How to Obtain Contact Hours by Reading Articles in This Issue

Instructions
4.0 contact hours will be awarded by Vindico Medical Education upon successful completion of the posttest and evaluation. To obtain contact hours:

1. Read the following articles carefully, noting the tables and other illustrative materials, which are provided to enhance your knowledge and understanding of the content:
   - **Relational Agents as an Adjunct in Schizophrenia Treatment**
     Kathryn Puskar, DrPH, RN, FAAN; Elizabeth A. Schlenk, PhD, RN; Judith Callan, PhD, RN; Timothy Bickmore, PhD; and Susan Sereika, PhD, on pages 22-29.
   - **Depression in End-Stage Renal Disease**
     Margaret Fallon, MS, ANP-BC, on pages 30-34.
   - **The Future of (Psychiatric) Nursing**
     Shirley A. Smoyak, RN, PhD, FAAN, on pages 35-41.

2. Read each question and record your answers on the CNE Registration Form on page 43.

3. Complete all sections of the CNE Registration Form, including indicating the total time spent on the activity (reading articles and completing quiz). Forms and quizzes cannot be processed if this section is incomplete. All participants are required by the accreditation agency to attest to the time spent completing the activity.

4. Forward the completed form with your check or money order, drawn on a US bank, for $20 (USD) made out to JPN-CNE. CNE Registration Forms must be received no later than August 31, 2013.

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Activity Objectives
1. Discuss how relational agent technology can improve medication adherence in patients with schizophrenia.
2. Describe the relationship between end-stage renal disease and depression.
3. Identify ways in which the Institute of Medicine’s report could bring about change in psychiatric nursing.

Author Disclosure Statements
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• Ms. Fallon discloses that she has no significant financial interests in any product or class of products discussed directly or indirectly in this activity, including research support.
• Dr. Smoyak discloses that she has no significant financial interests in any product or class of products discussed directly or indirectly in this activity, including research support.

Commercial Support Statement
All authors and planners have agreed that this activity will be free of commercial bias. There is no commercial support for this activity. There is no non-commercial support for this activity.
Relational Agents as an Adjunct in Schizophrenia Treatment

Kathryn Puskar, DrPH, RN, FAAN; Elizabeth A. Schlenk, PhD, RN; Judith Callan, PhD, RN; Timothy Bickmore, PhD; and Susan Sereika, PhD

ABSTRACT

The purpose of this article is to discuss medication nonadherence and the use of relational agent technology as an aid in treating patients with schizophrenia. A team of mental health faculty—specialists in adherence, computer science, and statistics—collaborated to design the agent technology. This computerized virtual health counselor named “Laura” provides seven education modules about schizophrenia. Using preliminary data, two individual examples demonstrate the use of this technology. Implications for behavioral health nurses using this relational agent technology as an adjunct in improving mental health care are discussed.

In this article, we discuss medication nonadherence, the use of relational agent technology as an aid in treating patients with schizophrenia, and the Seven S’s Schizophrenia Educational Program. Relational agents are animated computer characters that simulate face-to-face conversation with a health provider. For this project, a team of mental health faculty—specialists in adherence, computer science, and statistics—collaborated to design the agent technology. This computerized virtual health counselor named “Laura” provides seven education modules about schizophrenia. Preliminary
data from two individual examples are discussed, and implications for behavioral health nurses are presented.

MEDICATION NONADHERENCE IN SCHIZOPHRENIA

The annual cost of schizophrenia nonadherence in the United States is $33 to $65 billion (Rice, 1999; Wu et al., 2005). Reported rates of nonadherence to antipsychotic treatment average approximately 50% (range = 41% to 58%) for patients diagnosed with schizophrenia (Dolder, Lacro, & Jeste, 2003; Lacro, Dunn, Dolder, Leckband, & Jeste, 2002; Rittmannsberger, Pachinger, Keppelmüller, & Wancata, 2004). Additionally, approximately one third of patients with schizophrenia practice “partial adherence,” taking less of the medication than is prescribed (Oehl, Hummer, & Fleischhacker, 2000). Factors contributing to nonadherence and partial adherence include medication side effects, severity of psychotic symptoms, impaired cognition, and inadequate understanding of the role of medication in preventing relapse (Marder, 2003). Nonadherence to antipsychotic treatment is associated with lower global functioning, impaired insight, and greater number of inpatient days (44.8 days versus 20.6 days) compared with those who adhere to their antipsychotic treatment regimen (Rittmannsberger et al., 2004).

Numerous studies have examined interventions aimed at increasing medication adherence in schizophrenia (Dolder, Lacro, Leckband, & Jeste, 2003; Peterson, Takiya, & Finley, 2003). Of the studies in these meta-analyses examined for improving adherence in schizophrenia, it was found that the greatest improvement occurred with a combination of educational, behavioral, and affective strategies. Improvements included reduced relapse, decreased hospitalization, decreased psychopathology, improved social function, increased knowledge about the medication regimen, and increased insight into the need for treatment.

TECHNOLOGICAL EFFORTS TO IMPROVE MEDICATION ADHERENCE IN SCHIZOPHRENIA

In recent years, efforts to improve adherence to antipsychotic medication have made use of sophisticated technological equipment and procedures. Technological advances studied thus far to improve adherence in antipsychotic drug therapy in schizophrenia are summarized in Table 1. All of the techniques used in these studies shed some light on the adherence problem or demonstrated an improvement in
adherence, which resulted in a positive clinical impact. In addition, it should be noted that all of the study participants were easily trained in the technologies and were able to use them on a daily basis. Thus, technology is not only potentially feasible and useful, but also cost effective, if it improves daily adherence to antipsychotic treatment regimens. We are proposing to take technology a step further by using relational agents to deliver a specialized nonadherence program for people with schizophrenia.

**USE OF RELATIONAL AGENTS**

Relational agents are computational artifacts designed to build relationships with patients for the purpose of enhancing adherence to treatment (Bickmore, Caruso, Clough-Gorr, & Heeren, 2005; Bickmore, Gruber, & Picard, 2005; Bickmore & Picard, 2005). Relational agents are typically deployed as software humanoid animated agents that can simulate face-to-face conversation with patients so that real-time dialogue, speech, gesture, gaze, and other verbal and nonverbal channels can be used to communicate therapeutic information. The theoretical basis of relational agents spans computer science, communications, linguistics, and social psychology, with a specific focus on simulated demonstrations of empathy and caring (Bickmore & Picard, 2004). Some of the initial work with relational agents began with social dialogue with a computer-animated real estate agent. REA (Real Estate Agent) is a multimodal embodied conversational agent (ECA) that features a fully articulated graphical body that senses users through cameras and is capable of hand gestures, speech with intonation, and facial displays (Bickmore & Cassell, 2001).

Relational agents, as discussed here, are animated computer characters that simulate face-to-face conversation with a health provider. Clinicians may react negatively to the use of an animated agent to serve as a treatment adjunct for patients diagnosed with schizophrenia, and there may be heightened concern that symptoms such as auditory hallucinations and paranoia will be worsened with the introduction of a character that speaks to patients in a personal manner. Given these potential issues, it is important to explore why we decided to use the agent. To do so, we must discuss the research that supports the use of relational agents in clinical groups. The relational agent software attempts to establish a realistic situation to result in suspension of disbelief in the patient; it does so by engaging in expected counselor activities with the patient and providing elements of the therapeutic interaction.

Can patients effectively use this kind of technology? The following discussion provides the background and rationale for use of this innovative technology in clinical groups such as patients with schizophrenia. Suspending disbelief, immersion, or presence (Tona, Spagnolli, Bracken, & Rubenking, 2008) is a relevant component of any virtual experience (including those with animated characters) that improves the success of the treatment. Given the perceptual anomalies of patients with schizophrenia, the potential for distortions may exist in immersion or presence and may reduce the effectiveness of the treatment in this population or create adverse effects for the patient. Nevertheless, studies have shown that virtual reality therapy has been successful in making patients with schizophrenia feel they were “present,” and this successful measurement of

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**TABLE 1**

**STUDIES USING TECHNOLOGY TO IMPROVE MEDICATION NONADHERENCE IN SCHIZOPHRENIA**

<table>
<thead>
<tr>
<th>Authors (Year)</th>
<th>Technological Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruskin et al. (2003)</td>
<td>The Med-eMonitor™ system uses a computerized device to prompt and record medication taking from medication compartments, provide education via a liquid crystal display (LCD) screen, and monitor signs and symptoms using the patient’s responses to questions on the screen.</td>
</tr>
<tr>
<td>Frangou, Sachpazidis, Stassinakis, and Sakas (2005)</td>
<td>@HOME telemonitoring system transmits data from a medication event monitoring system cap and provides an alert to a health care provider when the patient’s medication adherence is less than 50% during a 1-week period.</td>
</tr>
<tr>
<td>Sachpazidis and Majadas (2006)</td>
<td>Medication adherence monitoring system uses cell phone reminders for patient to take medication. If the patient does not respond within a specified time frame, the patient’s caretaker and health care provider are contacted.</td>
</tr>
<tr>
<td>Chinman et al. (2007)</td>
<td>Prior to a clinic visit, audio computer-assisted self-interviewing system with printed and spoken questions collects and prints patient interview data, including medication adherence, which the psychiatrist then reviews at the appointment.</td>
</tr>
<tr>
<td>Deegan (2007)</td>
<td>Shared decision-making program helps patients address the decisional conflict between medication adherence and personal needs using a peer-to-peer workshop, a peer-run decision support center in a medication clinic with a software program to support shared decision making, and staff training.</td>
</tr>
</tbody>
</table>
presence correlated with treatment outcomes (Tona et al., 2008).

