program has three elements:

- A **National HACC Functional Screening and Assessment Training Manual** that covers each of the instruments⁴ and includes the data collection protocol. Such a manual should be provided to all staff undertaking functional screenings and/or assessments. The training manual developed for the field test can be used as the starting point. It will need to be updated as new issues arise. This is best done by incorporation of a section on 'Commonly Asked Questions' that can be updated and distributed in loose-leaf format.
- Face to face training of approximately 3 hours. Again, the training program and teaching aids developed for the field test can be used as the starting point.
- Establishment of a network of resource people who staff can contact if they require assistance or further information.

How the face to face training should be provided is yet to be resolved, and is perhaps best left to each jurisdiction to determine. There are several possibilities:

- Training in functional measurement is provided as a stand-alone training program or
- Training in functional measurement is provided as a component of a more comprehensive training program on assessment or
- Training in functional measurement is provided as a component of a more comprehensive training program on the minimum data set.

⁴ Note that while we have recommended that the MMSE be adopted as the standard measure of cognitive function for the HACC sector, we do not believe that training in this instrument should be the responsibility of the HACC program. This responsibility rightly rests with the health sector.

There are also several possibilities in relation to who should conduct the training:

- A National Train the Trainer model whereby a network of health and community care staff are trained as trainers. In turn, they train staff who will undertake screening or assessment.
- The training program is contracted out to one or more universities or other appropriate training agencies.
- The training program is provided by each jurisdiction, using their existing training arrangements.

6.1.4 Information systems

Implementation of routine screening and assessment will require the design and distribution of new data collection forms and modifications to existing computer information systems. Each jurisdiction will need to address this issue as a matter of priority.

6.1.5 Progressive implementation

The introduction of functional measurement on a routine basis across the whole spectrum of HACC services in Australia represents an enormous step for the sector. Progressive implementation (which will need to occur over a one to two year period) will be required to establish the data collection protocol, provide training and modify information systems and processes.

6.2 A longer term agenda

Routine implementation of tools to capture the functional status of the HACC population is a critical first step in measuring consumer needs for HACC services and relating those needs to resource use. While functional capacity is thought to be of critical importance in driving the need for HACC services, it is not the only measure of need or the only client-related cost driver. Other important client-related drivers (or variables) also need to be captured to gain a comprehensive picture of the HACC population. Client-related variables thought to be of particular importance (among others) are age, medical conditions and diagnoses, carer availability, risk of abuse and care setting.

We proposed in the previous section that functional measurement be undertaken on a routine basis across the whole spectrum of HACC services in Australia and that functional data be included in the HACC Minimum Data Set.

These proposals potentially constitute important first steps in moving towards the development of a comprehensive client classification system for the HACC program and using that classification to measure need and inform resource allocation decisions.

This implies that a common approach to implementing these tools be agreed to and that an incremental development pathway be established, with each stage being seen as a new 'generation' of an increasingly refined MDS for the HACC program.

6.3 Conclusion

We conclude that a common approach to the measurement of client dependency is desirable and clearly feasible and we have suggested that the technical issues are complex, rather than difficult. We argue that a clear and incremental development pathway and an associated communication and training strategy should be able to move the recommended approach forward.

We believe that the work program outlined above will address the key issues if the human services agencies are committed to work together to develop a common approach. The need for these tools has been highlighted for nearly a decade through numerous reports. A range of projects conducted over the last five years have contributed to demonstrate that a common set of tools and an agreed model is now technically feasible. The next step is a practical work program to turn the ideas into a reality.

Selected Bibliography

To aid the reading of this report the number of cited references has been kept to a minimum. The references below are organised by the section of the present report that they inform, so they include more than those cited in the text. Many are carried forward from the more detailed literature review and the review of current practice contained in the first report of this project.

Section 1: Introduction

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Section 2: Design of the functional screening instrument

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Section 3: Study design

The protocols for conducting the field test are contained in the Study Manual prepared for the project. For how this was used in staff training, see also the Training Outline, Training Guide, and accompanying overheads prepared for the training sessions March 19-23, 2001.

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Section 4: Analysis of the results

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Section 5: Discussion, conclusions and recommendations

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Section 6: A way forward

Classification of clients using function as one (and only one of many) variables that help drive the cost of care is assumed to be a longer-term goal of the work reported in this project. A nationally agreed classification structure in community care is also assumed to be the most reliable way to use valid data on clients in a transparent process of defining a suitable package of care. This project assumed other information would be required for managers of specific service types (eg post acute care services or assisted transport options) to allocate resources. Particular professional groups might use service classifications (eg technical nursing interventions) or sentinel conditions (eg continence) that also drive costs. For specific client groups (eg brain injury and intellectual disability) more work is needed to find the best ways to measure cognitive problems. Specific conditions (eg dementia) may need their own indicators for targeting behavioural interventions. The unifying theme amid all this diversity of ways of looking at need is that better quality data (reliable, valid and collectable) can be used to manage the system more carefully.

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Appendix 1

Members of the Joint HACC/ACAP Assessment Working Group (the Steering Committee)

Commonwealth Representatives:

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Shona McQueen, Director, HACC Outcomes Section, Community Care Branch

Cindy Gibson, Aged Care Assessment Program, Community Care Branch

Katherine McHugh (Project Officer), HACC Outcomes Section, Community Care Branch

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Appendix 2

List of agencies participating in the field test

Alice Springs, Northern Territory

Alice Springs Urban ACAT
Alice Springs Remote ACAT
Remote Health Services
Tangentyere HACC Services
Arrente Home Care Program
Red Cross Home Help Services
Taxi Subsidy Scheme
HACC Dementia Support Worker

Kingston/Bayside Primary Care Partnership, Victoria

Inner Melbourne Post Acute Care
Central Bayside Community Health Services
Bayside Community Options
City of Kingston Aged and Disability Service
Southern Health - Home Based Allied Health
Kingston ACAS
Neurological Outpatient Services, Bethlehem Hospital

South Australia

Southern Domiciliary Care and Rehabilitation Service
Southern Adelaide ACAT
Brain Injury Options Coordination
Common Entry to the South

Newcastle/Lake Macquarie/Hunter Valley, NSW

Ethnic HACC Services:
Small Ethnic Communities Neighbour Aid
Cardiff Lunch Club
Biala Respite Service
Charlestown Meals on Wheels
New Lake Peer Support
Newcastle Temporary Care
Newcastle In-Home Respite
Awabakal Aboriginal Services
East Lake Macquarie Dementia Service
East Lakes Neighbour Aid
Mercy Care Nursing Service
West Lakes Mercy Services (CT)
Newcastle/Lake Macquarie Community Options
Newcastle ACAT
Upper Hunter Community Options
Hunter Valley Respite Options
Maitland Community Options
Coalfields Community Options

Appendix 3

Analysis of participants' reaction to the field test training

Training sessions were held for agencies participating in the field test to explain to staff the role of the trial, the role of measuring dependency and how to complete the screen and assessment forms. At the end of each of the screening and the assessment training sessions, participants were asked to complete an evaluation of the training.

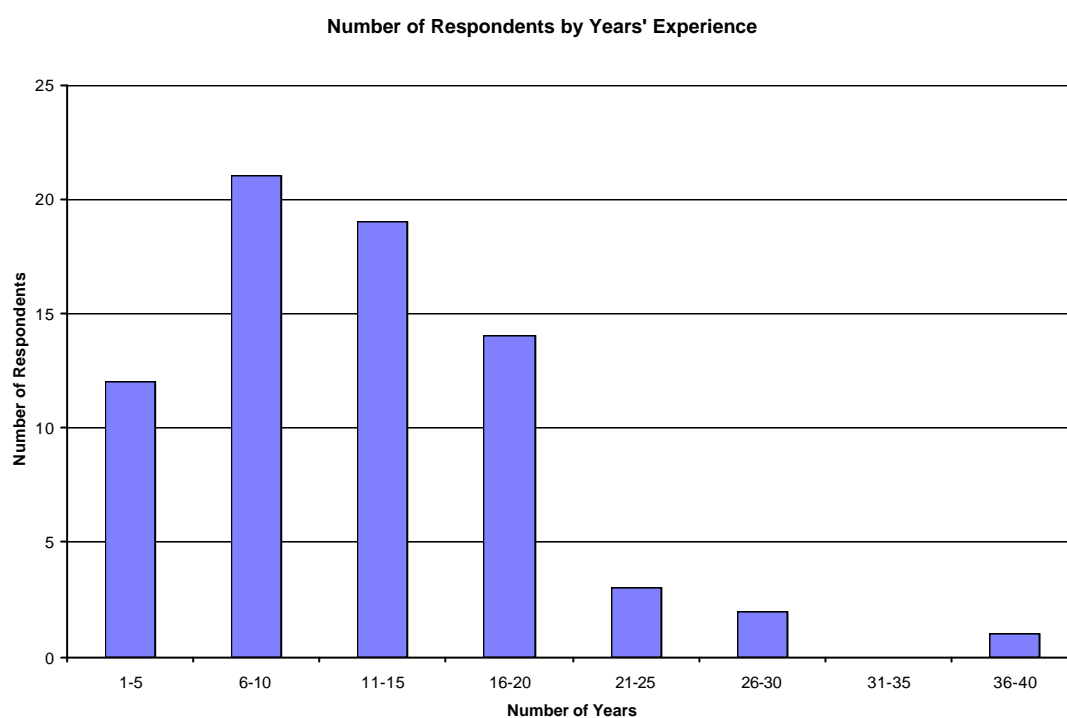
The forty (40) agencies participating in the field test that sent staff to the training sessions included 14 different service types, namely:

▫ Community health/nursing/allied health/rehab	6
▫ Community Options	5
▫ ACAT/ACAS	5
▫ Respite (in home and centre based)	5
▫ Local government/neighbour aid/home mods	5
▫ Home help/personal care	3
▫ ATSI specific	3
▫ Outpatient/post acute	2
▫ Entry point/information	2
▫ Dementia specific	2
▫ Community transport	2
▫ Food services	2
▫ Brain injury	1
▫ Disability/peer support	1

Some agencies include multiple service types.

The respondents described themselves by 33 different job categories, representing a wide range of skills, qualifications and experience. Half of the participants described themselves as care coordinators, options coordinators or case managers. Ten percent were nurses, 10% were allied health and 10% were in team leader or project worker/manage roles. A social worker, welfare worker or intake officer accounted for the rest.

