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

American Psychological Association

Dementia¹ in its many forms is a leading cause of functional limitation among older adults worldwide and will continue to ascend in global health importance as populations continue to age and effective cures remain elusive (Mathers & Loncar, 2006). Plassman et al. (2007) estimated that over 2.5 million Americans suffered from Alzheimer's disease (AD) and that nearly 4 million had that and other forms of dementia in 2002. Given expected increases in the size of the older adult population, those numbers are expected to increase strikingly by 2050 (Alzheimer's Association, 2009).

The following guidelines were developed for psychologists who perform evaluations of dementia and age-related cognitive change. These guidelines conform to the American Psychological Association's (APA's) "Ethical Principles of Psychologists and Code of Conduct" (APA, 2002). The term *guidelines* refers to statements that suggest or recommend specific professional behavior, endeavors, or conduct for psychologists. Guidelines differ from standards in that standards are mandatory and may be accompanied by an enforcement mechanism. Guidelines are aspirational in intent. They are intended to facilitate the continued systematic development of the profession and to help facilitate a high level of practice by psychologists. Guidelines are not intended to be mandatory or exhaustive and may not be applicable to every professional situation. They are not definitive, and they are not intended to take precedence over the judgment of psychologists.

Guidelines on this topic were originally developed by an APA Presidential Task Force, approved as policy of APA by the APA Council of Representatives, and published in 1998 (APA Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia, 1998). Consistent with APA standards, these guidelines were subject to sunset or review in 2008. The Board of Professional Affairs and the Committee on Professional Practice and Standards conducted an initial review and determined that the guidelines should not be sunset and that revision was appropriate. The APA Committee on Aging empanelled a group of experts who reviewed and deemed appropriate the maintenance of these guidelines with appropriate revision and updating. The introduction to the original guidelines remains pertinent today:

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 hy-

This article was published Online First August 15, 2011.

This revision of the 1998 "Guidelines for the Evaluation of Dementia and Age-Related Cognitive Decline" (American Psychological Association, 1998) was completed by the APA Task Force to Update the Guidelines for the Evaluation of Dementia and Age-Related Cognitive Decline and approved as APA policy by the APA Council of Representatives in February 2011. Members of the APA Task Force to Update the Guidelines for the Evaluation of Dementia and Age-Related Cognitive Decline were Glenn E. Smith (chair), Department of Psychiatry and Psychology, Mayo Clinic College of Medicine; Cameron Camp, Research and Product Development, Hearthstone Alzheimer Care; Susan Cooley, Geriatric Research and Development and Dementia Initiatives, Office of Geriatrics & Extended Care, U.S. Department of Veterans Affairs; Hector M. González, Institute of Gerontology and Department of Family Medicine and Public Health Sciences, Wayne State University; Paula Hartman-Stein, independent practice, Center for Healthy Aging, Kent, Ohio, and Lifespan Development and Educational Sciences, Kent State University; Asenath LaRue (a member of the original 1997 APA Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia), Wisconsin Alzheimer's Institute, University of Wisconsin; Nancy A. Pachana, School of Psychology and Ageing Mind Initiative, The University of Queensland, Australia; and Antonette Zeiss, Office of Mental Health Services, Office of Patient Care Services, U.S. Department of Veterans Affairs. Cameron Camp is now at Linda-&-Camp, Inc., Solon, Ohio.

The task force is thankful to the APA Committee on Aging for convening the task force and to the U.S. Department of Veterans Affairs for hosting conference calls to permit this work to advance. APA Office on Aging Director Deborah DiGilio and her assistant Susie Hwang provided outstanding administrative support.

The literature cited herein does not reflect a systematic meta-analysis or review of the literature but rather was selected by the panel to emphasize clinical best practices. Care was taken to avoid endorsing specific products, tools, or proprietary approaches. No direct financial support was provided for the development of these guidelines.

These guidelines are scheduled to expire as APA policy in February 2021. After this date, users are encouraged to contact the APA Public Interest Directorate to determine whether this document remains in effect.

Correspondence concerning this article should be addressed to the Office on Aging, Public Interest Directorate, American Psychological Association, 750 First Street, NE, Washington, DC 20002-4242.

¹ The *DSM-5* Neurocognitive Disorders Work Group has proposed that a new category, neurocognitive disorders, replace the *DSM-IV* category of delirium, dementia, amnesic, and other geriatric cognitive disorders.

giene, or even utter comprehensible speech. These more malignant forms of cognitive deterioration are caused by a variety of neuro-pathological 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. . . . 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. . . .

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. . . . 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. (APA Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia, 1998, p. 1298)

I. General Guidelines: Competence

Guideline 1. Psychologists performing evaluations of dementia and age-related cognitive change are familiar with the prevailing diagnostic nomenclature and specific diagnostic criteria.

Rationale. A clear understanding of how cognitive disorders are defined and diagnosed is important for developing assessment plans, providing feedback to individuals and their family members, and communicating effectively with other professionals involved in an individual's care. Differential diagnosis requires knowledge of a broad range of psychological and medical conditions that can affect an individual's cognitive state and an appreciation of both the general trends and individual differences that characterize normal cognitive aging. Because diagnostic nomenclature and criteria evolve in response to clinical and scientific advances, updating of knowledge is recommended to sustain a high level of competence in assessing cognitive disorders.

