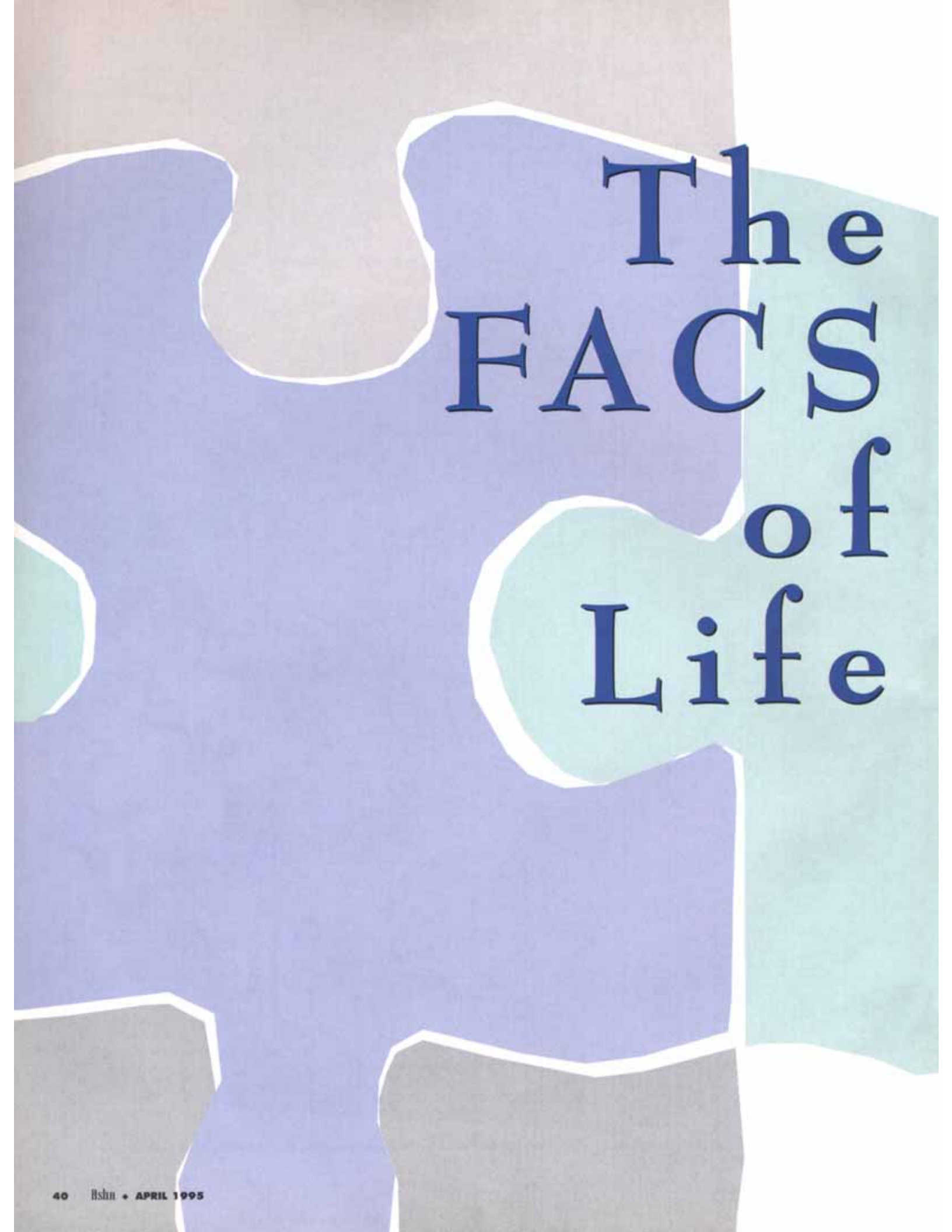
