

**Original Research** 

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### **CME** Objective

After studying this article, you should be able to:

 Use assessment tools as needed to evaluate patients' capacity to consent to treatment

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All individuals in a position to influence the content of this activity were asked to complete a statement regarding all relevant personal financial relationships between themselves or their spouse/partner and any commercial interest. The CME Institute has resolved any conflicts of interest that were identified. In the past year, Larry Culpepper, MD, MPH, Editor in Chief, has been a consultant for Acadia, Allergan, Eisai, Merck, Supernus, and Takeda; has been a stock shareholder of M-3 Information; and has received royalties from UpToDate and Oxford University Press. No member of the CME Institute staff reported any relevant personal financial relationships. Faculty financial disclosure appears at the end of the article. La Vonne Ann Downey, PhD,<sup>a,\*</sup> and Les Zun, MD<sup>b</sup>

### ABSTRACT

**Objective:** Previous studies have shown no consistent examinations for testing the ability of patients to consent in hospital emergency departments (EDs). The primary objective of this study was to compare providers' opinions with 3 capacity assessment tools to determine the ability of medical and psychiatric patients to consent in the ED.

**Method:** The study was conducted at a level 1 inner-city general hospital ED from June 2016 to October 2017. The study participants comprised a random sample of English-speaking patients aged  $\geq$  18 years who presented with any medical or psychiatric complaint. Each patient was administered 3 tools: the standard ED consent form, the Aid to Capacity Evaluation (ACE), and the Mini-Mental State Examination. The results of these assessments were then compared to the provider's opinion of the patient's ability to provide consent.

**Results:** A total of 283 patients participated in the study, and 84.4% were able to consent according to providers. There was a high level of consistency with the provider's assessment and the other assessment tools on the patient's ability to consent. Most patients, both medical and psychiatric, showed the ability to consent. However, this was less true for psychiatric patients with schizophrenia, as 32.6% (n = 14) were unable to consent.

**Conclusions:** The study revealed that the ACE capacity assessment was highly consistent with the providers' assessment for medical (88.3%) and psychiatric patients (80.3%), but not for psychiatric patients with schizophrenia. Using the ACE, patients with schizophrenia presenting to the ED were significantly less able to understand their illnesses (0.01) and treatments (0.04) and thus were less able to give consent.

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The ability to consent is one of the central tenets of medical ethics.<sup>1</sup> Consent implies that a patient can understand, reason, and be a partner in the treatment decision process. The 4 main principles of bioethics concerning patient consent include ability to understand the information and its impact, ability to apply the information to his/her own condition, ability to use this information with reasoning capacity, and ability to express a consistent preference or choice for treatment.<sup>1-4</sup> Studies have found that a patient's ability to make a medical decision is based on a range of factors such as the provider's ability to communicate the relevant medical information.<sup>2-4</sup> Consent is often impacted by the differences in the type of patients the provider sees, which will vary with regard to levels of education and cultural backgrounds.<sup>3-5</sup>

Downey and Zun

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**Clinical Points** 

- Providers are mostly able to assess their medical and psychiatric patients' ability to consent to treatment.
- The Aid to Capacity Evaluation showed areas in which the provider's assessment and the schizophrenia patient's ability differed.
- Schizophrenia patients often lack insight into their medical condition and possible treatments and thus are unable to provide consent.

Emergency department (ED) staff often care for a patient population that presents with a wide variety of illnesses.<sup>6</sup> Several studies<sup>7,8</sup> have shown the difficulty that providers face in their ability to assess a patient's capacity to consent.

