

MEASURING CLIENT NEED STATUS  
IN MINNESOTA: REPORT OF THE  
TECHNICAL CONSULTANT

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Project: Minnesota Project on Client-Based  
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## INTRODUCTION

### Project Overview

The goal of the Minnesota Project on Client-based Reimbursement for Providers of Services to Persons with Mental Retardation is as the project title states: to develop a client-based reimbursement system for three types of services to persons with developmental disabilities in Minnesota--waivered services, day activity centers, and intermediate care facilities (ICF-MR's). For the purposes of this report and the project activities addressed herein, the focus is on reimbursement for residents in ICF-MR's.

The reimbursement system is being developed with Minnesota Human Services agency staff involvement at every stage. It will reflect the reality that some clients are more costly to serve than others. As development of such a "case-mix" reimbursement system proceeds, project efforts will address issues related to administrative feasibility, best use of available resources, reduction of disincentives to caring for clients who have the most need for care, and optimal equity for both clients and care providers. This last objective will be accomplished via resolution of issues such as how to measure quality to provide equitable funding for identical or similar outcomes or "products", and how to determine which clients should receive the most resources--those with the least developed competence or those with the best developed competencies.

A key element in the project is the development of an assessment strategy and related instrumentation for measuring "client need status" and resource consumption by clients. The measurement system must enable efficient projection of resource use by clients via use of client need status indicators. That is, the client need assessments must be useful for identifying differences in the amounts of staff time, expertise and effort that clients will require in ICF-MR placements. Some fixed number of planning categories related to client need or resource consumption will be identified rationally and/or empirically.

Ultimately, the categories will be validated empirically by statistical demonstration of the extent to which the client need indicators predict client consumption of staff time in ICF-MR facilities.

The Quality Assurance Review form, which is used currently in Minnesota Human Services Agency reviews of client programs, has been considered and deemed as not suitable for use as the primary assessment instrumentation for the case-mix reimbursement system. It is regarded by project staff as not a precise enough measure of client consumption of staff resources. This is an empirical question, though, and will be addressed in the project.

Project proposal and planning documents acknowledge that it may be desirable to use assessment instrumentation that can serve multiple purposes in addition to primary use for indexing client need status. Potential other uses include determination of client placement and/or appropriateness thereof, client program planning, follow-along monitoring of client and program progress, and evaluation of client- and program-based outcomes. An additional focus for project efforts is determination of the utility of identical or similar instrumentation for case-mix reimbursement in both ICF-MR and day activity center settings.

Finally, several issues related to accomplishing necessary assessments will be addressed in the project. First, the optimal frequency of client need status assessment must be determined, based on considerations of both administrative feasibility and time intervals associated with meaningful client change on such measures. Similarly, issues regarding who will ultimately conduct assessments, and how state agencies will manage data collection, storage, retrieval, analysis and interpretation, will be addressed and resolved.

In summary, the project, in collaboration with State of Minnesota Human Services Agency staff and providers of services to persons with developmental disabilities, will accomplish development of a case-mix reimbursement system for community-based provision of services to persons with developmental disabilities. These efforts will include development of an assessment strategy and related

instrumentation for measuring client need status. This report documents the process and outcomes of project activities regarding the assessment system.

### Role of Technical Consultant

The Technical Consultant on Measurement was assigned several roles within the project. The initial and primary role has been to review existing instrumentation (particularly adaptive behavior assessment systems) and make recommendations to project staff and the Technical Advisory Panel regarding selection of an assessment strategy and related instrumentation for measuring client need status.

Project staff provided copies of five instruments and related manuals and other materials to the Technical Consultant prior to the commencement of the review process. These instruments were: The AAMD Adaptive Behavior Scale (ABS), the standardized short-form research version of the ABS which is titled the Behavior Development Survey (BDS), the Client Development Evaluation Report (CDER), the Inventory for Client and Agency Planning (ICAP), and the Scales of Behavior Development (SBD). As the review process progressed, several other instruments were identified for consideration by either the Consultant, project staff and/or Technical Advisory Panel members. These were the Client Need Status Rating Scale (CNSRS) developed for use in Nebraska, the recently revised Vineland Adaptive Behavior Scales, the Quality Assurance Review (QAR) instrument already in use in Human Service Agency program reviews in Minnesota, and the Client Assessment Research and Evaluation (CARE) instrument being developed by the Texas Department of Human Services.

