Decision-making capacity and competency in the elderly: A clinical and neuropsychological perspective

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Abstract. With our ageing population, the number of older adults with cognitive impairment has also increased. There is both an acute and growing need for evidence-based assessments to identify their decision making capacity and competence. In the present article we (1) present definitions of decision-making capacity and competence, (2) review cognitive functions that are central to decision-making capacity as well as the methods and procedures commonly used to assess these domains, and (3) address the communication of assessment findings to patients and their loved ones. The importance of assessing decision-making capacity in the context of specific functions and of respecting the values and interests of older adults are emphasized.

Keywords: Decision-making capacity, competency, geriatric, neuropsychology

1. Review of decision-making capacity and competence

With our ageing population, the number of older adults with cognitive impairment has also increased. There is both an acute and growing need for evidence-based assessments to identify their decision making capacity and competence. Decision-making capacity and competence are inherently complex constructs. While these two terms are often used interchangeably, they are distinct terms. “Competency” is a legal construct established and governed by the courts that is substantively different than “decision-making capacity” [11, 26]. Decision-making capacity is but one element in the legal classification of competence. The definition of someone with an ability to effectively make decisions is one who can appreciate the choices in and consequences of the decision at hand [22]. Marson and colleagues [32] have summarized three distinct concepts in the area of competency assessment: 1) Decisional capacity: This concept is related to the patient’s ability to take in, understand and comprehend treatment information, to reason, and to appreciate the consequences of choices they have made. Overall, this concept encompasses the patient’s decision-making processes. In this case, the clinician would utilize clinical neuropsychological and psychological measures to detail a given patient’s decisional abilities. 2) Competency: This concept relates to a decision by the clinician as to whether a patient is capable of carrying out a specific act (e.g., consent to a complicated surgical procedure) or set of activities (e.g., living alone, handling finances). In this case, the clinician would use the aforementioned assessment of the patient’s decision-making abilities in making this determination. Using Marson and colleagues’ conceptualizations, both decisional ca-
Capacity and competency would fall under clinical judgments made by the clinician. 3) Legal Competency: In contrast to the two prior concepts, this term relates to a decision made by a judge or other legal professional as to whether or not a given patient has the ability under the law to carry out a specific act or series of activities. As such, the clinician’s role in this process is to provide the court with a summary of the patient’s decisional skills and abilities and to offer a judgment concerning how these findings affect the patient’s abilities in a given area or areas. A judge would then utilize this information, along with other data and legal factors, to arrive at a finding concerning competency.

It is important to note that decision-making capacity is decision-specific. For example, an evaluation of the capacity of a person to refuse surgery will differ from that facing the evaluator asked if a frail elder can manage money or another can assert a capable acceptance of fall risk rather than move to an assisted care or nursing home setting. In general, the strategy for most evaluations of this type will be similar regardless of the specific decision in question: 1) clarify the referral question and determine if the person receiving the consultation request is competent to address the question; 2) plan the assessment and address cultural considerations and ethical issues such as informed consent and confidentiality; 3) conduct the assessment; 4) communicate the results; and 5) recommend any additional evaluations or interventions that might enhance capacity or address temporal limitations on the evaluation findings [1,3]. For most clinicians, discerning which decision and which decisional capacity are at issue will guide the investigation.

In 1982 the President’s Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavior Research identified three requirements “to a greater or lesser degree” for capacity: (1) possession of a set of values and goals . . . ; (2) the ability to communicate and to understand information; and (3) the ability to reason and to deliberate about one’s choices” [42]. Commission members also worked to define the decision-specific nature of capacity, detail its dimensional characteristics, and demonstrate the need for variable stringency depending on the importance of the potential outcomes. The report cautioned that increasing the rigor in determining decisional capacity should not preclude patients from exercising their judgment if the patient demonstrates the required appreciation and rationality. Overall, the Commission affirmed the right of capable persons to make decisions that might appear “wrong” to evaluators. For example, in 2007, hotel magnate Leona Helmsley left her dog a $12 million trust fund in her will. While no doubt her family (as well as some clinicians) may have had concerns about this decision, as long as she was deemed competent to make this choice, the involved parties should respect it. It is clear that competency evaluations must be made without bias and must take into account an individual’s beliefs, values and personality characteristics.

