

# Feasibility of using standardized patient methodology to develop and assess research assistant competence in dementia research



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- AVILA B. STEELE *Houston Center for Quality of Care & Utilization Studies, Health Services Research and Development Service; Michael E. DeBakey VA Medical Center, USA*
- MARK E. KUNIK *Houston Center for Quality of Care & Utilization Studies, Health Services Research and Development Service; Michael E. DeBakey VA Medical Center, USA*
- JEFFREY CULLY *Houston Center for Quality of Care & Utilization Studies, Health Services Research and Development Service; Michael E. DeBakey VA Medical Center, USA*
- JESSICA A. DAVILA *Houston Center for Quality of Care & Utilization Studies, Health Services Research and Development Service, USA*
- ROBERT O. MORGAN *Houston Center for Quality of Care & Utilization Studies, Health Services Research and Development Service, USA*
- A. LYNN SNOW *Veterans Affairs South Central Mental Illness Research, Education and Clinical Center, USA*

**Abstract** Use of standardized patients in training research staff has been limited. This study evaluated its feasibility. An expert panel created six scenarios using standardized patients to portray dyads of dementia patients/caregivers, plus instructions for actors. Three research assistants trained in administering the Hamilton Depression Rating Scale portion of the Structured Interview for the Clinical Assessment of Depression in Dementia administered it to each dyad. An expert panel member telemonitored each session and scored pairs using the same instrument. Sessions were videotaped, watched and

scored by research assistants. Their scores were compared with expert ratings, and deviation scores were calculated, with mean item deviation scores compared using analysis of variance. Interclass correlations and analysis of variance revealed no differences between research-assistant ratings and their ratings compared with a standard, supporting the feasibility of using standardized patients to train research assistants to perform complex clinical assessments.

**Keywords** dementia; research personnel training; standardized patients

Standardized training of research personnel to work with persons with dementia and their caregivers is essential for maintaining a rigorous study design and ensuring quality data collection. However, working effectively and compassionately with persons with dementia and their caregivers can be quite challenging because of the cognitive and behavioral symptoms caused by the disease, as well as the emotional and physical toll it takes on both patients, defined as a vulnerable population because of their impaired capacity to understand the implications of research participation, and caregivers. To properly manage or assess dementia patients (and often their caregivers), research personnel must attain knowledge of the disease process, be aware of unique psychosocial and medical issues faced by persons with dementia and their caregivers, and understand how to effectively communicate with this special population.

One issue in training research personnel to work with this population is the need for an accurate portrayal of the unique mannerisms associated with the progression of dementia. Research assistants (RAs) who work with and interview these patients need to be trained to respond to the range of typical behavior patterns and challenges in this group of patients, such as patients repeating themselves, having difficulty comprehending questions, needing a slowed administration/communication pace, becoming easily tired and frustrated, and responding to frustration with disruptive behaviors. In addition, complex interactions often occur between patients, their caregivers, and the interviewer. RAs also need training in how to identify, assess, and/or interpret clinical situations that are relatively rare but of high urgency because of the need for immediate follow-up care, for example, suicidality, danger to others, elder abuse/neglect.

A second issue in training research personnel is the need to provide a live training environment without depleting the potential subject pool. Although there is an abundance of dementia patients, and estimates indicate that their numbers are increasing, there is still a concern that a potential subject can be lost because of training practice and then unable to benefit from the research study and/or intervention.

The standardized patient technique offers a strategy for training research personnel without depleting the potential subject pool. Standardized patients have been used for years to assess the communication and clinical competencies of medical students and other medical professionals (Yudowsky, 2002). This procedure uses trained actors, volunteers, or lay people to simulate certain medical conditions in a realistic and consistent fashion. Although popular in the assessment and training of medical students, it has been used rather sparingly in research and is particularly underused in psychiatric research (Rosen, Mulsant, Bruce, Mittal, & Fox, 2004). A PubMed search of *standardized patient* and *research* resulted in only 264 research studies referenced between 1975 and 2006, while a search of *standardized patient* and *clinical trials* resulted in only seven research studies between 1984 and 2006.