The *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 2000) outlines diagnostic criteria for the clinical syndrome of dementia and additional criteria for diagnosing dementia of the Alzheimer type and vascular dementia, as well as briefer guidelines for diagnosing less common causes of dementia, such as head trauma, Parkinson's disease, and general medical disorders. Diagnostic guidelines for AD have also been provided by the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) and by the Alzheimer's Disease and Related

Disorders Association (ADRDA; McKhann et al., 1984). The NINCDS-ADRDA guidelines provide criteria for identifying probable and possible AD and are widely used in research. Neuropsychological testing to confirm the presence and nature of cognitive deficits is required in the NINCDS-ADRDA criteria for AD and figures prominently in the consensus panel guidelines for assessing other forms of dementia.

Consensus groups have offered detailed and clinically useful diagnostic criteria for several other major causes of late-life dementia, including vascular dementia (Román et al., 1993), frontotemporal dementia (Neary et al., 1998), and dementia with Lewy bodies (McKeith et al., 2005). All diagnostic criteria require confirmation of dementia by clinical examination and the exclusion of other explanations for the cognitive deficits by history, clinical examination, or specialized tests.

If memory is the chief presenting complaint, but significant decline in everyday function is absent, and observed performance is within expected ranges on relevant neuropsychological tests, the *DSM-IV* category of age-related cognitive decline may apply.

Some older adults have memory and cognitive difficulties that are greater than those typical of normal aging but not so severe as to warrant a diagnosis of dementia. Many terms have been used to refer to these syndromes of borderline impairment. In recent years, the term *mild cognitive impairment* has come to the forefront in usage within the United States. Recent definitions of mild cognitive impairment include several subtypes (amnesic vs. nonamnesic, sole deficit vs. multifocal; Winblad et al., 2004). The debate continues regarding the necessity and utility of mild cognitive impairment as a diagnostic entity, but there is a substantial probability that some form of diagnosis for mild cognitive disorders (e.g., minor neurocognitive disorder) will be present in *DSM-5*.

Cognitive impairment symptoms may also accompany common mental health conditions, such as depression and anxiety disorders. Diminished ability to think or concentrate, or indecisiveness, is included in the *DSM-IV* diagnostic criteria for major depressive episode and generalized anxiety disorder. Familiarity with the cognitive sequelae of common psychiatric disorders is essential for differentiating between psychiatrically related cognitive impairments and mood changes that sometimes signal the onset of dementia (Devanand et al., 1996).

Application. Psychologists are encouraged to obtain training and continuing education to enhance and maintain their expertise and to utilize current diagnostic concepts, criteria, and nomenclature in their evaluations of older adults.

Guideline 2. Psychologists gain specialized competence in assessment and intervention with older adults.

Rationale. A central ethical tenet for psychologists is that they practice only within their area of competence (APA, 2002). Psychologists who conduct evaluations of dementia and age-related cognitive changes are aware

that special competencies are required for this activity. Competence in gathering clinical history; conducting clinical interviews; and administering, scoring, and interpreting psychological and neuropsychological tests is necessary but may not be sufficient.

Application. Psychologists engaged in evaluation of dementia and age-related cognitive change have a solid foundation in clinical psychology. In addition, they are encouraged to obtain fundamental education, training, and supervised experience in geropsychology, neuropsychology, rehabilitation psychology, pharmacology, neuropathology, and psychopathology.

II. General Guidelines: Ethical Considerations

Guideline 3. Psychologists are aware of the special issues surrounding informed consent in cognitively compromised populations.

Rationale. Psychologists recognize the special challenge of informed consent in dementia evaluations. Informed consent requires that one's consent to treatment be competent, voluntary, and informed (American Bar Association [ABA] & APA, 2008). Informed consent implies the person has capacity to understand the significant benefits, risks, and alternatives of the proposed assessment and to make and communicate a health care decision (Uniform Health-Care Decisions Act, 1994). Yet compromised cognitive ability to make health care decisions is one of the key capacities that may be affected by dementia and age-related cognitive changes. This creates the appearance of a double bind regarding obtaining informed consent for dementia evaluations. The ABA and APA's (2008) *Assessment of Older Adults With Diminished Capacity: A Handbook for Psychologists* provides guidance to help the clinician when assessing persons who may have diminished capacity. This handbook notes,

The person may have capacity to consent to the evaluation, and either agrees or refuses. In this case, the person has provided a valid agreement or refusal, and this can be documented. Alternatively the person may not have the capacity to consent to the evaluation, and either agrees or refuses. If the person agrees, he or she is generally said to have "assented" and the assessment process goes forward. If the person disagrees, and refuses to comply with an interview, then the psychologist must document why the person is believed to lack the capacity to refuse the evaluation. In some situations, the capacity evaluation stops there. In other situations, where a capacity evaluation is court ordered, the psychologist may be asked to provide an opinion based on his or her observations of the person. (ABA & APA, 2008, p. 35)

Application. Psychologists review the purpose, nature, and procedures of the evaluation with the older adult in a manner and with terms most likely to foster understanding. Psychologists inform individuals and their legal proxies of limitations to confidentiality, constraints on release of raw test data, and mandatory reporting requirements. Psychologists define the benefits and risks for the person being assessed. These may include gathering of helpful clinical information that can be used in diagnosis

and treatment planning but also the loss of decision-making rights, potential lack of confidentiality, and the possible need for a guardian or conservator. In certain situations, psychologists may need to offer an expert opinion regarding capacity regardless of whether or not the person consents to a full evaluation. In these situations, psychologists are encouraged to inform the individual that the evaluation must be conducted whether or not they are willing participants and that a refusal to participate will result in the evaluation being compiled from other sources.