Grisso and Appelbaum [22] have stated that while decision-making capacity is decision specific, there are some underlying shared features that can be explicat-ed. They reported four “functional abilities” that were derived from the competency literature which should be the focus of any competency evaluation: 1) expressing a choice, 2) understanding information required for the decision, 3) appreciating how the information being given pertains to the person’s own life and circumstances and, 4) logical reasoning using the information presented. It is notable that the aforementioned concepts are very similar to other models of decisional ability posed by other authors in that all decision-making tasks rest on core functional abilities [13,22,35]. For a complete and thorough review and comparison of these proposed standards, see Volier and Ganzini [47].

Despite the aforementioned observations that capacity is decision-specific, many clinicians struggle to conceptualize this situation in practice. A report by Ganzini and colleagues stated that the most frequent errors made by clinicians when performing competency evaluations was that they viewed incapacity as being global (i.e., incapacity in all domains) as opposed to decision-specific (i.e., limited to the precise issue or decision being queried by the referral).

2. Standards in the assessment of competency

Although there is no agreed-upon, published standard for the evaluation of competency, most practitioners would probably agree that an exhaustive assessment of competency with the most far-reaching outcome would include most, if not all, of the following four components.

2.1. Clinical and diagnostic interview

Any assessment of competency requires a detailed and comprehensive interview of the individual as well as appropriate collateral informants (e.g., spouse, children, relatives, hospital staff, treating physician). A good clinical interview will provide detailed informa-
tion concerning the person’s cognitive status, functional abilities, and mood as well as information about medical, social, and environmental limitations. In general, the use and integration of a structured competency interview in concert with the clinician’s standard clinical interview appears to be the optimal approach.

2.2. Neuropsychological testing

In general, a targeted neuropsychological evaluation is often central in the competency evaluation process, especially when empirically validated tests that assess the cognitive constructs underlying specific capacities are utilized. While neuropsychological evaluations can be important in specifying the specific areas of impairment and/or demonstrate decline over time in certain neurocognitive domains, in competency evaluations these measures are best utilized in combination with other tools, such as the aforementioned structured interviews or independent activities of daily living rating scales [23]. For example, it is possible for a patient to demonstrate marked impairments on several neuropsychological measures yet be deemed competent for a given domain or function [11]. Even patients who demonstrate a functional decline in brain regions thought to be important in decision-making such as executive function and/or working memory may be able to compensate through the use of other intact cognitive abilities or by utilizing external aids (e.g., memory book).

2.3. Functional ability assessment

An important consideration in determining competency is how well the patient meets the specific demands of his/her environment. In fact, some state laws have questioned the ecological validity of neuropsychological testing and subsequently have required an additional evaluation of everyday living skills in judging competency. Yet, these terms are difficult to define and even more challenging to evaluate. One definition for the term adaptive function in this context is “an individual’s ability to effectively meet social and community expectations for personal independence, physical needs, and interpersonal relationships” [37]. This definition suggests that it is the responsibility of the clinician to judge to what extent a patient is successfully meeting the everyday demands associated with living and caring for oneself physically and socially. Ideally, this evaluation would be a direct observation of a patient in his/her own environment. This is not always a practical strategy and in most cases, a practitioner must rely on self-reports or informant scales. There are published measures designed to assist in this regard, including the Vineland Adaptive Behavior Interview [44], and the Scales of Independent Behavior-Revised [7]. In addition, there are direct observation methods such as the Observed Tasks of Daily Living [12]. To the extent that a cognitively impaired patient may not serve as the best historian, caregiver or family input, when possible, is crucial.

2.4. Review of legal standards

In general, practitioners should be well-versed in the state legal standards for determining competency. In the United States, the law deems adults as competent unless proven otherwise and there must be clear and convincing evidence of incompetency for a ruling in that direction. Competency rulings are relevant in civil and criminal litigation and a ruling of incompetence can profoundly infringe on a person’s individual rights. It is therefore imperative that the practitioner confront the ethical challenge of balancing patient safety and the safety of others with respecting a person’s basic human rights.

Lastly, competence is not an “all or none” or static state. In the course of an evaluation, the clinician may be able to identify needed adaptations, environmental supports, or treatment that may enable compromised persons to perform the task at issue. For example, although significant memory dysfunction may interfere with decision-making ability, the implementation and use of written cues and other environmental manipulations may allow the person to successfully make certain decisions. As such, interventions often require some time to establish efficacy, and the clinician may defer a final decision regarding capacity until the possible benefits of the intervention are determined.