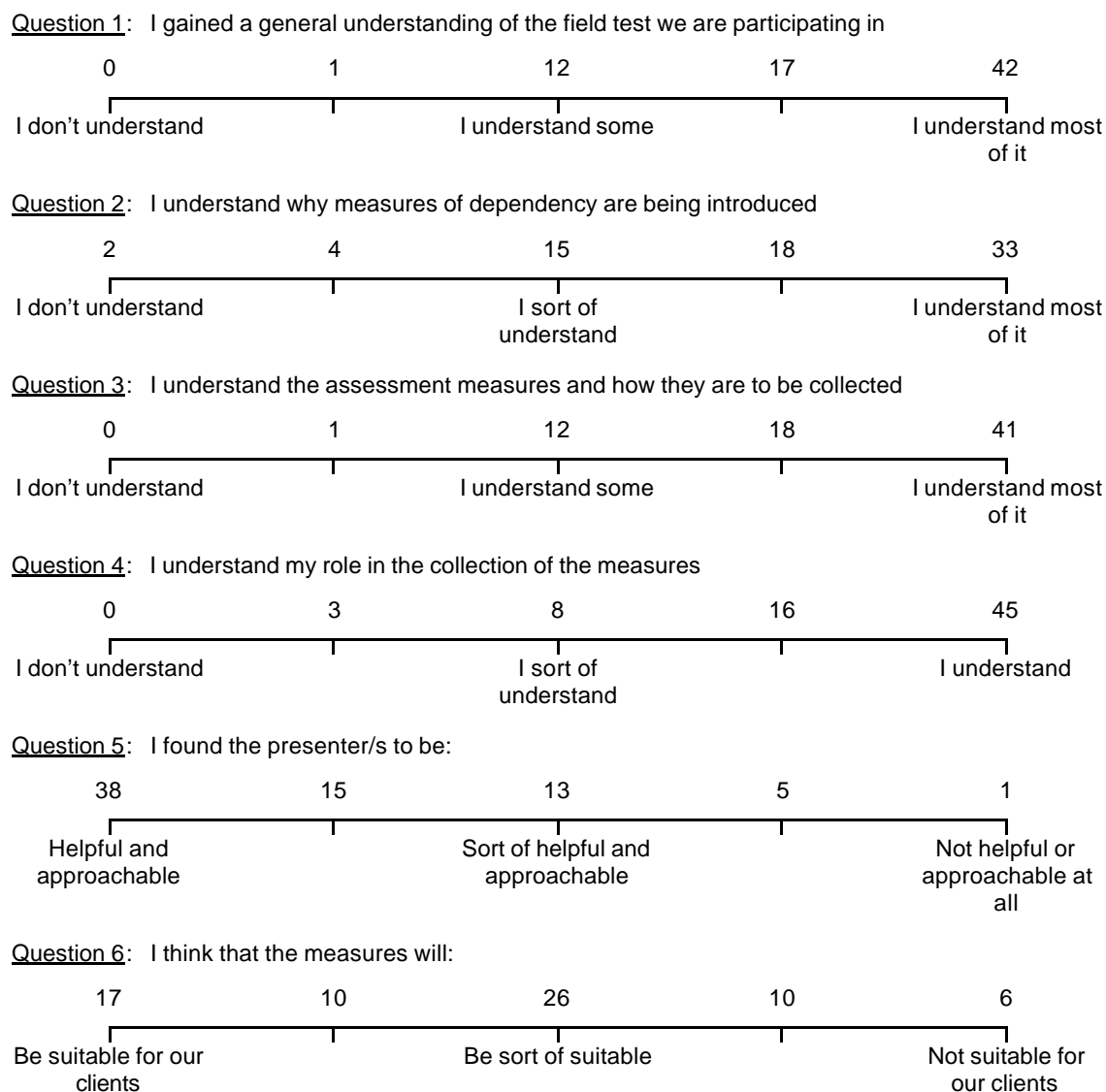
Respondents were asked their professional qualifications, years of experience and whether or not they had previous experience in undertaking formal assessments. Most participants were qualified health professionals, with most others having a qualification in welfare or another related discipline. The vast majority also had experience in formal assessments. Answers to the question on years of experience indicated that the participants' experience covered a broad range, extending from 1 to 37 years. Eighty four percent of the people trained have more than five years' experience. Fifty four percent have more than 10 years experience. The responses to these questions are summarised in Table 23 and Figure 5.

Figure 5 *Number of years' experience***Table 23** *Professional qualifications and previous experience in undertaking formal assessments of the respondents*

Professional Qualifications	Number of Respondents	Previous experience	
		Yes	No
1. Qualified health professional	47	45	2
2. Qualified in welfare or other relevant field	21	21	0
3. No relevant qualifications	4	2	2

What participants thought of the training

Participants were then presented with six questions and asked to rate their response on a 5-point Likert scale. Questions 1 to 4 dealt with the respondents' understanding of the trial – their role in the trial, the content of the trial and the rationale for conducting the trial. Question 5 asked participants to rate the presenters, while question 6 asked them for their views on the suitability of the instruments for their clients. The questions, the relevant scales and the number of responses in each category are presented in Table 24 below.

Table 24 Number of responses to the training for each category for Questions 1 - 6

For the questions about the trial (Q1 to Q4), over 80% of respondents indicated that they understood a substantial amount by selecting one of the two top scores in three of these four questions. The exception was the question dealing with their understanding of why dependency measures were being introduced (Question 2). A little over 70% of respondents selected one of the two top scores for this question. Seventy-four percent of respondents selected one of the two highest ratings in Question 5 (how helpful and approachable the presenter was), though only 27 (40%) were confident that the measures would be suitable for their clients. A large number of respondents thought the measures were “sort of suitable”. The fact that this was the most popular response probably indicates that many participants were not sure of the relevance of the measures in their particular service. Qualified health professionals were more likely to find the measures relevant than respondents with welfare or other relevant qualifications or those with no relevant qualifications. This could be because of the clearer understanding this group seemed to have, or because they tend to see a different mix of clients. (NB: 3 participants did not answer question 6).

When the responses for Questions 1 to 5 were analysed by professional qualification group, it was found that the qualified health professionals were more likely to select from the positive end of the scales than either of the other two groups. They tended to understand the trial and the measures better.

Content of the training

In Question 7, participants were asked which part of the training they found the most difficult. Responses could be grouped into three categories – those relating to the content of the training, those relating to the presentation of the training and those relating to organisational matters related to the training.

Twelve respondents felt that they needed more information, particularly regarding the purpose of the trial. Some remained confused about different aspects of the trial, including who to assess, how to go about it, and the purpose of the tools as opposed to the purpose of the trial. There was some concern that the needs of the carers were not being addressed. One respondent found that there had been a lot to absorb (though the presentation had been very good). Only three respondents found fault with the presentation.

Problems and improvements

Twenty respondents had problems with the organisation of the training. Several felt that it was a mistake to train different target groups together, as they found many questions to be irrelevant to themselves and consequently had trouble maintaining interest and concentration. Five respondents would have liked to have been more prepared with notes and sample forms issued prior to the training session to be brought along on the day. Several respondents did not like the particular tools, with one comment relating to the need for more qualitative information. Other comments related to the venue and the time that the training was held.

In Question 8, participants were asked if they could suggest ways to improve the training program. Responses to these tied in closely with responses to the previous question:

- Several respondents would have liked notes and forms to have been available before the actual training session;
- Some people would have liked more discussion on the “bigger picture”, the trial in the context of HACC and other data collections and whether there would be any relationship with funding issues;
- Five participants would have liked the session to have been more practical with more relevant examples;
- Several respondents would have liked the presentation to have been more lively, more varied or more succinct. Five respondents found the questions raised by the participants and the ensuing discussion to go on too long or to not be relevant or useful.

Training needs and routine practice

Participants were asked if they needed more training and if they felt their service should routinely collect dependency measures in Questions 9 and 10. Of the 69 people who responded to question 9, only 11 thought that they needed further training. Of the 70 responding to question 10, 50 thought that dependency data should be collected routinely.

Further comments on the forms

Each of these questions provided an opportunity for further comment. Five respondents felt they needed training in the Mini-Mental, one wanted training in all the assessment tools.

Clinically relevant

Half the comments in Question 10 related to the fact that the respondent's service already collected dependency measures. Others felt they should collect dependency measures as long as they were clinically significant and reflected their clients' needs and would be of benefit to their clients.

Planning tool

Four respondents felt that their service should collect dependency measures if they were to be used for establishing priorities and equitable distribution of services and funds.

A couple of respondents could see real value in collecting dependency measures: one person highlighted the benefits related to measuring need and providing a more appropriate basis for determining funding levels. The other person highlighted its benefits for tracking clients and their needs over time.

Workload

There were some concerns related to the increased workload and the implications to the quality of service and work satisfaction.

Scope

One respondent felt the questions were too intrusive for someone wanting their gutters cleaned. One other respondent felt that the appropriateness of the questions depended upon when the client entered the system. For this service, the clients had generally been seen by other services before seeking assistance.

Field-testing issues

The final question allowed participants to make any further general comments. Most responses related to perceived inadequacies in the field test. For example, they felt that some relevant features of the client were not being captured (such as lack of motivation and initiation), and that inaccurate "pictures" may emerge from collecting numeric data and then these would be linked to unit costing and funding.

There was concern that the Mini-Mental tool wasn't appropriate as a stand-alone tool for people with dementia. Another thought that there should be some measurement of carer support.

One respondent felt that the principle of the screen and assessment model was good, but it was not practical for all services. There was concern that, from the client's perspective, there would be a doubling up of questions with multiple assessments by multiple agencies.

Two practical suggestions emerged – that participants in the trial be provided with a training manual for the Mini-Mental and that there be another evaluation of these issues at the end of the trial (both done).

Appendix 4

Summary of the responses to the open-ended questions

A3.1 Questions on the screen form

Client refusals, distress or difficulties (Question 1)

Staff were asked to comment if the client had refused to answer any screen questions, or if they had been distressed by any question or had had difficulty in understanding what was asked. The sixty-nine responses could be grouped into four broad categories of problem.

1. Problems due to the client's hostility (24 responses): Most of these comments referred to a defensiveness of the client where they found the questions to be intrusive or, especially in post acute agencies, degrading or demeaning for a client who lived independently. A few clients refused to answer because of behaviour problems or, for one man, because he felt the questions related to things that were "the woman's role". Particular mention was often made of the questions related to management of finances or medication, especially by the brain injury agency. Clients were sometimes uncomfortable with these two questions, finding them too intrusive, or even a little "silly". Staff felt they were irrelevant for some conditions (e.g. brain injury with schizophrenia) unless the client's condition was stable. Some clients and/or staff felt that the questions were not relevant to the specific needs of the client. Only one client expressed suspicion as to what would be done with the information.
2. Problems due to the client's distress (14 responses): Comments regarding the client's distress referred to issues such as the questions' highlighting how much the client's functioning had declined and how little they could now manage. One client had to write all responses and found this to be stressful. Specific questions relating to personal care and medication were found to be unsettling for some clients. One client was sensitive about his socioeconomic status and was uncomfortable talking about where he lived. Another client had trouble responding as she was grieving the recent death of her husband. Some clients who were unwell were a little distressed by the questions.
3. Problems due to the client's disability (23 responses): Most responses in this group referred to cognitive impairment of the client. In some instances they were unable to respond for themselves because they couldn't understand the questions. In other cases, the client had dementia, often with a lack of insight into their condition. Specific conditions, such as brain injury, dysphasia or poor speech meant that others had to answer for them. One client was delusional and refused to answer because of his mistrust of the staff.
4. Problems due to relevance of the questions to the client's situation (9 responses): The questions were not relevant to very young children. Clients in hospital had difficulty in answering accurately as their current functional ability was not necessarily an indication of what they would expect to be able to manage after leaving hospital, and they were not sure how their future functioning would relate to what they were able to manage before admission to hospital.

Inappropriate questions (Question 2)

Staff were asked if they thought that any of the questions were inappropriate for the client. Ninety-four responses were received and could be grouped into three main categories.

1. Difficulty with the question (37 responses): Seven responses related to client problems that were not picked up by the screen. Another seven found that there was insufficient detail in the questions and that the client didn't really fit into any category. The definition of some terms also caused some difficulty. For instance, what exactly is "light" housework? Eleven answers related specifically to the questions on management of finances and medication. In particular, staff felt that they did not necessarily reflect whether or not cognition was a problem. For other clients, these questions were too intrusive in the light of the client's needs, or that they were inappropriate as the client was in hospital, or young and post acute only, or not on any medication to be able to assess. For other clients with a high level of functioning, the questions on dressing and bathing seemed inappropriate.
2. Difficulty for the particular client to answer (49 responses):
 - (a) The client's disability or physical circumstances made it difficult to answer many of the questions. For instance, clients with high levels of disability and no communication, clients who were confined to bed, clients who were very young and some clients with brain injury and psychiatric illness, could clearly not perform any of the tasks and, in many cases, were unable to respond on their own behalf. For one client, the use of an interpreter for a client with a non-English speaking background was found to be very time consuming and inappropriate. One elderly client couldn't see to write cheques and was too frail to go out, so the questions relating to management of finances and mobility outside the home were irrelevant.
 - (b) Another problem identified was the question of the reliability of the answers from some clients with cognitive disabilities. They may have poor memory or be suffering from dementia but with a lack of insight into their condition and resistive behaviour towards care. One staff member thought that the profound deafness of another client may have prevented his understanding the questions.
 - (c) For one younger client, all questions highlighted the progressive decline in her functional ability.
3. Necessity to ask the questions (10 responses): Where the client's incapacity was short term (and often adequate support was already in place), or where the client had only one specific requirement (such as transport), staff felt that it was inappropriate to ask all the questions in the screening tool. Other staff already knew the status of the client well and felt that further questioning was unnecessary.

Difficulty (Questions 3 and 4 and comment box)

Staff were asked how difficult it had been to make the ratings. 91% of respondents had found it very easy or moderately easy, 5% were undecided and 4% had found it moderately or very difficult. A similar pattern of responses was found for each screening location. A similar pattern of responses was also found whether the staff member had had previous assessment experience or not. However, staff with professional health qualifications were slightly more likely to find it easy than those with other relevant qualifications or those with no relevant qualifications, but the difference was not statistically significant.