Use Related to Exercise

Bickmore and Picard (2004) studied the development of relational agents by testing a caring versus a non-caring relational agent in 59 college students (n = 32 in the caring group, n = 27 in the non-caring group). The relational agent was designed to increase exercise through feedback on exercise behavior and overcoming exercise obstacles. Students interacted with the relational agent for 10 minutes per day for 1 month. Caring behaviors included social dialogue, emphasizing commonalities, meta-relational communication (i.e., talking about the past and future), continuity behaviors, references to mutual knowledge, and explicit messages of esteem. Nonverbal behaviors, such as leaning forward and frequent gaze, were also used in the caring group. The non-caring group received the same exercise intervention but without the caring behaviors. The Working Alliance Inventory (Horvath & Greenberg, 1989) was used to measure trust and the bond that was developed. Students in the caring group believed the agent cared about them, was genuinely concerned about their welfare, and liked them. They also felt that there was trust and expressed a willingness to continue working with the agent. The non-caring group reported similar attitudes regarding overall satisfaction with the system but were less emphatic when describing their liking of the agent and were much more likely to complain about the repetitiveness of the system over time. Qualitative feedback indicated a range of user feedback that might evoke feelings of caring, from liking to non-liking (Bickmore, Gruber, & Picard, 2005; Bickmore & Picard, 2004, 2005).

Bickmore, Caruso, et al. (2005) further tested the feasibility of this exercise agent in older adults. In the Fit Track Study, 10 participants (age range = 62 to 82) entered the number of steps walked on the previous day, discussed obstacles and negotiated a walking goal with the relational agent, and graphed progress. Eight participants increased the number of steps they walked daily by an average of 215% between baseline and the last week of measurement. Average ratings were 6.4 (1 = not at all to 7 = very much) regarding whether they would like to continue using the relational agent walking advisor, 1.9 (1 = easy to 7 = difficult) regarding ease of use, and 5.4 (1 = not at all to 7 = very much) regarding ease of understanding the simulated conversation. The only reported difficulty was use of the computer keypad to enter the pedometer steps.

Use Related to Mental Health

Discussion of the use of agents in treating schizophrenia is limited in the literature. Given the success of relational agents in creating “presence” with this diagnostic group (discussed above), some patients may experience perceptual difficulties (i.e., delusions) that may be similar to those in their everyday life. This was demonstrated in a study of 20 patients with a psychotic diagnosis who experienced persecutory delusions and 20 non-clinical participants; both groups were exposed to a virtual underground train that included 20 neutral animated characters (Fornells-Ambrojo et al., 2008). All participants reported a considerable amount of presence. Sixty-five percent of the delusional group endorsed at least one persecutory delusion about the neutral characters, but this was not any higher than reported by the non-clinical group. Persecutory ideation in the delusional group was positively associated with higher persecutory ideation in the real world. Nevertheless, the persecutory delusions were less frequent than neutral or positive appraisals. Thus, the investigators concluded that the delusional group would treat the virtual world in a similar manner as they do the outside world. They also concluded that these brief virtual exposures were safe and acceptable in people with persecutory delusions and would not increase the risk of perceptual anomalies beyond the patient’s baseline.

Figure. Screen shot of “Laura.”
S’s Schizophrenia Educational Program was developed to incorporate the technology of using a relational agent called Laura (Figure) on a computer screen to assist patients with schizophrenia with their medication adherence.

METHOD

Approval for the study was obtained from the University’s Institutional Review Board. A convenience sample was recruited from a local mental health outpatient clinic. The patients met the criteria for schizophrenia (i.e., Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision, American Psychiatric Association, 2000), were ages 18 to 55, were taking any antipsychotic medication, and had two or more episodes of non-adherence in the past 72 hours. Twenty patients were enrolled, and 17 completed the study. Their average age was 43; the majority were women and single; three quarters were African American; and more than 80% were unemployed. Seven questionnaires assessed the outcome measures of symptoms, medication taking, coping, health, comorbidity, and demographics: an investigator-developed sociodemographic questionnaire; the Medication-Taking Questionnaire (Morisky, Green, & Levine, 1986); an investigator-developed comorbidity questionnaire; the Medical Outcomes Study 36-Item Short Form Health Survey (Ware & Sherbourne, 1992); the Brief Psychiatric Rating Scale (Overall & Gorham, 1962); the PANSS (Kay et al., 1987); and the Brief COPE scale (Carver, 1997).

Currently, the data from the questionnaires are being analyzed by the statistician. In this article, the preliminary results in two individual examples are reviewed.

Seven S’s Schizophrenia Educational Program

The Seven S’s Schizophrenia Educational Program modules were developed by the investigators and built on seven psychoeducational themes all beginning with the letter S (Table 2):

- Schizophrenia education.
- Symptoms.
- Side effects.
- Scheduling medications.
- Selection of coping.
- Support.
- Setback management.

The modules are offered by Laura, the relational agent, which was created to be ethnically and racially neutral to appeal to a broader population. A master’s-prepared psychiatric-mental health nurse was videorecorded...
conducting an assessment with another nurse role-playing the part of a patient with schizophrenia. Language used in the interaction was extrapolated into dialogue scripts used by the agent to simulate daily check-ins with the nurse to promote medication adherence. The script was based on the three phases of the nurse-patient relationship identified by Peplau (1952): orientation, working, and termination. In the orientation phase, the emphasis is on establishing trust, rapport, and explaining the contract of number of sessions. For example, Laura was programmed to say “Hello, how was your day? Let’s review your medications.”

Laura’s dialogue was developed related to adherence and incorporated both reinforcers (e.g., “Keep up the good work,” “You are doing great,” “Terrific job,” “You are making excellent progress,” “Congratulations on meeting your goals,” “Super effort”) and motivation performatives (e.g., “I believe that you can do it”; “I know you will do great”; “I am certain you will do well”; “You will do a great job, I am sure of it”; “I am behind you all the way; “If I were a betting person, I would bet on you.”

The cost of development and testing of the relational agent with the Seven S’s Schizophrenia Educational Program was approximately $50,000.

**Intervention**

The program was delivered via dedicated laptop computers provided to study participants for the duration of the 30-day intervention (i.e., the computer cannot be used for any other purposes). The computer is initially configured by the nurse therapist working with the patient. The nurse enters into the computer the patient name, name of each medication and dose, name of the patient’s support person (caregiver or friend), and the telephone number of the crisis line. The computer system is easy to use: When the computer is turned on, the software begins, and the patient selects answers from a menu.

Every day for 30 days, the patient logs on, interacts with Laura for 10 minutes, and logs off. Instruction in techniques for interacting with Laura during the intervention period was provided. The interaction opens with social conversation (e.g., How are you today? How is the weather?), then Laura asks questions about the patient’s daily routine and reviews weekly content from the seven educational modules.

Examples of Laura’s dialogue include:

- Disruptions to your schedule may cause you to forget to take medications. There will be events that may cause disruptions in your day, such as holidays, appointments, or an unexpected visitor. Try using a calendar to write down days on which you have plans. Then you can look at the calendar each day and take the medication before the event, so you do not have to worry about forgetting. It can be hard to admit that you have an illness. Remember, schizophrenia is a chronic illness just like diabetes or heart disease. The medications can really help, and many people with schizophrenia improve enough to live on their own and lead happy, normal lives.

- Your participation shows your interest in managing your symptoms. Taking your medication as prescribed will improve your brain disease. Your continuation with your regimen shows that you have persistence even in the face of difficulties.

Medications were monitored via a medication event monitoring system (MEMS) cap during the 30-day baseline, 30-day intervention, and 30-day follow-up periods. The MEMS cap recorded the date and time the bottle containing the antipsychotic medication was opened; the pharmacy used a generic form. Drug changes, especially if the color or size of the medication was altered, were recorded. The computer program was designed to display medication adherence rate at the last psychiatric admission was 18 months ago. His baseline medication adherence rate was poor at 21%. During the intervention, his medication adherence rate more than doubled to 46% and remained at 46% during the follow-up period, as measured by the MEMS cap. While his medication adherence rate during the intervention period was less than ideal, the data demonstrate a positive trajectory in a brief span of time and suggest short-term maintenance of the gains Mr. Z. made during the intervention.