If the individual is legally incapable of providing consent, the psychologist must obtain consent from a legally authorized person (see Section 3.10 of the APA's "Ethical Principles of Psychologists and Code of Conduct"; APA, 2002) to carry out the evaluation and to gather information from other health professionals and family members (see Guideline 6). Psychologists document the consent, assent, or refusal of the individual as appropriate. Psychologists also document evidence regarding the person's capacity or lack thereof to consent to the assessment.

Guideline 4. Psychologists seek and provide appropriate consultation in the course of performing dementia and age-related cognitive change evaluations.

Rationale. Complex issues arise during the evaluation of suspected cognitive decline or dementia. These issues may include multiple medical comorbidities or medication side effects, genetic and heritability issues, abuse or neglect, issues regarding legal competence or guardianship, conflicting or unclear assessment results, and families overwhelmed or divided by the potential diagnosis. Psychologists providing services to this population strive to be particularly sensitive to the multiple health conditions that impact cognitive function. In all of these areas, the clinician, individual, and/or family may benefit from the expertise or services of other professionals, such as physicians, genetic counselors, adult protective and social service workers, attorneys, and other psychologists (ABA & APA, 2008).

Application. When the psychologist is the first professional the individual contacts, the psychologist seeks to gather existing medical records to complement the assessment. If appropriate, the individual may be referred for a thorough medical evaluation to discover any underlying medical disorder or any potentially reversible medical conditions associated with dementia or cognitive decline.

If issues of abuse or neglect arise, psychologists notify appropriate authorities and make referrals for appropriate services. In addition, psychologists are encouraged to inform the individual of the reporting requirement prior to services being rendered. In matters of legal capacity and guardianship, psychologists seek additional legal consultation, supervision, and/or specialized knowledge, training, or experience as appropriate to address these issues. Psychologists communicate their findings to other health care professionals with sensitivity to issues of informed written consent that is compliant with the guidelines of the Health Insurance Portability and Accountability Act of 1996 (U.S.

Department of Health and Human Services, Office for Civil Rights, 1996).

Psychologists are encouraged to help educate other health care professionals who administer mental status examinations or other brief psychological tools regarding the benefits and limitations of these instruments and their clinical utility for particular applications. Education can also be provided about the utility and limitations of more comprehensive psychological or neuropsychological assessment in dementia evaluations.

In all cases, psychologists strive to consult widely with appropriate professionals or seek information to clarify relevant issues. Psychologists are encouraged to seek out the most current information and are mindful of instances where professional consensus has yet to be reached.

Guideline 5. Psychologists are aware of cultural perspectives and of personal and societal biases and engage in nondiscriminatory practice.

Rationale. Biases may affect the evaluation of dementia and age-related cognitive function. Biases that could have untoward effects on assessment and guidelines are provided in APA's (2002) "Ethical Principles of Psychologists and Code of Conduct." In particular, tests may have been constructed in accordance with the ethical principles' goal to reduce or eliminate bias; however, the psychologist is advised to carefully evaluate the test quality and appropriateness for individual circumstances, especially when the test is being administered to individuals with different cultural and linguistic backgrounds (American Educational Research Association [AERA], APA, & National Council on Measurement in Education [NCME], 1999). Only highly educated, majority normative samples were used for many neuropsychological tests. The psychologist is advised to ensure the tests used are appropriate for the individual being served. Certain populations, such as immigrants (with or without documentation), trauma victims, and non-English-speaking clients, may be especially vulnerable. In addition, individuals' reactions to and performances on testing may be influenced by their own expectations. For example, anxiety and/or stereotype threat (a confirmatory bias leading to performance that conforms with societal stereotypes) can reduce performance on cognitive testing (Scholl & Sabat, 2008). The psychologist is advised to be vigilant for such anxieties and to work with individuals so they might better understand the evaluation procedures and purposes to ensure accurate and optimal performance.

Application. To varying degrees, biases are pervasive. The psychologist's and individual's biases (e.g., stereotype threat) may negatively influence an evaluation. The psychologist is alert and sensitive to differing roles, expectations, and normative standards within a sociocultural context. In practice and when appropriate, the psychologist discusses potential biases to ensure optimal performance is achieved for the assessment. The psychologist strives to control biases through reviewing relevant research and relying on evidence-based practice guidelines

and by seeking additional consultation or, in some cases, withdrawing from the evaluation. If the psychologist is unable to conduct the evaluation fairly, the ethical psychologist seeks to refer the individual to other psychologists capable of providing services.

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

Guideline 6. Psychologists strive to obtain all appropriate information for conducting an evaluation of dementia and age-related cognitive change, including pertinent medical history and communicating with relevant health care providers.

Rationale. Cognitive function and change are associated with several medical and psychosocial conditions that must be considered in any evaluation of current cognitive performance. However, individuals and even knowledgeable informants may be poor historians or lack information regarding the individual's past and current medical status, medication use, and daily function. Medical, occupational, and educational records and family history documents can provide important contextual and functional information pertinent to the evaluation (ABA & APA, 2008). In practice, the amount of reliable information available to the psychologist for the evaluation may be highly variable, depending in part on the availability of relevant records as well as knowledgeable family, friends, and other professionals. Conclusions and recommendations flowing from the evaluation may be constrained by the need for further information or follow-up evaluation.

Application. Psychologists strive to understand fully all facets of the referred individual's context. Psychologists are encouraged to consult with health care providers and seek relevant records, particularly concerning the individual's health status, medical history, and current medications. As the individual may be able to give only limited self-report and may be an unreliable historian, psychologists seek consent or assent from the individual to gather corroborative information from other informants. Psychologists inform these sources of the potential uses of the information and the limits to confidentiality. In obtaining collateral information, the psychologist considers the potential biases and motives of informants.