Several studies<sup>9-29</sup> have shown that the capacity to consent varies between medical and psychiatric patients. Studies<sup>14-16</sup> have also shown that the ability of psychiatric patients to consent is more complicated and varies depending on the patient's psychiatric diagnosis. Specifically, patients with schizophrenia were found to have a reduced capacity, which impacted their ability to consent.<sup>14-16</sup> These findings indicate the need for tools to assess the patient's decisionmaking capacity whether they present with a medical or psychiatric illness. Reliance on the provider's capability to determine the patient's ability to consent may not be an accurate measure of capacity.<sup>14-16</sup> Currently, there are several tools to assess capacity; each is intended for a specific patient population and often take more than 10 minutes to administer.<sup>3,4,17–29</sup> However, these tools have not been tested in an ED setting. Thus, there is a need to identify a tool that can be administered within 10 minutes or less to ensure a patient's ability to consent when a clinician is unsure.

## **METHODS**

This study was conducted at a level 1 community innercity teaching hospital with 60,000 visits per year. The study sample was a convenient consecutive sample of patients who presented from June 2016 to October 2017 with a medical or psychiatric illness. Inclusion criteria included Englishspeaking patients who were medically stable, not delusional or intoxicated, not brought in with restraints or under police protection, and over the age of 18 years. This study received institutional review board approval.

The first measurement of consent was the standard consent form signed for treatment. The form was administered by the triage nurse and signed at registration as part of the triage process when the patient presented to the ED. Then, a patient was approached by a research fellow about being part of the study. Prior to being seen by a provider, patients were asked if they wanted to take part in the study. Once consent to take part in the study was received, 2 validated tools were administered to assess their capacity for consent.

The first tool was the Aid to Capacity Evaluation (ACE).<sup>3</sup> The ACE consists of questions to assess which of

scored to provide an overall assessment.<sup>3,4</sup> The ACE is a semistructured decisional aid that prompts inquiry into 7 relevant areas: medical conditions, proposed treatments, treatment alternatives, options for refusal of treatment, consequence of accepting or refusing treatments, and whether the patient's ability to provide consent is impacted by depression or delusions.<sup>3</sup> For each area, the ACE provides guidelines for scoring the patient's responses and scoring of sections. Moreover, within each area, there is a rating of yes, unsure, or no. After assessing each area as completely as possible, 1 of 4 overall assessments is chosen: definitely incapable, probably incapable, probably capable, or definitely capable. Training was provided to researchers on how to administer the ACE, and they were asked to conduct specific capacity assessments using the tool.

A second tool, the Mini-Mental State Examination (MMSE), was also administered by research fellows before treatment. The MMSE measures cognitive abilities of a patient at a specific time.<sup>19-21</sup> The MMSE is a validated tool that takes 5-10 minutes to administer and consists of a 30-point examination used to measure cognitive impairment, which includes 6 areas: orientation, registration, attention and calculation, recall, language, and read and obey. Each area is given a score based on the number of correct answers, and the scoring is interpreted as follows: 24-30 normal cognition, 19-23 mild cognitive impairment, 10-18 moderate cognitive impairment, and  $\leq 9$  severe cognitive impairment.<sup>19–21</sup> The MMSE has been shown to be less useful when administered to patients who have lower to no literacy, as reading is part of the test. Training was also provided for researchers on how to administer and score the MMSE.

After a patient was evaluated, research fellows asked the medical professional, all of whom were emergency medicine attending physicians, if the patient could consent. An analysis of the patient's scores from the ACE, MMSE, and health care provider's assessment was then compared to the standard consent the patient signed upon presentation to the ED. Using SPSS version 22 (IBM Corp, Armonk, New York), a  $\chi^2$  test and analysis of variance (ANOVA) were used to examine for significant differences between the consent assessment tests and the provider's assessment of consent.

## RESULTS

A total of 283 patients were enrolled in the study (300 subjects were approached and 283 consented for a rate of 80.9%). The most common reasons for refusal to participate were as follows: not wanting to answer questions, uncomfortable with signing the consent form, and not feeling well enough.