**INDIVIDUAL EXAMPLES**

Two individual examples from the Seven S’s Schizophrenia Educational Program are presented to demonstrate issues related to satisfaction with Laura, the virtual health counselor.

**Patient 1: Mr. Z.**

Mr. Z. was recruited into the study by the psychiatric nurse interventionist. He is a 54-year-old White man diagnosed with schizophrenia who had been taking oral antipsychotic medications for years. He has a history of frequent hospitalizations (up to four times per year) due to medication nonadherence. One of the main factors contributing to this problem was his need for 15 medications taken at three different daily time points. This regimen led to confusion as to the times and dosage of the medications, especially if the color or size of the medication changed with a refill, such as when the pharmacy used a generic form.

Mr. Z. was interested in the program, completed the baseline questionnaires, and was excited to receive his computer with the software about medication adherence. The psychiatric nurse orientated Mr. Z. to the computer and explained how to use the program. He logged in for 10 minutes each day for 30 days. He learned how to schedule his medication taking at a regular time and record it on a calendar by checking off each time he took the medication. He maintained 2 months of the calendar (the current and previous month) to show his landlords and treatment providers that he was taking his medications.

Following the end of the intervention period, he continued to self-monitor his medication taking on a calendar, proudly displaying it for the psychiatric nurse interventionist at subsequent visits. His last psychiatric admission was 18 months ago. His baseline medication adherence rate was poor at 21%. During the intervention, his medication adherence rate more than doubled to 46% and remained at 46% during the follow-up period, as measured by the MEMS cap. While his medication adherence rate during the intervention period was less than ideal, the data demonstrate a positive trajectory in a brief span of time and suggest short-term maintenance of the gains Mr. Z. made during the intervention.
KEYPOINTS

1. This article explores medication nonadherence and the use of relational agent technology as an aid in treating patients with schizophrenia.
2. Relational agents are animated computer characters that simulate face-to-face conversation with a health provider.
3. The relational agent, named “Laura,” provided seven schizophrenia educational program modules (Seven S’s): schizophrenia education, symptoms, side effects, scheduling medications, selection of coping, support, and setback management.
4. Positive preliminary results from two individual examples suggest that behavioral health nurses can use relational agent technology as an adjunct in improving mental health care of patients with schizophrenia.

Do you agree with this article? Disagree? Have a comment or questions? Send an e-mail to the Journal at jpn@slackinc.com.

Patient 5: Ms. Q.
Ms. Q. is a 54-year-old African American woman who developed schizophrenia in adolescence but did not receive treatment until adulthood. She experienced increased disorganization and inability to care for herself, as well as an acute exacerbation of her illness, after three major stressors occurred 2 years ago. She has also had increased financial difficulties due to the loss of Social Security income from her son and a rent increase.

After using the software for several days, Ms. Q. commented that Laura asks a lot of questions: “She keeps asking me if I am taking my medication.” When it was explained to her that Laura asked everyone these questions because it was her job to remind patients to take their medications every day, Ms. Q. responded, “Well, she calls me by name.” The psychiatric nurse interventionist reminded Ms. Q. that the nurse had programmed the computer with her name and medication, so her relationship with Laura would be more personal. The interventionist also explained that the other questions Laura asked were to help each person think about the goals of treatment; the importance of medication and seeing a psychiatrist and/or therapist regularly; and other efforts that would be helpful to achieve physical and mental health. After this explanation, Ms. Q. did not have a problem with Laura’s daily questions.

The confusion Ms. Q. experienced in the beginning of the intervention was eliminated as she continued to use the software and understood the purpose of the questions. She said she had greater knowledge about her illness and the importance of taking her medication as prescribed and felt that Laura was “on her side.” When the psychiatric nurse interventionist returned for a home visit, Ms. Q. commented, “I like talking to Laura.” She enjoyed the relationship with Laura even though she knew Laura was computer generated. The ease of her choosing the time of day and being able to move at her own pace, with no pressure from an outsider (like a human presenter), increased her ability to learn. The educational program also provided reinforcement by presenting the information several times to compensate for the distractibility Ms. Q. experienced. She has remained out of the hospital for 16 months. Her baseline medication adherence rate was excellent at 100%. During the intervention and follow-up periods, she maintained her 100% medication adherence rate. These data suggest that good medication adherence can be reinforced during the intervention and that the intervention will not result in a change in already-ideal adherence, causing either under-adherence or over-adherence.

DISCUSSION
Why would an animated character on a computer work with a patient diagnosed with schizophrenia who has symptoms of auditory hallucinations and paranoia and cannot discern reality at times? Why did we decide to use the relational agent? A patient with schizophrenia interacting with an agent on a computer screen seems to be an unheard of adjunct treatment strategy. Would the patient react negatively to the agent, having difficulty with reality testing and information processing?

It appears, from these individual examples, that there was basic ease of use of this technology and that Laura was satisfactorily adapted for use with patients with schizophrenia. The examples demonstrate that technology, as an adjunct in treatment, has the potential to be a useful tool.

Patients with schizophrenia, like other individuals in our technological culture, are exposed to the advances of computers, the Internet, and various forms of mobile technology. In addition, the Institute of Medicine (2006) advocates the use of technology in the treatment of mental disorders. Based on this trend in health care, we incorporated appropriate technology to a specific mental health issue affecting outcomes in patients with schizophrenia. The psychiatric nurse interventionist, then, became a key player who oriented and instructed the patients in the use of the relational agent technology to promote medication adherence.

Although introduction and orientation to the software was conducted with the patients before they used the laptop, the patients were comfortable using the computer and had no difficulty using the software. One patient expressed concern about using the computer, but his anxiety was allayed by the support and explanation of the psychiatric nurse who was the thera-
pist. All the patients’ therapists viewed the technology as an additional aid in the treatment of schizophrenia.

CONCLUSION AND IMPLICATIONS

Preliminary study results suggest that the relational agent technology using the Seven S’s Schizophrenia Educational Program is a useful adjunctive tool with the potential to assist in medication adherence and knowledge regarding the symptoms and side effects of schizophrenia. The individual examples presented here, which were similar to the experiences of all study participants, indicate that use of modern technology by behavioral health nurses can be beneficial for patients. The computerized virtual health counselor Laura is an example of the use of technological adjuncts in the nursing management of chronic mental disorders.

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Dr. Puskar is Professor, Dr. Schlenk is Associate Professor, Dr. Callan is Research Assistant Professor, and Dr. Sereika is Associate Professor, University of Pittsburgh School of Nursing, Pittsburgh, Pennsylvania, and Dr. Bickmore is Assistant Professor, Northeastern University, College of Computer and Information Science, Boston, Massachusetts. The authors disclose that they have no significant financial interests in any product or class of products discussed directly or indirectly in this activity. This study was funded by a grant from Eli Lilly and Company. This article was also supported in part by the National Institutes of Health, National Institute of Nursing Research, Center for Research in Chronic Disorders grant P30 NR003924. The authors acknowledge Rohan Ganguli, MD, Professor of Psychiatry, University of Pittsburgh School of Medicine, who served as consultant.

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Depression in End-Stage Renal Disease

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ABSTRACT
The occurrence of depression within the population of patients with renal disease may be underrecognized and undertreated in practice. Furthermore, depression in the presence of end-stage renal disease may be resistant to treatment or require multiple modes of treatment and coordination of care across settings and providers for symptom relief. Improved assessment and diagnosis of depression could permit earlier psychotherapeutic intervention and improve the quality of life for patients with renal disease.

Against a background of a general understanding and recognition of mental illness concurrent with chronic disease, medical knowledge regarding the comorbidity of mental illness and renal disease, in particular, has grown considerably during the past 5 years. Emerging data regarding the presence of mental illness in patients with renal disease are becoming sufficiently clear to support application of this new level of understanding into practice. Specific areas in which mental health practice may be improved include earlier and more detailed assessment and diagnosis and, consequently, earlier and more directed psychotherapeutic intervention. The purpose of this article is to describe the physiological and psychosocial implications of end-stage renal disease (ESRD) compounded by depression and to address the challenges to assessment and treatment in this population.
BACKGROUND AND SIGNIFICANCE

Chronic kidney disease (CKD) is a progressive disease categorized according to its severity, ranging from Stage I to Stage V, depending on various measures of kidney function. CKD is defined as a patient having at least 3 months of functional or structural kidney abnormality, as indicated by criteria such as glomerular filtration rate and albuminuria. The prevalence of CKD in the United States is estimated to be close to 20 million; of those, between 400,000 and 500,000 have Stage V disease—also known as ESRD—and experience complete or nearly complete loss of kidney function (Coresh et al., 2007). Patients with ESRD typically require hemodialysis (HD) or renal transplant in order to survive.