Guideline 7. Psychologists conduct a clinical interview as part of the evaluation.

Rationale. Although objective neuropsychological testing provides valuable data for diagnostic purposes, the clinical interview remains an essential element of an in-depth assessment for dementia (ABA & APA, 2008; Mackinnon & Mulligan, 1998; National Center for Cost Containment, 1997). Obtaining contextual and historical information from interviewing knowledgeable informants improves diagnostic accuracy and may be less likely to be biased by sex and gender, education, or ethnicity in com-

parison to performance-based measures (Galvin et al., 2005; Monnot, Brosey, & Ross, 2005). Interview data from a corroborative source, such as a caregiver or knowledgeable family member, can provide information on everyday cognitive functioning (Waite et al., 1998). An advantage of informant history is the ability to assess change in performance from earlier in life, which also potentially reduces test bias (Jorm, 1996). Finally, obtaining data from informant interviews can add greater precision in the design of appropriate behavioral, environmental and pharmacological treatments of dementia (Hartman-Stein, Reuter, and Schuster, 2002; Waite et al., 1998).

Directly interviewing the individual whenever possible allows the clinician to evaluate firsthand the level of cognitive function and the individual's awareness of any cognitive and behavioral changes and to discern psychosocial stressors or other mental health problems that may be contributing to the cognitive change. Such data obtained from direct interviews are invaluable for both diagnostic and treatment planning purposes.

Application. In order to accurately diagnose conditions that are associated with cognitive decline and functional disability, psychologists conduct a clinical interview with the individual and obtain corroboration from knowledgeable informants whenever possible. Key information obtained during the interview includes the following:

- the onset and course of changes in cognitive functioning,
- pre-existing disabilities,
- educational and cultural background that could affect testing variability,
- general medical and psychiatric history,
- past neurological history including prior head injuries or other central nervous system insults (strokes, tumors, infections, etc.),
- current psychiatric symptoms and significant life stressors,
- current prescription and over-the-counter medication use,
- current and past use and abuse of alcohol and drugs,
- family history of dementia.

Psychologists may choose to incorporate structured, evidence-based clinical dementia rating tools, brief mental status examinations, and formal measures of functional status in their clinical interviews.

In order to design practical recommendations for treatment planning purposes, during the clinical interview the psychologist obtains, whenever possible, functional information from the individual and collateral sources regarding the individual's ability to manage the important aspects of self-care (ABA & APA, 2008). In evaluating suspected dementia, Psychologists are sensitive to families' and individuals' understanding of the potential diagnosis of dementia and its ramifications. They are also aware of the individual's past and current coping skills as well as resources from which the individual can receive support, including cultural, ethnic, and religious communities.

Guideline 8. Psychologists are aware that standardized psychological and neuropsychological tests are important tools in the assessment of dementia and age-related cognitive change.

Rationale. The use of psychometric instruments may represent the most important and unique contribution of psychologists to the assessment of dementia and cognitive change (AERA, APA, & NCME, 1999). Psychometric assessment provides objective information on cognitive strengths and impairments necessary for diagnosis. Testing provides reliable information for tracking cognitive change over time or in response to interventions.

Brief mental status examinations contribute to the evaluation for possible dementia and other cognitive impairments and track cognitive change in individuals with more severe levels of impairment. Brief cognitive assessment tools should be standardized and have good positive predictive values for identifying possible cognitive impairment. Psychologists strive to be familiar with the positive and negative predictive values of these tools for identifying cognitive impairment in populations with age, educational, and ethnic and racial characteristics similar to those of the persons to be assessed. Common cut scores for brief mental status examinations generate adequate sensitivity to dementia but may not have reasonable specificity (Agency for Healthcare Research and Quality, U.S. Preventive Services Task Force, 2003). Moreover, brief mental status tests have poor sensitivity for preclinical detection of dementia. For these reasons, there may be poor concordance between a brief mental status score and functional status or clinical concern. Thus, both positive and negative results on brief mental status testing may require follow-up with more in-depth neuropsychological testing.

Comprehensive neuropsychological evaluations for dementia and cognitive change include tests of multiple cognitive domains, typically including memory, attention, perceptual and motor skills, language, visuospatial abilities, reasoning, and executive functions. Measures of mood and personality may be relevant in many cases. Psychologists are encouraged to refer to current compendia resources and the clinical research literature in selecting assessment instruments.

There are many tests and approaches that are useful for assessments, and the number of tests with normative data for older age ranges has increased. Supplementing standard age norms with normative data obtained from samples where the absence of dementia has been established longitudinally may help to increase reliability in identifying mild levels of cognitive impairment.

Research to establish norms on commonly used clinical tests for specific ethnic and racial populations is growing, but representative norms are still lacking in some cases. Psychologists assessing older adults from racial and ethnic minorities strive to seek and use the best available tests for each individual's background and consult with expert colleagues as needed regarding interpretation.

Technology assisted assessments (e.g., computer administered cognitive batteries, telehealth visits) are rapidly advancing, but appropriate psychometric properties and normative data are nascent. These technologies may have significant advantages for older persons with limited mobility or health care access but may also disadvantage older persons with limited experience and expertise interacting with technology.

Application. Psychologists are encouraged to use standardized, reliable, and valid tests. Whether traditional or technology assisted, appropriate tests have normative data for the age range of the person being assessed and are suitable for the individual's ethnicity, race, and educational background. In particular, the positive and negative predictive values of the instruments are considered when selecting tests for dementia, cognitive impairment, and age-related cognitive change. Furthermore, testing instruments should be sensitive to subtle changes in cognitive function over time.