Patient inclusion into medical and psychiatric categories was based on their presentation and past medical history if available. Almost half of the patients (47.3%, n = 134) presented with a psychiatric complaint. The remaining 52.7% (n=149) presented with a nonpsychiatric complaint. The majority of participants (97%, n = 282) signed the standard **It is illegal to post this copy** consent, with 1 subject having a family member sign on their behalf. Table 1 provides the patients' demographic information.

The majority of patients (96.2%) were able to complete the ACE in 3 to 5 minutes. This was also the case with the MMSE, with 97.6% of patients completing it within 3 to 5 minutes.

Of the 283 subjects, a total of 84.4% (n = 269) were able to consent to treatment according to the health care provider. The remaining 12.6% (n = 34) were unable to consent. The number of those with medical-related presenting illnesses who were able to consent per providers was 91.4%. The ability for psychiatric patients to consent remained high at 76.3%.

For nonpsychiatric patients, there was a high level of consistency of ability to consent when the provider's opinion was compared with the other assessment tools. The capacity to consent compared to the standard signed consent was 90.3%. The agreement between the ACE and the providers' opinion was also high at 88.3% ( $\chi^2_6$  = 45, *P* = .02). The MMSE, although lower at 72.9% agreement with providers' assessment, was still significant ( $\chi^2$ =48.1, *P* = .01).

Table 1. Patient Demographics		
Demographic	Patients, %	
Age ≤ 44 y	62.7	
Sex		
Male	52.5	
Female	47.5	
Ethnicity		
Black	71.6	
Hispanic	13.7	
White	12.3	
Other ethnic group	1.5	
_evel of education		
≤High school		
Some college/degree	66.6	
Graduate degree	24.0	
Psychiatric diagnosis		
Depression	27.5	
Schizophrenia	19.5	
Bipolar disorder	11.4	
Schizoaffective disorder	2.2	
Others	36.7	

**Ghted PDF on any website** Thus, subjects with mental illness were found to be able to consent using both the ACE and MMSE and according to the provider. The results were consistent within the patients who presented with psychiatric illnesses with 1 exception. One-third of patients with schizophrenia/schizoaffective disorders (32.6%, n=42) were unable to consent according to the health care provider (Table 2).

Using the ACE, we identified 1 subset (schizophrenia) within the overall psychiatric patient population for which the provider's assessment significantly ( $\chi^2_6$ =45.5, *P*=.04) differed. For schizophrenia patients, there was only a 66.7% agreement on the ability to consent.

The impairment in the ability to consent using the ACE identified key areas within which patients with schizophrenia have difficulty. First, they were significantly less likely to understand their medical problem ( $\chi^2 = 65$ , P = .01) compared to other patients, translating to over one-third (36.1%) of those with schizophrenia being unsure about or unable to understand their medical problem.

Second, schizophrenia patients in the study were significantly less likely to understand the proposed treatment ( $\chi^2 = 48$ , P = .04) compared to other study subjects. A large percentage of schizophrenia patients (61.1%) were unsure about or did not follow the recommended treatment.

This difference within psychiatric patients was also seen with the MMSE. The MMSE results indicated that 54.1% (20/37) of people with schizophrenia had mild to severe cognitive impairment. This percentage was much higher than the levels reported by providers, who responded that only 35.1% had cognitive impairment. The results of the MMSE were also significantly different ( $\chi^2_6$ =26.8, *P*=.04) from the providers' opinion for patients with schizophrenia (just 47.5% consistency) (Table 3).

The MMSE has been shown to be correlated with education level, which raises the question if lower levels of education explained the low consistency between the MMSE and the health care providers' assessment of psychiatric patients and those with schizophrenia specifically. An analysis showed that over half (45.6%, 59/127) of all psychiatric patients in the sample had less than a high school education. However,