Nearly all mental illnesses that affect the general population are also found in patients with renal disease; major depression and anxiety are the most frequently observed (Cukor, Coplan, et al., 2007). The coincidence of renal disease and mental illness can be characterized as comorbidity, or, alternatively, as a mental illness compounding the renal disease. The term compounding refers more to an interrelationship between the diseases—each worsening the other—in contrast to their mere side-by-side co-occurrence. More specifically, compound depression is generally more treatment resistant than depression occurring without another comorbid medical or mental illness (Cohen, Norris, Acquaviva, Peterson, & Kimmel, 2007; Kimmel & Peterson, 2005). The focus of this article is on depression compounding ESRD.

Renal disease occurs across a spectrum, and patients with less severe forms of the disease may experience few or no physical symptoms, but patients with ESRD experience a host of physical symptoms arising from their renal impairment. They also face considerable disruptions in their daily life in the management of an illness that demands a significant commitment to dietary and HD prescriptions. Studies have found that between 20% and 30% of the population with ESRD also experience depression (Cukor, 2007) with considerable variation in estimates owing in part to the challenges of assessment and diagnosis of depression in the context of such a medically complex and burdensome disease. Other comorbid mental and physical illnesses such as anxiety, substance abuse, diabetes, cardiovascular disease, and chronic pain further complicate efforts at specific diagnostic and therapeutic intervention (Cukor, Cohen, et al., 2007).

AFFECTED POPULATIONS AND ASPECTS OF PATHOPHYSIOLOGY

Several aspects of renal disease compounded by mental illnesses such as anxiety and depression can provide an informative perspective for practitioners who deliver medical and psychiatric care to patients with renal disease. First, renal disease is increasingly prevalent in the U.S. population and is likely to increase in the future. Renal disease can be a secondary consequence of the primary diseases of diabetes and hypertension, and these diseases themselves are growing in prevalence (Abdel-Kader, Unruh, & Weisbord, 2009). Subpopulations at higher risk for developing diabetes and hypertension, such as African American and Native American groups, are also more highly represented in the population with CKD (Coresh et al., 2007).

Another consideration relates to the independent influence of renal disease on the stress-related responses seen in depression and anxiety. Cukor, Coplan, et al. (2007) discussed similarities between the effects of renal disease by itself and the effects of stress arising from any source. Physiological mechanisms of handling stress include achieving an overall state of stability or homeostasis by way of adjusting the dynamics within the hypothalamic-pituitary-adrenal (HPA) axis, in major part to maintain blood pressure and electrolyte balance through complex regulation of hormones and pro-inflammatory cytokines. Renal disease by itself, even uncomplicated by stress, also directly affects aspects of the same HPA axis. The kidneys are responsible for the metabolism of peptide and steroid hormones acting on the HPA axis, so kidney impairment contributes to a biochemical milieu similar to that of chronic stress (Cukor, Cohen, et al., 2007). Furthermore, there is considerable overlap between the symptoms of uremia and depression. These include fatigue and lethargy, sleep disturbance, decreased concentration, decreased appetite, and decreased libido. Cukor, Cohen, et al. (2007) proposed a mechanism of a vicious cycle in ESRD compounded by depression whereby allostatic dysregulation exacerbates either or both illnesses, leading to poor dietary and HD treatment adherence. This, in turn, cycles back to disease progression.

In addition to the intrapatient characteristics of this population, an enormous influence of social, cultural, and economic variables potentially contribute to stress load. Patients undergoing HD treatment deal with role changes. They often must rely on family and social support with their attendant conflicts and dynamics for basic assistance. Financial constraints, in addition to coping with the reality of end-of-life issues (Cukor, Cohen, et al., 2007; Tossani, Cassano, & Fava, 2005).

Health care providers working with patients who have both ESRD and depression may have a medical or psychiatric orientation that aligns with either contributor to this comorbid situation, but clearly these two orientations must
collaboratively find common ground in terms of treating dysregulation in the HPA axis. The relationship between stress and renal disease mandates careful communication, particularly in regard to the pharmacotherapeutic approaches to treating separate aspects of this complex, metabolism-compromising, comorbid condition.

Impact on Patient Lives and an Opportunity for Health Care Providers

Underrecognition of the prevalence of mental illness in patients with renal disease, particularly its early onset, represents a missed opportunity for psychotherapeutic intervention that could improve quality of life for these patients. Cohen et al. (2007) commented that the single largest barrier to providing psychotherapeutic intervention is medical staff’s absence of inquiry into the state of patients’ mental health. Most patients with ESRD compounded by depression do not seek specific psychiatric care for their mood disorder. They are overwhelmed by their physical illness and receive most of their medical care from nephrology specialists, dialysis teams, and primary care physicians (Cohen et al., 2007). It is not surprising that these providers, owing to a perceived lack of time or expertise, would be hesitant in diagnosing and treating a psychiatric illness in complex patients. However, although present data cannot support a conclusion that psychotherapeutic intervention can decrease mortality in the renal disease population, some data have linked interventions to quality-of-life indicators and to improved medical outcomes (Cohen et al., 2007; Cukor, Cohen, et al., 2007). It is imperative that those caring for this population are alert to the signs and symptoms of depression and take appropriate interventional action.

DIAGNOSIS AND MEASUREMENT OF DEPRESSION SEVERITY

Assessment of depression in patients with ESRD is complicated by the considerable overlap of the symptoms of depression and uremia and by complex patient characteristics and social factors (Cukor, Cohen, et al., 2007). Additionally, assessments may be time variable, with patients experiencing different symptoms early in HD treatment than they do after years of HD treatment or even before and after a single treatment. Well-controlled research studies have identified the Beck Depression Inventory®-II (BDI®-II) and the Patient Health Questionnaire™ (PHQ-9) as valid and reliable tools for assessing depression in ESRD compared with the Structured Clinical Interview for DSM-IV (SCID-I), the gold standard in depression assessment (Cohen et al., 2007). The severity of depressive affect, as measured by greater BDI-II scores, has been clearly correlated with increased morbidity, decreased treatment adherence, and decreased quality of life, and less clearly but nevertheless compellingly associated with increased mortality (Cukor, Cohen, et al., 2007). Cohen et al. (2007) argued for the screening of all patients with ESRD with the BDI-II and initiating depression treatment for those with scores >14. Clearly, this represents a considerable burden to both patients and providers, as the authors acknowledged. Research focused on the development and validation of brief assessments in this population is sorely needed.

Interestingly, primary nursing staff may play a key role in establishing a depression diagnosis. Wilson et al. (2006), nurses identified depression in 74.6% of patients with ESRD who met criteria for depression in a separately administered interview. Nephrologists identified only 24.2%. The authors were cautious in interpreting these results but clearly viewed the nursing role as vital to the collaborative interdisciplinary treatment of this population.

A considerable amount of data suggests that depression manifests early in renal disease. Abdel-Kader et al. (2009) reported that little difference exists between the prevalence of depression in patients with severe renal disease not yet warranting HD and patients with ESRD. If prevalence of mental illness increased in close association with advancement through stages of renal disease, a higher prevalence of depression among patients with ESRD, compared with patients with earlier stages of the disease, would be expected. Cukor, Coplan, Brown, Peterson, et al. (2008) observed that the single strongest predictor of depression in advanced cases of renal disease is the occurrence of depression at an earlier time point. This exemplifies the importance of earlier assessment and treatment interventions as a potential means to improve disease course.

Suicide and Treatment Withdrawal

The suicide rate among patients with ESRD on dialysis is 84% higher than that of the general population (Cohen et al., 2007). Suicide in this population is strongly associated with alcohol and substance abuse as well as
hospitalization for a psychiatric illness, thus screening for substance abuse and depression may help identify those at greatest risk for suicide and afford opportunities for intervention.

Treatment withdrawal is also associated with depression (Cukor, Cohen, et al., 2007). However, the decision to withdraw from HD is complex. Many patients with ESRD who are not depressed may, after careful consideration, arrive at the decision to withdraw from dialysis. It is important for mental health providers to be part of any conversation regarding treatment withdrawal and to advocate for treatment of underlying mental illness when warranted, allowing patients and their families to make these difficult decisions in the best and most supportive environment possible.

Distinguishing Depression from Anxiety

It is also important to distinguish between depression and anxiety in patients with renal disease. Cukor, Coplan, Brown, Friedman, et al. (2008) reported that anxiety is often misperceived as depression and demonstrated that results from both the SCID-I and Hospital Anxiety and Depression Scale show distinctness and substantial nonconcordance of depression and anxiety in patients with ESRD undergoing HD. Although this is not a surprising finding, it does underscore the importance of skilled assessment; however, many health care providers caring for patients with ESRD lack formal education and experience in mental health assessment. Effective psychotherapeutic treatment can only be provided if the diagnosis is correct.