We report here on our application of the standardized-patient technique as a training method for research personnel as part of a large dementia study. We assessed their readiness to interact with and interview dementia patients and their caregivers prior to enrolling patients into our study cohort. We describe the standardized-patient technique, as well as our methods for a) assessing research-personnel competency using standardized methods that can be easily replicated when new staff is hired to the project, and b) evaluating inter-rater reliability without depleting the subject pool.

## Methods

### Procedures

Three RAs were responsible for implementing a rigorous data-collection and interviewing protocol as part of a 4-year prospective cohort study to examine causes and consequences of aggression among newly diagnosed dementia patients over the age of 60 who were living in the community, that is, not currently living in an institution or nursing home. As part of the training process in 2001, standardized patients were used to portray patients with dementia and their caregivers to prepare the RAs for the many complexities associated with communicating with and evaluating patients with dementia.

We used the standardized-patient technique to train RAs to correctly administer and score the Hamilton Depression Rating Scale portion of the Structured Interview for the Clinical Assessment of Depression in Dementia (HAMD-CADD). The HAMD is a 21-item screening instrument designed to measure symptoms of depression across the following domains: somatic symptoms, insomnia, working capacity and interest, mood, guilt, psychomotor retardation, agitation, anxiety, and insight. The HAMD-CADD is a

scheduled interview version of the HAMD modified for clinical use with dementia patients (Zubenko, Zubenko, & McPherson, et al., 2003). It is administered to both patients and their caregivers; and the rater is instructed to make one final rating based on these two information sources, as well as the rater's own observations and clinical judgment.

An expert panel, which included two geriatric psychiatrists and two geriatric psychologists, created six scenarios representing a variety of patient and caregiver characteristics and situations. These included patient reports of and presentations of depression, agitation/restlessness, frustration, fatigue, and suicidal ideation. The level of dementia severity was also varied across scenarios. Finally, scenarios portrayed caregivers of varying levels of skill, compliance with the research protocol, education/literacy, burnout, acceptance of caregiver role (e.g., resentful), patient contact/quality and intimacy of relationship with patient. While there were other characteristics and situations possible, the final scenarios were chosen to reflect what RAs are likely to encounter in their interactions with dementia patients and their caregivers. Instructions for the actors matching the six patient and caregiver scenarios were then developed by the expert panel (see Figure 1). The Baylor College of Medicine Standardized Patient Program recruited actor volunteers and trained them based on the scripts. This program has a long history of providing these services and adheres to rigorous standards of practice. While the scenarios developed by the panel dictated patient and caregiver characteristics and situations, the standardized patients (professional patients) were at liberty to respond to the HAMD at will. Patients portraying specific mood and behavioral symptoms were only given general information (via script) to include or endorse a range of symptoms.

Training for RAs included didactic instruction in administering the HAMD, supervised practice sessions, and independent practice sessions. Each RA/rater then administered the HAMD to each of the six standardized patient dyads. While each RA administered and scored the HAMD, one or more clinicians from the expert panel observed the session via telemonitor and also scored the HAMD, with the expert panel scores serving as master ratings. Although the panel assigned script details, no HAMD responses were dictated so all information viewed was new to both experts and RAs. The process resulted in 18 videotaped administrations (three RAs each rating six standardized patient dyads). Each RA then watched and scored all 18 videotapes, providing both in-vivo administration and scoring experience for each RA, as well as the benefit of additional administration scoring experience. The expert panel considered any deviation beyond one point (i.e., RA rating that is two or more points above or below the expert panel rating) as clinically relevant.

*General Instructions for Actors:*  
 We have tried to describe the most pertinent information for you. You should feel free to make up other information about your character as needed. Just make sure you are consistent with the information we have provided for your character. Most importantly, make sure you are consistent in your portrayal of the character in all three of the performances you will give.