Regarding age norms, psychologists are aware of the relative stringency with which persons with mild cognitive impairment or beginning dementia were excluded from the standardization samples for a given test. They appropriately adjust their clinical decision making for these tests. Psychologists assessing cognitive function and change among older adults of ethnic and racial minorities are familiar with the adequacy of the normative data for ethnic and racial minorities for the various measures they employ.

Guideline 9. When evaluating for cognitive and behavioral changes in individuals, psychologists attempt to estimate premorbid abilities.

Rationale. The diagnosis of dementia requires evidence of decline from a previously higher level of cognitive function. 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. Factors commonly considered include socioeconomic status, educational level, occupational history, and individual and family reports. This type of demographic and historical information can be supplemented by contemporaneous tests, such as word recognition reading. Word recognition reading tests are highly correlated with global cognitive function but insensitive to early changes in most dementias (McGurn et al., 2004). However, this method might be sensitive to dementia type and severity (Cockburn, Keene, Hope & Smith, 2000). Traditional methods of estimating premorbid cognitive functioning may be especially biased for ethnic and racial minorities. A particular difficulty may be posed by individuals with intellectual disabilities who present for dementia evaluation (for reviews, see Margallo-Lana, Tyrer, & Moore, 2009; Strydom, Livingston, King, & Hassiotis, 2007).

Application. Psychologists strive to use premorbid functioning estimating methods that are appropriate to individual needs. Psychologists are encouraged to be aware

of the limits of various approaches to premorbid ability estimation and to appropriately qualify their clinical judgments about premorbid function.

Guideline 10. Psychologists are sensitive to the limitations and sources of variability and error in psychometric performance and to the sources of error in diagnostic decision making.

Rationale. Psychometric instruments and clinical interpretations of these instruments are subject to error. Instruments have known or knowable limits to their reliability and validity (AERA, APA, & NCME, 1999). Clinical decision making must contend with limits on positive or negative predictive values (Fletcher, Fletcher, & Wagner, 1996). These psychometric and clinical properties are impacted by varying factors (Smith, Ivnik, & Lucas, 2008) including demography (e.g., age, education, ethnicity, etc.) and context (e.g., clinical setting).

Application. Psychologists strive to understand sources of variability and error in their instruments and judgments about cognitive change. They strive to maximize the reliability and validity of the assessment process through appropriate collection of history and selection of instruments, norms, and procedures. Psychologists are encouraged to recognize limitations in the evaluation process by appropriately qualifying their judgments and conclusions.

Guideline 11. Psychologists make appropriate use of longitudinal data.

Rationale. Existing cognitive 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. However, many cognitive instruments are insensitive to changes over shorter periods. In most cases, a one-year follow-up interval is adequate for monitoring changes in cognitive performance, unless the individual, family, or other health care professionals report a more rapid decline or improvement, emergence of new symptoms, or changes in life circumstances (APA Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia, 1998).

Because test means may decline with age, it is important that tests selected for use in the evaluation of dementia and age-related cognitive change have adequately accounted for uncomplicated age-related changes in cognitive function. The lack of adequate longitudinal norms for older adults can pose a problem for longitudinal evaluation, even as better and larger standardization samples of older adults are now available for many commonly used clinical tests.

Application. Psychologists are encouraged to utilize prior cognitive data when available. Psychologists strive to be knowledgeable of the stability parameters of the instruments they use over specific intertest intervals. Psychologists strive to become familiar with patterns of practice or learning effects and accommodate these effects in their test selection and application. Psychologists are thus aware of clinically meaningful magnitudes of test changes

(e.g., reliable change indices; Jacobson & Truax, 1991; Temkin, Heaton, Grant, & Dikmen, 1999) so that patterns and the extent of change can be interpreted appropriately. Psychologists recommend follow-up testing only as appropriate and recognize that interim follow-up not involving formal testing may also be useful in many cases.

Guideline 12. Psychologists recognize that providing constructive feedback, support, and education as well as maintaining a therapeutic alliance can be important parts of the evaluation process.

Rationale. Individuals concerned about cognitive and behavioral changes associated with aging generally come to the evaluation process seeking information as well as emotional support. This often is a severely distressing situation for the individual, who may or may not have been the key individual in making the decision to have an assessment conducted (ABA & APA, 2008; APA Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia, 1998). Provision of both information and support while maintaining a sense of respect and dignity for the individual, regardless of level of cognitive impairment, reflect both professional ethics and sound clinical practice (APA, 2002). Establishing a therapeutic alliance is critical for accurate assessment, development of efficacious intervention, and increased likelihood that interventions will be effectively implemented with good adherence.

Application. In many instances, individuals may benefit from feedback regarding the evaluation in language that they can understand. Psychologists are encouraged to exercise clinical judgment and take into consideration the needs and capabilities of the particular individual when feedback is provided. The presence of a significant support person during feedback allows the clinician to assist with differences of opinion, respond to individual questions, and facilitate the interactions between the individual and persons in their support network (Green, 2006).

Providing feedback, education, and support to persons significant to the individual, with the individual's informed consent, are also important aspects of evaluations and enhance their value and applicability. Knowledge regarding levels of impairment, the expected course, and expected outcomes can help these significant others to make adequate preparations. Working with the individual's support network in this way can provide them with effective means of responding to the challenges posed by behavior changes stemming from a diagnosis of dementia. Healthy older adults who have had concerns about their cognitive functions can benefit from reassurance based on results of testing and from suggestions as to how they may enhance their everyday cognitive function.