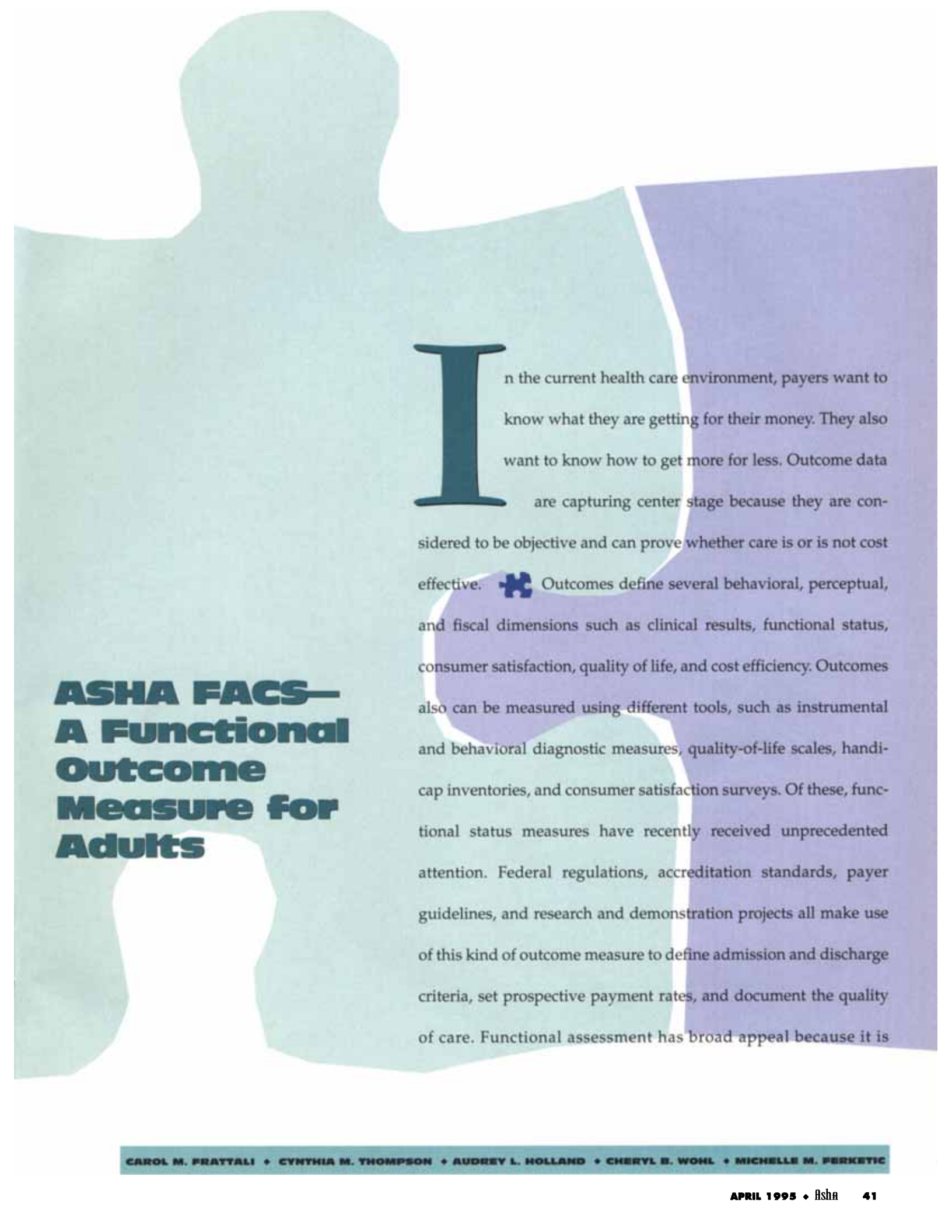




