Introduction

Psychologists can play a leading role in the evaluation of the memory complaints and changes in cognitive functioning that frequently occur in the later decades of life. Although some healthy aging persons maintain very high cognitive performance levels throughout life, most older people will experience a decline in certain cognitive abilities. This decline is usually not pathological, but rather parallels a number of common decreases in physiological function that occur in conjunction with normal developmental processes. For some older persons, however, declines go beyond what may be considered normal and are relentlessly progressive, robbing them of their memories, intellect, and eventually their abilities to recognize spouses or children, maintain basic personal hygiene, or even utter comprehensible speech. These more malignant forms of cognitive deterioration are caused by a variety of neuropathological conditions and dementing diseases.

Psychologists are uniquely equipped by training, expertise, and the use of specialized neuropsychological tests to assess changes in memory and cognitive functioning and to distinguish normal changes from early signs of pathology. Although strenuous efforts are being exerted to identify the physiological causes of dementia, there are still no conclusive biological markers short of autopsy for the most common forms of dementia, including Alzheimer’s disease. Neuropsychological evaluation and cognitive testing remain the most effective differential diagnostic methods in discriminating pathophysiological dementia from age-related cognitive decline, cognitive difficulties that are depression related, and other related disorders. Even after reliable biological markers have been discovered, neuropsychological evaluation and cognitive testing will still be necessary to determine the onset of dementia, the functional expression of the disease process, the rate of decline, the functional capacities of the individual, and hopefully, response to therapies.

The following guidelines were developed for psychologists who perform evaluations of dementia and age-related cognitive decline. These guidelines conform to the American Psychological Association’s “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 1992).

Assessment of dementia and age-related cognitive decline in clinical practice is a core activity of the specialty of clinical neuropsychology. The recent Houston Conference on Specialty Education and Training in Clinical Neuropsychology (Hannay et al., 1998) has specified the appropriate integrated-training model to attain that specialty. These guidelines, however, are intended to specify for all clinicians the appropriate cautions and concerns that are specific to the assessment of dementia and age-related cognitive decline. These guidelines are aspirational in intent and are neither mandatory nor exhaustive. They are guidelines for practice and are not intended to represent standards for practice. The goal of the guidelines is to promote proficiency and expertise in assessing dementia and age-related cognitive decline in clinical practice. They may not be applicable in certain circumstances, such as some experimental or clinical research projects or some forensic evaluations.

Guidelines for the Evaluation of Dementia and Age-Related Cognitive Decline

I. General Guideline: Familiarity With Nomenclature and Diagnostic Criteria

1. Psychologists performing evaluations of dementia and age-related cognitive decline should be familiar with the prevailing diagnostic nomenclature and specific diagnostic criteria. Alzheimer’s disease is the major cause for dementia in later life (Evans, Funkenstein, & Albert, 1989). The most widely ac-

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cepted diagnostic criteria for probable Alzheimer's disease are those offered jointly by the National Institute of Neurological and Communicative Disorders and Stroke and the Alzheimer's Disease and Related Disorders Association (NINCDS–ADRDA criteria; McKhann et al., 1984). These criteria include the presence of dementia, established by clinical examination and confirmed by neuropsychological testing. The dementia is described as involving multiple, progressive cognitive deficits in older persons in the absence of disturbances of consciousness, psychoactive substances, or any other medical, neurological, or psychiatric conditions that might in and of themselves account for these progressive deficits. The Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM–IV; American Psychiatric Association, 1994) also outlines diagnostic criteria for dementia of the Alzheimer type, that are generally consistent with the NINCDS–ADRDA criteria. DSM–IV also provides diagnostic criteria for vascular dementia, as well as for dementia due to other general medical conditions including HIV disease, head trauma, Parkinson's disease, Huntington's disease, Pick's disease, Creutzfeldt–Jakob disease, and other general medical conditions and etiologies. New causes and varieties of dementia continue to be elucidated (e.g., dementia with Lewy bodies; McKeith et al., 1996), and diagnostic criteria for the dementing disorders continue to be refined (e.g., International Classification of Diseases–10 [World Health Organization, 1992–1993] and subsequent revisions).