With regard to feedback, education, and support, psychologists are encouraged to be sensitive to issues of marriage, partnerships, family relationships, and friendships of each unique individual. Psychologists strive to acknowledge and accord full respect to these relationships, including those of lesbian, gay, bisexual, and transgender people,

even if these relationships are not recognized by law or acknowledged by individual institutions.

Guideline 13. As part of the evaluation process, psychologists appropriately recommend interventions available to persons with cognitive impairment and their caregivers.

Rationale. Persons with cognitive impairment often also display mood disturbance and challenging behaviors and generally have compromised daily function. Functional, emotional, and behavior challenges can be addressed with a variety of cognitive, behavioral, and psychosocial interventions. These interventions rely on retained abilities, such as preserved procedural/nondeclarative memory and preserved reading abilities, social history, and environmental cues. It is therefore critical not only to be fully aware of the deficits associated with a diagnosis of dementia but also to be knowledgeable of those abilities that are relatively spared in dementia, as well as the individual's personal history, background, and current levels of functional capacity.

Functional deficit associated with cognitive decline can be partially mitigated through the use of cognitive training paradigms (e.g., spaced retrieval) or external aids (e.g., planners or medication dispensers). However, both approaches require intensive training. Moreover, caregivers and other environmental supports are crucial in maintaining positive effects of these interventions.

Challenging behaviors (especially those falling within the *four A's of dementia*, i.e., agitation, aggression, anxiety, and apathy) are considered by some an attempt to communicate unmet human needs in persons with dementia and related disorders (Cohen-Mansfield, Libin, & Marx, 2007). Causes of challenging behavior can include physical issues (e.g., infections, undiagnosed pain), nonoptimal levels of stimulation, undiagnosed depression, environmental triggers, and conditioning. As a result, psychologists are encouraged to consider and assess these potential causes to determine an appropriate treatment protocol. This requires considering interventions that might involve the individual, family or professional caregivers, institutions, or policy-makers (Camp & Nasser, 2003).

Cognitive impairment alone does not preclude the ability to benefit from various forms of psychotherapy. It is important to note that cognitive/behavioral interventions are effective in addressing dysphoria, agitation, anxiety, and apathy in persons with dementia (Teri, Huda, Gibbons, Young, & van Leynseele, 2005).

At more advanced stages of dementia, use of sensory stimulation often assists in addressing issues related to agitation or anxiety (Lin et al., 2009). At all stages of dementia, apathy is the most common behavioral challenge facing caregivers. Therefore, provision of optimal stimulation and ensuring positive engagement are critical features of interventions to improve the quality of life of both persons with dementia and their caregivers.

Enabling family members to accept, support, and engage the person with dementia as he or she is now is an

important challenge to address. It is also critically important that therapeutic goals be discussed directly with the individual who has dementia. This not only provides the respect and dignity that should be given any individual but also provides highly relevant information regarding the individual's understanding and attitude about the goal, his or her motivation in achieving the goal, and his or her willingness to expend time and energy working toward the goal.

Application. Psychologists strive to educate themselves regarding currently approved medical and behavioral treatments of dementia and age-related cognitive decline. This is a rapidly evolving area, and both families and health care professionals can benefit from learning about best practices based on sound empirical evidence. Psychologists strive to recommend appropriate interventions to maximize individual function and minimize challenging behavior and emotional distress associated with dementia or age-related cognitive change. Psychologists seek to determine underlying environmental, social, historical, psychological, functional, and medical causes of emotional and behavioral disturbance associated with dementia. Individuals and families can be educated about these treatments, which can be offered to individuals as appropriate. Psychologists directly provide or assist other health care providers and lay caregivers, as well as organizations, to provide appropriate treatment and support to individuals with dementia and their caregivers.

Guideline 14. Psychologists are aware that full evaluation of possible dementia is an interdisciplinary, holistic process involving other health care providers. Psychologists respect other professional perspectives and approaches. Psychologists communicate fully and refer appropriately to support integration of the full range of information for informing decisions about diagnosis, level of severity, and elements of the treatment plan.

Rationale. Traditional health care continues to be more reactive than focused on prevention and promotion of well-being (Epstein & Sherwood, 1996). Traditional health care may be provided in isolated settings with outdated systems of manual record keeping. This exacerbates older persons' vulnerability to fragmented care. Receiving conflicting diagnoses and care advice from different providers can demoralize individuals and their caregivers. The increasing burden of chronic and acute medical conditions in old age further combine to disempower individuals and providers alike (McWilliam, Brown, Carmichael, & Lehman, 1994). No single provider is ever likely to have all the essential information that can contribute to making an accurate diagnosis. An interdisciplinary team is most likely to provide all the essential information necessary to make an accurate diagnosis and develop a comprehensive treatment plan. Interdisciplinary teams adopt an "approach to care . . . characterized by a high degree of collaboration across the various health professionals serving patients in

assessment, treatment planning, treatment implementation, and outcome evaluation" (APA Presidential Task Force on Integrated Health Care for an Aging Population, 2008, p. 22). An integrated approach to health care benefits older adults. These concerns apply to diagnoses of dementia and to intervention decisions regarding individuals with dementia and their caregivers.

Application. Psychologists strive to ensure that every effort is made to involve all relevant providers in the diagnostic process. Psychologists are encouraged to take proactive steps to develop collegial, interdisciplinary relationships with other health care providers serving the population for whom they routinely receive referrals for dementia assessment. With appropriate informed and written consent, information is shared across providers as needed to reach an accurate diagnosis and coordinate appropriate interventions. Psychologists are encouraged to make appropriate referrals to other members of an integrated health care team.