# The FACS of Life



## **ASHA FACS— A Functional Outcome Measure for Adults**

**I**n the current health care environment, payers want to know what they are getting for their money. They also want to know how to get more for less. Outcome data are capturing center stage because they are considered to be objective and can prove whether care is or is not cost effective.

✚ Outcomes define several behavioral, perceptual, and fiscal dimensions such as clinical results, functional status, consumer satisfaction, quality of life, and cost efficiency. Outcomes also can be measured using different tools, such as instrumental and behavioral diagnostic measures, quality-of-life scales, handicap inventories, and consumer satisfaction surveys. Of these, functional status measures have recently received unprecedented attention. Federal regulations, accreditation standards, payer guidelines, and research and demonstration projects all make use of this kind of outcome measure to define admission and discharge criteria, set prospective payment rates, and document the quality of care. Functional assessment has broad appeal because it is

both quantitative and easy to understand.

The wave of health care accountability prompted ASHA to seek funding for a project to develop a functional measure specific for communication. In 1992, a 3-year field-initiated grant from the U.S. Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR) was awarded to develop and validate the ASHA Functional Assessment of Communication Skills for Adults (ASHA FACS).

The ASHA FACS is a measure of communication disability. It is a measure of neither impairment nor handicap. It is a "generalist" measure of communication and does not possess exclusivity or capture the level of detail sought by many specialists in the field for targeted

populations with communication disorders. It also does not, in its current form, measure the functional consequences of dysphagia. There was mixed peer review in this area, with some believing that such a measure could lead to misdiagnoses and faulty treatment. However, the ASHA FACS is an outcome measure in a class of assessment tools that has the attention of policy makers and payers alike.

Although it is not intended to replace what exists or fill all the gaps in communication disability measurement, it is hoped that the ASHA FACS can make an important contribution to the field, providing practitioners with a reliable, valid, and practical tool for assessing functional communication.

## Context

The conceptual framework for ASHA FACS is based on the World Health Organization's (WHO's) International Classification of Impairment, Disability, and Handicap (see box below). We wanted to develop a measure of disability that would measure how specific speech, language, hearing, and/or cognitive deficits affect the performance of daily life activities. These activities include understanding television and radio, responding in an emergency, and using a calendar.

We wanted our assessment domains to shift from the general areas of verbal expression, speech intelligibility, and auditory comprehension to these four areas: social communication; communication of basic needs; daily planning; and reading, writing, and number concepts.

This measure would not replace but supplement more traditional diagnostic measures (measures of impairment) designed for differential diagnosis and identification of specific deficits. Also, it would supplement measures of handicap devised to assess the psychosocial and vocational effects of an impairment or disability.

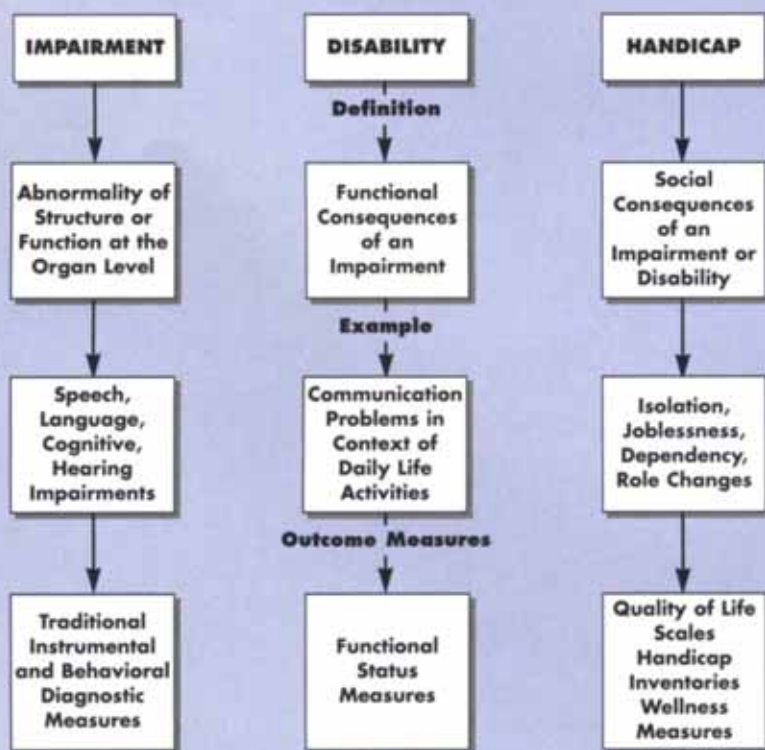
An advisory group funded by the National Institute on Child Health and Human Development of the National Institutes of Health formulated our definition of functional communication: "The ability to receive or convey a message, regardless of the mode, to communicate effectively and independently in natural environments."

This definition

- ◆ recognizes the importance of communication in natural (as opposed to clinical) contexts;
- ◆ accepts wholly that functional communication can occur in various ways, including verbal and nonverbal, or by using a device or system;
- ◆ emphasizes independence as well as effectiveness of communication.

These features formed the foundation of our rating system.

### WHO Classifications



Source: WHO, International Classification of Impairments, Disabilities & Handicaps, Geneva, 1980

### **Proposed Activities**

- ◆ Although ASHA FACS is currently being tested with two client populations, we believe that the measure will be applicable to other populations with communication disorders. Contingent on outside funding, refinements to the measure may occur.
- ◆ The project has received considerable attention in other English-speaking countries. Project staff are currently seeking additional grant funds both to continue validation with other populations with communication disorders and multicultural groups, and to determine its usefulness in other countries (Australia, Canada, England, Ireland, New Zealand, Scotland, and South Africa).
- ◆ Discussions are underway by the ASHA Task Force on Treatment Outcome and Cost Effectiveness to incorporate the ASHA FACS as one component of a national database on client outcomes.