3. Decision-making capacity

Thus far, two important components of competency have been discussed: decision-making capacity with regard to understanding choices and consequences and the ability to confront everyday demands in one’s environment. There are several distinct areas within one’s personal environment that regularly require intact decision-making capacity, including medical decision-making, personal finances, driving safety, and medication management. These environmental aspects are reviewed individually in the following sections.
4. Clinical rating scales of global capacity

Although most clinicians performing exams assessing decisional capacity utilize some form of interview, remarkably little is known about the threshold used by clinicians for such judgments. It is notable that most clinicians rely on their general clinical intuition in concert with a detailed interview to inform their opinion on the capacity of an individual patient. We have listed below a number of standardized clinical rating scales that are commonly used to assess capacity or competency. Although this list is not meant to be exhaustive, we sought to include the most widely used measures with an emphasis on those that are well-validated and specifically address the issue of capacity.

4.1. MacArthur Competence Assessment Tool (MacCAT-T)

The MacCAT-T is perhaps one of the most widely used structured interview scales in the competency literature. This measure was developed to meet the need for a practical tool that would help obtain and organize information about patients’ decision-making abilities [22]. Briefly, the MacCAT-T is a structured interview that takes approximately 15-20 minutes to complete. The core of this test is based on the four areas of decisional capacity related to generally applied legal standards for competence and consent to treatment and research. The four areas assessed include: 1) Understanding relevant information, 2) Appreciation of the implication of the information for one’s own situation, 3) Reasoning with the information in a decisional process, and 4) Evidencing a choice. The MacCAT-T interview covers the following specific domains: 1) Understanding of disorder, 2) Appreciation of disorder, 3) Understanding of treatment risks/discomforts, 4) Appreciation of treatment, 5) Alternative treatments, 6) Reasoning, and 7) Expressing a choice. Although a total score is not used, the MacCAT-T does yield four general subscales (i.e., Understanding, Appreciation, Reasoning, Expressing a Choice). The MacCAT-T has been widely used in competence studies in Alzheimer’s disease (AD) and has generally been shown to have good predictive validity [26–28].

4.2. Capacity to Consent to Treatment Instrument (CCTI)

More recently, Marson and colleagues developed the Capacity to Consent to Treatment Instrument (CCTI) [31,34] to assess consent capacity in older healthy controls and patients with mild and moderate AD. In contrast to the general interview format of the MacCAT-T, the CCTI utilizes two clinical vignettes that each present a hypothetical medical problem (i.e., neoplasm, atherosclerotic heart disease) and symptoms, and two treatment options with associated risks and benefits. The CCTI was designed to approximate an informed consent dialogue and requires the patient to understand both oral and written information concerning the medical problem at hand as well as the treatment options and associated risks and benefits, etc. Following administration of the vignettes, the patient is asked questions designed to test consent capacity under four established legal standards (LS) drawn from case law: 1) LS1 – Simply evidencing/communicating a treatment choice. 2) LS3 – Appreciating the practical and anticipated consequences of a treatment choice. 3) LS4 – Providing rational reasons, either for or against, the treatment choice. 4) LS5 – Understanding the treatment situation, and treatment choices, and respective risks/benefits. In addition, there are also questions asked in the CCTI concerning consent-related ability (LS2 – What constitutes a reasonable choice). After completion and scoring, the CCTI assigns each patient into one of three outcomes (i.e., capable, marginally capable, or incapable) for each standard. A review of validation studies of the CCTI are presented in Marson and Harrell [33].

4.3. Hopemont Capacity Assessment Interview (HCAI)

The HCAI is a semi-structured interview that was designed to assess medical and financial decision-making among nursing home residents [16]. This competency measure is comprised of orally-presented vignettes to assess competency. A number of these vignettes describe medical situations that require a decision by the patient (non-life-threatening eye infection, life-threatening respiratory infection, etc.), while others deal with day-to-day financial decisions (i.e., purchase of a soft drink, loan of a large amount of money to a relative for a suspect cause). Before presenting these vignettes, brief definitions of the concepts of risk, benefit, and choice are presented to the patient and a series of questions concerning their meaning are posed. The HCAI utilizes a criterion-referenced approach, with a 3-point scoring system being utilized (i.e., 0 = inadequate, 1 = questionable, 2 = adequate). The HCAI has
been shown to be comparable to the MacCAT-T and CCTI in patients with dementia [39].