Staff were also asked how confident they were in the ratings they recorded. 89% of respondents were very or fairly confident, 8% were undecided and 3% were not very or not at all confident that the recorded ratings were accurate. A similar pattern of responses was found whether the staff member had had previous assessment experience. There were no differences in responses between the different professional qualification groups. However, staff who selected "other" as the

screening location tended to be slightly less likely to be very confident than those who performed the screen in different locations. Many of these screens were conducted in hospital using patient records.

When staff had found rating difficult or were not confident in the accuracy of the ratings, they were asked to give the reason. Fifty-five responses were received. 38% of these came from brain injury units and 40% from post-acute units, although these two groups constituted only 16% and 32% respectively of the total group of screens received. Their responses fell into two broad categories.

1. Feature of the question and how it was answered (24 responses): A large proportion of these responses stated that their problem with the rating arose because of the difficulty in assessing the client either over the phone or by using the patient's file notes. On the other hand, some staff found the rating easy, only because of their previous knowledge of the client. Others found it difficult to fit a client into one category for a particular question. For example, one client was able to drive a car but would do so for very short distances only.
2. Feature of the client (31 responses): Eleven responses stated that the rater's assessment of the client's ability was different from the client's own assessment. Others stated that it was difficult to be sure about the client's true incapacity because of their disability (such as dysphasia or deafness, poor vision or forgetfulness) or because of cultural factors or difficulties associated with having to use an interpreter. For several clients, the screen had not picked up the underlying problem. The client may have been physically able to do the tasks but their cognition or behaviour or their lack of motivation may have prevented them from actually performing them when necessary. The level of function for some clients varies so that responses on some days would be different from that on others. One client's disability would have made all tasks difficult, but because of his determination to remain independent, he insisted that he was able to do more than the rater thought likely.

Staff recommendations different to screen (Question 6)

Staff were asked why their recommendation for an assessment differed from that recommended by the screen. 312 responses were received for this question and could be grouped into three categories.

1. Comment related to a specific assessment (81 responses):
 - (a) Two-thirds of these responses questioned the connection between the items on finance and medication management and the consequent recommendation for a cognitive and behavioural assessment. Clients had been rated as not completely independent on these items because of a physical disability, because of a lack of English or literacy skills, because of a low educational level or because (for one client), taking medication required professional assistance, but had no need for assessments on cognition and behaviour.
 - (b) A further twelve responses questioned the necessity for these items to trigger a behaviour as well as a cognitive assessment, as the client's problem was cognitive but there was no issue with behaviour.
 - (c) Specific reasons were given for a number of other decisions. Clinical reasons for not administering a cognitive assessment included the high level of the client's physical impairment, as well as client deafness or poor concentration. A large degree of physical impairment was also cited as the reason for not administering a behavioural assessment. Cultural differences were considered to render a domestic assessment irrelevant for one male client and to cast doubt on ratings for one female client whose background discouraged her from appearing to be independent. One client requested a cognitive assessment. A domestic assessment was felt to be unnecessary when the cause of the inability that triggered the assessment was anxiety or related to a physical disability which reduces the client's

endurance. It was felt that their underlying problem would not be identified in a domestic assessment.

2. Comment related to specific feature of the client (75 responses): Forty-nine of these responses stated that the client had other problems that had not been picked up by the screen. In particular, many clients had fluctuating functional ability or a lack of motivation to perform various tasks. Another comment was made that, for a brain injury patient returning to independent living, higher level skills may be required in the future. It was felt that more detail in the items would have been appropriate for this client. Seventeen responses referred to a lack of confidence in the client's answers in the light of other information known about the client. For clients who were hostile or suspicious or who displayed a degree of behavioural difficulty, assessments were not recommended in order to prevent conflict and to avoid a possible risk to the interviewer.
3. Comment related to administrative process issues (154 responses):
 - (a) More than half of these responses recommended no assessment because of the existing level of support in place for the client. A further 36 did not agree with the screen's recommendation for assessment as the information was already known and it was felt that further assessment was too intrusive or that, as the answers were obvious from the high level of the client's disability, no additional insight into the client's condition could be gleaned from further assessment.
 - (b) For fourteen clients, a clinical decision was made not to assess because of the particular requirement of the client. For instance they may require transport, some post acute care for a short time only or specific domestic assistance such as vacuuming.
 - (c) Time constraints were cited as the reason for not completing the MMSE for twelve clients. In some instances communication aids would have been required and these would have made the assessment into a lengthy process. For two clients, the information was required for some other reason, so the rater recommended an assessment contrary to the screen's recommendation.

Questions on the assessment form

Inappropriate (Question 1)

Staff were asked whether they thought any items were inappropriate for the client. 202 responses were received and were grouped into three broad categories.

1. All or most items inappropriate (57 responses):
 - (a) Twenty of these responses were referring to young, able clients who found the questions invasive, offensive inappropriate or just a joke. For eight clients with cognitive problems (lack of insight, delusional) all questions seemed to be inappropriate. Similarly, most items were found to be inappropriate for a very disabled, bedridden client and for a young child with no speech or independent mobility.
 - (b) Staff reported problems rating clients when the ratings didn't identify the cause of the problem. Similarly, for clients with little motivation to do things for themselves or with conditions resulting from substance abuse, they found it inappropriate to rate current capability rather than what is actually done.
 - (c) Some staff felt it was unnecessary to repeat assessments that had been done recently, or to ask questions when the information had already been obtained in the screen or in a phone call. The assessments may have been inappropriate for the client's needs (e.g. transport).
 - (d) The order of the assessments was an issue for some staff as was the order of items within the self-care assessment (they felt that continence questions should not come first). There was a suggestion that the domestic assessment should be done before the self-care assessment and that the MMSE items should be interspersed amongst the domestic items.

2. Whole assessment inappropriate (120 responses):
 - (a) Almost all these responses were in regard to the MMSE. For almost half, the staff member gave reasons for making a clinical decision not to include a cognitive assessment. Many reasons were given, mostly referring to the client's disability and its impact on their ability to do some or all of the required tasks. Other reasons included the behaviour of the client, the illiteracy and innumeracy of the client or the cultural background of the client. It was thought to be inappropriate, even simplistic and insulting, for clients in brain injury units. In some instances the family's sensitivity to the client's condition prevented the staff member from administering the MMSE. Other reasons for not administering the MMSE included refusal by the client and discomfort of the staff. Sometimes the assessment was administered, but the client was uncomfortable about it, and sometimes it was incomplete because of the client's physical limitations or because the client fell asleep.
 - (b) Twelve responses referred to the behavioural assessment. It was considered inappropriate for the client's needs especially when the client had only a physical problem.
 - (c) For two clients the domestic assessment was irrelevant because of their living arrangements (e.g. in an ILU).
3. Specific items inappropriate (19 responses):
 - (a) Self care items 1, 2 and 4 regarding continence were sometimes irrelevant to the client's need (eg if they had come in for a swallowing assessment). For clients with a colostomy, questions 1 and 4 were unanswerable. Item 9 refers to ability to climb stairs which is not relevant to a person in a wheelchair.
 - (b) In the domestic assessment, some items related to activities that had always been undertaken by the client's spouse. This included items 2, 3, 4, 5 and 7. Item 7 was inappropriate for a client who had never taken any medication. In answering item 8, a client may be capable of managing his or her finances, but may get into trouble doing so, or may spend inappropriately. One respondent felt that items 1, 7 and 8 related to cognitive rather than physical ability.

Missing areas or domains (Question 2)

Staff were asked if they thought that their client required assistance with daily living in areas that were missing in the assessment. The 115 responses could be grouped into five broad categories.

1. Assessment not recommended by screen (1 response): One respondent felt that the client required a domestic assessment, particularly as they had difficulty managing their finances. The question in the screen related to financial management triggered cognitive and behaviour assessments, but not domestic functioning.
2. Insufficient detail in particular items (22 responses): Specific items were found to not contain sufficient detail to classify some clients. These included the self-care assessment items 5, 6, 7, 9 and 10, as well as the domestic functioning assessments items 2, 3, 6, 7 and 8. One comment referred to a client who believed herself capable of personal hygiene, but who in reality wasn't. Another described a man who can and does walk alone, but for whom it is unsafe to do so.
3. Underlying physical or medical condition that should be known (36 responses): A great variety of conditions that affect functioning were mentioned in these responses. Fluctuating functional ability not picked up in the assessments. Cognitive issues included lack of insight, short term memory, dysphasia and comprehension. Other cognitive assessments may be relevant for brain injury patients (supervision and monitoring hadn't been included). Other medical and physical conditions not arising in the assessments included speech problems, poor sight affecting mobility, blood pressure, left sided weakness, poor balance resulting in a risk of falling and many others. One respondent felt that there was no way to indicate resistive behaviour and refusal of services for hygiene, nutrition, etc.

4. Areas where client needs help (40 responses): Respondents mentioned a number of general areas that were missing in the assessments but where clients need help. Social isolation, the need for prompting and encouragement with personal hygiene and to use continence aids, problems with literacy and interpreting for clients with poor English skills were all mentioned. Twenty-one responses for brain injury clients indicated the need for assessment in other areas – organisation and planning, motivation, judgement and impulse control, as well as interpersonal and relationship skills, social skills and participation in recreational activities.
5. Specific needs of clients (37 responses): Comments were received regarding a great variety of specific requirements of clients. These ranged from pressure area care, nasogastric feeds, footcare, dental and wound management to practical assistance such as mowing, ironing and childcare.

Does the assessment tell you anything new? (Question 3)

Staff were asked if the assessment had told them anything useful about the client that they hadn't already known. There were only 43 responses to this question. This may have been a difficult question to answer as staff had known some clients for a long period of time. Responses could be grouped into two broad categories.

1. General information (21 responses): Respondents mentioned discovering the actual extent of the client's cognitive problem. Sometimes the client had a better memory or a greater level of dependency than was previously thought. Sometimes the opposite was true. General IADL information had been obtained. Continence problems were identified as were balance problems and the risk of falls. One response mentioned clarification regarding the change in a client's functional ability.
2. Specific information (14 responses): Staff found that clients could (or couldn't) do specific tasks that they hadn't previously known about. For example, a client could make toast, while another could prepare his own food, although there was no motivation to maintain an adequate diet. One client was completely unable to tie his own shoelaces, another was unable to cut food or do housework. A need for rails in the bathroom (and a bathroom safety assessment and a mobility review) was identified for another client.

Difficulty (Questions 4 and 5 and comment box)

Staff were asked how difficult it was to make the ratings. 91% found it very easy or moderately easy, 3% were unsure and 6% found it moderately difficult. A similar pattern was found for each professional qualification group and whether or not the rater had previous assessment experience. When considering the location of the assessment, staff who chose "other" (which generally meant "in hospital") were slightly more likely to find the rating difficult than those who assessed the client at their office or in the client's own home, though this difference was not statistically significant.

Staff members were also asked how confident they were with the ratings. 88% were very or fairly confident, 7% were unsure and 5% were either not very or not at all confident with the ratings. Similar patterns of responses were found for all professional qualification groups, for all screen location groups and whether or not the rater had had previous assessment experience.

For those who had had difficulty rating the client, or were not confident with the ratings, the opportunity to say why was provided on the assessment forms. Of the fifty-one responses, fifteen stated that either other information or their own impression contradicted the client's responses. Sometimes the reason was given as dementia with a lack of insight into the client's own disability. Three mentioned fluctuating functional ability, mood swings or psychotic episodes as the reason

for their uncertainty. Another fifteen stated that the client didn't seem to fit into any category for some of the questions. Other raters couldn't be sure of the ratings because of the client's disability, or because the client's behaviour was affected by unstable physical health. When the client had never performed some tasks (they had always been done by the spouse), some items were impossible to assess. One response stated that the ratings didn't reflect the true ability of the client because of cultural differences. Other reasons included not applicable for a child with a disability, insufficient contact with the client as the assessment was done over the phone and the fact that the assessments were not relevant to the service (transport).