TREATMENT INTERVENTIONS

It is widely accepted that the treatment of depression in the general medical population is best achieved through a combination of psychotherapy and pharmacological treatment. Many antidepressant agents have demonstrated efficacy in patients with ESRD, but the selection and dosing of medication in this population require careful consideration of the patient’s complex medical makeup. Drugs and drug metabolites excreted by the kidneys accumulate in patients with ESRD, and doses need to be adjusted accordingly. Pharmacological approaches to treating depression are reviewed by Cohen et al. (2007) and Cukor, Coplan, et al. (2007). Selective serotonin reuptake inhibitors (SSRIs) are generally favored, as they have more tolerable side effect profiles; however, they can exacerbate the sexual dysfunction and sleep disturbance symptoms of renal disease. Additionally, they may cause gastrointestinal distress, in turn negatively affecting adherence to the strict dietary regimens essential for treatment of renal disease. Some agents, such as tricyclic antidepressant drugs, monoamine oxidase inhibitors, and St. John’s wort are contraindicated for dialysis patients. Possible consequences of the use of these drugs include exacerbation of common adverse events in dialysis, such as drug-drug interactions, arrhythmias, and orthostatic hypotension. Because of the high rates of diabetes and cardiovascular disease in this population, approved and off-label use of second-generation antipsychotic agents should be approached with appropriate caution.

Research on psychotherapy interventions for depression in ESRD is limited, but the data have been encouraging. According to Cukor’s (2007) study of the perspective of patients with ESRD and depression, two overarching beliefs emerge: the belief that depression is part of the disease “package” and that their disability prevents enjoying life. However, in view of the fact that many patients with ESRD are not depressed, it can be understood that depression is not an inevitable condition and that the belief in its inevitability is a dysfunctional thought. Cognitive-behavioral therapy (CBT), with its symptom-reduction focus and time-limited nature, has been shown to restructure these views in a manner that is helpful for patients. In his study of 16 ESRD patients with major depression, Cukor (2007) reported that all patients showed a significant decrease in BDI-II score, which was sustained at 3-month follow up. The author considered and piloted several ways to provide psychotherapy and concluded that in practical terms, it was best delivered in conjunction with dialysis treatment itself—within the dialysis center—in a “chair-side” manner.

In a study of 41 patients in Brazil undergoing HD, Duarte, Miyazaki, Blay, and Sesso (2009) found that 3 months of weekly group CBT yielded significant and sustained improvements in BDI score and quality of life measures when compared to a no-intervention control group. The authors also found a significant decrease in suicide risk in the treatment group, which is important because depression symptoms are predictors of both suicide and withdrawal from dialysis in this population (Duarte et al., 2009). Social support group therapy intervention and an exercise therapy intervention also demonstrated improved outcomes compared with no-intervention controls (Duarte et al., 2009). Larger, randomized controlled studies of all these interventions are required to determine their potential effects on depression, mortality, and quality of life in patients with depression and renal disease (Cohen et al., 2007).

NURSING IMPLICATIONS AND ROLES

Nursing education teaches a holistic model of care. As such, nurses view patient health as being composed not only of their physiological well-being, but also as influenced by their beliefs and emotions and as existing in a complex social and environmental context. This orientation makes nurses especially well suited to care for the biopsychosocial complexities seen in patients with ESRD and depression. Advanced nursing practice should respond to the data demonstrating high prevalence of depression in ESRD. Advanced practice
KEYPOINTS
Fallon, M. (2011). Depression in End-Stage Renal Disease. Journal of Psychosocial Nursing and Mental Health Services, 49(8), 30-34.

1. Individuals with end-stage renal disease (ESRD) are at a higher risk for depression than the general population.
2. Depression in ESRD is often undiagnosed and untreated.
3. Depression may exacerbate ESRD symptoms, affect treatment adherence, and increase morbidity.
4. Treating depression in individuals with ESRD poses challenges for providers, but effective pharmacological and nonpharmacological treatments are available.

Do you agree with this article? Disagree? Have a comment or questions? Send an e-mail to the Journal at jpn@slackinc.com.

CONCLUSION
Patients with ESRD contend with multiple psychosocial stressors related to their illness, its treatment, and the realities of their prognosis. They must also cope with a significant physical symptom burden. Many people with renal disease develop depression at some point during the course of their disease progression. ESRD compounded by depression results in reduced quality of life and may increase mortality in this population. Research suggests that appropriate screening, diagnosis, and treatment of this population improves outcomes. Coordinated care across medical and psychiatric disciplines is essential for safe and effective treatment in this population.

REFERENCES

Ms. Fallon is an adult nurse practitioner and recently completed a post-master’s certificate in adult psychiatric and mental health nursing (APMHN) at the University of Massachusetts Lowell.

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psychiatric nurses are especially well suited to fulfill the role of consultant to nephrology teams and dialysis centers.

In caring for patients with renal disease in any setting, nurses need to be alert early on to signs of mental illness—regardless of stage of disease—and use validated assessment tools and treatments with this population. As stated above, the PHQ-9 and the BDI-II are valid and reliable assessment tools in this population. For patients with depression and ESRD, SSRIs are the frontline choice for pharmacological treatment, but side effects may aggravate existing signs and symptoms of renal failure and consequently may influence patient adherence. Psychotherapy, particularly supportive therapy and CBT, is safe and appears effective in this population.

The overwhelming conclusion of the literature in the field of psychiatric illness in patients with renal disease is that the need for research across the spectrum of assessment and treatment is both great and greatly challenging. This presents psychiatric and advanced practice nurses with a wonderful opportunity to participate in multidisciplinary research with the potential for life-saving interventions in a population with critical medical and mental health needs.
The Future of (Psychiatric) Nursing

Shirley A. Smoyak, RN, PhD, FAAN

ABSTRACT
The Institute of Medicine’s (IOM) recent report, The Future of Nursing: Leading Change, Advancing Health, describes a number of problems in nursing practice, education, and leadership—as well as recommendations to address them. However, these problems are not really new; they were discussed in earlier publications and addressed in the 1970s by the National Joint Practice Commission (NJPC). In this article, I review these early publications and the work of the NJPC as background for the IOM report. I also outline each recommendation in the report, raising questions about the “how to” and sustainability of these suggestions. To move psychiatric-mental health nursing forward, the best first step would be to find out more about the specialty and the nurses who practice it, so the IOM recommendations can begin to be achieved.

Reading the Institute of Medicine’s (IOM, 2011) recent report The Future of Nursing: Leading Change, Advancing Health took me directly back to the 1970s and the National Joint Practice Commission (NJPC). When the American Medical Association (AMA) and the American Nurses Association (ANA) jointly established the NJPC, its mission was to improve collaboration between physicians and nurses and address expanded practice for nurses. The problems the IOM lists and describes in this new report mirror those that Jerome Lysaught, who
She mentions Lysaught’s resources. The IOM had not only prior impetus for the establishment of the health establishment who held the other, but not with other members of theologists and nurses talked with each mendations for change forward. Soci trist; I served as the psychiatric nurse but had no counterpart from medicine. The IOM makes very little mention of the mental health needs of people of all ages, as well as the skills and competencies of psychiatric nurses. In the 10 years that the NJPC existed, the AMA never appointed a psychiatrist; I served as the psychiatric nurse but had no counterpart from medicine. The IOM makes very little mention of psychiatry, psychiatric nursing, or mental illness. There are no illustrations nor case examples of psychiatric care.

Interestingly, there was an earlier book than Lysaught’s, published in 1948 and authored by Esther Lucille Brown, a sociologist: Nursing for the Future: A Report Prepared for the National Nursing Council. This book was required reading for nursing courses in the 1950s and 1960s, especially those whose mission was to teach leadership and policy making. It was often referenced by health care sociologists and other writers in the social sciences, but it was never mentioned by the medical press. In hindsight, the obvious problem was that Brown lacked a constituency who could move her recommendations for change forward. Sociologists and nurses talked with each other, but not with other members of the health establishment who held the keys to power and change.

THE NATIONAL JOINT PRACTICE COMMISSION

Although Lysaught’s work was the impetus for the establishment of the NJPC, he had many earlier reports as resources. The IOM had not only prior reports of other groups concerned with health care, and how its practitioners were being educated and employed, but also the collaboration and partnering of highly regarded groups, such as the Robert Wood Johnson Foundation. Further, in March 2010, new federal legislation was enacted, which would provide health care insurance for 32 million Americans previously without such coverage (The Patient Protection and Affordable Care Act, 2010).

Fairman (2008) captured the history of these predecessors to the IOM report in several chapters in her book, Making Room in the Clinic: Nurse Practitioners and the Evolution of Modern Health Care. She mentions Lysaught’s considerable influence in the chapter, “Following the Money.” Although there were many interest groups in the 1960s that addressed the problems of nursing education and the growing dissatisfaction of legislators, academicians, and health care professionals with the direction of how care was being delivered, none had sufficient funds to mount a campaign that could deliver change and results. Many had a vested interest in maintaining the status quo. Fairman (2008) reports a conversation between Lysaught and the executive director of the National League for Nursing in which the executive director expressed her worries that vast amounts of money, in the form of accreditation fees, would be lost if diploma schools were closed and nursing education moved to university settings. There was no buy-in for change by major professional and hospital organizations.