The previously discussed measures constitute some of the more commonly used competence assessment tools. A number of other more recent measures, such as the Hopkins Competency Assessment Test (HCAT) [24] and the Aid to Capacity Evaluation (ACE) [18] may also be of interest to some readers.

5. Neuropsychological assessment of capacity

From a neurocognitive viewpoint, determining decisional capacity entails assessing a complex set of cognitive functions as well as other non-cognitive factors. That is, the patient must take in and comprehend what is being communicated, process and manipulate the information, weigh the risk-benefit ratios of the possible choices, and communicate a decision in a cohesive and clear manner. While neuropsychological testing is commonly used in most comprehensive competence assessments, the literature does not provide a consistent picture of what measures best discriminate between competent or incompetent patients. In addition, it is unclear how neuropsychological measures relate to observational assessments or clinician-rated indices of capacity.

In a landmark study of the neuropsychological determinants of capacity, Marson and colleagues [31,34] examined 29 patients with probable AD and 15 healthy elderly controls using a brief neuropsychological battery and the CCTI. Results of this study showed that only semantic (Animal Naming) and phonemic (Controlled Oral Word Association) [5] word-list generation tasks significantly predicted status on LS4 of the CCTI. Interestingly, measures of verbal reasoning and memory were not related to CCTI measures.

In a subsequent study by this same group, Marson and colleagues [30] found that in 29 patients with probable AD, simple auditory comprehension (Auditory Comprehension Screen (SAC)) [17] was associated with the ability to demonstrate a treatment of choice (LS1, the minimal standard). In contrast, phonemic word-list generation (COWA) predicted the capacity to appreciate the “consequences of a treatment choice” (LS3) while measures of conceptualization (Conceptualization subscale from the Mattis Dementia Rating Scale (MDRSD) [36] and the Boston Naming Test [25] together predicted the patient’s ability to “understand the treatment situation and choices” (LS5, the most stringent standard). Utilizing discriminant function analysis, the authors determined that the best predictor of LS1 for all subjects was confrontation naming while visuomotor tracking (Trails A) [41] best predicted LS3 and LS5 performance.

Bassett [4] examined measures of competence in 20 persons with AD and 20 healthy controls utilizing a financial capacity questionnaire, a competency test for medical decision-making, and a battery of neuropsychological measures selected to reflect the cognitive processes theoretically related to competency. While AD patients performed worse than controls on both financial and medical decision-making competency measures, the only neuropsychological tests to correlate significantly with competency indices were the Trail Making Test - Part A and Word-List Recall test from the Consortium to Establish a Registry for Alzheimer’s Disease (CERAD) battery [38]. One notable finding from this study was that Trails-A alone was able to discriminate between competent and incompetent patients with AD with 77–82% accuracy.

In two studies by Dymek and colleagues examining the specificity of the CCTI in different disorders, the relationship between the CCTI and neuropsychological measures in patients with AD [14] and Parkinson’s disease (PD) [15] was examined. In the first study, 82 patients with probable or possible AD were administered the CCTI. In the initial phase of this study, a principal components analysis revealed that the CCTI is composed of two orthogonal factors: 1) Verbal Conceptualization/Reasoning and 2) Verbal Memory. In the subsequent validation phase of the study, a principal components analysis of individual factor scores and neuropsychological test performance supported the aforementioned two-factor structure. On the neuropsychological battery, measures of conceptualization, executive function, language, semantic memory and attention loaded significantly on the CCTI reasoning/conceptualization factor, whereas immediate and delayed verbal recall indices loaded on the verbal memory factor of the CCTI. The authors hypothesized that measures of verbal conceptualization/reasoning and verbal memory are likely to be sensitive to declining treatment consent capacity in older adults with AD. In the follow-up study, 20 patients with PD and 20 healthy controls were given the CCTI and a battery of neuropsychological measures to define those cognitive functions related to competency in patients suffering from subcortical pathology. Relative to controls, patients with PD showed more compromise on the CCTI with simple measures of executive function (i.e., Executive Interview (EXIT)) [43] and, to a lesser extent, memory and orientation (i.e., Mem-
ory Subscale from the Mattis Dementia Rating Scale (MDRS) [36] predicting competency performance. In concert, these two studies indicate that the CCTI competency predictor profiles of the PD and AD groups differ insofar as executive dysfunction was the primary predictor of competency for the PD group, whereas a broader range of neuropsychological abilities predicted CCTI competency in patients with AD.