Here is what will happen. You and another actor will be portraying a patient with dementia and the caregiver of that patient. You are being interviewed by a research assistant (RA) for a study of mood and behavior in people with dementia. We need to know that our RAs are all giving the research measures in the same way. To do this, we will ask all three of our RAs to interview you and then will look to see if they get the same scores on the measures. If they are coming up with different scores, we will give them feedback on what they are doing wrong and then ask them to re-interview you (in part, or the whole interview again) so they can get it right.

The RA will talk to the caregiver and patient together, asking both the patient and caregiver their opinions about the patient's mood and thinking. Toward the end of the interview, the RA will interview only the caregiver and will ask the patient to leave the room. The patient and caregiver should pretend they are in their home, and so at this time the patient can go into another room (like into the living room to watch TV, leaving the RA and caregiver to talk alone in the kitchen). You should be sure to approach your portrayal of how this would occur based on your character (i.e., if you are playing a very cooperative character this might not be a big deal; if you are playing a more agitated character, you might be resistant to leaving the caregiver and RA alone).

DYAD 1 Instructions:  
*Patient:* Mildly demented and severely depressed patient  
*Caregiver:* low education/has trouble with reading

	<i>Patient</i>	<i>Caregiver</i>
Age	70	65
Relation to Pt	-	Wife of 50 years
Living Situation	Live together	Live together
Occupation	Truck Driver	Housewife
Socioeconomic status	Blue collar	Blue collar
Gender	Male	Female
Education	7th grade	3rd grade

Mr. Jones was diagnosed with dementia 6 months ago. He is retired and lives at home with his wife. Their daughter passed away from cancer last year. They say they don't understand much about research, but they'll do anything they can to help other vets who might be in the same situation some day. Mr. Jones is in good health. He has mild arthritis in his hands and knees, and high blood pressure. Mr. Jones has been feeling very depressed and blue for the past month. He cries easily and typically several times a day. He's lost interest in his usual hobbies (e.g., making birdhouses), has talked about not wanting to live any longer, and has said that life is hopeless now that he has Alzheimer's. He says he feels worthless now that his wife has to take care of him and he can't do anything to take care of her. He's eating less and has lost some weight. He has very low energy and sits in front of the TV all day, dozing often. He stays up watching TV until 2:00 or 3:00 most nights. He doesn't think about killing himself but often thinks that it would be much better for everyone if he would just die in his sleep tomorrow. Mr. Jones is acutely aware of his cognitive problems. He has mild memory loss, which means he often misplaces things and has trouble recalling people's names, even the names of friends and more distant family members. His wife tells him that he repeats the same questions and stories to her several times a day. He often can't think of the right word for something.

Mrs. Jones is deferential to her husband and reluctant to say things that might show him in a bad light. When pressed, she is rather defensive about her husband's deficits. She doesn't really understand what Alzheimer's disease is or what the prognosis might be for her family.

Figure 1 Sample instructions and script for actors

## **Analyses**

Analyses focused on determining the degree to which RAs' ratings agreed with the expert panel's master ratings (competence/validity) and the degree to which RA ratings agreed with one another (inter-rater reliability).

### **Competence**

For each RA, the scores from the 18 HAMD video viewings were compared with the master ratings. For each of the 18 HAMD videos, deviation scores were calculated on the item level by subtracting the RAs' item score from the master item score and taking the absolute value.

For all item deviations of greater than one, the RA was required to re-observe the portion of the administration in question, rescore the item and discuss it with one of the expert panel members. The deviation scores were converted to absolute values for comparison.

To determine whether significant differences in scoring existed between the three RAs, a mean item deviation score was developed (resulting in 18 mean item deviation scores for each assistant), and compared among the three RAs using analysis of variance (ANOVA).

### **Inter-rater reliability**

An intra-class correlation (ICC) was used to assess how well the RA ratings were in agreement across each of the six patient/caregiver dyads, calculated as:  $ICC = \frac{\text{total variance} - (\text{rater variance} + \text{rater} \times \text{dyad variance})}{\text{total variance}}$ . These analyses reflect variance between the three raters.