### **Field Test Sites**

Audie L. Murphy Memorial Veterans Hospital, San Antonio, TX  
Carondelet Rehabilitation Services of Arizona, Tucson, AZ  
The Gaylord Hospital, Wallingford, CT  
Great Lakes Regional Rehabilitation Hospital, Southfield, MI  
Harborview Medical Center, Seattle, WA  
Mississippi Methodist Rehabilitation Center, Jackson, MS  
Moss Rehabilitation Hospital, Philadelphia, PA  
Rancho Los Amigos Medical Center, Downey, CA  
Touro Rehabilitation Center, New Orleans, LA  
University of Washington Medical Center, Seattle, WA  
Veterans Affairs Hospital, Hines, IL



## The Measure

The ASHA FACS (field test version) consists of 44 items within the above assessment domains (see box below). These items are rated after observing functional communication on two scales: a 7-point Scale of Communicative Independence and a 5-point Scale of Qualitative Dimensions of Communication. The first scale assesses the level of independence, and the second scale assesses the *nature* of the functional deficit.

We chose an observation format on the basis of clinician preference. The observation format requires familiarity with a client prior to rating his/her communication. Clinicians may solicit the judgments of others, including family members and other caregivers more familiar with the client, to augment the clinician's observations.

Once the measure is administered, assessment domain mean scores and total mean scores can be calculated for both communicative independence and qualitative dimensions of communication. These scores can also be plotted on a graph to display performance over time. There

are graphic symbols for plotting scores to distinguish among admission, interim, discharge, and follow-up assessment. Calculation of standard scores also will be a feature of scoring.

## Pilot Study Results

The pilot study was conducted to collect preliminary data on reliability and validity, and to determine the usability of the measure.

A total of 58 subjects participated in Pilot Test II. Pilot sites included the National Rehabilitation Hospital (Washington, DC), Northwestern University (Evanston, IL), Rancho Los Amigos Medical Center (Downey, CA), University of Arizona (Tucson, AZ), and Veterans Affairs Hospital (Hines, IL).

Subjects had either cognitive/communication disorders resulting from traumatic brain injury (TBI) (N=26) or aphasia resulting from left hemisphere stroke (N=32). Each was categorized into a severity group—mild/moderate or moderate/severe—using the Aphasia Quotient (AQ) on the Western Aphasia Battery (WAB) for

subjects with stroke, or the Severity Score on the Scales of Cognitive Ability for Traumatic Brain Injury (SCATBI).

## Reliability

Inter- and intra-rater reliability were measured by computing Pearson correlation coefficients. Data revealed that assessment domain scores were comparable between raters on a given subject (ranging from .75 to .89 with a mean correlation of .82). Inter-rater reliability for the overall score resulted in a mean correlation of .90. Intra-rater reliability (scoring consistency between two administrations by the same rater) ranged from correlations of .96 to .99 for domain scores, with the mean correlation between overall scores at .99.

## External Validity

External validation testing supported the hypothesis that the ASHA FACS would have moderately high correlations with other measures of language and cognition (i.e., WAB, SCATBI, Functional Independence Measure and Rancho Los Amigos Levels of Cognitive Functioning).

**Conceptual Framework**  
**ASHA Functional Assessment of Communication Skills for Adults (ASHA FACS)**

| Assessment Domains | Social Communication                                                                                                                                                                                                                                                                                                                                                                                                                                     | Communication of Basic Needs                                                                                                                                        | Daily Planning                                                                                            | Reading/Writing/Number Concepts                                                                                                                                                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Behaviors          | Uses Names of Familiar People<br>Expresses Agreement/Disagreement<br>Explains How to Do Something<br>Requests Information<br>Participates in Telephone Conversation<br>Answers Yes/No Questions<br>Follows Directions<br>Understands Facial Express/Tone of Voice<br>Understands Non-Literal Meaning and Intent<br>Understands Conversation in Noisy Surroundings<br>Understands TV/Radio<br>Participates in Conversations<br>Recognizes/Corrects Errors | Recognizes Familiar Faces/Voices<br>Makes Strong Likes/Dislikes Known<br>Expresses Feelings<br>Requests Help<br>Makes Needs/Wants Known<br>Responds in an Emergency | Tells Time<br>Dials Telephone Numbers<br>Keeps Scheduled Appointments<br>Uses a Calendar<br>Follows a Map | Understands Environmental Signs<br>Uses Reference Materials<br>Follows Written Directions<br>Understands Printed Material<br>Prints/Writes/Types Name<br>Completes Forms<br>Makes Short Lists<br>Writes Messages<br>Understands Signs with Numbers<br>Makes Money Transactions<br>Understands Units of Measurement |