Some older persons have memory and cognitive difficulties identified by neuropsychological testing that are greater than those typical of normal aging but are not so severe that they warrant a diagnosis of dementia. Some of these persons go on to develop frank dementia and some do not. There is not yet a clear consensus regarding nosology for this middle group. Proposed nomenclature includes the following terms: mild neurocognitive disorder, mild cognitive impairment, late-life forgetfulness, possible dementia, incipient dementia, benign senescent forgetfulness, senescent forgetfulness, and provisional dementia (see Table 1). Terms such as incipient dementia, provisional dementia, and mild cognitive impairment refer to persons who are somewhat more severely impaired and have a relatively greater likelihood of eventually becoming demented (Flicker, Perris, & Reisberg, 1991). Terms such as benign senescent forgetfulness or late-life forgetfulness refer to persons who have milder cognitive difficulties relative to their age peers and are less likely to go on to develop dementia.

Declines in memory and cognitive abilities are a normal consequence of aging in humans (e.g., Craik & Salthouse, 1992). This is true across cultures and, indeed, in virtually all mammalian species. The nosological category of age-associated memory impairment was proposed by a National Institute of Mental Health work group to describe older persons with objective memory declines relative to their younger years but with cognitive functioning that is normal relative to their age peers (Crook et al., 1986). The group’s recommendations contained explicit operational definitions and psychometric criteria to assist in identifying these persons. The more recent term, age-consistent memory decline, has been proposed as being a less pejorative label that emphasizes that these are normal developmental changes (Crook, 1993; Larrabee, 1996), that they are not pathophysiological (Smith et al., 1991), and that they rarely progress to overt dementia (Youngjohn & Crook, 1993). The DSM–IV (American Psychiatric Association, 1994) has codified the diagnostic classification of age-related cognitive decline, which is used throughout the body of these guidelines. This nomenclature has the advantage of not limiting the focus solely to memory but lacks the operational definitions and explicit psychometric criteria of age-associated memory impairment.

### II. General Guidelines: Ethical Considerations

1. **Psychologists attempt to obtain informed consent.** Psychologists recognize that there are special considerations regarding informed consent and competency, given the nature of these evaluations with some patients who may be suffering from advanced stages of dementia. Psychologists attempt, when possible, to educate patients regarding the nature of their services, financial arrangements, potential risks inherent in their services, and limits of confidentiality. When patients are clearly not competent to give their informed consent, psychologists attempt to discuss these issues with family members, legal guardians, or both, as appropriate.

There may also be special considerations regarding the limits of confidentiality in these circumstances. Family members, other professionals, and state agencies may have to be involved without patients' consent under circumstances of potential harm to the patients or others. In potential cases of abuse or neglect, there may be mandated reporting responsibilities for psychologists, consistent with state statutes or other applicable laws.

2. **Psychologists gain specialized competence.** Psychologists who propose to perform evaluations for dementia and age-related cognitive decline are aware that special competencies and knowledge are required for such evaluations. Competence in conducting clinical in-

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**Table 1**

<table>
<thead>
<tr>
<th>Nosological Nomenclature for Midrange Cognitive Difficulties</th>
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<tr>
<td>Those more likely to become demented</td>
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<tr>
<td>Mild neurocognitive disorder</td>
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<tr>
<td>Mild cognitive impairment</td>
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<tr>
<td>Possible dementia</td>
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<td>Incipient dementia</td>
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terviews and administering, scoring, and interpreting psychological and neuropsychological tests is necessary but may not be sufficient. Education, training, experience, and supervision in the areas of gerontology, neuropsychology, rehabilitation psychology, neuropathology, psychopharmacology, and psychopathology in older adults may help prepare the psychologist to evaluate age-related cognitive decline and dementia.

Psychologists use current knowledge of scientific and professional developments, consistent with accepted clinical and scientific standards, in selecting data collection methods and procedures. The Standards for Educational and Psychological Testing (American Psychological Association, 1985) are adhered to in the use of psychological tests and other assessment tools.