Although not an exhaustive review of this literature, the aforementioned studies indicate a fair amount of variability in the types of measures that correlate with formal measures or standards of capacity. Despite no specific test emerging from this literature as being central in the determination of capacity, the data do underline the importance of memory and executive functions in the determination of capacity, at least for patients with AD and PD.

Although the previous sections detailed some of the more commonly used global assessments of capacity, clinicians are frequently asked to assess specific situations or skill sets with regard to an elderly person’s functioning. Some examples of these referrals include determining whether the patient can handle finances, drive a motor vehicle, and manage medications. In the following sections we review some of the literature addressing these domains.

6. Financial capacity

The task of controlling one’s personal finances is as important to a patient’s sense of autonomy as any other individual responsibility. Yet, as cognitive capacity begins to decline, often so does the ability to manage finances properly, record personal transactions, pay bills on time and/or make wise investment decisions. Typically, the threshold for incompetency should be set high for cases such as these because managing finances is a personal matter with very little risk to others. On the other hand, families rely on their finances to live comfortably and happily. Elderly patients in particular are often on a fixed income with growing medical costs, and a poor financial decision has the potential to create significant hardship. In addition, patients making unfortunate financial decisions may bring undue stress and anxiety to the lives of close family members. In the evaluation of an elderly patient, it is crucial that the clinician distinguish between: 1) an inability to make decisions, 2) poor decisions, and 3) personal choice. For example, children may be unhappy with the ways in which their parents have chosen to spend or allocate the family’s money, but as long as these decisions are made with an understanding of, and appreciation for, the outcome, they should not be challenged.

Clinicians are often brought into the evaluation process for financial competency when there is a question or debate about the patient’s ability to conduct her or his financial affairs. The extant literature has suggested that assessments of financial capacity should include formal tests of knowledge of income, assets, expenses, ability to write checks and balance account statements, etc., as well as an appreciation of how bills are paid, and consideration of financial problems and financial needs [2]. The following measures are examples of some of the specific financial capacity measures available to the clinician.

6.1. Financial Capacity Instrument (FCI)

The Financial Capacity Instrument (FCI) [20,32,35], is a standardized measure of performance on financial tasks with direct relevance to the demands of everyday money management. This tool examines patients’ performance across six initial domains including: 1) Basic monetary skills; 2) Financial conceptual knowledge; 3) Cash transactions; 4) Checkbook management; 5) Bank statement management; and 6) Financial judgment. From these initial criteria, the FCI was derived, consisting of 18 financial ability tests (tasks), nine domains (activities), and two total scores. Initial standardization work has demonstrated that patients with early AD performed equally well to age-matched controls on the simpler tasks from the FCI, but demonstrated greater deficits as the financial tasks increased in complexity [32].

6.2. Measure of Awareness of Financial Skills (MAFS)

Another clinical scale specifically targeting financial capacity is the Measure of Awareness of Financial Skills (MAFS) [10]. The MAFS is comprised of three sections: 1) Participant questionnaire, 2) An informant questionnaire, and 3) A performance-based measure. One of the unique qualities of the MAFS is the inclusion of both participant-informant and participant-performance comparison methods in the assessment process. Specifically, the MAFS includes: 1) A 34-item patient form consisting of questions pertaining to financial management. A number of questions address the patient’s self-rating of ability to balance a checkbook, count money, write checks, etc. Addition-
al questions address self-ratings of financial capability as well as knowledge and awareness of various financial consequences; 2) a parallel 34-item informant form in which the aforementioned questions concerning the patient are posed to the informant; and 3) a performance measure form consisting of six financial tasks that were selected to parallel the aforementioned questions (e.g., balancing a checkbook, counting money). Internal consistency estimates for patient and informant questionnaires were described as high (0.92 and 0.97, respectively), and convergent validity analysis was reported to show that higher levels of unawareness as detailed on the MAFS was associated with poorer cognitive skills as measured on an abbreviated neuropsychological battery. A follow-up validation study of the MAFS [46] examined the use of the MAFS in a sample of 42 community-dwelling individuals with dementia. Results revealed that severity of global cognitive impairment and executive dysfunction was significantly related to poorer awareness on the MAFS. In addition, significantly less awareness of financial ability was seen as more complex as compared to simple tasks. The MAFS differs from the FCI in that the MAFS also measures the patient’s ability to understand (i.e., awareness) the situation, including its financial risks, benefits, and alternatives.