Fairman dedicates an entire chapter (“Coming Together, Breaking Apart”) to the history and politics of the NJPC. She included factors such as the rise of the nurse practitioner movement and the increased voice of nurse clinicians. Physician assistants are included in her discussion of how the NJPC considered realigning roles. A 1971 report from the U.S. Department of Health, Education and Welfare (DHEW) contained very similar messages to those of Lysaught and the mission of the NJPC. However, the DHEW report was largely ignored by the medical establishment and not given as much attention as the statements that soon emerged from the NJPC.

The appointed NJPC commission worked in different parts of the country and, until the first meeting in St. Louis, Missouri, in January 1972, did not know each other. The ANA and AMA staff who made the conference arrangements for this first meeting had reserved two separate rooms: one for the nurses and one for the physicians. I quickly saw that this arrangement could not possibly be productive and persuaded the nurses to move our chairs into the room with the physicians. The physicians were at first surprised at the apparent “invasion” but then agreed this was a good move. Alan Fischer, a pediatrician, suggested the Nominal Group Process (Delbecq & Van de Ven, 1971) as a way to achieve consensus on mission and actions and to construct goals. We agreed and rearranged ourselves into two groups, with four RNs and four physicians in each group. At the end of that day, we reported our goals to each other; they were remarkably similar.

It was immediately clear that the $10,000 each contributed by ANA and AMA was not enough to build a commission and accomplish anything of substance. Robert Hoekelman, another pediatrician, and I wrote grants seeking funding for an executive officer, staff, and office space. He and I made several visits to the W.K. Kellogg Foundation in Michigan to plead our case for funding. We were successful and were awarded $326,000 in 1973. At the same time, the NJPC became a 501(c)(3) organization, which paved the way for additional funding. The NJPC rented space in Chicago from the ANA, hired an executive director, and was on its way to accomplishing the goals, which are so similar to the key messages and recommendations of the new IOM report.

The NJPC organized itself into subcommittees and assigned members
In the IOM (2011) report, none of the case studies or exemplars includes a psychiatric patient, nurse, or setting. There is only one statement about a psychiatric unit, and unfortunately, it is negative.

primary care, were far more controversial. Ironically, their language actually was very similar to the advice and suggestions for change in the current IOM (2011) report (Fairman, 2008). While there is much discussion now going on, it remains to be seen whether there is general acceptance of the IOM recommendations and whether they stimulate change.

Although there was evidence that the formal statements written and distributed by the NJPC were useful to local and state chapters and were actively discussed at national conferences across the country (Fairman, 2008), the publication Together: A Casebook of Joint Practices in Primary Care (Roueché, 1977) garnered much more attention than all of the statements combined. The idea of publishing a book about joint practices had emerged early in the commissioners’ discussions, but actually soliciting the and two nurses, interviewed professionals in 100 practices to make the final selection. I ensured a mental health practice would be included.

The book has 24 chapters, each representing different types of structural, economic, geographical, and specialty variables (Roueché, 1977). In some cases, physicians were traditional owners who hired nurse practitioners. In others, both were employed by an institution or agency, and in still others, the nurse practitioner(s) hired the physicians. The names of patients were altered, but the names of the nurses and physicians were real. Funding for publication of the book came from the Robert Wood Johnson Foundation, largely through the efforts and beneficence of Terrance Keenan.

Although the NJPC statements did not address mental health or psychiatric practices per se, this book did. “They Don’t Play God” is a chapter about two psychiatrists and a psychiatric nurse practitioner. The title comes from the statement of one of their clients, who valued being talked with, rather than “down to.” The client also said, after explaining that they approached her honestly and were willing to give advice and suggestions, “Oh, that can be painful; sometimes it really pisses you off, but you know where you stand.” This was in contrast to only having heard, “Uh huh” or “go on” in previous encounters (Fairman, 1977, p. 177). This psychiatric group chose the name the Family Treatment Center. It was a collaborative arrangement wherein each of the three principals scheduled and billed clients separately, on a common letterhead. Often, each member of a family was seen separately by one professional, and then family sessions were held with at least two of the practitioners and several family members. The trio made visits into the community and also handled crisis intervention. For example, if there was a suicide threat or attempt, the three decided who, if any, should make a house call; whether police should be contacted; or whether a hospital emergency center should be the place to begin treatment. Community visits included schools and places of employment; they also had hospital privileges. Their discussions about “who does what” included differences and similarities in roles, past experiences with settings, diagnosing and treating, and interest in expanding their practices.

THE IOM REPORT

In the IOM (2011) report, none of the case studies or exemplars includes a psychiatric patient, nurse, or setting. There is only one statement about a psychiatric unit, and unfortunately, it is negative. Box 4-5 describes the new model of a dedicated educational unit (DEU). In the first sentence, which introduces the student who will have this new experience, it states, “[the] nursing student who has performed clinical rotations in a variety of units, remembers a particularly unpleasant experience.
Seasoned psychiatric nurses know that any problem is rarely inside a particular patient but is much better understood as a phenomenon signaling some type of system distress. Such systems may be schools, families, workplaces, or neighborhoods.

Statements about the need for interprofessional collaboration also come up regularly. I wondered why the decade of work of the NJPC does not appear as part of history or prior documents or resources. Esther Lucille Brown is not mentioned. Yet, the report is full of current lists of associations, organizations, professional groups, and so forth. Although Fairman was part of the direct project staff, her 2008 work is referenced only as part of the chapter on transforming practice and is not listed in the main Index.

Key Messages

The four key messages, which are an organizing framework for the book, are (IOM, 2011, p. 4):

- Nurses should practice to the full extent of their education and training.
- Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression.
- Nurses should be full partners, with physicians and other health professionals, in redesigning health care in the United States.
- Effective workforce planning and policy making require better data collection and an improved information infrastructure.

What follows these key messages are chapters dedicated to transforming practice, education, and leadership. Within those chapters, barriers to implementation of the key messages are fully documented and described. For example, Chapter 3, “Transforming Practice,” contains sections discussing regulatory barriers, including the problems with professional practice acts. What I found disconcerting in these “barriers” sections is that the IOM’s recom-

There are no data so far on how many new DNP programs are geared toward the psychiatric-mental health specialty, nor how many of the existing master’s programs are converting to DNP models.

in a psychiatric unit where she felt she was ‘in the way’ of her nurse preceptors” (IOM, 2011, p. 192). The case study goes on to lay out the details of the “stark contrast” with her DEU experience.

If one turns to the Index to find where psychiatric and mental health nurses are mentioned, two and a half lines of page numbers are listed. However, on those pages, there is only the very briefest mention of our specialty. For instance, page 40 contains two sentences about psychiatric-mental health nurses. The next page offers a few more sentences about nurse practitioners and clinical nurse specialists working in psychiatric settings, but there is no mention or description of what they actually do, the kinds of patients or clients for whom they care, or in what settings they practice.

The aging of the nursing workforce is discussed throughout the report, and actual numbers of nurses in specific age clusters appear in tables; yet, facts about the aging of our specific workforce are absent. Psychiatric-mental health nurses are mentioned in only four pages of the printed book; all other instances are in appendices found on a CD attached to the back cover.

According to the National Sample Survey of Registered Nurses (Health Resources and Services Administration [HRSA], 2010), psychiatric hospitals comprise 2% of the hospitals in which RNs are employed (Figure 3-8, p. 3-10). The survey also includes a table detailing employment in hospital units by types of hospitals (HRSA, 2020, Table 3-8, p. 3-23). Such data are the proverbial tip of the iceberg.

The IOM (2011) report sets forth four key messages and eight recommendations. Before addressing the messages and recommendations, the study context is set. The three primary concerns targeted by health care reform are quality, access, and value. In fact, these concerns are woven into the descriptions of current and projected academic changes and delivery pattern modifications, as well as more drastic restructuring. The health care challenges named include: (a) the increasing dominance of chronic conditions; (b) an aging population, with emphasis on the Baby Boomer generation; (c) a more diverse population; (d) continued health disparities or inequities; and (e) limited English proficiency.

No one could argue with the statements made about the need for seamless, coordinated care. The examples and case studies presented are well done, complete with photos, and deliver messages about how change happened in a specific place, with an enlightened provider or network. What is missing, however, is how these examples could become a wider reality across the nation. A case study remains a case study unless there is a structured, organized, and well-funded plan to implement it and strategically shift it from example to wider dissemination.

Frequent statements about the necessity for systems thinking are laced throughout the pages. My guess is that most psychiatric nurses are already systems thinkers and incorporate such practices as they work.
mendations—many of which deal with eliminating barriers and allowing nurses to practice to their full competence and capacity—are not included as part of the chapter. Instead, they appear together in the final chapter.

The authors are careful to point out that the needed changes would not be achieved comfortably, conveniently, or easily. Another cautionary note is a reminder that regulations defining scope of practice vary widely by state.