4. Psychologists seek and provide appropriate consultation. Psychologists performing dementia and age-related cognitive decline evaluations communicate their findings to primary care physicians and other referring physicians, with sensitivity to issues of informed consent. When the psychologist is the first professional contact, the client is referred, when appropriate, for a thorough medical evaluation to discover any underlying medical disorder or any potentially reversible medical causes for dementia or cognitive decline. Given the prevalence of health problems in the elderly, it is recommended that psychologists providing services to this population be particularly sensitive to these issues. A thorough dementia workup is a multidisciplinary effort (Small et al., in press).

Psychologists help to educate health care professionals who may be administering mental status examinations or psychological screening tools regarding the psychometric properties of these instruments and their clinical utility for particular applications. Education is also provided about the differences between brief screening examinations and more comprehensive psychological or neuropsychological evaluations.

In the course of conducting evaluations for dementia and age-related cognitive decline, allegations of abuse, neglect, or family violence; issues regarding legal competence or guardianship; indications of other medical, neurological, or psychiatric conditions; or other issues may arise that are not necessarily within the scope of a particular evaluator's expertise. If this is so, the psychologist seeks additional consultation, supervision, or specialized knowledge, training, or experience to address these issues.

5. Psychologists are aware of personal and societal biases and engage in nondiscriminatory practice. Psychologists are aware of how biases regarding age, gender, race, ethnicity, national origin, religion, sexual orientation, disability, language, culture, and socioeconomic status may interfere with an objective evaluation and recommendations. The psychologist strives to overcome any such biases or withdraws from the evaluation. Psychologists are alert and sensitive to differing roles, expectations, and normative standards within a sociocultural context.

III. Procedural Guidelines: Conducting Evaluations of Dementia and Age-Related Cognitive Decline

6. Psychologists conduct a clinical interview as part of the evaluation. Psychologists obtain the client's self-report and subjective impressions regarding changes in memory and cognitive functioning. This information can be obtained through informal interviews or through formal memory-complaint questionnaires (Crook & Larrabee, 1990; Dixon, Hultsch, & Herzog, 1988; Gilewski, Zelinski, & Schaie, 1990). Advantages of formal scales include the quantification of memory complaints and the ability to measure subsequent changes in perception of memory loss.

Psychologists are aware that self-reported memory problems often do not correspond to actual decreases in memory performance (Bolla, Lindgren, Bonaccorsy, & Bleecker, 1991). Frequently, persons with significant cognitive dysfunction are not aware of the problem. This lack of awareness of genuine impairment can be a component of the neurobehavioral syndrome, or it can be the result of denial or other psychological defenses. Conversely, some persons who report severe memory deficits actually have normal or even above-average performance. Depression and other psychological factors can lead to overreporting of cognitive disturbance. Additionally, clients performing in the average range may actually have experienced significant decreases in performance relative to their premorbid functioning (Rubin et al., in press).

It is important, when possible, to obtain behavioral descriptions and subjective estimations of cognitive performance from collateral sources such as family and friends. This information can be obtained either through clinical interviews or through memory-complaint questionnaires. It is important to be particularly alert to discordance between self-reports and family reports. When formal scales are used, discrepancies between self-reports and family reports can be quantified (Feher, Larrabee, Sudilovsky, & Crook, 1994; Zelinski, Gilewski, & Anthony-Bergstone, 1990).

It is important to take a careful history. The time of onset and nature and rate of the course of the difficulties provide information important to differential diagnosis. The clinical interview provides an opportunity to assess for the presence of deleterious side effects of medication, substance abuse, previous head injury, or other medical, neurological, or psychiatric history relevant to diagnosis. Obtaining a family history of dementia is also important.