In summary, although a comprehensive neuropsychological evaluation is an important starting point in the process of assessing the integrity of neocognitive skills important in financial management and decision-making, the inclusion of a specific measure of financial capacity will help translate these data into more ecologically valid terms. While there are a number of other financial capacity instruments available in the literature [19,29], the FCI and MAFS were presented as these scales offer a balance between specific performance-based approaches and clinician/caregiver/patient ratings [21].

7. Driving capacity

Although not everyone continues to drive in old age, the issue of competency with regard to driving safety is a common concern among clinicians and caregivers of the elderly and patients suffering from neurodegenerative or neuropsychiatric illness. When evaluating the competency to drive, the clinician is responsible for considering both the safety of patients and others on the road as well as the need to respect a person’s autonomy and independence. That is, many patients view driving as integral to living an independent life and would consider a restriction or revocation of their driving privileges as an insurmountable loss.

The task of driving, though an over-learned skill in most people, demands that a person recruit the use of several complex cognitive resources including: 1) visuo-spatial skills, 2) upper and lower extremity motor coordination and speed (i.e., reaction time), 3) attention, 4) memory, 5) orientation, and 6) executive functions. Deficits in any one of these areas could have minor to serious consequences on driving capabilities. Along this same line, different diagnostic entities bring with them impairments that may impact different aspects of driving skill. For example, patients with mild cognitive impairment or early AD may display deficits in memory with intact motor coordination. Memory problems during driving can cause drivers to become disoriented, lost, or confused. Patients with early PD, on the other hand, demonstrate impairments in motor tasks with mostly intact memory and orientation. These patients usually present with at least unilateral tremor or rigidity, which may limit the patient’s ability to control a motor vehicle and/or may delay a person’s reaction times in response to sudden changes on the road.

There have been several studies in the literature that have evaluated the correlations between neuropsychological test results and actual driving performance. Reger and colleagues conducted a meta-analysis of 27 studies in order to examine the relationship between neuropsychological testing and driving ability for adults with dementia [40]. Studies included in this analysis utilized either: 1) on-road driving tests, 2) non-road driving tests, or 3) caregiver driving reports. Many studies additionally compared patients with dementia with age-matched controls. Neuropsychological test results were evaluated either as a composite score or as separate cognitive domains. When control participants were included in the analyses with dementia patients, large effect sizes were seen for the relationship between visuospatial skills and language function with non-road driving tests. Several of the other cognitive domains, including overall neuropsychological composite score, were found to be in the moderate range with both on-road and non-road tests. Notably, caregiver reports yielded the smallest effect sizes, suggesting that the use of family reports of driving ability alone are quite poor in predicting the patient’s competency to drive. When control subjects were excluded from the analyses and patients with dementia were considered alone, the effect size for visuo-spatial skills was in the moderate range and all others were small or non-significant.
In summary, it appears that neuropsychological testing is a reasonably effective index of driving ability in general, and more specifically, tests of visuospatial skills stand out as the best gauge of driving capacity (at least in patients with dementia). Notably, when control data was removed from the analyses in the meta-analysis, the effect sizes were considerably smaller across all cognitive domains. The latter finding suggests that while neuropsychological testing is most effective in predicting driving ability for healthy subjects, its utility in patients with dementia (for whom the evaluations are most needed) is more tentative. In sum, these data underline the need for linking commonly used neuropsychological measures with the actual tasks and behaviors in question when performing a competency evaluation. Although the extant literature does suggest some tentative links between neuropsychological testing and the ability to operate a motor vehicle, more research is necessary to determine the specific cognitive components most crucial for this set of skills.