All of these nine instruments were reviewed with respect to their applicability for project purposes. Review activities, in general, consisted of analysis of all documents and related printed materials (research and evaluation reports) by the Technical Consultant. Criteria used in the analyses are identified and detailed in a subsequent section of this report.

In addition, the Technical Consultant initiated a series of telephone interviews of developers and users of the instruments in various states around the country. From these interviews (the results of which are detailed in a subsequent section) the Technical Consultant became aware of various related documents, such as technical and evaluation reports, in the possession of developers and users of the assessment systems. These materials were obtained and reviewed as appropriate.

Another role assigned to the Technical Consultant was that of technical expert for purposes of written, telephone, and in-person consultation to project staff and to the Technical Advisory Panel at its meetings in Minneapolis. In this role, the Consultant attended Panel meetings, made recommendations regarding utility of reviewed instruments, and provided advice with respect to technical measurement issues and concerns as well as administrative feasibility of assessment strategies.

Finally, the Technical Consultant was charged with preparing a written report in which specific recommendations are made regarding an assessment strategy and related instrumentation for measuring client need status. That report is the substance of this document.

## REVIEW OF ASSESSMENT INSTRUMENTS

The review of the instruments comprised several specific activities. The final set of instruments to be reviewed was identified by project staff and the Technical Consultant. Then, the Technical Consultant reviewed and analyzed all relevant documents available, and prepared and delivered a preliminary oral report at the first Technical Advisory Panel meeting in Minneapolis during June 1986. Based on discussions at that meeting, the Technical Consultant was charged with conducting telephone interviews of approximately ten current statewide users of the instruments in various regions of the country, and reporting the results

of those interviews at a second Technical Advisory Panel meeting in Minneapolis during July 1986. Project staff, the Technical Consultant, and a representative of the Technical Advisory Panel convened subsequent to that second Panel meeting and made decisions regarding specific proposed assessment approaches to be presented and discussed at a meeting of the Panel in September or October 1986.

In this section of this report, the substance and processes of each of these review activities will be described.

#### Assessment Instruments Reviewed

Altogether, nine instruments were reviewed to determine their utility as measures of client need status. Each of the instruments is described briefly below.

AAMD Adaptive Behavior Scale (ABS). The ABS is a general adaptive behavior measure that includes 66 items across all commonly used adaptive behavior domains, e.g., self-care skills, socialization, money skills, etc. The ABS also includes 44 items in maladaptive behavior domains such as self-abuse, aggressiveness and withdrawal. The ABS measures are intended as indices of an individual's capabilities for meeting the demands of living environments.

Behavior Development Survey (BDS). The BDS is a short-form research version of the ABS. It provides information on client demographics, and on presence and extent of extraordinary disabling conditions in sensory, physical and medical domains. It includes 37 adaptive behavior items and 16 maladaptive behavior items. It has been used in several states for purposes of planning and monitoring services to persons with developmental disabilities.

Client Development Evaluation Report (CDER). The CDER was developed by the State of California to assist with tracking the progress of clients, to provide summary information on the client population, and to assist in evaluating program effectiveness. It provides measures of client demographics, extraordinary disabling conditions, equipment needs, adaptive skill performance (65 items) and maladaptive behavior (15 items).

Inventory For Client and Agency Planning (ICAP). The ICAP was developed recently by researchers at the University of Minnesota. It is designed as a general tool for managing client information relevant to planning and evaluating services. It provides information on client demographics, disabling conditions, adaptive skill performance (79 items), maladaptive behavior (16 items), services received and program recommendations.