Conclusion

In 2010, approximately 40 million people in the United States were age 65 or older. This number is expected to double by 2050. As this cohort grows in number, it also grows in diversity (Administration on Aging, 2008). Psychologists must be prepared to serve the needs of this population. Psychologists adhering to the guidelines enumerated herein can make significant contributions to the care and well-being of the rapidly expanding number of older persons confronted by age-related cognitive change or dementia.

REFERENCES

- Administration on Aging. (2008). *Older Americans 2008: Key indicators of well-being, Appendix A: Detailed tables*. Retrieved from http://www.agingstats.gov/agingstatsdotnet/Main_Site/Data/Data_2008.aspx
- Agency for Healthcare Research and Quality, U.S. Preventive Services Task Force. (2003). *Screening for dementia*. Retrieved from <http://www.uspreventiveservicestaskforce.org/uspstf/uspstf/deme.htm>
- Alzheimer's Association. (2009). Alzheimer's disease facts and figures. *Alzheimer's & Dementia*, 5(3), 1–80. Retrieved from http://www.alz.org/national/documents/report_alzfactsfigures2009.pdf
- American Bar Association & American Psychological Association. (2008). *Assessment of older adults with diminished capacity: A handbook for psychologists*. Retrieved from <http://www.apa.org/pi/aging/programs/assessment/capacity-psychologist-handbook.pdf>
- American Educational Research Association, American Psychological Association, & National Council of Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychological Association. (1998). Guidelines for the evaluation of dementia and age-related cognitive decline. *American Psychologist*, 53, 1298–1303. doi:10.1037/0003-066X.53.12.1298
- American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist*, 57, 1060–1073. doi:10.1037/0003-066X.57.12.1060
- American Psychological Association Presidential Task Force on Integrated Health Care for an Aging Population. (2008). *Blueprint for change: Achieving integrated health care for an aging population*.