	Medical				Schizoaffective	Bipolar
ACE Overall Assessment	Illness	Depression	Anxiety	Schizophrenia	Disorder	Disorder
Definitely capable + probably capable	142 (92.9)	29 (96.7)	7 (100)	26 (68.4)	5 (83.3)	30 (88.2)
Probably incapable + definitely incapable	7 (7.1)	1 (3.3)	0 (0.0)	12 (31.6)	1 (16.7)	4 (11.8)
Total	149 (100)	30 (100)	7 (100)	38 (100)	6 (100)	34 (100)
Provider opinion: ability to consent						
Yes	133 (89.7)	28 (96.6)	6 (100)	25 (67.6)	3 (50)	27 (79.4)
No	9 (6.2)	1 (3.4)	0 (0.0)	11 (29.7)	3 (50)	7 (20.6)
Unsure	6 (4.1)	0 (0.0)	0 (0.0)	1 (2.7)	0 (0.0)	0 (0.0)
Total	149 (100)	29 (100)	6 (100)	37 (100)	6 (100)	34 (100)

Table 3. Percent Mini-Mental State Examination Agreement With Provider by Type of Mental Illness					
No Mental Illness	Schizophrenia + Schizoaffective	Bipolar Disorder	Depression	Anxiety	
72.9% agreement (n = 138)	47.5% agreement (n = 40)	65.6% agreement (n = 32)	75.8% agreement (n = 29)	100% agreement (n=6)	

# Downey and Zun It is illegal to post this copyrighted PDF on any website. Table 4. Comparison of Providers' Assessment. Standard

# Table 4. Comparison of Providers' Assessment, Standard Consent, and the ACE and MMSE

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Variable	df	Mean Square	F	Significance (P)	
ACE	1	0.944	10.915	.001	
MMSE	1	1.302	2.301	.131	
Standard consent	1	0.162	7.012	.009	
Abbreviations: ACE = Aid to Capacity Evaluation, MMSE = Mini-Mental State Examination.					

the total psychiatric patient sample's education level was not significantly different ( $\chi^2_4$  = 63, *P* = .08) than those of schizophrenia patients.

Due to the categorical variables for each test and a comparison between tests and providers' assessments, an ANOVA was used to examine if there was a significant difference between the standard consent, ACE, and MMSE and the providers' rating of who could give consent. There was a significant difference for the provider and the ACE at P=.001 and the standard consent at P=.009 but not for the MMSE at P=.131. This finding indicates that the provider was able to determine if the patient had cognitive issues but not if the patient could consent based on the 4 separate components of consent, which the ACE and the standard consent form are based on (Table 4).

### DISCUSSION

Results of the ACE and MMSE were strongly predictive of health care provider responses on both ability to consent and cognitive impairment. The ACE and MMSE were linked in overall assessment and total score.

Both tools were found to be accurate and useful in determining the ability to consent for medical and psychiatric patients. The results were consistent with those of Etchells et al,<sup>11</sup> who found that these tools were able to assess consent in differing patient populations.

The results, however, were different for those with schizophrenia/schizoaffective disorders. These patients had a much lower level of capacity to consent using both the ACE and MMSE. This study, much like that of Carpenter et al,<sup>15</sup> found that schizophrenia patients were less likely to understand their illness and were significantly less likely to follow their medical treatment. They were also more likely to have significant levels of cognitive impairments, which also impacted their ability to consent. The limitations to their ability were not always seen by the provider, who although rating them at lower levels than the psychiatric patients overall, still estimated them at a higher level in their ability than either the ACE or MMSE. This finding was similar to that of Owen et al<sup>12</sup> and Cairns et al<sup>13</sup> in that the provider cannot accurately assess consent capacity within this specific psychiatric diagnosis. Our results indicate, as Carpenter et al<sup>15</sup> have suggested, that a different approach might be needed when measuring this patient population's ability to consent. Their study<sup>15</sup> did illustrate, however, that by paying particular attention with a more intensive specialized educational focus, these patients could still be able to consent to treatment.

This study does have limitations. First, it took place at 1 inner-city site. Differences may be more or less significant at other locations. A study comparing more than 1 site might have resulted in different outcomes.