Scales of Behavior Development (SBD). The SBD is a refinement of the Minnesota Developmental Programming System. The SBD provides information on client demographics, eligibility/legal status, disabling conditions, adaptive skill performance (80 items), and maladaptive behavior (24 items). It has been used for documentation of client need status and other purposes in Illinois, New York, and Maryland.

Client Need Status Rating Scale (CNSRS). The CNSRS was developed for use in client need status in documenting Nebraska. Rather than focusing on client skill levels, it provides measures of the supervision and assistance required by clients across major adaptive and maladaptive behavior domains. It is designed to provide a direct measure of client need status.

Vineland Adaptive Behavior Scales (Vineland). The recently-revised Vineland scales are available in several formats: interview, survey and classroom. The Survey Form is the shortest and includes 261 items across major adaptive behavior domains and 36 items addressing maladaptive behaviors.

Quality Assurance Review (QAR). The QAR was developed for use as a program review instrument by the Minnesota Department of Health. It provides information in medical, physical and sensory disability areas, measures of assistance required across major adaptive behavior domains, and one item on intervention required for maladaptive behaviors.

Client Assessment and Research Evaluation (CARE). The CARE instrument is currently being developed in Texas, specifically for use as part of an assessment strategy in a case-mix reimbursement system. It provides measures of: client

demographics; disabling conditions and interventions required in physical, medical, and sensory domains; assistance required in major activities of daily living; intervention required in maladaptive behavior domains; and required restraints and adaptive devices.

#### General Dimensions for Review

The Technical Consultant established several general dimensions for structuring the reviews of the instruments and related materials. These were: 1) documented psychometric properties--validity of scores for use as indices of client need status and resource consumption (in addition to basic construct and content validity with respect to whatever is measured directly); reliability of content sampled by instruments and agreement among observations or ratings made by independent assessors; sensitivity to target respondent populations across age, disabling condition and functional competency groups; and scaling properties of resulting measures, i.e., the extent to which actual scores are nominal, ordinal or interval in nature, and the extent to which the metrics reflect need status and resource consumption directly; 2) feasibility of application, including time and expertise required for administration as well as financial cost and interpretability of results; and 3) users' evaluations, including considerations of data quality, validity for purposes used, and cost/benefit.

#### Operational Definitions of Review Dimensions

In order to accomplish actual evaluation of the instruments, a broad rating of quality was made by the Technical Consultant on six specific dimensions for each instrument. That is, each instrument was rated as "yes" "mid" or "no" on each of the following six specific dimensions: ease of administration, relevance of scaling, specificity of existing validity data regarding use of scores for indexing client need status, flexibility for multiple uses, comprehensiveness of content across age and functional competency groups, and production of a direct measure of client need status or resource consumption. The operational



definitions for the three rating categories for each of the six dimensions are as follows:

Ease of Administration

Yes--10 to 20 minutes administration time

Mid--20 to 30 minutes administration time

No--greater than 30 minutes administration time

Relevance of Scaling

Yes--scaling on resource use directly, e.g., scores are measures of staff assistance/supervision required by clients

Mid--scaling on frequency of independent client performance  
(lower frequency implying more staff assistance)

No--scaling on qualitative differences within adaptive behavior domains, e.g., "shops for own groceries" vs. "identifies coin values" (scores do not address client consumption of staff resources)

Specific Validity Data for Instrument Scores

Yes--empirical data exist that demonstrate a relationship between instrument scores and client consumption of staff resources

Mid--data exist but are difficult to interpret or were not obtained

No--no empirical data available regarding relationship between instrument scores and client consumption of staff resources Flexibility for Multiple Uses

Yes--instrument useful for client need status scoring as well as for progress monitoring and program evaluation

Mid--instrument score not of client needs status directly, but flexible for multiple uses

No--instrument designed primarily to produce a client need status score or an adaptive behavior score

### Comprehensiveness Across Age and Functioning Levels

Yes--content appropriate for all ages and functioning levels

Mid--content appropriate for either young or low functioning individuals but not for both

No--content not appropriate for either young or low functioning individuals

### Quality of Client Need Status Measures (CNS)

Yes--content includes frequency and severity measures of chronic/overriding disabling conditions in medical, sensory, physical and/or behavioral domains

Mid--content includes measures of chronic/overriding disabling conditions in only some of medical, sensory, physical and behavioral domains

No--chronic/overriding disabling conditions not addressed by content

(Chronic is defined here as: "expected to maintain more than one year continuously". With support, the person with chronic disability can learn and perform new skills.