Appendix 5

Screen Form used in the field test

National HACC Dependency Data Trial – Field Test of the Functional Screening Instrument

About the client

Unique client number
88888888888888

HACC Letters of Name **888888**
(2nd, 3rd & 5th letters of surname and 2nd & 3rd letters of given name)

Sex (circle one) M F

Date of birth [c] dd/mm/yyyy **88 88 8888**

Main language spoken at home _____

Indigenous status **//**
*Aboriginal or Torres Strait Islander as identified by the person.
 If yes, record 1. If no, record 2.*

Source of referral **//**
*Record (1) Existing client already receiving services from this agency (2)
 Self-referred (3) Family or carer (4) GP (5) Hospital (6) Other*

First assessment **//**
*Is this the first time you have assessed this person in the last 2 weeks?
 Record (1) Yes (2) No.*

For repeat assessments only **//**
*Has the person's needs changed in the last 2 weeks?
 Record (1) Yes (2) No (3) Don't know.*

About the person completing this form

Your ID **88888888888888888888**

Job title _____

Professional qualifications _____ **//**
Record (1) Qualified health professional (2) Qualified in welfare or other relevant field (3) No relevant qualifications

Years of experience _____ **//**
Record how many years you have worked in the community care sector

Assessment experience **//**
Do you have previous experience in undertaking assessments with a recognised instrument? Record (1) Yes (2) No.

About the screen

Time screen started _____

Time screen ended _____ **//**

Screening location _____ **//**
Record (1) By phone (2) Face to face in the person's home or usual accommodation (3) Face to face at your office (4) Other

Questions to complete after the screen

1. Did the client refuse to answer any questions OR did the client react with discomfort or distress to any of the questions you asked OR were there any questions that the client did not understand? If so, what were the question/s and what were the problems that the client had?

2. Do you think that any of the questions were inappropriate for this client? If so, list the number of the question/s and explain why.

3. How difficult was it to make the ratings? Tick one box only.

Very easy
 Moderately easy
 Unsure
 Moderately difficult
 Very difficult

If you found it difficult or are not confident with the results, please explain why here.

Questions for you to complete after the screen (continued)

4. How confident do you feel that the ratings you have recorded are accurate? Tick one box only.

Very confident
 Fairly confident
 Undecided
 Not very confident
 Not at all confident

5. Recommended assessments:

Assessments recommended by the screen (circle)			Assessments recommended by the interviewer (circle)		
Domestic functioning	Yes	No	Domestic functioning	Yes	No
Self care functioning	Yes	No	Self care functioning	Yes	No
Cognitive functioning	Yes	No	Cognitive functioning	Yes	No
Behaviour	Yes	No	Behaviour	Yes	No

Notes:

1. Indicate in the left-hand column the assessments that are recommended by the screening tool on pages 3 and 4 of this form.
2. Indicate in the right-hand column the assessments recommended by you (the interviewer). The interviewer may be guided by the results of the screen. However, the interviewer is not compelled to recommend those assessments unless you think that they are necessary.

6. If there is a discrepancy between the assessments recommended by the screen and the assessments recommended by you (the interviewer), please explain why:

Part One: Questions to ask the client (or the person who represents the client)¹:

Unique Client ID _____

Date screened _____

I would like to ask you about some of the activities of daily living, things that we all need to do as part of our daily lives. I would like to know if you can do these activities without any help at all, or if you need some help to do them, or if you can't do them at all. The questions refer to how you are managing at the moment.

Item	Question	Score	Record score	Recommended further assessment
1	Can you do your housework...			
	Without help (can clean floors etc)?	2		None
	With some help (can do light housework but need help with heavy housework)?	1		Domestic function
Or are you completely unable to do housework?	0	Domestic function		
2	Can you get to places out of walking distance...			
	Without help (can drive your own car, or travel alone on buses or taxis)?	2		None
	With some help (need someone to help you or go with you when travelling)?	1		Domestic function
Or are you completely unable to travel unless emergency arrangements are made for a specialised vehicle like an ambulance?	0	Domestic function		
3	Can you go out for shopping for groceries or clothes (assuming you have transportation)...			
	Without help (taking care of all shopping needs yourself)?	2		None
	With some help (need someone to go with you on all shopping trips)?	1		Domestic function
Or are you completely unable to do any shopping?	0	Domestic function		
4	Can you take your own medicine...			
	Without help (in the right doses at the right time)?	2		None
	With some help (able to take medication if someone prepares it for you and/or reminds you to take it)?	1		Cognition and Behaviour
Or are you completely unable to take your own medicines?	0	Cognition and Behaviour		
5	Can you handle your own money...			
	Without help (write cheques, pay bills etc)?	2		None
	With some help (manage day-to-day buying but need help with managing your chequebook and paying your bills)?	1		Cognition and Behaviour
Or are you completely unable to handle money?	0	Cognition and Behaviour		
6	Can you dress and undress yourself...			
	Without help (pick out clothes, dress and undress yourself)?	2		None
	With some help?	1		Self-care
Or are you completely unable to dress and undress yourself?	0	Self-care		
7	Can you take a bath or shower...			
	Without help?	2		None
	With some help (eg, need help getting into or out of the tub)?	1		Self-care
Or are you completely unable to bathe yourself?	0	Self-care		

NOTES:

- A cognitive or behavioural assessment may not be required where it can be determined that physical disability (eg, blindness) is the reason why the client is not independent on the finance and medication items.
- If unanswered, score X.
- Rate what the person is currently capable of doing rather than what they actually do. In assessing capability, take into account not only physical function but also cognition (such as problems caused by dementia or an intellectual disability) and behaviour (such as unpredictable challenging behaviour). Consumers able to complete a task with verbal prompting should not be rated as independent (and therefore should be rated as a 1). In rating an item that is irrelevant (for example, the person has no shops in the vicinity or does not use any medications), rate based on what the person would be capable of doing if the item was actually relevant to their situation.

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Part Two: Questions to ask a proxy respondent, such as a friend, relative, carer or referring agency.

If your interview is not with a proxy respondent, leave this section blank and complete the feedback questions on pages 1 and 2. Thank you.

Unique Client ID _____

Date screened _____

Person providing information about the client (tick one):

Resident carer Non-resident carer, relative or friend

GP or hospital Community Care agency

Other Please specify _____

Item	Question	Record score	Recommended further assessment
8	Does the person have any memory problems or get confused? No – score 2 Yes – score 0		None Cognition and Behaviour
9	Does the person have behavioural problems for example, aggression, wandering or agitation? No – score 2 Yes – score 0		None Cognition and Behaviour

**This completes the functional screen.
Now complete the feedback questions on pages 1 and 2. Thank you!**

Appendix 6

Assessment Form used in the field test

About the client

Unique client number **8888888888**

HACC Letters of Name **88888**
(2nd, 3rd & 5th letters of surname and 2nd & 3rd letters of given name)

Sex (circle one) M F

Date of birth [c] dd/mm/yyyy **88 88 8888**

Main language spoken at home _____

Indigenous status
*Aboriginal or Torres Strait Islander as identified by the person.
 If yes, record 1. If no, record 2.*

Source of referral
*Record (1) Existing client already receiving services from this agency (2)
 Self-referred (3) Family or carer (4) GP (5) Hospital (6) Other*

First assessment
*Is this the first time you have assessed this person in the last 2 weeks?
 Record (1) Yes (2) No.*

For repeat assessments only
*Has the person's needs changed in the last 2 weeks?
 Record (1) Yes (2) No (3) Don't know.*

About the person completing this form

Your ID **8888888888**

Job title _____

Professional qualifications _____

Record (1) Qualified health professional (2) Qualified in welfare or other relevant field (3) No relevant qualifications

Years of experience _____

Record how many years you have worked in the community care sector

Assessment experience
Do you have previous experience in undertaking assessments with a recognised instrument? Record (1) Yes (2) No.

About the assessment

Time assessment started _____

Time assessment ended _____

Assessment location
*Record (1) Person's home or usual accommodation (2) At your office
 (3) Other*

Feedback after completing the assessment

1. Were any of the items inappropriate for this client? If so, list the item/s and explain why.
2. Does this client require assistance with daily living in areas that were missing in the assessment? If so, what is missing?
3. Did this assessment tell you anything useful about the client that you didn't already know? If so, what was it?

4. How difficult was it to make the ratings? Tick one box only.

Very easy

Moderately easy

Unsure

Moderately difficult

Very difficult

5. How confident do you feel that the ratings you have recorded are accurate?
 Tick one box only.

Very confident

Fairly confident

Undecided

Not very confident

Not at all confident

If you found it difficult or are not confident with the results, please explain why here.

Part 1: Self Care Functional Assessment¹

Unique Client ID _____

Date assessed _____

Item	Score	Item	Scoring instructions	Score
1: Bowels	0 1 2	Incontinent (or needs to be given enema) Occasional accident (once/week) Continent	Rate based on the last week. If needs enema from nurse, then incontinent. Occasional = once a week.	
2: Bladder	0 1 2	Incontinent, or catheterised and unable to manage Occasional accident (max. once per 24 hours) Continent (for over 7 days)	Rate based on the last week. Occasional = less than once a day. A person with a catheter who can completely manage the catheter alone is scored 'continent'.	
3: Grooming	0 1	Needs help with personal care Independent face/hair/teeth/shaving	Rate based on the last week. Refers to personal hygiene: doing teeth, fitting false teeth, doing hair, shaving, washing face. Implements can be provided by helper.	
4: Toilet use	0 1 2	Dependent Needs some help, but can do something alone. Independent (on and off, dressing, wiping). Should be able to reach toilet/commode, undress sufficiently, clean self, dress and leave.	With help = can wipe self and do some of the other listed activities.	
5: Feeding	0 1 2	Unable Needs help cutting, spreading butter etc. Independent (food provided in reach). Able to eat any normal food (not only soft food). Food cooked and served by others. But not cut up.	Help = food cut up, consumer feeds self.	
6: Transfer (from bed to chair and back)	0 1 2 3	Unable - no sitting balance Major help (one or two people, physical), can sit. Minor help (verbal or physical) Independent	Dependent = no sitting balance (unable to sit); two people to lift. Major help = one strong/skilled, or two normal people. Can sit up. Minor help = one person easily, OR needs any supervision for safety.	
7: Mobility	0 1 2 3	Immobile Wheelchair independent including corners etc. Walks with help of one person (verbal or physical) Independent (but may use any aid, eg. stick)	Refers to mobility about the house or ward, indoors. May use aid. If in wheelchair, must negotiate corners/doors unaided. Help = by one, untrained person, including supervision/moral support.	
8: Dressing	0 1 2	Dependent Needs help, but can do about half unaided Independent (including buttons, zips, laces, etc.)	Should be able to select and put on all clothes, which may be adapted. Half = help with buttons, zips, etc. (check!), but can put on some garments alone.	
9: Stairs	0 1 2	Unable Needs help (verbal, physical, carrying aid) Independent up and down	May carry any walking aid to be independent.	
10: Bathing (or showering)	0 1	Dependent Independent (or in shower)	Usually the most difficult activity. Must get in and out unsupervised, and wash self. Independent in shower = independent if unsupervised/unaided	
Total score (out of 20)				

¹ The 20 point Modified Barthel Index (Collins scoring)

Part 2: Domestic Functioning Assessment in Activities of Daily Living²

Unique Client ID _____

Date assessed _____

Item number	Item	Score	Task	Score
1	Telephone	1	Does not use telephone at all	
		2	Answers telephone but does not dial	
		3	Dials a few well-known numbers. Includes dialling only numbers that can be speed dialled.	
		4	Operates telephone on own initiative - looks up and dials numbers etc. Includes use of TTY machine if no other assistance required.	
2	Shopping (do not include transport here –rate at item 6)	1	Completely unable to shop	
		2	Needs to be accompanied on any shopping trip	
		3	Shops independently for small purchases	
		4	Takes care of all shopping needs independently	
3	Food preparation	1	Needs to have meals prepared and served	
		2	Heats and serves prepared meals, or prepares meals but not does maintain adequate diet (see note below)	
		3	Prepares adequate meals if supplied with ingredients	
		4	Plans, prepares, serves adequate meals independently	
4	Housekeeping	1	Does not participate in any housekeeping tasks	
		2	Performs some light daily tasks but not at a level necessary to maintain an acceptable standards of cleanliness (see note below)	
		3	Performs light daily tasks eg dishwashing, dusting	
		4	Maintains house independently	
5	Laundry (excludes ironing)	1	All laundry must be done by others	
		2	Launders small items - rinses socks, stockings etc	
		3	Does personal laundry but needs help with heavier items such as bedding and towels	
		4	Does personal laundry completely	
6	Mode of transportation	1	Requires manual assistance from more than 1 person or does not travel at all	
		2	Travel limited to taxi or automobile with assistance of one other person	
		3	Travels on public transportation when assisted or accompanied by another	
		4	Travels independently on public transportation or drives own car. Includes arranging own travel via taxi but not otherwise using public transport.	
7	Responsibility for own medications	1	Is not capable of dispensing own medication	
		2	Takes responsibility if medication is prepared in advance in separate dosages	
		3	Responsible for taking medications in correct dosage at correct time	
8	Ability to handle finances	1	Incapable of handling money	
		2	Manages day-to-day purchases, but needs help with banking, major purchases etc	
		3	Manages financial matters independently (budgets, writes cheques, pays rent, bills, goes to bank), collects and keeps track of income	
Total score (out of 30)				

General rating instructions

1. Rate what the person is currently capable of doing rather than what they actually do. In assessing capability, take into account not only physical function but also cognition (such as problems caused by dementia or an intellectual disability) and behaviour (such as unpredictable challenging behaviour). Consumers able to complete a task with verbal prompting should not be rated as independent (and therefore should be rated as a 2 or a 3)
2. In rating an item that is irrelevant (for example, the person does not have a phone or has no shops in the vicinity or does not use any medications), rate based on what the person would be capable of doing if the item was actually relevant to their situation.
3. When assessing issues such as whether diet is adequate or there are acceptable standards of cleanliness, take into account the person's social and cultural context. Rate based on what is adequate or acceptable in that context and not in your own.