The education level of both the medical and psychiatric population within this study could have impacted the results. The majority of the study sample had only a high school education; this might be especially impactful for the MMSE, which has been shown to be influenced by education level. A study sample with a more diverse education range might have resulted in different scores.

This study showed that providers were mostly able to assess their medical and psychiatric patient's ability to consent. The provider's assessment was consistent when looking at the assessment of the subjects using the ACE. The 1 exception was for people with schizophrenia. The ACE showed areas in which the provider's assessment and the schizophrenia patient's ability differed. Patients with schizophrenia lack insight into their medical condition and possible treatments and thus were unable to consent.

The MMSE was also consistent with the provider's ability to assess the patient's capacity to consent. Once again, however, the MMSE assessment did show an inconsistency with provider assessments for patients with schizophrenia (only 47.5% agreement). This finding could be due to the MMSE measuring education, as schizophrenia patients were less likely to have completed high school compared to the rest of the patient population.

On the basis of our findings, health care providers may want to spend extra time explaining and clarifying medical information to people with schizophrenia. Providers may need to either find a different tool or create a specific education program to ensure that this patient population understands their medical conditions and treatments. Further research is needed to determine how to implement this type of program to ensure that all patients have the ability to consent and understand their illness and medical treatment.

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#### REFERENCES

- Grady C. Enduring and emerging challenges of informed consent. N Engl J Med. 2015;372(9):855–862.
- Appelbaum PS. Clinical practice: assessment of patients' competence to consent to treatment. N Engl J Med. 2007;357(18):1834–1840.
- Aid to Capacity Evaluation (ACE). University of Toronto Joint Centre for Bioethics website. http://jcb.utoronto.ca/tools/documents/ace.pdf. Accessed July 30, 2020.
- 4. Dunn LB, Jeste DV. Enhancing informed consent for research and treatment. *Neuropsychopharmacology*. 2001;24(6):595–607.
- 5. Roberts LW. Informed consent and the capacity for voluntarism. Am J

# Psychiatry. 2002;159(5):705-712. post this copyrighted PDF BMJ. 1999;318(7182):493-497.

- 6. Hotopf M. The assessment of mental capacity. *Clin Med (Lond)*. 2005;5(6):580–584.
- Ranjith G, Hotopf M. 'Refusing treatment please see': an analysis of capacity assessments carried out by a liaison psychiatry service. *J R Soc Med.* 2004;97(10):480–482.
- Lidz CW, Meisel A, Osterweis M, et al. Barriers to informed consent. Ann Intern Med. 1983;99(4):539–543.
- Silberfeld M, Checkland D. Faulty judgment, expert opinion, and decision-making capacity. *Theor Med Bioeth*. 1999;20(4):377–393.
- Ganzini L, Volicer L, Nelson WA, et al. Ten myths about decision-making capacity. J Am Med Dir Assoc. 2005;6(3 suppl):5100–5104.
- Etchells E, Katz MR, Shuchman M, et al. Accuracy of clinical impressions and Mini-Mental State Exam scores for assessing capacity to consent to major medical treatment: comparison with criterion-standard psychiatric assessments. *Psychosomatics*. 1997;38(3):239–245.
- Owen GS, Richardson G, David AS, et al. Mental capacity to make decisions on treatment in people admitted to psychiatric hospitals: cross sectional study. *BMJ*. 2008;337(7660):a448.
- Cairns R, Maddock C, Buchanan A, et al. Reliability of mental capacity assessments in psychiatric in-patients. *Br J Psychiatry*. 2005;187(4):372–378.

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14. McCubbin M, Weisstub DN. Toward a pure best

interests model of proxy decision making to incompetent psychiatric patients. *Int J Law Psychiatry*. 1998;21(1):1–30.