Overriding is defined as: "prohibiting the individual from self-care/daily living skill performance and requiring intensive remedial and/or support services to manage".)

### Results of Instrument Reviews

Table 1 presents a summary of the evaluation of the nine instruments. Details are presented briefly in the narrative descriptions that follow Table 1.

Table 1

## Summary of Instrument Reviews

	<u>ABS</u>	<u>BDS</u>	<u>CDER</u>	<u>ICAP</u>	<u>SBD</u>	<u>CNSRS</u>	<u>CARE</u>	<u>QAR</u>	<u>VINE</u>
<u>Evaluative Dimensions</u>									
Client Need Status Score	no	no	mid	yes	mid	yes	mid	mid	no
Validity	no	no	no	yes	mid	yes	no	no	no
Flexibility	no	mid	yes	yes	yes	no	yes	mid	no
Comprehensiveness	yes	yes	no	mid	yes	no	yes	yes	yes
Feasibility	no	yes	mid	mid	mid	yes	mid	yes	no
Relevance of Scaling	no	no	yes	no	mid	yes	yes	mid	no

Key:ABS: AAMD Adaptive Behavior Scale

BDS: Behavior Development Survey

CDER: Client Development Evaluation Report

ICAP: Inventory for Client and Agency Planning

SBD: Scales of Behavior Development

CNSRS: Client Need Status Rating Scale

CARE: Client Assessment and Research Evaluation

QAR: Quality Assurance Review

VINE: Vineland Adaptive Behavior Scales

AAMD Adaptive Behavior Scale (ABS). The ABS was rated as having the following strengths for purposes of the project. Its adaptive behavior content is comprehensive with respect to appropriateness for young to older and higher to lower functioning individuals with developmental disabilities. It provides measures that can be interpreted regarding the distinction between chronic and overriding behavior problems via scaling along both frequency and severity dimensions. The internal consistency, inter-rater and test-retest reliabilities

are adequate for adaptive behavior domains. Interpretability is high, with scored output consisting of percent of total and percentile scores for all domains.

Problems with the ABS regarding application in the project are varied and serious enough to exclude the ABS from further consideration for project use. First and foremost, the ABS is purely an adaptive behavior measure. As such, it does not provide measures related to client need status or measures of chronic/overriding conditions in sensory, medical or physical domains. Rather, it provides indices of levels of competencies in content domains. Caution must be exercised in interpreting ABS percentile scores because of a "floor effect" in some domains. That is, in some domains, a person's score may be at the 40th to 60th percentile even though no credits were obtained on items in that domain. This occurs because 40 to 60 percent of the standardization sample scored zero in those domains. Though many standard construct validity studies were available, none were found that link the ABS adaptive/maladaptive scores to client resource consumption. Reliability of scores is low in many maladaptive behavior domains. And, administration can take up to an hour or more.

Behavior Development Survey (BDS). The BDS, especially in a version produced at Temple University in 1984, has some features to recommend its use in the project. Its content, like the ABS, is comprehensive with respect to appropriateness for young to older and higher to lower functioning individuals. It provides measures in both adaptive and maladaptive behavior domains. It is parsimonious yet reasonably comprehensive for a short-form version; it requires only 10 to 20 minutes to complete and is highly correlated with the longer version ABS and with the CDER. Its interpretability is high in the same manner as that of the ABS.