² Scale based on original Lawtons IADL scale, but modified by the CHSD specifically for use in the HACC program.

Part 3: Behavioural functioning assessment³

Unique Client ID _____

Date assessed _____

Number	Item	Score	Implications for carers and/or community service providers	Score
1	PROBLEM WANDERING OR INTRUSIVE BEHAVIOUR			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
2	VERBALLY DISRUPTIVE OR NOISY			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
3	PHYSICALLY AGGRESSIVE			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
4	EMOTIONAL DEPENDENCE			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
5	DANGER TO SELF OR OTHERS			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
Total score (out of 20)				

General rating instructions

1. Take into account all sources of information (discussion with the consumer and carers, staff etc as well as what you observe).
2. If you have insufficient information to make a rating, rate 4 'not applicable'.
3. **Not applicable** means that you learn of no circumstances in which the consumer has engaged in the behaviour in the past.
4. **Monitoring** means that you learn of circumstances in which the consumer has engaged in the behaviour in the past. Current and future service providers will need to observe the consumer, be aware when similar circumstances occur and take appropriate intervention to prevent the recurrence of the behaviour.
5. **Supervision** means that current or future service providers will need to ensure that specific situations or triggers which are likely to give rise to the behaviour do not occur, or are managed in ways to minimise the likelihood of occurrence.
6. **Daily** means during a twenty four hour period.
7. **Question 1** includes night wandering and also to the consumer wandering from home or, while wandering, interfering with other people or their belongings.
8. **Question 2** includes abusive language and verbalised threats directed at family, carers, neighbours or a member of staff. It also includes a consumer whose behaviour causes sufficient noise to disturb other people. That noise may be either (or a combination of) vocal, or non-vocal noises such as rattling furniture or other objects.
9. **Question 3** includes any physical conduct that is threatening and has the potential to harm a family member, a carer, a visitor or a member of staff. It includes, but is not limited to, hitting, pushing, kicking or biting.
10. **Question 4** is limited to the following behaviours: (a) active and passive resistance other than physical aggression (b) attention seeking (c) manipulative behaviour and/or (4) withdrawal.
11. **Question 5** refers only to high-risk behaviour. It includes behaviour requiring supervision or intervention and strategies to minimise the danger. Examples of such behaviour include unsafe smoking habits, walking without required aids, leaning out of windows, self-mutilation and suicidal tendencies. This question is about behaviour and does not apply where a consumer has a medical condition that might lead to injury, for example, through fitting or loss of consciousness. It does not apply to a range of behaviours which might in the longer term be considered as damaging or health reducing such as smoking generally or non-compliance with a specialised diet. It applies where there is an imminent risk of harm.

³ Items from the Australian RCS with instructions modified for use in a community setting

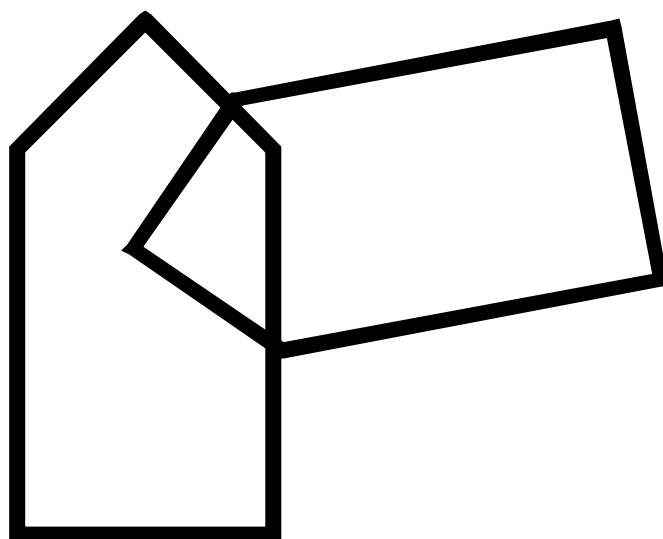
Part 4: The cognitive assessment⁴ Unique Client ID**Date assessed**

(Complete only if you are trained in the MMSE. Otherwise leave blank)

ORIENTATION:	SCORE	POINTS
What is the year?	[]	1
What is the season?	[]	1
What is the date?	[]	1
What is the day of the week?	[]	1
What is the month?	[]	1
What city/town are we in?	[]	1
What state are we in?	[]	1
What country are we in?	[]	1
What town/suburb are we in?	[]	1
What is the address?	[]	1
 REGISTRATION:		
Name three objects, taking one second to say each. Then ask the person to repeat them. Give one point for each correct answer. 'Apple Table Penny.'		
Repeat the answers (up to six times) until the person learns them.	[]	3
 ATTENTION AND CALCULATION:		
	[]	5
A Ask the person to subtract 7 from 100, then subtract 7 from the answer. Keep subtracting 7 until they reach 65. (93, 86, 79, 72, 65).		
B Ask the person to spell the word WORLD backwards.		
 NB *Subjects are given both A and B, record the highest score.		
 RECALL:		
Ask the person "Now what were the three words I asked you to remember?"	[]	3
 LANGUAGE:		
Naming: What is this called? (Show the person a wrist watch)	[]	2
What is this called? (Show the person a pencil)	[]	
Repetition: Have the person repeat "No ifs, ands or buts." Allow only one trial.	[]	1
Reading: Have the person read and do the following command as printed on the back of this form ('CLOSE YOUR EYES')	[]	1
3 stage command: Have the person follow a 3 stage command: 'Take a paper in your right hand, fold the paper in half using both hands, and put the paper down using your left hand'.	[]	3
Writing: Have the person write a short sentence. Do not dictate a sentence, it is to be written spontaneously. It must contain a subject and verb and be sensible. Correct grammar and punctuation are not necessary.	[]	1
Copying: Now copy the design that you see printed (design on back of this form). The results must have 5 sided figures with intersection forming a four sided figure. Ignore tremor and rotation	[]	1
	[]	1
	[] TOTAL	30

4 Folstein Mini-Mental State Examination

CLOSE YOUR EYES



Appendix 7

Statistical analysis of the items in the functional screening tool

A7.1. Were the “right” clients selected for assessment?

Assessments could be recommended either by the scores on screening items or by the interviewer if he/she felt that the screen’s recommendation was not appropriate. During the field trial, assessments were conducted on many clients, even when they hadn’t been recommended.

One way of deciding whether the “right” clients were being recommended is to compare assessment scores. We would expect the scores to be lower, indicating greater dependency, for those who were recommended for assessments.

We therefore looked at assessment scores in the light of both staff and screen recommendations. In a sense we were investigating the relationship between the “need” for assessment and the staff or screen recommendation.

For a substantial number of clients, however, staff decided not to assess despite the recommendation of the screen, either because adequate support services were already in place or because they already knew the information and felt that further assessment would be intrusive and unnecessary. For these clients, the staff member’s decision was not based on his or her judgement of the client’s “need” for assessment because of functional limitations. It was not appropriate to assess the staff recommendations by the “need” of these clients since the recommendation was made for different reasons. These clients were therefore excluded from those analyses below that are based on the staff recommendations.

This issue of whether the screen selected the “right” clients has been examined in two ways:

1. Descriptive statistics – averages, standard deviations, maximum and minimum values and the range of values were compared.
2. Analysis of **sensitivity** and **specificity** – for each assessment tool, clients were allocated to one of two groups – little or no dependency versus mild to substantial dependency.

The **sensitivity** of the recommendation is measured as the proportion of those with higher dependency levels (based on the assessment) for whom an assessment was recommended.

The **specificity** is measured as the proportion of the little or no dependency group levels (based on the assessment) for whom an assessment was not recommended.

Obviously we want both to be as high as possible, but different criteria may result in an increase in one but a consequent decrease in the other.

Self care

Table 25 Self-care assessments recommended by the screen

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	125	10.10	6.09	0	20
Y	New	99	12.58	5.02	0	20
N	Existing	60	18.35	1.96	12	20
N	New	55	18.65	2.07	9	20

Table 25 shows the self-care assessments recommended by the screen. There was a statistically significant difference between the self-care scores of those recommended and those not recommended for assessment by the screen (for both new and existing clients) with those not recommended achieving substantially higher scores. Existing clients who had been recommended for a self-care assessment had lower scores than the equivalent group of new clients. The difference is only small but is statistically significant.

Table 26 Self-care assessments recommended by the interviewer

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	88	12.08	5.95	0	20
Y	New	94	13.13	5.06	0	20
N	Existing	48	15.42	6.23	1	20
N	New	36	17.53	4.73	2	20

Table 26 shows equivalent data for the interviewers. Again, the self-care scores of those who had been recommended for further assessment were lower than those of clients not recommended for further assessment. Although the differences are statistically significant for both new and existing clients, they are much smaller than those found between the groups based on the screen's recommendations.

The difference between those recommended and those not recommended was greater for the screening recommendations than for the interviewer recommendations.

To calculate the sensitivity and specificity of the screen and the staff recommendations, clients were grouped into high need (self-care score less than 19) and low or no need (self-care score of 19 or 20). The sensitivity is then the proportion of those in the high need group for whom further assessment is recommended, while the specificity is the proportion of those in the low or no need group for whom further assessment is not recommended.

Table 27 shows the results in relation to sensitivity and specificity. The screen performed better than the interviewers on both sensitivity and specificity.

Table 27 Sensitivity and specificity of the Self Care measure

	Sensitivity	Specificity
Recommended by screen	84%	83%
Recommended by staff	71%	71%

Domestic

Table 28 *Domestic assessments recommended by the screen*

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	194	16.73	5.95	8	29
Y	New	169	17.48	5.84	8	30
N	Existing	15	28.13	2.39	22	30
N	New	4	29.00	1.41	27	30

Table 29 *Domestic assessments recommended by the interviewer*

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	131	17.35	5.97	8	29
Y	New	140	17.96	6.08	8	30
N	Existing	30	20.50	7.81	8	30
N	New	8	17.38	7.42	8	30

Table 28 and Table 29 show equivalent results for domestic assessments. There were no statistically significant differences between the domestic assessment scores for either new or existing clients. The difference between the scores of those recommended and those not recommended for assessment by the screen was significantly different. These differences are quite large, though few clients were recommended for further assessment. However, this difference was not found for the staff recommendations.

To calculate the sensitivity and specificity of the screen and the staff recommendations, clients were grouped into high need (domestic assessment score less than 26) and low or no need (domestic assessment score from 26 to 30). This threshold is somewhat arbitrary but will still enable us to compare results for the two groups. The sensitivity is then the proportion of those in the high need group for whom further assessment is recommended, while the specificity is the proportion of those in the low or no need group for whom further assessment is not recommended.