In the section on Professional Resistance (p. 107), the authors point out that professional tensions about practice issues are not limited to physicians and nurses. Citing Daly (2007) they say, “Psychiatrists and psychologists have been disagreeing about prescriptive privileges for more than two decades” (IOM, 2011, p. 107). What is missing are stories about psychologists attempting to be admitted to master’s programs in psychiatric nursing, so they could gain prescriptive authority. There have also been instances when psychologists attempted to register for master’s level psychopharmacology courses so they could learn to prescribe.

According to the authors, residencies outside of acute care should be high on the list for health care changes. They note that residencies in acute care settings have been accepted and that new graduates value these experiences to become more grounded in their work. However, many of the “should” statements in the report do not carry the needed price tag with them. The section on residencies is just one example of the projected costs not being provided. Further, hospitals with fewer than 400 beds would find it prohibitively expensive to mount such projects. Bear in mind that most U.S. hospitals, and almost all of those in rural areas, are much smaller.

Chapter 4, “Transforming Education,” focuses on key message 2: “Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression” (IOM, 2011, p. 163). The authors explain why more baccalaureate-prepared nurses are needed and remind about objections to raising the costs of such education to students. They also revisit the role of community colleges. Aging and shortage of nurse faculty are named as barriers.

The section on lifelong learning is very brief. There is no mention of the existence and utility of professional journals, online and print, or journal discussion groups in clinical settings as avenues to continued learning.

Report Recommendations

The eight recommendations listed in the Executive Summary do not appear again, as such, until Chapter 7. The ideas within them are alluded to within the content of the prior chapters, but since there are no subheadings to highlight the recommendations, they might be missed by readers who could be easily overwhelmed by the many “should” statements and admonitions to quickly implement the changes enumerated.

Recommendation 1: Remove Scope of Practice Barriers. Again, the report states that “Advanced practice registered nurses [APRNs] should be able to practice to the full extent of their education and training” (p. 278). The authors further suggest that Congress expand the Medicare program to include coverage for APRN services and amend the Medicare program to authorize APRNs to perform admission assessments, certify patients for home health care services, and admit patients to hospice and skilled nursing facilities. There are also suggestions about increasing Medicaid reimbursement rates.

Probably the most controversial suggestion is that federal funding should be limited to nursing education programs in states that have adopted the National Council of State Boards of Nursing Model Nursing Practice Act and Model Nursing Administrative Rules. The impact on nursing curricula at the prelicense level will surely be affected if this is implemented. The NJPC spent time and energy studying the needed changes in practice acts for both medicine and nursing. This is described is in Fairman’s (2008) book but not the IOM (2011) report.

Recommendation 2: Expand Opportunities for Nurses to Lead and Diffuse Collaborative Improvement Efforts. The IOM (2011) report states:

Private and public funders, health care organizations, nursing education programs, and nursing associations should expand opportunities for nurses to lead and manage collaborative efforts with physicians and other members of the health care team to conduct research and to redesign and improve practice environments and health systems. These entities should also provide opportunities for nurses to diffuse successful practices. (p. 279)

It is not clear exactly who among the funders, organizations, agencies, and so forth (categorized above) have actually decided to buy in. There are no guesses or estimates of what the costs or projected timetable might be.

Recommendation 3: Implement Nurse Residency Programs. Although the report asserts that nurses should complete a transition-to-practice program (i.e., nurse residency) after they have completed a prelicensure or advanced practice degree program or when they are transitioning into new clinical practice areas, this recommendation also lacks a thorough cost structure. Especially problematic is that hospital size and how it affects the ability to introduce and/or maintain such programs is not considered. One possible method to finance these residencies is included: for the Secretary of Health and Human Services to “redirect all graduate medical education funding from diploma nursing programs to support the implementation of nurse residency programs in rural and critical access areas” (p. 280). They also offer a global “should”: “Health care organizations, the Health Resources and Services Administration and Centers for Medicare and Medicaid
Services, and philanthropic organizations should [emphasis added] fund the development and implementation of nurse residency programs across all practice settings” (p. 280).

Recommendation 4: Increase the Proportion of Nurses with a Baccalaureate Degree to 80% by 2020. The authors (IOM, 2011) assert that:

Academic nurse leaders across all schools of nursing should work together to increase the proportion of nurses with a baccalaureate degree from 50 to 80 percent by 2020. These leaders should partner with education accrediting bodies, private and public funders, and employers to ensure funding, monitor progress, and increase the diversity of students to create a workforce prepared to meet the demands of diverse populations across the lifespan. (p. 281)

Again, the exact source of the needed funds— to expand baccalaureate programs, enroll more students, offer scholarships and loan forgiveness, hire more faculty, build new clinical partnerships, and use technology to augment instruction—is not provided. Another “should” is that there be strategies to increase the diversity of the nursing workforce in terms of race/ethnicity, gender, and geographical distribution, but the “how to” is missing.

Recommendation 5: Double the Number of Nurses with a Doctorate by 2020. The authors assert that schools of nursing should double the number of nurses with a doctorate degree, while increasing diversity, to add to nurse faculty and researchers. A glaring omission here is that the type of doctorate is not specified. Many more paragraphs are dedicated to building residencies for new graduates, but the nature of the doctoral program here is missing.

Psychiatric-mental health nurses would be particularly affected if the current master’s programs that are preparing APRNs as nurse practitioners or clinical specialists all converted to Doctor of Nursing Practice (DNP) programs. People graduating with a DNP would probably be hired as clinical faculty and be able to supervise capstone courses and similar requirements. But without a PhD, they would not be prepared to engage in traditional doctoral studies where science, and not clinical practice, is the focus.

Recommendation 6: Ensure that Nurses Engage in Lifelong Learning. As noted earlier, the messages about the importance of lifelong learning seem to have a focus on coursework, further degrees, and traditional programs, including postdoctoral study. Other kinds of learning, such as conventions, continuing education activities, and seminars, are not mentioned. For example, the Journal of Psychosocial Nursing and Mental Health Services frequently is the focus for other kinds of lifelong learning, such as journal clubs and discussion groups.

Recommendation 7: Prepare and Enable Nurses to Lead Change to Advance Health. This recommendation has to do with leadership—ensuring nurses are prepared to lead and that such positions are available to them. Here, again, the “should” statements are not followed by courses of action with substance. The same set of players that appear in other recommendations (e.g., nursing education programs, nursing associations, health care decision makers) are repeated, with no clear directive as to how to achieve them.

Recommendation 8: Build an Infrastructure for the Collection and Analysis of Interprofessional Health Care Workforce Data. The bullet points that follow this final recommendation name the same organizations appearing in the main statement—the National Health Care Workforce Commission, HRSA, and state licensing boards (for nursing, medicine, dentistry, and pharmacy). The goal is “a standardized minimum data set across states and professions that can be used to assess health care workforce needs by demographics, numbers, skill mix, and geographic distribution” (p. 283). The Government Accountability Office is charged with ensuring that the Workforce Commission membership includes adequate nursing expertise.

WHAT DO WE NEED TO KNOW ABOUT PSYCHIATRIC NURSING?

The IOM (2011) report sets the tone for the gravity of the situation facing all of us in the business of delivering health care. The urgency to make changes quickly is certainly stated well and repeated often. As I have noted, what is missing in the calls for action
(which I point out as "shoulds") is planning with funding structures and parties named. The calls for collaboration may have buy-in from those involved in the planning and writing phases of this report, but their sustainability can be questioned. There are no data so far on how many new DNP programs are geared toward the psychiatric-mental health specialty, nor how many of the existing master’s programs are converting to DNP models.

When the National Institute of Mental Health existed as an entity separate from the National Institutes of Health, the program directors for all psychiatric-mental health programs (i.e., general, adult, children, geriatric) were brought together yearly in Washington, DC or Bethesda, Maryland, to share reports, ideas, and plans about their programs. There was also sharing of data about recruitment of students and faculty, and occasional collaboration and sharing of syllabi. That forum is long gone and has not been replaced.

Of the current faculty teaching in universities and colleges, we do not know how many are teaching courses in mental health or at what level. The IOM (2011) report describes the aging of the faculty, but it is unclear whether those of us in the psychiatric specialty match the general patterns.

So, where are psychiatric-mental health nurses working? Are their positions primarily in clinical settings? Are these settings acute, chronic, or mixed? How long do nurses stay employed in the same setting? Since community work is so complex, what is the best way to be sure to count the psychiatric nurses working in free-standing clinics, assisted living communities, or peer-run centers where former patients or clients are the managers?

A close look at data from the 2008 National Sample Survey of Registered Nurses (HRSA, 2010) provides some beginning answers about our specialty workforce. For instance, Table 11, National Nursing Certifications for Registered Nurses: 2008 (HRSA, 2010, p. A-11) shows a sample 250 psychiatric/mental health/counselor nurses; from this, the total estimated number is 19,126. Dates, new and repeat certifications, and subspecialties are not reported. Table 24, Clinical Specialty by Patient Population in Principal Nursing Position for Registered Nurses who Provide Patient Care: 2008, shows that our total estimated number is 133,791 (HRSA, 2010, p. A-25). Of those, 80,764 work with adults only, 20,099 work with geriatric clients only, 3,070 are adult and geriatric nurses, 18,524 work with pediatric/maternal-child/newborn clients, and 10,756 say they work with multiple/all ages. Other data report hospital settings, by type, and certifications in the advanced practice domain.