Problems with the BDS are very similar to some of the problems of the ABS. Its measures of chronic/overriding medical, physical and sensory conditions are weak compared to other instruments. It does not provide direct measures of

client needs for staff resources, nor do validity data exist to link BDS scores with measures of staff resources. Only one reliability study was available. Though inter-rater reliabilities were adequate for adaptive behavior domains, they were low for two of the three maladaptive behavior domains.

Client Development Evaluation Report (CDER). A particular strength of the CDER instrument is the detail it provides regarding chronic/overriding physical, sensory, medical and physical conditions. Content in the CDER is sensitive to functioning differences across handicapping conditions. The scaling used in the CDER is another clear strength for purposes of use in the project. The CDER provides measures of assistance required by clients and frequency of independent performance across adaptive and maladaptive behavior domains. The scored output is interpretable in both norm-referenced and criterion-referenced contexts.

Problems with the CDER for use in the project are as follows. First, the data base for norm-referenced interpretation is not clearly defined (though it most certainly exists because the state of California uses the system statewide). The content in the activities of daily living in the CDER appears not to be appropriate for younger children. No validity data are available to guide assignment of clients to need status groups, even though the CDER measures aspects of need status. The only validity data come from one study where the CDER and the BDS were shown to correlate moderately highly. Inter-rater reliability estimates range from low to moderately high across content domains (.8 to .9 in motor domains and .6 to .7 in social and cognitive domains).

Inventory for Client and Agency Planning (ICAP). The ICAP has many strengths related to its potential for project use. It is clearly sensitive to distinctions in chronic/overriding conditions in medical, physical, sensory and behavioral domains. It is scorable into "service level" units, and incorporates a Rasch model scaling on quality and frequency of behaviors. Validity data are presented in the ICAP Technical Report that show a significant correlation between ICAP service level scores and staff reports of resources necessary to

serve clients. Other construct validity data are presented that demonstrate predicted ICAP and age/development relationships as well as predicted relationships within and between ICAP adaptive and maladaptive behavior domains. Internal consistency and test-retest reliabilities are adequate. The ICAP appears to have a variety of potential uses, ranging from documentation of client need status to progress monitoring and program evaluation. Scored output is especially informative in maladaptive behavior domains.

Problems with the ICAP are few. It appears to include little content that is sensitive to very young and/or profoundly handicapped individuals. Inter-rater reliability is not well-documented; what is available demonstrates variable rater agreement across domains. Finally, the ICAP could require 30 to 60 minutes to complete.

Scales of Behavior Development (SBD). The SBD has some features that recommend it for use in the project. It is comprehensive in content with respect to appropriateness for younger to older and higher to lower functioning individuals. It is Rasch scaled along a frequency of behavior dimension. It has historically demonstrated adequate reliability of all types. And, it appears to be easy to administer in its abbreviated version, and applicable for a variety of uses, including progress monitoring and program evaluation.

Problems with the SBD relate primarily to the fact that it does not provide a direct measure of client need and to the absence of validity data to demonstrate the relationship of SBD scores to indices of staff resources. Available SBD materials reference a pilot study in Illinois in which medical and behavioral scores are "tied to staff time costs", but no empirical data were available with which to evaluate that assertion. Also, no reliability data are presented for Form C, which is the most appropriate version for the population of interest. Scored output appears to be somewhat confusing, and may be difficult for field-based staff to understand or use.

Client Need Status Rating Scale (CNSRS). The major strength of the CNSRS for application within the project is that it was designed to provide a direct measure of client need status. As such, it incorporates scaling that is based on required levels of assistance within living environments. Validity data demonstrate moderately high relationships between CNSRS measures and indices of staff time required by clients during daily living activities. The scored output from CNSRS assessment produces easily interpretable information. Various cutoff scores are provided in the manual for determination of client need status scores.

Potential problems do exist with the CNSRS. First, it is not comprehensive in its content coverage. By its design as a client needs status prediction instrument, it does not provide measures of chronic/overriding medical, physical and sensory conditions. It is not useful with children under 6 years of age. Rather, it contains very few items (8 to 10) that have been demonstrated as the best statistical predictors of differences in client need status. Additionally, the available reliability data are weak. No internal consistency or test-retest reliabilities are presented, and inter-rater reliabilities are mixed across living settings and content domains. Finally, though staff time required to complete the instrument is low, it has been standardized with three staff completing the measure independently for each client.