Table 30 *Sensitivity and specificity of the Domestic measure*

	Sensitivity	Specificity
Recommended by screen	99%	35%
Recommended by staff	80%	31%

Table 30 shows the results in relation to sensitivity and specificity. The interviewer recommendations were less sensitive than the screen with little improvement in specificity.

Behaviour

Table 31 *Behavioural assessments recommended by the screen*

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	139	17.89	3.11	6	20
Y	New	102	17.54	3.99	5	20
N	Existing	31	19.13	2.00	10	20
N	New	28	19.93	0.26	19	20

Table 32 Behavioural assessments recommended by the interviewer

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	66	16.55	3.57	7	20
Y	New	45	15.60	4.84	5	20
N	Existing	60	19.48	1.05	15	20
N	New	64	19.73	1.06	12	20

Table 31 and Table 32 show the results for behavioural assessments. There is a bigger discrepancy between the behaviour scores for those recommended and those not recommended by the interviewer than for the corresponding recommendation by the screen. There was a statistically significant difference between those behavioural assessment scores recommended by the interviewer and those not recommended by the interviewer, for both new and existing clients. There was a statistically significant difference between those recommended by the screen and those not recommended by the screen, for new clients only. The difference for existing clients was just statistically significant at the 5% level.

To calculate the sensitivity and specificity of the screen and the staff recommendations, clients were grouped into moderate to high need (behaviour score less than 20) and no-need (behaviour score equal to 20). The sensitivity is then the proportion of those in the high need group for whom further assessment is recommended, while the specificity is the proportion of those in the no-need group for whom further assessment is not recommended.

Table 33 Sensitivity and specificity of the behaviour measure

	Sensitivity	Specificity
Recommended by screen	92%	29%
Recommended by staff	72%	81%

Table 33 shows the results in relation to sensitivity and specificity. The interviewer recommendations were less sensitive but had much higher specificity than those of the screen.

Cognition

Table 34 Cognitive assessments recommended by the screen

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	42	22.19	8.70	0	30
Y	New	22	22.46	6.98	7	30
N	Existing	8	26.88	2.75	23	30
N	New	6	28.67	1.03	28	30

Table 35 Cognitive assessments recommended by the interviewer

Recommended?	Referral status	n	Average of total	Standard Deviation	Minimum of total	Maximum of total
Y	Existing	27	22.44	7.54	0	30
Y	New	14	22.79	6.42	8	29
N	Existing	9	27.89	1.96	25	30
N	New	9	27.78	2.49	22	30

Table 34 and Table 35 show the results on the cognitive measure. Although the number of clients is small, the results for both interviewer and screen recommendations appear to be very similar.

Using the screen recommendations, there was a significant difference between those recommended and those not recommended, for both new and existing clients. Using the interviewer recommendation, there was a significant difference for existing clients only.

To calculate the sensitivity and specificity of the screen and the staff recommendations, clients were grouped into high need (MMSE score less than 25) and low or no need (MMSE score greater than 24). The sensitivity is then the proportion of those in the high need group for whom further assessment is recommended, while the specificity is the proportion of those in the low or no need group for whom further assessment is not recommended.

Table 36 **Sensitivity and specificity of the cognition measure**

	Sensitivity	Specificity
Recommended by screen	95%	28%
Recommended by staff	84%	54%

Table 36 shows the results in relation to sensitivity and specificity. The numbers are small and so it is difficult to draw conclusions. But it appears that interviewer recommendations did better than the screen recommendations with slightly less sensitivity but a good deal greater specificity.

In summary, the results indicate that:

- Scores on all assessments were indeed higher for the clients for whom there had been no recommendation for further assessment;
- The screen appeared to be better able to identify clients requiring further self-care assessment than the interviewers;
- The screen appeared to be better able to identify clients requiring further domestic assessment than the interviewers;
- Staff appeared to be better able to identify clients requiring further behavioural assessment than the screen;
- The number of clients who had a cognitive assessment was small. However it did appear that staff and the screen were equally capable of selecting appropriately.

Using the total assessment score as a guide, we can be confident that the screen works well in selecting the appropriate clients for further assessment.

A7.2 Alternative rules to trigger an assessment: can we use the screen items in a better way?

To assess the screening tool we need to look at its validity and its reliability. To evaluate the validity, we have calculated sensitivity and specificity and the results appear below. To evaluate the reliability requires repeat screens on a number of clients. Unfortunately, because of the short time frame of the data collection period, only nine clients had more than one screen. A larger data set collected over a longer period of time would provide information to test the reliability.

Reliability could be used to assess the items themselves. Validity can be used to assess the thresholds for triggering an assessment.

Different rules for deciding whether or not a client should be assessed further can be compared in terms of their sensitivity and specificity. To do this, the 'need' for assessment has to be measured. This was achieved by using the total scores clients achieved on the assessments since there were no other independent measures available. Consequently, this analysis makes use of clients with both screen and assessment results.

Sensitivity is the proportion of clients needing further assessment who are detected by the screen. A sensitivity of 90%, say, means that 10% of clients with higher dependency are missed. There is a cost associated with missing these clients.

Specificity is the proportion of clients not needing further assessment for whom the screen does not recommend further assessment. A specificity of 60%, say, means that 40% of clients with low levels of dependency are assessed unnecessarily. There is a cost associated with this mistake.

The decision regarding appropriate thresholds for triggering further assessments needs to consider the relativity between these two costs.

For each of the assessment tools, different ways to use the screening items were compared in terms of their sensitivity and specificity.

What items and scoring approach should be used to screen for domestic functioning?

It is helpful to consider the screening for domestic functioning in two steps: the first is to determine what items (and scoring approach) should be in the screen, the second is then to consider the appropriate threshold for triggering the assessment. The first is perhaps the most important as it is the items that will be adopted into the MDS. Once the items are routinely collected, it will be possible to use the routine collection to review the trigger points over time.

Our analysis supports the 5 domestic items included in the screen. They are generally acceptable to staff and clients and they correlate well with assessment scores:

- (a) correlation of the Lawton's total with the sum of the first 5 items = 0.9141
- (b) correlation of the Lawton's with the number of dependencies in the first 5 items = -0.8252

Further, there is an established hierarchy amongst these items.

Item hierarchy

The first five items relate to IADL functions. There was some interest in whether they were hierarchical or not. When the clients were grouped according to the number of dependencies they reported, the items were indeed found to be hierarchical.

The order of the items was found to be housework (Item 1), shopping (Item 3), transport (Item 2), finances (Item 5), medication (Item 4). The coefficient of reproducibility was 0.9674. Any value over 0.9 is considered to be good. This statistic gives a measure of how well a scale score will predict the respondent's response pattern on all items.

Table 37 gives the number of dependencies, the item or combination of items most commonly reported and the percentage of clients with this response pattern amongst those with the same number of dependencies.

Table 37 ***Item hierarchy***

Number of dependencies	Item (s) most commonly mentioned	Percentage within the group
1	Housework	80%
2	Housework and shopping	46%
3	Housework, shopping and transport	78%
4	Housework, shopping, transport and finances	67%

Scoring method

Given that these 5 items remain in the screen, the next issue is how to score them. There are two possible approaches: (a) the five OARS questions as scored in the field test or (b) the 5 questions scored on a Yes/No basis (thus corresponding to a count of the number of dependencies).

The advantages of (a) are that it gives flexibility in any further assessment of thresholds; it provides extra information for other purposes; and it does not interfere with the ability to define different cognitive assessment triggers (this is important given that the cognitive assessment is only based on 2 of these questions). Its disadvantages are that: the questions take longer to ask and the answers may be less reliable than (b). For (b), the advantages and disadvantages are reversed.

On balance, the approach used in the trial is preferable and has been maintained in the recommended instrument shown in Appendix 8.

What should trigger a Domestic Assessment?

In the field trial, the screening tool triggered a domestic assessment if a dependency was recorded in any of the first three items. These covered housework, shopping and transport.

This was considered to be too sensitive. Only 15% of clients were independent on housework alone. Some of these clients were not totally independent on the shopping and transport items. In fact, for 89% of clients a domestic assessment was triggered by the screen.

A number of alternatives were tested to assess whether there are better rules for triggering a domestic assessment than the one used in the trial. In all cases, a client was defined as "needing" an assessment if their subsequent score on the domestic measure (the Lawton's) was <26 out of the 30 points possible on the scale. This cut-off is somewhat arbitrary and there are no established standards on this measure. Nevertheless, it gives a reasonable indication of the functional status of the client in the absence of any other independent measure.

One set of options involved the calculation of a total score for the first three or five items. Different cut-offs and the inclusion of different items can be compared for sensitivity and specificity. Rather than scores on individual items acting as a trigger (the rule used in the trial), the sum of scores on the first items on the screen might be used to detect the need for a domestic assessment. Items 4 and 5 in the screen were included in the field test to trigger a cognitive and behavioural assessment and were not originally included as triggers of a domestic assessment. But, as these items are valid IADL items in their own right, it seemed reasonable to assess whether they could be used for other purposes as well.

Another approach tested was to simply count the number of items where the client was reported as having any level of dependency. Again, the 3 item and the 5 item options were tested.

Finally, the current rule was tested but with a change in the trigger for assessment in item 1. Under this option, only a score of 0 for Item 1 would trigger an assessment. For items 2 and 3 a score of 1 or 0 would continue to trigger an assessment, as had occurred in the field trial.

Table 38 Options for triggering a domestic functioning assessment

Option	Description	Sensitivity	Specificity
1	Total score of items 1-5 < 10	100%	26%
2	Current rule (any one of items 1-3 scoring less than 2)	99%	35%
3	Total score of items 1-5 < 9	98%	66%
4	Current rule except that, for Item 1, a score only of 0	97%	68%
5	Total score of items 1-5 < 8	95%	80%
6	Total score of items 1-3 < 5	95%	71%
7	3, 4 or 5 dependencies (a score of either 0 or 1) in items 1-5	94%	82%
8	2 or 3 dependencies (a score of either 0 or 1) in items 1-3	94%	73%
9	Total score of items 1-3 < 4	90%	89%
10	Total score of items 1-5 < 7	84%	100%
11	Total score of items 1-5 < 6	73%	100%

The results of the various options are shown in Table 38. They are ordered based on their sensitivity. To compare the possibilities, the balance between the sensitivity and the specificity must be considered.

It can make sense in some cases to add the sensitivity and specificity together and try to maximise this value, if the costs of the two ways of making a mistake can be thought of as equal. However, consultation with the project's steering group confirmed that sensitivity was more important than specificity. Nevertheless, they shared the team's concern that the specificity of the current approach (35%) was too low. It would mean that 65% of clients referred for assessment would subsequently be found to be quite independent (ie, they would have a subsequent score on the domestic measure of 26 or more out of the 30 points possible on the scale).

Several alternatives look reasonable. Option 4, which involves changing the current rule simply by changing the trigger for assessment in item 1, improved specificity from 35% to 68% with little decline in sensitivity (from 99% to 97%). However, several of the other options achieved better statistical results when both sensitivity and specificity are taken into account.

Whether the option involved summing the total score or counting the number of dependencies, the inclusion of Items 4 and 5 tended to improve the specificity of the results without any significant decline in sensitivity. Three alternatives to using individual items to trigger an assessment look particularly reasonable:

Option	Description	Sensitivity	Specificity
5	Total score of items 1-5 < 8	95%	80%
7	3, 4 or 5 dependencies (a score of either 0 or 1) in items 1-5	94%	82%
9	Total score of items 1-3 < 4	90%	89%

Each has advantages and disadvantages. Option 4 is easy to understand but its specificity is still low. Options 5 and 7 give the best results overall if we are to assign a greater weight to sensitivity than to specificity. Option 5 makes use of the score while Option 7 is simply a count of the number of dependencies. Option 9 is more consistent with the design of the field test. But its sensitivity is a little low given the alternatives.

Based on this analysis, we modified the rule for triggering a domestic assessment and adopted Option 7 instead. The reasons are:

- It gives a very good total (sensitivity and specificity), and the gain over Option 4 in specificity of 14% greatly outweighs a small drop in sensitivity of 3%. Any sensitivity over 90% is generally considered excellent.
- It is easier for a person to score (counting not summing).

- It makes less restrictive hierarchical assumptions about combining the scores of the different items (it avoids the problems arising because the scale is ordinal rather than interval).