- Retrieved from <http://www.apa.org/pi/aging/programs/integrated/integrated-healthcare-report.pdf>
- American Psychological Association Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia. (1998). Guidelines for the evaluation of dementia and age-related cognitive decline. *American Psychologist*, *53*, 1298–1303. doi:10.1037/0003-066X.53.12.1298
- Camp, C. J., & Nasser, E. H. (2003). Nonpharmacological aspects of agitation and behavioral disorders in dementia: Assessment, intervention, and challenges to providing care. In P. A. Lichtenberg, D. L. Murman, & A. M. Mellow (Eds.), *Handbook of dementia: Psychological, neurological, and psychiatric perspectives* (pp. 359–401). New York, NY: Wiley.
- Cockburn, J., Keene, J., Hope, T., & Smith, P. (2000). Progressive decline in NART score with increasing dementia severity. *Journal of Clinical and Experimental Neuropsychology*, *22*, 508–517. doi:10.1076/1380-3395(200008)22:4;1-0;FT508
- Cohen-Mansfield, J., Libin, A., & Marx, M. S. (2007). Nonpharmacological treatment of agitation: A controlled trial of systematic individualized intervention. *Journals of Gerontology: Series A. Biological sciences and medical sciences*, *62*, 908–916.
- Devanand, D. P., Sano, M., Tang, M. X., Taylor, S., Gurland, B. J., Wilder, D., . . . Mayeux, R. (1996). Depressed mood and the incidence of Alzheimer's disease in the elderly living in the community. *Archives of General Psychiatry*, *53*, 175–182.
- Epstein, R. S., & Sherwood, L. (1996). From outcomes research to disease management: A guide for the perplexed. *Annals of Internal Medicine*, *124*, 832–837.
- Fletcher, R., Fletcher, S., & Wagner, E. (1996). *Clinical epidemiology: The essentials*. Baltimore, MD: Williams & Wilkins.
- Galvin, J. E., Roe, C. M., Powlishta, K. K., Coats, M. A., Muich, S. J., Grant, E., . . . Morris, J. C. (2005). The AD8: A brief informant interview to detect dementia. *Neurology*, *65*, 559–564. doi:10.1212/01.wnl.0000172958.95282.2a
- Green, J. (2006). Feedback. In D. K. Affix & K. A. Welch-Bohmer (Eds.), *Geriatric neuropsychology: Assessment and intervention* (pp. 223–236). New York, NY: Guilford Press.
- Hartman-Stein, P. E., Reuter, J., & Schuster, J. (2002, July). *The behavioral competence inventory: A measure of functional ability in older adults at risk for dementia*. Poster presented at the 8th International Conference on Alzheimer's Disease and Related Disorders, Stockholm, Sweden.
- Jacobson, N. S., Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, *59*, 12–19. doi:10.1037/0022-006X.59.1.12
- Jorm, A. F. (1996). Assessment of cognitive impairment and dementia using informant reports. *Clinical Psychology Review*, *16*, 51–73. doi:10.1016/0272-7358(95)00056-9
- Lin, L. C., Wu, S., Kao, C., Tzeng, Y., Watson, R., & Tang, S. (2009). Single ability among activities of daily living as a predictor of agitation. *Journal of Clinical Nursing*, *18*, 117–123. doi:10.1111/j.1365-2702.2008.02367.x
- Mackinnon, A., & Mulligan, R. (1998). Combining cognitive testing and informant report to increase accuracy in screening for dementia. *American Journal of Psychiatry*, *155*, 1529–1535.
- Margallo-Lana, M. L., Tyrer, S. P., & Moore, P. B. (2009). Overview of the neuropsychological assessment of dementia in intellectual disability. In V. P. Prasher (Ed.), *Neuropsychological assessments of dementia in Down syndrome and intellectual disabilities* (pp. 1–18). London, England: Springer. doi:10.1007/978-1-84800-249-4_1
- Mathers, C. D., & Loncar, D. (2006). Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med*, *3*(11), e442. doi:10.1371/journal.pmed.0030442
- McGurn, B., Starr, J. M., Topfer, J. A., Pattie, A., Whiteman, M. C., Lemmon, H. A., . . . Deary, I. J. (2004). Pronunciation of irregular words is preserved in dementia, validating premorbid IQ estimation. *Neurology*, *62*, 1184–1186.
- McKeith, I. G., Dickson, D. W., Lowe, J., Emre, M., O'Brien, J. T., Feldman, H., . . . Yamada, M. (2005). Diagnosis and management of dementia with Lewy bodies: Third report of the DLB consortium. *Neurology*, *65*, 1863–1872. doi:10.1212/01.wnl.0000187889.17253.b1
- McKhann, G., Drachman, D., Folstein, M., Katzman, R., Price, D., & Stadlan, E. M. (1984). Clinical diagnosis of Alzheimer's disease. Report of the NINCDS-ADRDA Work Group under the auspices of Department of Health and Human Services Task Force on Alzheimer's Disease. *Neurology*, *34*, 939–944.
- McWilliam, C. L., Brown, J. B., Carmichael, J. L., & Lehman, J. M. (1994). A new perspective on threatened autonomy in elderly persons: The disempowering process. *Social Science & Medicine*, *38*, 327–338. doi:10.1016/0277-9536(94)90402-2
- Monnot, M., Brosey, M., & Ross, E. (2005). Screening for dementia: Family caregiver questionnaires reliably predict dementia. *Journal of the American Board of Family Medicine*, *18*, 240–256. doi:10.3122/jabfm.18.4.240. doi:10.3122/jabfm.18.4.240
- National Center for Cost Containment. (1997). *Assessment of competency and capacity of the older adult: A practice guideline for psychologists* (National Technical Information Service Publication No. pb-97-147904). Milwaukee, WI: Author.
- Neary, D., Snowden, J. S., Gustafson, L., Passant, U., Stuss, D., Black, S., . . . Benson, D. F. (1998). Frontotemporal lobar degeneration: A consensus on clinical diagnostic criteria. *Neurology*, *51*, 1546–1554.
- Plassman, B. L., Langa, K. M., Fisher, G. G., Heeringa, S. G., Weir, D. R., Ofstedal, M. B., . . . Wallace, R. B. (2007). Prevalence of dementia in the United States: The Aging, Demographics, and Memory Study. *Neuroepidemiology*, *29*, 125–132. doi:10.1159/000109998
- Román, G. C., Tatemi, T. K., Erkinjuntti, T., Cummings, J. L., Masdeu, J. C., Garcia, J. H., . . . Hofman, A. (1993). Vascular dementia: Diagnostic criteria for research studies. Report of the NINDS-AIREN International Workshop. *Neurology*, *43*, 250–260.
- Scholl, J. M., & Sabat, S. R. (2008). Stereotypes, stereotype threat and ageing: Implications for the understanding and treatment of people with Alzheimer's disease. *Ageing & Society*, *28*, 103–130. doi:10.1017/S0144686X07006241
- Smith, G. E., Ivnik, R. J., & Lucas, J. A. (2008). Assessment techniques: Tests, test batteries, norms and methodological approaches. In J. Morgan & J. Ricker (Eds.), *Textbook of clinical neuropsychology* (pp. 38–57). New York, NY: Taylor & Francis.
- Strydom, A., Livingston, G., King, M., & Hassiotis, A. (2007). Prevalence of dementia in intellectual disability using different diagnostic criteria. *British Journal of Psychiatry*, *191*, 150–157. doi:10.1192/bjp.bp.106.028845
- Temkin, N. R., Heaton, R. K., Grant, I., & Dikmen, S. S. (1999). Detecting significant change in neuropsychological test performance: A comparison of four models. *Journal of the International Neuropsychological Society*, *5*, 357–369. doi:10.1017/S1355617799544068
- Teri, L., Huda, P., Gibbons, L., Young, H., & van Leynseele, J. (2005). STAR: A dementia-specific training program for staff in assisted living residences. *Gerontologist*, *45*, 686–693.
- Uniform Health-Care Decisions Act, 9 U.L.A. 93(Supp. 1994). (Retrieved from <http://www.law.upenn.edu/bll/archives/ulc/fnact99/1990s/uhcda93.htm>)
- U.S. Department of Health and Human Services, Office for Civil Rights. (1996). Health Insurance Portability and Accountability Act of 1996 (HIPAA) privacy and security rules. Retrieved from <http://www.hhs.gov/ocr/hipaa>
- Waite, L. M., Broe, G. A., Casey, B., Bennett, H. P., Jorm, A. F., Creasey, H., . . . Grayson, D. A. (1998). Screening for dementia using an informant interview. *Ageing, Neuropsychology and Cognition*, *5*, 194–202. doi:10.1076/ane.5.3.194.614
- Winblad, B., Palmer, K., Kivipelto, M., Jelic, V., Fratiglioni, L., Wahlund, L.-O., . . . Petersen, R. C. (2004). Mild cognitive impairment: Beyond controversies, towards a consensus—Report of the International Working Group on Mild Cognitive Impairment. *Journal of Internal Medicine*, *256*, 240–246. doi:10.1111/j.1365-2796.2004.01380.x