Unfortunately, there is no current source for data specific to psychiatric-mental health nursing. The American Psychiatric Nurses Association is the largest professional organization for psychiatric-mental health nursing and would be a logical source to consider designing, procuring funds, and executing multiple surveys to obtain answers about our specialty. This first step could pave the way for understanding and applying the IOM (2011) recommendations to psychiatric-mental health nursing practice.

SUMMARY

I hope this article has succeeded in generating some thinking about how the IOM (2011) report will affect the future of psychiatric nursing, and I’m curious whether there will be any action following that thinking. As I have discussed in this article, the problems outlined in the IOM report are not new, and the recommended solutions lack details about how they would be implemented, paid for, and sustained. To best move psychiatric-mental health nursing forward, a first step would be to find out more about the specialty and those who practice it, so the IOM recommendations can become a reality.

REFERENCES


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How to Obtain Contact Hours by Reading This Issue

Instructions
4.0 contact hours will be awarded by Vindico Medical Education upon successful completion of the posttest and evaluation. To obtain contact hours:

1. Read the following articles carefully, noting the tables and other illustrative materials, which are provided to enhance your knowledge and understanding of the content:
   - Relational Agents as an Adjunct in Schizophrenia Treatment
     Kristy-mae Poon, DHPh, RN, FAAN; Elizabeth A. Schlenk, PhD, RN; Judith Callan, PhD, RN; Timothy Bickmore, PhD; and Susan Seredski, PhD, on pages 22-29
   - Depression in End-Stage Renal Disease
     Margaret Fallon, MS, ANP-BC, on pages 30-34
   - The Future of (Psychiatric) Nursing
     Shirley A. Smoyak, RN, PhD, FAAN, on pages 35-41

2. Read each question and record your answer on the CNE Registration Form provided.

3. Complete all sections of the CNE Registration Form, including indicating the total time spent on the activity (reading articles and completing quiz). Forms and quizzes cannot be processed if this section is incomplete. All participants are required by the accreditation agency to attest to the time spent completing the activity.

CNE Registration Forms must be received no later than August 31, 2013.

Contact Hours
Vindico Medical Education is an approved provider of continuing nursing education by the New Jersey State Nurses Association, an accredited approver, by the American Nurses Credentialing Center’s Commission on Accreditation, P1868-609-12. This activity is co-provided by Vindico Medical Education and the Journal of Psychosocial Nursing.

This is a Learner-Paced Program. Answers to the posttest will be graded, and you will be advised that you have passed or failed within 60 days of receipt of your completed test. A score of 70% or above will comprise a passing grade. A certificate will be awarded to participants who successfully complete the test. A contact hour is 60 minutes of instruction. Contact hour verification can be awarded only at the completion of a program.

Objectives
1. Discuss how relational agent technology can improve medication adherence in patients with schizophrenia.
2. Describe the relationship between end-stage renal disease and depression.
3. Identify ways in which the Institute of Medicine’s report could bring about change in psychiatric nursing.

Questions #1-7 refer to the article about relational agents as an adjunct in schizophrenia treatment by Puskar et al. on pages 22-29.

1. The annual cost of schizophrenia nonadherence in the United States is:
   A. $500 to $750 thousand.
   B. $23 to $50 million.
   C. $150 to $250 million.
   D. $33 to $65 billion.

2. For patients diagnosed with schizophrenia, reported rates of nonadherence to antipsychotic treatment average approximately:
   A. 35%.
   B. 50%.
   C. 62%.
   D. 71%.

3. Approximately _____ of patients with schizophrenia practice partial adherence.
   A. One third.
   B. One fourth.
   C. One fifth.
   D. One tenth.

4. In addition to inadequate understanding of the role of medication in preventing relapse, other factors contributing to nonadherence and partial adherence include:
   A. Medication side effects, severity of psychotic symptoms, and impaired cognition.
   B. Medication side effects, decreased motivation, and impaired cognition.
   C. Medication side effects, depression, and anergia.
   D. Anergia, severity of psychotic symptoms, and impaired cognition.

5. The three phases of the nurse-patient relationship identified by Peplau are:
   A. Introduction, orientation, and working.
   B. Introduction, working, and termination.
   C. Orientation, exploitation, and termination.
   D. Orientation, working, and termination.

6. According to the schizophrenia education module, schizophrenia affects:
   A. Thinking, moods, and interaction.
   B. Thinking, orientation, and response time.
   C. Thinking, moods, and orientation.
   D. Thinking, moods, and neuromuscular control.

7. The setback management module explains that:
   A. Setbacks should be avoided.
   B. Setbacks are preventable when a person is careful.
   C. One must learn from setbacks and move on.
   D. Setbacks can be prevented when medication is taken daily.

Questions #8-14 refer to the article about depression in end-stage renal disease by Fallon on pages 30-34.

8. Chronic kidney disease (CKD) is defined as a patient having at least _____ of functional or structural kidney abnormality.
   A. 2 months.
   B. 3 months.
   C. 5 months.
   D. 6 months.

9. The prevalence of CKD in the United States is estimated to be close to:
   A. 250,000.
   B. 750,000.
   C. 10 million.
   D. 20 million.

10. The most frequently observed mental illnesses that affect patients with renal disease are:
    A. Major depression and schizophrenia.
    B. Anxiety and schizophrenia.
    C. Anxiety and bipolar disorder.
    D. Major depression and anxiety.

11. A characteristic of compound depression is that it:
    A. Requires the use of two or more classes of antidepressant agents for improvement.
    B. Commonly results in a high side-effect profile, requiring additional medication.
    C. Is generally more treatment resistant than depression occurring without another comorbid illness.
    D. Only improves when the comorbid illness improves.

12. Of the population with end-stage renal disease (ESRD), those experiencing depression range between:
    A. 8% and 10%.
    B. 10% and 17%.
    C. 20% and 25%.
    D. 20% and 30%.

13. The suicide rate among patients with ESRD on dialysis is _____ higher than that of the general population.
    A. 16%.
    B. 37%.
    C. 63%.
    D. 84%.

14. The generally favored treatment(s) for depression in patients with ESRD is/are:
    A. Tricyclic antidepressant agents.
    B. Monoamine oxidase inhibitors.
    C. Selective serotonin reuptake inhibitors.
    D. St. John’s wort.
Questions #15-20 refer to the article about the future of psychiatric nursing by Smoyak on pages 35-41.

15. Psychiatric hospitals comprise _____ of the hospitals in which RNs are employed.
   A. 1%.
   B. 2%.
   C. 5%.
   D. 10%.

16. The three primary concerns targeted by health care reform are:
   A. Quality, access, and value.
   B. Quality, competency, and cost.
   C. Quality, safety, and value.
   D. Quality, access, and cost.

17. According to the Institute of Medicine's (IOM) report, health care challenges include the increasing dominance of chronic conditions, an aging population, and:
   A. Diverse population, health disparities, and limited English proficiency.
   B. Health disparities, limited English proficiency, and lack of financial resources.
   C. Health disparities, limited English proficiency, and limited numbers of health care professionals.
   D. Limited English proficiency and not enough long-term care facilities.

18. One of the four key messages of the IOM report is:
   A. The number of nurses with a master's degree should double by 2015.
   B. Nurses should practice to the full extent of their education and training.
   C. Nursing should have a forced retirement at age 65.
   D. Advanced practice nurses should work as physician extenders in acute-care settings.

19. The IOM report recommends that by 2020, the proportion of nurses with a baccalaureate degree should increase to:
   A. 50%.
   B. 60%.
   C. 70%.
   D. 80%.

20. The IOM report recommends that by 2020, the number of nurses with a doctorate should:
   A. Remain steady without decline.
   B. Begin to show an increase.
   C. Double.
   D. Triple.

Please register me for the Learner-Paced program for 4.0 contact hours.

Print or Type

Name
Address
City State Zip
Telephone number (in case we have questions)
Date of Birth (used for tracking contact hours only)
Education Level (Circle highest): Diploma, ADN, BSN, MSN, PhD
Other (Please specify)
Work Setting
Position

EVALUATION: Must be completed for contact hour certificate to be awarded.

Yes No

1. The content of the articles was accurately described by the learning objectives:
   • Discuss how relational agent technology can improve medication adherence in patients with schizophrenia.
   • Describe the relationship between end-stage renal disease and depression.
   • Identify ways in which the Institute of Medicine's report could bring about change in psychiatric nursing.

2. The content met my educational needs.
3. The content was relevant to my nursing practice.
4. How much time was required to read the articles and take the quiz? 240 265 290 315 340 (minutes spent)
5. Please list topics you would like to see future activities address:

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