Client Assessment and Research Evaluation (CARE). The CARE instrument is appropriate for use in the project in a number of ways. Most importantly, it is scaled along dimensions of required staff intervention in adaptive and maladaptive behavior domains, as well as in medical, physical and sensory domains. It is comprehensive and appropriate for use with younger to older and higher to lower functioning individuals with developmental disabilities. It incorporates document review, interview and direct observation as data collection approaches.

Problems with the CARE instrument center around its status as an "in-development" instrument. No data exist to document its psychometric

properties with respect to sensitivity, reliability, and validity. Feasibility concerns have not been evaluated (clarity, time required for completion, etc.). The maladaptive behavior items appear to lack comprehensiveness.

Quality Assurance Review (QAR). Strengths of the QAR for project use include its scaling along dimensions of staff assistance or supervision required by clients, and its coverage of adaptive behavior, medical, physical and sensory domains. It is reasonably easy to complete, and produces output that is easy to understand.

Problems with the QAR are that it does not cover maladaptive behavior domains well, and that no data are available to document its reliability or validity. In addition, preliminary project studies demonstrated only low to moderate relationships between QAR measures and estimates of staff time required by clients.

Vineland Adaptive Behavior Scales (Vineland). The Vineland is an adaptive behavior measure very much like the ABS. It does not produce client need scores, and no data exist to demonstrate relationships between its scores and client consumption of staff resources. In addition, the shortest version contains almost 300 items. For all of these reasons, it was eliminated from further consideration for use in the project.

#### Interviews of Statewide Users of Instruments

The Technical Consultant conducted telephone interviews of users of each of the six instruments identified initially. Information from those interviews and supporting documents mailed to the Technical Consultant were used to confirm or modify evaluations of instruments made by the Technical Consultant (summarized in the preceding section). In addition, the information was used to provide additional context for discussion of statewide client needs assessment at the second meeting of the Technical Advisory Panel in Minneapolis during July 1986, and to identify general and specific issues and resolutions to enable project personnel to prepare thoroughly for the field-testing of instrumentation.



Several conclusions can be drawn from interview results. First, five of the originally-considered instruments (all but the AAMD Adaptive Behavior Scale) had been used in efforts that were at least similar to what is planned in Minnesota. All five instruments had their proponents, and none were adamantly opposed by any informants. All agreed that an essential ingredient in such an effort is explicit agreements on its purposes, processes and planned utility among staff in relevant state and service provider agencies. Toward that end, all agreed that some type of statewide goal development and training in accomplishing assessment were also essential. The need for flexibility of instrumentation for multiple purposes was also emphasized.

The interviews resulted in identification of some important issues to be resolved before Minnesota can implement a system for assessment of client need statewide. First, the ultimate structure of the assessment effort must be determined. That is, questions of face-to-face interviews vs. mailed questionnaires, update vs. full-form assessment documents after the first year, weighting of the importance of item content, and prevention of false high need scores (as might be reported by respondents to maximize reimbursement) must be resolved. Users of similar systems in other states have reached varying solutions depending on state size, type of instrumentation, training requirements for staff and cost considerations. Most of these decisions do not need to be made immediately in Minnesota because project staff will implement all data collection for the field-test.

#### CONCLUSIONS AND RECOMMENDATIONS

In this final section of this report, conclusions will be described that can be drawn from a synthesis of three outcomes: results of instrument reviews by the Technical Consultant, discussion during Technical Advisory Panel Meetings, and project staff work. Recommendations will be made regarding an appropriate

assessment strategy and related instrumentation for measuring need status of clients with developmental disabilities in ICF-MR community facilities in Minnesota.