The rule for triggering a domestic assessment thus becomes:

*Look solely at items 1 to 5. Count the number of these 5 items that scored 2.
Refer for a domestic functional assessment if the count is 2 or less (a count of 0, 1 or 2).*

What should trigger a Self-Care Assessment?

In the field trial, the screening tool triggered a self care assessment if a dependency was recorded on item 6 or 7. These covered dressing and bathing.

The result was considered to be satisfactory (84% sensitivity and 83% specificity). However, it was below that achieved for the domestic items and so we tested 14 alternatives to assess whether there are better rules for triggering a self-care assessment than the one used in the trial. In all cases, a client was defined as requiring an assessment if their subsequent score on the self-care measure (the Barthel) was <19 out of the 20 points possible on the scale. This cut-off is based on that suggested by Shah et al(1989). It gives a reasonable indication of the functional status of the client in the absence of any other independent measure.

One set of options involved assessing whether the score on the domestic items could actually be used to trigger a self-care assessment. If so, it might be possible to reduce the number of items in the screen.

Another set of options involved assessing whether any of the items included in the Barthel Index might be better as screening items than the two originally selected. Only one of the Barthel items was considered as a possibility – mobility. It could be potentially used as a replacement for either dressing or bathing.

Another approach tested was to simply count the number of items where the client was reported as having any level of dependency. Again, the 3 item and the 5 item options were tested.

Finally, we looked at the possibility of combining possible triggers for an assessment so that a score on the domestic items and/or the self-care items would trigger an assessment.

The results of the various options are shown in Table 39. They are ordered based on their sensitivity, with the current rule shown as Option 9.

In considering whether there is a better trigger to the current one, it is again necessary to consider both sensitivity and specificity. Only one of the other options proved to be better when both sensitivity and specificity are taken into account. This improved approach removes the item on dressing and substitutes it with an item on mobility. The other options with better sensitivity either had poor specificity (options 1, 2, 3 and 6) or were unreasonably complicated (options 4, 5 and 7).

Based on this analysis, we have re-designed the screening tool to replace the item on dressing with an item on mobility. However, the rule for triggering a self-care assessment remains unchanged.

Table 39 Options for triggering a self-care assessment

Option	Description	Sensitivity	Specificity
1	Total of items 1-5 < 10	99%	13%
2	Total of items 1-5 < 9	97%	30%
3	Total of items 1-5 < 8	95%	38%
4	Total of items 7 and recoded mobility<4 plus total of items 1-5<10, OR total items 1-5<6	92%	67%
5	Less than 2 on either item 6 or 7 plus total of items 1-5<10, OR total items 1-5<6	91%	67%
6	Total of items 1-5 < 7	89%	58%
7	Total of items 6 and 7<3 plus total of items 1-5<10, OR total items 1-5<6	88%	71%
8	Current rule but with mobility replacing dressing as a screening item	86%	87%
9	Current rule (either of items 6-7 scoring less than 2)	84%	83%
10	Total of items 7 and recoded mobility<3 plus total of items 1-5<10, OR total items 1-5<6	83%	73%
11	Total of items 1-5 < 6	82%	73%
12	Total of items 6 and 7<2 plus total of items 1-5<10, OR total items 1-5<6	82%	73%
13	Total of items 7 and recoded mobility<2 plus total of items 1-5<10, OR total items 1-5<6	80%	73%
14	Current rule but with mobility replacing bathing as a screening item	78%	91%
15	Total of items 1-5 < 5	62%	85%

What should trigger a behavioural assessment?

In the field trial, the screening tool triggered a behavioural assessment in one of two ways. One way was by use of the items on financial management and medication management. Client dependency on either of these items would trigger both a behavioural and a cognitive assessment. Alternately, if a proxy provided answers to questions 8 and 9, these questions could also trigger a behavioural assessment. Question 8 dealt with problems of memory or confusion while question 9 dealt with behavioural problems. A problem on either would trigger a behavioural assessment.

The total score on the behavioural scale was correlated with the scores on items 4 and 5. The correlation between the total behaviour score and the sum on items 4 and 5 was 36%, suggesting a weak relationship. The correlation between the total behaviour score and various items on the Lawton's items was then measured to identify whether any other items might work better as screening items. The best correlations were as follows:

- Correlation between total behaviour score and score on medication = 35%
- Correlation between total behaviour score and score on telephone = 31%
- Correlation between total behaviour score and score on finances = 30%

Sensitivity and specificity for the trigger rule used in the trial were calculated. As shown in Table 40, the results in relation to sensitivity (92%) was good. However, specificity was very low (29%). We thus tested alternatives to assess whether there are better rules for triggering a behavioural assessment than the one used in the trial.

In all cases, a client was defined as requiring an assessment if their subsequent score on the behaviour measure was <20 out of the 20 points possible on the scale. This cut-off is again somewhat arbitrary and there are again no established standards on this measure. Nevertheless, 20 is the maximum score on this tool and the distinction we are making gives a reasonable indication of the functional status of the client in the absence of any other independent measure.

Table 40 Options for triggering a behavioural assessment

Option	Description	Sensitivity	Specificity
1	Current rule	92%	29%
2	(Item 6 + Item 7) < 4 or Item 9 = 0	89%	30%
3	(Item 6 + Item 7) < 3 or Item 9 = 0	73%	52%
4	(Item 6 + Item 7) < 2 or Item 9 = 0	53%	76%

None of the results have the right balance between sensitivity and specificity. Including a score of 0 on Item 8 improves the above values a little, but not enough to warrant its inclusion as a trigger question for a behavioural assessment.

The alternative, and the approach we have adopted, is to change the way that Item 9 (and also Item 8) is scored. In the field trial there was no capacity for the interviewer to rate based on their own impressions of the client. Both trial participants and the steering committee raised a reasonable point on this issue - that items 8 and 9 could be rated based on what another provider observed but not on what the interviewer observed.

We have re-designed the screening form (see Appendix 8) so that the interviewer completes items 8 and 9 based on all information available to them. This could include their judgement based on interviewing or observing the client, information contained in a referral letter, client notes or information provided by a proxy respondent, such as a friend, relative, carer or referring agency.

Obviously, this approach was not tested during the field test but is, instead, an outcome of it. Accordingly, we propose that items 4 & 5 continue to trigger behavioural and cognitive assessments until such time as the results of the change are subjected to empirical testing. We expect that this change to the rules re items 8 and 9 will make a big difference, especially in relation to specificity. However, the actual impact can only be determined through a formal test.

Another change we have made is to re-design the form so that it is clearer that the use of a score of 0 or 1 on Items 4 or 5 to trigger an assessment only applies if the reason for the dependency is not physical. This overcomes a problem found by respondents in the trial. They saw the screen recommending behavioural and cognitive assessments when they were inappropriate for clients who could not manage their medication or finances due to physical incapacity.

Overall, we are not convinced that we have an optimum solution for selecting clients for a behavioural assessment. It could be that only the new version of Item 9 will be required as the relationship between Items 4 and 5 and the behaviour scores is only weak. We propose that items 4 and 5 be retained as triggers for a behaviour assessment at the moment. When a reasonable amount of data from the new forms are available, the rules for triggering a behavioural assessment should be re-evaluated.

What should trigger a cognitive assessment?

In the field trial, the screening tool triggered a cognitive assessment in the same way that it triggered a behavioural assessment. One was by use of the items on financial management and medication management. Client dependency on either of these items, when the reason was not physical, would trigger both a behavioural and a cognitive assessment. Alternately, if a proxy provided answers to questions 8 and 9, these questions could also trigger a cognitive assessment. Question 8 dealt with problems of memory or confusion while question 9 dealt with behavioural problems. A problem on either would trigger a cognitive assessment.

The total score on the behavioural scale was correlated with the scores on items 6 and 7. The correlation between the total cognition score and the sum on items 6 and 7 was 57%, suggesting a relationship, albeit not a strong one. The correlation between the total cognition score and various

items on the Lawton's items was then measured to identify whether any other items might work better as screening items. The best correlations were as follows:

- Correlation between total cognition score and score on telephone = 62%
- Correlation between total cognition score and score on medication = 54%
- Correlation between total cognition score and score on finances = 53%

All correlations were better for cognition than the equivalent results for behaviour.

As shown in Table 41, the result in relation to sensitivity (95%) was good. However, as with behaviour, specificity was very low (28%). We thus tested alternatives to assess whether there are better rules for triggering a cognitive assessment than the one used in the trial. In all cases, a client was defined as requiring an assessment if their subsequent score on the cognition measure was <25.

As with behaviour, none of the results have the right balance between sensitivity and specificity. Including a score of 0 on Item 9 improves the above values a little, but not enough to warrant its inclusion as a trigger question for a cognitive assessment.

Table 41 Options for triggering a cognitive assessment

Option	Description	Sensitivity	Specificity
1	Current rule	95%	28%
2	(Item 6 + Item 7) < 4 or Item 8 = 0	95%	28%
3	(Item 6 + Item 7) < 3 or Item 8 = 0	76%	52%
4	(Item 6 + Item 7) < 2 or Item 8 = 0	70%	76%

The comments in the previous section on the change of wording for items 8 and 9 apply equally to cognition. Again, we propose that items 4 & 5 continue to trigger behavioural and cognitive assessments until such time as the results of the change are subjected to empirical testing. We expect that this change to the rules re items 8 and 9 will make a big difference, especially in relation to specificity. However, the actual impact can only be determined at a later date through a formal test.

Appendix 8

Recommended functional screening instrument for the HACCC program

National HACC Functional Screening Instrument

Part One: Questions to ask the client (or the person who represents the client)¹:

Unique Client ID _____

Date screened _____

I would like to ask you about some of the activities of daily living, things that we all need to do as part of our daily lives. I would like to know if you can do these activities without any help at all, or if you need some help to do them, or if you can't do them at all. The questions refer to how you are managing at the moment.

Item	Question	Score	Record score
1	Can you do your housework...		
	Without help (can clean floors etc)?	2	
	With some help (can do light housework but need help with heavy housework)?	1	
	Or are you completely unable to do housework?	0	
2	Can you get to places out of walking distance...		
	Without help (can drive your own car, or travel alone on buses or taxis)?	2	
	With some help (need someone to help you or go with you when travelling)?	1	
	Or are you completely unable to travel unless emergency arrangements are made for a specialised vehicle like an ambulance?	0	
3	Can you go out for shopping for groceries or clothes (assuming you have transportation)...		
	Without help (taking care of all shopping needs yourself)?	2	
	With some help (need someone to go with you on all shopping trips)?	1	
	Or are you completely unable to do any shopping?	0	
4	Can you take your own medicine...		
	Without help (in the right doses at the right time)?	2	
	With some help (able to take medication if someone prepares it for you and/or reminds you to take it)?	1	
	Or are you completely unable to take your own medicines?	0	
5	Can you handle your own money...		
	Without help (write cheques, pay bills etc)?	2	
	With some help (manage day-to-day buying but need help with managing your chequebook and paying your bills)?	1	
	Or are you completely unable to handle money?	0	
Do not ask the following 2 questions if the client scored 2 on all of the above 5 items. Instead, for clients who scored 2 on all of the above items, record a score of 9 on each of the following 2 items.			
6	Can you walk...		
	Without help (except for a cane)?	2	
	With some help from a person or with the use of a walker, or crutches etc	1	
	Or are you completely unable to walk?	0	
7	Can you take a bath or shower...		
	Without help?	2	
	With some help (eg, need help getting into or out of the tub)?	1	
	Or are you completely unable to bathe yourself?	0	

NOTES:

- If unanswered, score X.
- Rate what the person is **currently capable** of doing rather than what they actually do. In assessing capability, take into account not only physical function but also cognition (such as problems caused by dementia or an intellectual disability) and behaviour (such as unpredictable challenging behaviour). Consumers able to complete a task with verbal prompting should not be rated as independent (and therefore should be rated as a 1). In rating an item that is irrelevant (for example, the person has no shops in the vicinity or does not use any medications), rate based on what the person would be capable of doing if the item was actually relevant to their situation.
- Item 6 (walking). Clients who are in a wheelchair should be rated as (1) if they are independent including corners etc or (0) if they are not wheelchair independent.

¹ Reproduced from the OARS/MFAQ. Copyright: the Center for the Study of Aging and Human Development, Duke University Medical Center, Durham, North Carolina. Used with permission. Question 7 has been modified.