Depression in elderly persons can mimic the effects of dementia (Kasznick & Christenson, 1994). Psychomotor retardation and decreased motivation can result in nondemented persons appearing to have pathophysiologically determined cognitive disturbances in both day-to-day functioning and on formal neuropsychological testing. Depression can also cause nondemented persons to overreport the severity of cognitive disturbance. Consequently, it is important to perform a careful assessment for depression when evaluating for dementia and age-related cognitive decline. Depression is best assessed dur-
Psychologists are aware that standardized psychological tests are important tools in the assessment of dementia and age-related cognitive decline. The use of psychometric instruments may represent the most important and unique contribution of psychologists to the assessment of dementia and age-related cognitive decline. Tests used by psychologists should be standardized, reliable, valid, and have normative data directly referable to the older population. Discriminant, convergent, and ecological validity should all be considered in selecting tests. There are many tests and approaches that are useful for these evaluations, including but not limited to the Wechsler scales of intelligence and memory (Wechsler, 1981, 1987, 1989, 1991), tests from the Halstead-Reitan battery (Reitan, 1993), and the Benton tests (Benton, Hampshire, Varney, & Spreen, 1983). Psychologists seeking more comprehensive compendiums of appropriate tests are referred to the Buros yearbooks of mental measurement (e.g., The Eleventh Mental Measurement Yearbook, Buros Institute of Mental Measurements, 1995, and subsequent revisions), Neuropsychological Assessment (3rd ed., Lezak, 1995), and A Compendium of Neuropsychological Tests (Spreen & Strauss, 1991). Many other excellent tests also provide lists of valuable neuropsychological instruments for use in these evaluations. For example, La Rue’s (1992) Aging and Neuropsychological Assessment, Nussbaum’s (1997) Handbook of Neuropsychology and Aging, and Storandt and VandenBos’s (1994) Neuropsychological Assessment of Dementia and Depression in Older Adults: A Clinician’s Guide present a variety of useful psychological and neuropsychological methods and issues relevant to assessing older adults.

Brief mental status examinations and screening instruments are not adequate for diagnosis in most cases. Comprehensive neuropsychological evaluations for dementia and age-related cognitive decline include tests or assessments of a range of multiple cognitive domains, typically including memory, attention, perceptual and motor skills, language, visuospatial abilities, problem solving, and executive functions. It is recognized, however, that detection of profound dementia may not require a comprehensive neuropsychological test battery.

Psychologists are sensitive to the limitations and sources of variability and error in psychometric performance. Psychologists are aware that practice effects can result when tests are readministered in close temporal proximity. Such effects are more likely to be observed in normally aging older persons than in patients with dementia or amnestic conditions. In cases of questionable cognitive decline, the presence of robust practice effects can help to establish that cognitive functions are intact. Repeated, closely spaced testings, however, can obscure cognitive changes or intervention effects. The use of alternate test forms of equivalent diffi-

8. When measuring cognitive changes in individuals, psychologists attempt to estimate premorbid abilities. Ideally, psychologists assessing for cognitive declines in older persons would have baseline test data from earlier years against which current performance could be compared. Unfortunately, this information rarely exists, so psychologists must try to estimate premorbid abilities by taking into consideration socioeconomic status, educational level, occupational history, and client and family reports. Clinical judgment can be an important part of this process. There are a number of systematic biases in human judgment that may lead to inaccurate clinical estimates of premorbid functioning (Kareken, 1997). Various techniques have been used to estimate cognitive abilities in a person’s earlier years (e.g., Barona, Reynolds, & Chastain, 1984; Blair & Spreen, 1989). Psychologists are aware, however, that any measure of current cognitive functioning can be affected by dementia (Larrabee, Largen, & Levin, 1985; Storandt, Stone, & LaBarge, 1995).

Once a person has been tested, these data can serve as a baseline against which to measure future changes in cognitive functions. Magnitudes and rates of cognitive change, as well as response to treatment, can also be determined by follow-up testing. In most cases, a one-year follow-up interval is adequate for monitoring changes in cognitive performance, unless the client, family, or other health care professionals report a more rapid decline, emergence of new symptoms, or changes in life circumstances. Psychologists try to be knowledgeable of the test–retest reliability of tests that are used so that patterns and the extent of change can be interpreted appropriately. Interim follow-up not involving formal testing may also be useful in many cases.