### Conclusions

Essentially, four conclusions are appropriate with respect to results of instrument reviews, discussion at Panel meetings, and project staff efforts. First, it is important to use assessment instrumentation that is most likely to have the highest possible validity for the purpose of predicting client consumption of staff resources. There is empirical evidence that, to best accomplish this, a metric must be employed which measures extent and/or nature of staff intervention required by clients in general domains of disabling conditions, maladaptive behavior and daily living activities (Schalock and Keith, 1986). Also, concerns regarding the potential for inappropriate influence of the assessment system on client program development appear best addressed via use of such staff intervention indices.

Second, it is essential that the assessment strategy have the highest possible credibility with state agency and service provider staff in Minnesota. Testimonials regarding previous and ongoing efforts of a similar nature in Illinois, California, Maryland, Nebraska and other states all emphasize the importance of the perceived and actual utility of the assessment approach for the ultimate success of the assessment effort. It can be concluded reasonably that without field-based credibility, the assessment effort will fail. Informants simply will not value the effort and are not likely to provide accurate data.

Third, it is desirable to use assessment instrumentation that is as flexible as possible for a variety of uses in addition to assessment of client need status, e.g., monitoring of program quality, and evaluation of program outcomes. Multiple instrumentation for assessment across specific purposes is likely to overburden those who must provide the data within programs. It is clear, though, that as flexibility increases, validity for specific purposes is likely to

decrease. Project decisions regarding instrumentation must attempt to optimize both flexibility and validity.

Finally, the assessment system must be administratively feasible and be perceived as such by those upon whom it depends as data sources. That is, the assessment instrumentation must be relatively easy to complete, require as little time as possible, and be useful to those who are asked to use it. Again, experience in other states demonstrates that unless these criteria are met, data quality may not meet acceptable standards.

### Recommendations

Based upon the project goals and the conclusions summarized above, several recommendations are appropriate regarding assessment strategy and related instrumentation for purposes of measuring client need status. Three general types of measures must be used as predictors: type/severity of disabling condition in sensory, medical and physical domains; required assistance and/or supervision by staff in activities of daily living; and frequency and severity of maladaptive behavior (ideally including nature and frequency of required staff interventions in those maladaptive domains.)

Some alternatives exist regarding choice of measures of the chronic or overriding nature of disabling conditions and of maladaptive behaviors. At least four of the instruments reviewed provide comprehensive measures that can be used to index the chronic or overriding nature of physical, sensory and medical disabling conditions. Any of the relevant sections within the CDER, ICAP, SBD, and CARE instruments will suffice for this purpose. Similarly, at least three instruments include adequate measures in maladaptive behavior domains: CDER, ICAP, and SBD. The relevant items in domains regarding maladaptive behavior and disabling conditions can be used separately from the other sections of these instruments without any expected loss of psychometric adequacy.

For the assessments of required assistance/supervision in activities of daily living, it is recommended that the appropriate sections of the CDER and/or

CARE instruments be used, in modified form as appropriate. This recommendation derives from the facts that both of these instruments employ a metric that is based on levels of assistance/supervision required by clients in activities of daily living, and that the relevant sections of these instruments are the most comprehensive available. Though the CNSRS is also scaled on a dimension of assistance/supervision required, its content is not as comprehensive in these daily living areas as is the content in the CDER and the CARE instruments. The recommendation regarding use of "modified as appropriate" parts of the two instruments derives from the fact that, even though the metric of these two instruments is best suited to project purposes, basic psychometric data are not available for either instrument. Thus the opportunity exists to produce an instrument that is intended to improve on existing ones and to collect basic psychometric data thereon.

It will be useful to employ data from at least two other measures to interpret the utility and validity of data from the sources described above. Since QAR data exist on an ongoing basis for all clients, those data should be correlated with the three types of data identified just above in order to examine construct and concurrent validity of instrumentation. For the same reason, ICAP and/or CNSRS data in adaptive/maladaptive behavior domains should be gathered on at least a sub-sample of clients in order to examine the validity of the scaling system that measures assistance/supervision required by clients in adaptive and/or maladaptive behavior domains.