- Carpenter WT Jr, Gold JM, Lahti AC, et al. Decisional capacity for informed consent in schizophrenia research. Arch Gen Psychiatry. 2000;57(6):533–538.
- Warner J, McCarney R, Griffin M, et al. Participation in dementia research: rates and correlates of capacity to give informed consent. J Med Ethics. 2008;34(3):167–170.
- Grisso T, Appelbaum PS. Comparison of standards for assessing patients' capacities to make treatment decisions. *Am J Psychiatry*. 1995;152(7):1033–1037.
- Derouesne C, Poitreneau J, Hugonot L, et al. Mini-Mental State Examination: a useful method for the evaluation of the cognitive status of patients by the clinician. Consensual French version [in French]. *Presse Med.* 1999;28(21):1141–1148.
- Folstein MF, Robins LN, Helzer JE. The Mini-Mental State Examination. Arch Gen Psychiatry. 1983;40(7):812.
- Nilsson FM. Mini Mental State Examination (MMSE)—probably one of the most cited papers in health science. Acta Psychiatr Scand. 2007;116(2):156–157.
- Fazel S, Hope T, Jacoby R. Assessment of competence to complete advance directives: validation of a patient-centered approach.

- Appelbaum PS, Grisso T. Assessing patients' capacities to consent to treatment. N Engl J Med. 1988;319(25):1635–1638.
- Naglie G, Silberfeld M, O'Rourke K, et al. A randomized trial of a decisional aid for mental capacity assessments. *J Clin Epidemiol*. 1993;46(3):221–230.
- Sorger BM, Rosenfeld B, Pessin H, et al. Decision-making capacity in elderly, terminally ill patients with cancer. *Behav Sci Law.* 2007;25(3):393–404.
- Etchells E, Darzins P, Silberfeld M, et al. Assessment of patient capacity to consent to treatment. J Gen Intern Med. 1999;14(1):27–34.
- Kim SY, Caine ED. Utility and limits of the mini mental state examination in evaluating consent capacity in Alzheimer's disease. *Psychiatr Serv*. 2002;53(10):1322–1324.
- Dunn LB, Nowrangi MA, Palmer BW, et al. Assessing decisional capacity for clinical research or treatment: a review of instruments. *Am J Psychiatry*. 2006;163(8):1323–1334.
- Markson LJ, Kern DC, Annas GJ, et al. Physician assessment of patient competence. J Am Geriatr Soc. 1994;42(10):1074–1080.
- Grisso T, Appelbaum PS, Hill-Fotouhi C. The MacCAT-T: a clinical tool to assess patients' capacities to make treatment decisions. *Psychiatr Serv*. 1997;48(11):1415–1419.

## POSTTEST

To obtain credit, go to http://www.cmeinstitute.com/activities/Pages/PCC.aspx to complete the Posttest and Evaluation. A \$10 processing fee is required.

- 1. Regarding who has the ability to give consent to treatment, is there a difference between medical and psychiatric patients?
  - a. Most patients in both settings are able to give consent
  - b. Most patients are unable to give consent in either setting
  - c. Only medical patients are able to give consent
  - d. Only psychiatric patients are able to give consent
- 2. According to the results of this study, is the provider's assessment reliable as to whether patients can give consent?
  - a. Yes, provider assessments are consistently as reliable as those of tools
  - b. No, provider assessments are much less reliable than those of tools
  - c. Yes, with the exception of patients with schizophrenia and schizoaffective disorder
  - d. Yes, with the exception of patients with major depressive disorder
- 3. Of the following patients who are in the waiting room for examination of ongoing knee problems, for which one would the Aid to Capacity Evaluation be a better method of assessing ability to consent to treatment than the Mini-Mental State Examination?
  - a. Tamir has had schizoaffective disorder for 5 years, which is well controlled by good adherence to medication; he completed community college last year
  - b. Freya has had generalized anxiety disorder since childhood and has completed a postgraduate degree
  - c. Lilyanna has schizophrenia, did not finish high school, and often experiences relapses due to not believing that she needs medication
  - d. Malone has had no psychiatric disorders and is a law school graduate