We based our hypothesis on the premise that functional communication depends on underlying language and cognitive skills. Because functional measures assess the consequences of language and cognitive deficits on daily life activities (rather than assessing the impairment itself), only moderate correlations were found.

### **Internal Validity**

We hypothesized that item scores would correlate highly with the domains to which they were assigned, and that overall scores would be highest among the mild/moderate subject severity groups. Furthermore, we anticipated that the two impairment groups would profile differently on the basis of their assessment domain scores.

Most item scores correlated with the assessment domain to which they

belonged. Most item scores and all domain scores correlated with the overall score. Those items with low correlations ( $<.70$ ) either were moved to another assessment domain or deleted from the measure. Some assessment domains also were eliminated or merged. The domain of Telephone Use was eliminated and related items were moved to the domains of Social Communication, Communication of Basic Needs, and Daily Planning. Also, we merged the separate domains of reading, writing, and number concepts into one domain.

Overall scores did distinguish between mild/moderate and moderate/severe subject groups. In addition, with the exception of the Daily Planning assessment domain, the mean domain scores of the TBI subjects were systematically higher than the mean domain scores for the stroke group. Thus,

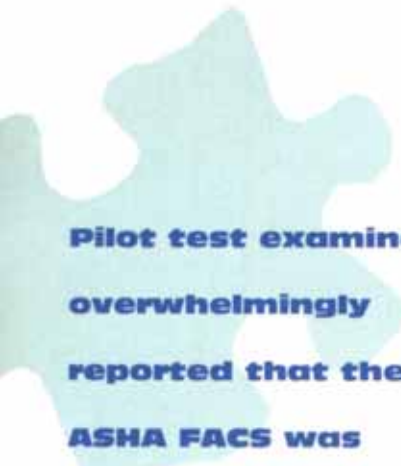
the ASHA FACS is thought to be sensitive to behavioral differences between the two impairment groups.

### **Usability**

Pilot test examiners overwhelmingly reported that the ASHA FACS was easy and quick to administer. (The average administration time was reportedly 20 minutes.) Some believed, however, that the scale of independence alone was not clinically useful for treatment planning, or sufficiently sensitive to capture more subtle deficits, particularly for the TBI population. Consequently, the Scale of Qualitative Dimensions was added to the field test version of the measure.

### **Field Testing Underway**

Field testing of the ASHA FACS is



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presently underway. Data are being collected to determine external, internal, and social validity (by correlating the ASHA FACS domain scores and total score with a Rating of Communicative Effectiveness by a family member/caregiver); inter- and intra-rater reliability; and usability. We are making a special effort to study the effects of severity of impairment (mild, moderate, and severe), multicultural background, age, education, and gender on ASHA FACS performance. Subjects representing five distinct groups (African American, Asian American, Caucasian, Hispanic, and Native American) are being recruited to participate in the study.

Data collection ended in January 1995. Currently ASHA FACS data are being analyzed by staff from The Psychological

Corporation and project staff. Needed modifications will be made and the measure prepared for publication. Expected availability of the ASHA FACS (both paper and pencil and automated versions) is summer 1995.

*Project Update* is the newsletter of the ASHA FACS project. Contact Cheryl (CB) Wohl or Carol Frattali at the ASHA National Office, (301) 897-5700, for a copy, or for additional information related to the pilot study. ①

### **Acknowledgments**

The ASHA FACS project is funded in part by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research, Grant Award #H133G20160. Support is also being provided by ASHA and by the Department of Veterans Affairs. More than 50 individuals (listed in the credits of the *Project Update*) have contributed their time and talents to this project in the capacities of project staff, expert advisor, consultant, peer reviewer, site coordinator, and site examiner. Countless others have offered their resources to support the project. We are indebted to each. Collectively, their contributions have created the ASHA FACS.

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