8. Medication management capacity

The issue of medical decision making has received considerable attention in the literature concerning competency (see section on global capacity measures above); however, very little research has been done on the ability to manage medication. Inadequate compliance with medications is a significant contributor to the costs of medical care in almost every therapeutic area of medicine [9]. Even when the consequence of not taking medication as prescribed is severe, there is little assurance that a given patient will take medications as instructed. The elderly are at increased risk of poor medication compliance because of their common deficits in physical dexterity, cognitive skills and memory, and the number of medications that they are typically prescribed. Indeed, some researchers have estimated that in people aged 60 years or older, noncompliance with medication regimens varies from 26–59% [45].

In a recent study by Carlson and colleagues [8], 360 high-functioning, community-dwelling, older participants in the Women’s Health and Aging Study II were given a hypothetical physician’s prescription for two common medications (i.e., antibiotics and aspirin) and were asked to fill in a daily schedule or calendar for taking these medications. In addition, each subject also was asked to fill in the compartments of a daily pillbox. These two tasks comprised the Hopkins Medication Schedule (HMS) and were proposed to be a standardized measure of the ability to understand (i.e., schedule) and implement (i.e., fill a pillbox) a complex instrumental activity of daily living (IADL) critical to an elderly person’s health (i.e., managing medications). These two tasks were scored for accuracy and time to complete, and the data were subsequently evaluated for their ability to predict concurrent and 3-year participant-reported difficulty in performing IADLs and for their associations with memory and attention measures. The results of this study indicated that while less than 2% of participants reported any problems in taking their medications, nearly 22% of the subjects were completely unable to accurately complete the medication schedule, accurately fill the pillbox, or both. The authors also observed that the participants who reported any problems in performing an IADL (approximately 7% of the study sample) also performed poorly on the HMS. Using regression methods, participant’s performance on the schedule subtest from the HMS was most strongly associated with memory performance on the Hopkins Verbal Learning Test-Revised (HVLT-R) [6] while scores on the pillbox subtest were found to be related to learning on the HVLT-R and executive function as assessed by the Trail Making Test (Parts A & B). Overall, these data suggested that the results of the HMS had concurrent validity with self-reported difficulty with IADLs.

One of the more striking findings of this study was that despite the fact that most of the community-dwelling older women did not report any problems in taking their medications; the HMS was able to identify nearly 22% of this group who could not write or implement a routine medication regimen. These data point to the use of such structured scales in the routine screening of elderly individuals and the continued investigation into the neuropsychological functions that underlie this complex IADL.

As noted in the above description, the ability to manage one’s medications is a complex task involving a number of core neuropsychological and motor skills. Specifically, the elderly patient must self-remember what time to take a dose, know which medications to take at that time, and actually take the medication as prescribed. Although the reasons for medication non-compliance in the elderly are multifactorial, the routine use of structured questionnaires such as the HMS along with a good screening battery of neuropsychological measures can help identify any cognitive and/or motoric barriers in a given patient and aid in the development of personalized compensatory strategies or implementation of remediation techniques.
9. Communication of findings

We have presented some of the more common areas in which competency issues arise. The final step in the assessment process is the communication of these findings to the patient and their loved ones. Clinicians must be careful to temper their interpretations with the extant literature supporting the link between clinical and neuropsychological test findings and the capacity in question. For example, many clinicians have had the experience of the moderately to severely demented patient who, despite clear neuropsychological evidence of impairment, was somehow able to drive independently to the evaluation, often navigating through heavy traffic and following complicated directions. Clearly, the link between neurocognitive function and capacity is not a one-to-one correspondence. In our clinic we have found that the inclusion of some of the targeted and structured assessment scales presented in this article makes giving feedback to the patients and their loved ones much easier. For example, when discussing deficits in managing finances, it is easier to show patients the difficulty they had in balancing their checkbooks as opposed to discussing their deficits in the Wisconsin Card Sorting Test or other measures of executive function. Although impairment on these standard neuropsychological measures surely has an impact on this “financial activity of daily living,” invoking a task that the patient and their family can relate to tends to carry more weight. As such, inclusion of these measures can help provide more ecologically valid evidence that patients and their loved ones can understand.