Part Two: Questions for you to complete

Complete the following based on all information available to you – your judgement based on interviewing or observing the client, information contained in a referral letter, client notes or information provided by a proxy respondent, such as a friend, relative, carer or referring agency.

Note that the client should not be asked to answer these questions.

Item	Question	Record score
8	Does the person have any memory problems or get confused? No – score 2 Yes – score 0	
9	Does the person have behavioural problems for example, aggression, wandering or agitation? No – score 2 Yes – score 0	

Recommended functional assessments based on this functional screen

Domestic

Look solely at items 1 to 5. Count the number of these items that scored 2.

Refer for a domestic functional assessment if the count is 2 or less (a count of 0, 1 or 2).

Self-care

Refer for a self-care functional assessment if the client SCORED LESS THAN 2 on either Item 6 (mobility) or Item 7 (bathing).

Cognition

Refer for a cognitive assessment if:

- the client scored LESS THAN 2 on either Item 4 (medicine) or Item 5 (financial management) AND you have determined that the client has no physical disabilities or problems with English literacy that may account for the client not being independent on these items OR
- the client scored 0 on Item 8.

Behaviour

Refer for a behavioural assessment if:

- the client scored LESS THAN 2 on either Item 4 (medicine) or Item 5 (financial management) AND you have determined that the client has no physical disabilities or problems with English literacy that may account for the client not being independent on these items OR
- the client scored 0 on Item 9.

Appendix 9

Recommended functional assessment instrument for the HACCC program

National HACCC Functional Assessment Instrument

Part 1: Self Care Functional Assessment¹

Unique Client ID _____

Date assessed _____

Item	Score	Item	Scoring instructions	Score
1: Bowels	0	Incontinent (or needs to be given enema)	Rate based on the last week.	
	1	Occasional accident (once/week)	If needs enema from nurse, then incontinent.	
	2	Continent	Occasional = once a week.	
2: Bladder	0	Incontinent, or catheterised and unable to manage	Rate based on the last week.	
	1	Occasional accident (max. once per 24 hours)	Occasional = less than once a day.	
	2	Continent (for over 7 days)	A person with a catheter who can completely manage the catheter alone is scored 'continent'.	
3: Grooming	0	Needs help with personal care	Rate based on the last week.	
	1	Independent face/hair/teeth/shaving	Refers to personal hygiene: doing teeth, fitting false teeth, doing hair, shaving, washing face. Implements can be provided by helper.	
4: Toilet use	0	Dependent	With help = can wipe self and do some of the other listed activities.	
	1	Needs some help, but can do something alone.		
	2	Independent (on and off, dressing, wiping). Should be able to reach toilet/commode, undress sufficiently, clean self, dress and leave.		
5: Feeding	0	Unable	Help = food cut up, consumer feeds self.	
	1	Needs help cutting, spreading butter etc.		
	2	Independent (food provided in reach). Able to eat any normal food (not only soft food). Food cooked and served by others. But not cut up.		
6: Transfer (from bed to chair and back)	0	Unable - no sitting balance	Dependent = no sitting balance (unable to sit); two people to lift.	
	1	Major help (one or two people, physical), can sit.	Major help = one strong/skilled, or two normal people.	
	2	Minor help (verbal or physical)	Can sit up.	
	3	Independent	Minor help = one person easily, OR needs any supervision for safety.	
7: Mobility	0	Immobile	Refers to mobility about the house or ward, indoors.	
	1	Wheelchair independent including corners etc.	May use aid. If in wheelchair, must negotiate corners/doors unaided.	
	2	Walks with help of one person (verbal or physical)	Help = by one, untrained person, including supervision/moral support.	
	3	Independent (but may use any aid, eg. stick)		
8: Dressing	0	Dependent	Should be able to select and put on all clothes, which may be adapted.	
	1	Needs help, but can do about half unaided	Half = help with buttons, zips, etc. (check!), but can put on some garments alone.	
	2	Independent (including buttons, zips, laces, etc.)		
9: Stairs	0	Unable	May carry any walking aid to be independent.	
	1	Needs help (verbal, physical, carrying aid)		
	2	Independent up and down		
10: Bathing (or showering)	0	Dependent	Usually the most difficult activity.	
	1	Independent (or in shower)	Must get in and out unsupervised, and wash self. Independent in shower = independent if unsupervised/unaided	
Total score (out of 20)				

¹ The 20 point Modified Barthel Index (Collins scoring)

Part 2: Domestic Functioning Assessment in Activities of Daily Living²

Unique Client ID _____

Date assessed _____

Item number	Item	Score	Task	Score
1	Telephone	1	Does not use telephone at all	
		2	Answers telephone but does not dial	
		3	Dials a few well-known numbers. Includes dialling only numbers that can be speed dialled.	
		4	Operates telephone on own initiative - looks up and dials numbers etc. Includes use of TTY machine if no other assistance required.	
2	Shopping (do not include transport here -rate at item 6)	1	Completely unable to shop	
		2	Needs to be accompanied on any shopping trip	
		3	Shops independently for small purchases	
		4	Takes care of all shopping needs independently	
3	Food preparation	1	Needs to have meals prepared and served	
		2	Heats and serves prepared meals, or prepares meals but not does maintain adequate diet (see note below)	
		3	Prepares adequate meals if supplied with ingredients	
		4	Plans, prepares, serves adequate meals independently	
4	Housekeeping	1	Does not participate in any housekeeping tasks	
		2	Performs some light daily tasks but not at a level necessary to maintain an acceptable standards of cleanliness (see note below)	
		3	Performs light daily tasks eg dishwashing, dusting	
		4	Maintains house independently	
5	Laundry (excludes ironing)	1	All laundry must be done by others	
		2	Launders small items - rinses socks, stockings etc	
		3	Does personal laundry but needs help with heavier items such as bedding and towels	
		4	Does personal laundry completely	
6	Mode of transportation	1	Requires manual assistance from more than 1 person or does not travel at all	
		2	Travel limited to taxi or automobile with assistance of one other person	
		3	Travels on public transportation when assisted or accompanied by another	
		4	Travels independently on public transportation or drives own car. Includes arranging own travel via taxi but not otherwise using public transport.	
7	Responsibility for own medications	1	Is not capable of dispensing own medication	
		2	Takes responsibility if medication is prepared in advance in separate dosages	
		3	Responsible for taking medications in correct dosage at correct time	
8	Ability to handle finances	1	Incapable of handling money	
		2	Manages day-to-day purchases, but needs help with banking, major purchases etc	
		3	Manages financial matters independently (budgets, writes cheques, pays rent, bills, goes to bank), collects and keeps track of income	
Total score (out of 30)				

General rating instructions

- Rate what the person is currently capable of doing rather than what they actually do. In assessing capability, take into account not only physical function but also cognition (such as problems caused by dementia or an intellectual disability) and behaviour (such as unpredictable challenging behaviour). Consumers able to complete a task with verbal prompting should not be rated as independent (and therefore should be rated as a 2 or a 3).
- In rating an item that is irrelevant (for example, the person does not have a phone or has no shops in the vicinity or does not use any medications), rate based on what the person would be capable of doing if the item was actually relevant to their situation.
- When assessing issues such as whether diet is adequate or there are acceptable standards of cleanliness, take into account the person's social and cultural context. Rate based on what is adequate or acceptable in that context and not in your own.

² Scale based on original Lawtons IADL scale, but modified by the CHSD specifically for use in the HACC program.

Part 3: Behavioural functioning assessment³

Unique Client ID _____

Date assessed _____

Number	Item	Score	Implications for carers and/or community service providers	Score
1	PROBLEM WANDERING OR INTRUSIVE BEHAVIOUR			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
2	VERBALLY DISRUPTIVE OR NOISY			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
3	PHYSICALLY AGGRESSIVE			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past).		
4	EMOTIONAL DEPENDENCE			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
5	DANGER TO SELF OR OTHERS			
	Extensively	1	Requires monitoring for recurrence and supervision	
	Intermittently	2	Requires monitoring for recurrence and then supervision on less than a daily basis	
	Occasionally	3	Requires monitoring but not regular supervision	
Not applicable	4	Does not require monitoring (consumer has not engaged in the behaviour in the past)		
Total score (out of 20)				

General rating instructions

1. Take into account all sources of information (discussion with the consumer and carers, staff etc as well as what you observe).
2. If you have insufficient information to make a rating, rate 4 'not applicable'.
3. **Not applicable** means that you learn of no circumstances in which the consumer has engaged in the behaviour in the past.
4. **Monitoring** means that you learn of circumstances in which the consumer has engaged in the behaviour in the past. Current and future service providers will need to observe the consumer, be aware when similar circumstances occur and take appropriate intervention to prevent the recurrence of the behaviour.
5. **Supervision** means that current or future service providers will need to ensure that specific situations or triggers which are likely to give rise to the behaviour do not occur, or are managed in ways to minimise the likelihood of occurrence.
6. **Daily** means during a twenty four hour period.
7. **Question 1** includes night wandering and also to the consumer wandering from home or, while wandering, interfering with other people or their belongings.
8. **Question 2** includes abusive language and verbalised threats directed at family, carers, neighbours or a member of staff. It also includes a consumer whose behaviour causes sufficient noise to disturb other people. That noise may be either (or a combination of) vocal, or non-vocal noises such as rattling furniture or other objects.
9. **Question 3** includes any physical conduct that is threatening and has the potential to harm a family member, a carer, a visitor or a member of staff. It includes, but is not limited to, hitting, pushing, kicking or biting.
10. **Question 4** is limited to the following behaviours: (a) active and passive resistance other than physical aggression (b) attention seeking (c) manipulative behaviour and/or (4) withdrawal.
11. **Question 5** refers only to high-risk behaviour. It includes behaviour requiring supervision or intervention and strategies to minimise the danger. Examples of such behaviour include unsafe smoking habits, walking without required aids, leaning out of windows, self-mutilation and suicidal tendencies. This question is about behaviour and does not apply where a consumer has a medical condition that might lead to injury, for example, through fitting or loss of consciousness. It does not apply to a range of behaviours which might in the longer term be considered as damaging or health reducing such as smoking generally or non-compliance with a specialised diet. It applies where there is an imminent risk of harm.

³ Items from the Australian RCS with instructions modified for use in a community setting

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Part 4: The cognitive assessment*

Unique Client ID _____ Date assessed _____

(Complete only if you are trained in the MMSE. Otherwise leave blank)

ORIENTATION:	SCORE	POINTS
What is the year?	[]	1
What is the season?	[]	1
What is the date?	[]	1
What is the day of the week?	[]	1
What is the month?	[]	1
What city/town are we in?	[]	1
What state are we in?	[]	1
What country are we in?	[]	1
What town/suburb are we in?	[]	1
What is the address?	[]	1
REGISTRATION:		
Name three objects, taking one second to say each. Then ask the person to repeat them. Give one point for each correct answer. 'Apple Table Penny.'		
Repeat the answers (up to six times) until the person learns them.	[]	3
ATTENTION AND CALCULATION:	[]	5
A Ask the person to subtract 7 from 100, then subtract 7 from the answer. Keep subtracting 7 until they reach 65. (93, 86, 79, 72, 65).		
B Ask the person to spell the word WORLD backwards.		
NB *Subjects are given both A and B, record the highest score.		
RECALL:		
Ask the person "Now what were the three words I asked you to remember?"	[]	3
LANGUAGE:		
Naming: What is this called? (Show the person a wrist watch)	[]	2
What is this called? (Show the person a pencil)	[]	
Repetition: Have the person repeat "No ifs, ands or buts." Allow only one trial.	[]	1
Reading: Have the person read and do the following command as printed on the back of this form ('CLOSE YOUR EYES')	[]	1
3 stage command: Have the person follow a 3 stage command: 'Take a paper in your right hand, fold the paper in half using both hands, and put the paper down using your left hand'.	[]	3
Writing: Have the person write a short sentence. Do not dictate a sentence, it is to be written spontaneously. It must contain a subject and verb and be sensible. Correct grammar and punctuation are not necessary.	[]	1
Copying: Now copy the design that you see printed (design on back of this form). The results must have 5 sided figures with intersection forming a four sided figure. Ignore tremor and rotation	[]	1
	[]	TOTAL 30

CLOSE YOUR EYES