Because on some tests average levels of performance decline with age, it is important that tests selected for use in the evaluation of dementia and age-related cognitive decline have adequate age-adjusted norms. Until recently, the relative lack of norms for older adults posed a problem for clinicians, but better and larger standardization samples of older adults are now available for many commonly used clinical tests. Gaps still remain in the normative data for very old persons and for diverse linguistic and ethnic populations. Comparison of an individual’s test performance against even age-adjusted norms can be misleading if the individual’s earlier abilities fell outside of the population curve.

9. Psychologists are sensitive to the limitations and sources of variability and error in psychometric performance. Psychologists are aware that practice effects can result when tests are readministered in close temporal proximity. Such effects are more likely to be observed in normally aging older persons than in patients with dementia or amnestic conditions. In cases of questionable cognitive decline, the presence of robust practice effects can help to establish that cognitive functions are intact. Repeated, closely spaced testings, however, can obscure cognitive changes or intervention effects. The use of alternate test forms of equivalent diffi-
difficulty can help to attenuate the practice effect artifact, but such forms may not be available for many otherwise appropriate tests.

Psychologists realize that persons can have significant declines in day-to-day functional abilities that are not demonstrated on psychometric instruments because of a relative lack of sensitivity of the tests used. Psychometric instruments are effective but still imperfect measures of real-life abilities.

Reasons that people may do poorly on tests when the ability being assessed is intact include but are not limited to sensory deficits, fatigue, medication side effects, physical illness and frailness, discomfort or disability, poor motivation, financial disincentives, depression, anxiety, not understanding the test instructions, and lack of interest. Psychologists attempt to assess these sources of error and to limit and control them to the extent that they are able.

10. Psychologists recognize that providing constructive feedback, support, and education, as well as maintaining a therapeutic alliance, can be important parts of the evaluation process. In many instances, patients may benefit from feedback regarding the evaluation, in language that they can understand. Psychologists should exercise clinical judgment and take into consideration the needs and capabilities of the particular client when feedback is provided.

Providing feedback, education, and support to families with clients' informed consent, are also important aspects of evaluations and enhance their value and applicability. Knowledge of the levels, the expected course, and the expected outcomes of impairment can help families to make adequate preparations. Working with families can provide them with effective and humane methods for managing persons with problem behaviors. Appropriately counseling families about known genetic components and the heritability of the various disorders can address their concerns and can, in many cases, allay needless fears. Healthy older adults who have had concerns about their cognitive functions can benefit from reassurance based on results of testing (Youngjohn, Larrabee, & Crook, 1992) and from suggestions about how they may enhance their everyday cognitive functioning.

Psychologists attempt to educate themselves about currently approved somatic and nonsomatic treatments of dementia and age-related cognitive decline. This is a rapidly evolving area, and both families and health care professionals can benefit from education.

Psychologists offer or recommend appropriate treatment for coexisting emotional and behavioral disturbances to persons with dementia and age-related cognitive decline. Cognitive rehabilitation and memory training have limited effectiveness for persons with dementia, although environmental restructuring may be useful. By contrast, training in cognitive strategies, use of memory aids, and mnemonic techniques have proven effectiveness with nondemented persons, including those with age-related cognitive decline or those with focal brain disorders (Lapp, 1996; West & Crook, 1991). Clients and families can be educated about these treatments, which can be offered to clients as appropriate.

Summary

Assessment of cognitive functioning among older adults requires specialized training and refined psychometric tools. Psychologists conducting such assessments must learn current diagnostic nomenclature and criteria, gain specialized competence in the selection and use of psychological tests, and understand both the limitations of these tests and the context in which they may be used and interpreted. Assessment of cognitive issues in dementia and age-related cognitive decline is a core focus of the specialty of clinical neuropsychology. Therefore, these guidelines are not intended to suggest the development of an independent proficiency. Rather, they are intended to state explicitly some appropriate cautions and concerns for all psychologists who wish to assess cognitive abilities among older adults, particularly when distinguishing between normal and pathological processes.

REFERENCES