## **Results**

### **Competence**

The number of item deviations greater than one for the three RAs, respectively, was 9, 6, and 14. The number of item deviations greater than two for the three RAs was 4, 5 and 10; and the number of item deviations greater than three was 2, 3 and 6. There was no significant difference in the deviation scores of the three raters ( $p < .061$ ). In examining RA consistency compared with the expert panel, RAs were more likely to overrate (assign higher scores than the expert panel) than underrate when assigning HAMD ratings (see Table 1).

### **Inter-rater reliability**

We observed an intra-class correlation of .95, suggesting that there was a high, almost perfect, agreement between the ratings made by each RA. RAs were generally in agreement as to how they rated the videos of the six dyads.

Table 1 Research assistant rating consistency compared with the expert panel ratings

	All ratings ( <i>n</i> = 54)	%
RA rating less than expert panel's	17	31
RA rating greater than expert panel's	27	50
RA rating equal to expert panel's rating	10	19

RA = research assistant

## Discussion

We used the standardized-patient technique to assess the competency of RAs and to provide a method to quickly evaluate inter-rater reliability without depleting the potential subject pool of dementia patients. Our results show that the standardized-patient technique is effective for evaluating performance, assessing communication, and ensuring appropriate patient/caregiver interactions for research and suggest that its use is feasible for training RAs to perform complex clinical assessments for clinical research.

Another benefit of the standardized-patient technique for training research personnel is related to cost and time savings. This approach can be useful in training new research personnel with standardized procedures, an important consideration for longer studies, as it is typically quite difficult to maintain intact a staff for the entirety of a 4- or 5-year study. It can also be used throughout a study to assess reliability and rater drift over time.

However, several benefits of the standardized-patient methodology can also be considered limitations. Overall, the process is costly. Total costs, excluding planning, were approximately \$2,000. A second limitation is that it is time intensive. A third limitation of the process as we used it is that not all research groups have access to a standardized-patient program, although such programs do exist in many medical schools. Yet it is the larger studies that have the resources to pursue standardized patient training that are most likely to benefit from its use, as it is these studies that will be ongoing long enough and using large enough staff to warrant a more in-depth training process that can be quickly replicated for new replacement staff. The alternative training approaches to achieve attainment of the necessary competence and skill in interacting with and clinically assessing the needs of this challenging patient type certainly also have costs associated with them (significant use of the potential subject pool for training, requiring one-on-one training with investigator supervision that then must be repeated for new/replacement staff, again using potential subject pool for rater-drift assessments ongoing through the study).

In conclusion, our results support the feasibility of training RAs to perform complex clinical assessments for research by using the standardized-patient technique.

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#### Biographical notes

AVILA B. STEELE, PhD, is a research coordinator at the Michael E. DeBakey VA Hospital in Houston, Texas. She is also an instructor in the Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine. Along with dementia-related research, she is also involved with research collaborating care for patients with schizophrenia.

MARK E. KUNIK, MD, MPH, is a geriatric psychiatrist and health service researcher at the Michael E. DeBakey VA Medical Center and Baylor College of Medicine. He is the associate director for research training for the VA South Central Mental Illness Research, Education and Clinical Center Address: Geropsychiatry Health Service Research, Houston VAMC, Houston, TX, USA. [email: mkunik@bcm.tmc.edu]

JEFFREY CULLY, PhD, is a clinical psychologist and health services researcher at the Michael E. DeBakey VA Medical Center and Baylor College of Medicine. His clinical and research interests involve increasing access to psychotherapy in nontraditional mental health settings and providing psychotherapy for medically ill patients.

JESSICA A. DAVILA, PhD, is a clinical epidemiologist and assistant professor of medicine at Baylor College of Medicine. Her focus is on examining clinical determinants and outcomes of various health conditions.

ROBERT O. MORGAN, PhD, is a psychometrician and associate professor of medicine (health services research) at Baylor College of Medicine. He studies factors affecting patient access to care and measurement issues in health services research.

LYNN SNOW, PhD, is a clinical psychologist. Her research focuses on improving quality of care for persons with dementia and those who care for them, particularly in nursing home and primary care settings.