In addition to the basic findings and their real-world implications, it is important for the clinician to provide feedback on the temporality of the findings from a competency evaluation. That is, incompetency in an elderly patient with dementia where the course is progressive and the prognosis is poor is very different than incompetency in a potentially transient condition such as delirium, acute intoxicification, psychiatric disturbance, or the early stages of recovery from traumatic brain injury or stroke. As such, the clinician needs to be clear concerning the nature and permanence of the noted incapacity. In the case of a transient condition, providing temporary supports or a proxy for the patient’s impaired decision-making skills along with possible interventions is important in protecting the patient’s autonomy. With regard to a progressive disorder such as dementia, where further decline of cognitive function and a stability of the decision-making impairment is expected, the clinician needs to make sure that the patient’s loved ones and/or treating doctors are informed of the nature of the deficit and the specific limitation(s) regarding decision making capacity. The need for a proxy decision maker or guardian may be part of that discussion.

10. Conclusions

As the “baby-boomers” in the United States age into their 60s and 70s, health care professionals will be confronted with an ever-increasing demand for elder services. With this surge in the elderly population, the clinician is faced with efficiently and accurately evaluating these seniors and making specific recommendations regarding diagnoses, safety issues, and the need for services or various types of treatments. One of the more common referral questions in this population is the determination of the competence of an individual to live alone, drive independently, manage medications and finances, and make medical and financial decisions. A clinician’s obligation to accurately assess the decision-making capacity of an elderly patient who may be cognitively impaired is an important clinical and ethical responsibility. Specifically, the issue of competency is meaningful to patients, caregivers, practitioners, and members of the court in that patients experiencing neurocognitive impairment or decline may require the help of others in order to ensure their safety.

Regardless of the skill being queried, evaluation of competency in an elderly patient requires a multi-pronged approach to assessment. As there is no single “capacitator” or determinant of an individual’s capacity for any given skill set, the clinician needs to utilize a variety of standardized measures and approaches to ensure adequate coverage of the skills and attitudes necessary for a competent person to function in day-to-day life. When performing these types of evaluations, it is helpful to think of the capacity evaluation as including both clinical (i.e., diagnostic interview, use of structured capacity scales) and neuropsychological (i.e., testing with well-standardized cognitive measures) components. Cognitive, emotional, and subjective factors contribute significantly to this process, highlighting the rich process that occurs when assessing a given patient’s capacity. These factors are not yet clearly delineated, but it is evident that the clinician must balance the quantitative aspects of this process (i.e., objective neuropsychological and clinical assessment) with the less easily-defined needs and hopes of the patient. For example, although a paranoid patient...
may show the necessary cognitive and functional skills to be declared competent, his or her emotional or psychiatric state may be a barrier to adequate functioning (i.e., the patient can clearly state the pros and cons of a necessary life-saving medical procedure but due to paranoia “doesn’t trust” any doctors and refuses to be treated). The subjective components of the process are still to be well-studied and may provide insights into the decision-making processes of patients suffering from neurological and psychiatric illness. The careful assessment of such subjective aspects, the “non-cognitive” contributions to capacity and consent, may in the future receive guidance from researchers, whose work has already provided valuable information about many of the theoretical and practice concerns in capacity evaluation.

It is notable that many of the studies reviewed in this article have assessed the use of competency measures in a limited number of disorders (e.g., AD or PD). Further research into a variety of neurodegenerative and neuropsychiatric disorders will be important to identify the component deficits that contribute to incompetency in a specific disorder. For example, an AD patient may not be capable of driving a car safely because of very poor memory and disorientation as opposed to a PD patient who may not be safe to drive because of marked motor impairment.

In summary, the judgment of capacity or competence must always be balanced by the needs and values of the patient. For example, although a clinician might not agree with a patient’s decision not to pursue further treatment of cancer, if the assessment reveals intact reasoning and decision-making skills, the absence of any significant emotional or psychiatric disorder, and relatively sound cognitive abilities, the patient’s communicated desire to not pursue potentially life-saving treatment must be respected. Many clinicians have a difficult time separating their own beliefs and biases from the objective capacity assessment process. Despite this fact, it is imperative that clinicians try to “walk in the shoes” of the patient with regard to the person’s perspectives and belief systems. In doing so, the clinician can avoid imposing their own beliefs, opinions, and value judgments on a patient during the competence assessment process. In addition, by using some of the aforementioned standardized capacity measures that are specific to the task at hand, evaluators can feel more confident that they have performed an objective review of patients’ unique circumstances and rendered informed opinions.

References


