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Dissemination Strategies: The Evolution of Learning Resources on the Evaluation of Delirium, Dementia, and Depression

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Dissemination Strategies: The Evolution of Learning Resources on the Evaluation of Delirium, Dementia, and Depression

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Clinicians experience great pressures to provide timely, effective, and evidence-based medical care. Educators can aid these clinicians through the development of new tools that can facilitate timely completion of clinical tasks. These tools should summarize evidence-based information in a convenient format that allows easy use. This article describes one process in which a group of Geriatric Research, Education, and Clinical Center educators identified an area where important new information accrued, their development of a new clinical and teaching tool for imparting the new information, the initial dissemination of the tool to a preliminary target audience, and the initial evaluation of the new tool to determine how to improve its distribution and use beyond the original target audience.

KEYWORDS delirium, depression, dementia, teaching tool, GRECC, clinical care, differential diagnosis, evaluation, learning resource

INTRODUCTION

There are multiple steps that occur in the process of adopting a new clinical teaching tool. First, there must be a documented need for the tool; second, there must also be an evidence-based process by which the tool is created; and third, early adopters are needed who will beta test the tool and serve as reliable evaluators. Only through a rigorous evaluation process can a tool be molded to meet the true needs of the end user. In addition, educators are also concerned about the level of impact or outcomes that a learning activity has achieved.

The first principle of education planning is careful assessment of the learning need. In addition to the ubiquitous learner-directed survey, other sources of learning needs assessment can be equally relevant, and multiple sources can create a compelling case to focus educational activities on a particular project. Such was the experience of the Department of Veterans Affairs (VA) Office of Geriatrics and Extended Care (OGEC), with a recent initiative to assist primary care providers in the differential diagnosis of delirium, dementia, and depression-an initiative that became known as the "5D Project."

In 2007 and 2008, leaders in geriatric practice and education within VA identified the differential diagnosis of delirium, dementia, and depression

as one of the top priorities for learning activities. An environmental scan and peer review of available training materials revealed little on this practice issue. Yet the prevalence of delirium, dementia, and depression in the aging adult makes education and improvements in this domain of practice a critical patient care need and health services priority. For example, 15% to 40%of older hospitalized patients develop delirium (Inouye, Rushing, Foreman, Palmer, & Pompei, 1998; Flaherty et al., 2009); about 14% of patients older than age 70 suffer from dementia (Plassman et al., 2007); and significant depressive symptoms affect about 20% of older adults (Thielke, Diehr, & Unützer, 2010). Reflecting national statistics highlighted in the Institute of Medicine (2008) report, Retooling for an Aging America, there are inadequate numbers of VA health care providers with specialized training in geriatrics to provide all of the medical care that elderly Veterans need. Of the six million Veterans who receive care annually in VA, 4.7 million are seen in primary care clinics, 51% of which are older than age 65 and 25% older than age 75 (Shay & Schectman, 2010). Thus, a large percentage of older Veterans receive their health care through primary care clinics rather than through clinics specializing in geriatric care. VA primary care practitioners must thus be prepared to identify and manage delirium, dementia and depression.

Within each Geriatric Research, Education, and Clinical Center (GRECC), the Associate Director for Education/Evaluation (AD/EE) has the ultimate responsibility for developing and implementing interdisciplinary education programs to improve clinical care for the aging Veteran. In April 2008, a group of GRECC AD/EEs who had special expertise and interest in dementing illnesses established the Dementia Education Workgroup (DEW), which aims to advance educational efforts within the part of VA that provides health services, the Veterans Health Administration (UHA), on dementia issues. This group responded to the need for improvement in the assessment of delirium, dementia, and depression by developing practice-based tools that consisted of a pocket card and accompanying assessment guide, and a supplementary distance-learning didactic presentation. This article describes the dissemination strategies used in a large, diverse national health care system and evaluation feedback from learners and stakeholders that were used by DEW to facilitate practice improvements.

Educational Tool Development

The target audience for the 5D Project was practitioners in primary care settings, in particular physicians, nurse practitioners, and physician assistants. We recognized that there would be wide variation in the knowledge and skill level of these practitioners and determined from the outset that multimodal resources would be needed to respond to such a diverse group of learners. The first choice of learning modality was a pocket card, an intentionally low-tech solution, and one that can present, in concise format, the best practices for assessment and/or treatment of a health care condition. Furthermore, we considered such an intervention could be easily disseminated throughout a large, national health care system that may have more limited resources available to clinicians in the smaller and more rural clinics throughout the country.

To ensure that the pocket cards would be practical, the first task of the DEW was to achieve consensus on the brief assessment tools that would be chosen to differentiate delirium, dementia, and depression. When choosing the tools that would be included, we considered a compendia of best practices in geriatric assessment (e.g., Hartford Institute for Geriatric Nursing, 2010), psychometric testing of instruments, expert opinion among GRECC faculty, VHA policies, and DEW members' individual experiences. The following tools were included in the final products:

- 1. For assessment of delirium, the Confusion Assessment Method (CAM; Inouye et al., 1990);
- 2. For assessment of dementia,
 - Diagnostic and Statistical Manual of Mental Disorders criteria for Alzheimer's disease (DSM-IV; American Psychiatric Association, 2000),
 - the Mini-Cog (Borson, Scanlan, Brush, Vitallano, & Dokmak, 2000),
 - the AD8 (Galvin et al., 2005),
 - the VA/St. Louis University Mental Status Exam (VA SLUMS Exam; Tariq, Tumosa, Chibnall, Perry, & Morley, 2006), or
 - the Functional Assessment Staging Tool (FAST; Reisberg, 1988);
- For assessment of depression, the Patient Health Questionnaire (PHQ 2 and PHQ 9; Kroenke & Spitzer, 2002; Kroenke, Spitzer, & Williams, 2003).

All tool developers provided copyright permissions on request and copyright information was included in the products.

Good clinical practice dictates that differential diagnosis of cognitive changes begins with an assessment for delirium (Flaherty et al., 2009). Delirium is an acute, reversible disturbance in brain function. It is therefore critical to establish first whether a cognitive change is a result of one or more conditions likely to create delirium in the older adult, such as medications, sensory deprivation, infection, dehydration, or hypoxemia, to name a few. Although spacing arrangements dictated some of the placement on the pocket card, DEW believed that establishing the reliability of the patient as an informant by assessment for any cognitive deficit would be important for accurate assessment of depression and therefore placed the assessment of dementia before that of depression.

Assessment Guide

DEW members recognized that some practitioners would need additional guidance on how to use the standardized assessment tools on the pocket card in their practices. Similarly, the need for "How To" guides to implement geriatric assessment tools has been identified and promoted on the Hartford Institute for Geriatric Nursing Website (http://hartfordign.org/). Therefore the pocket card was presented within the context of a comprehensive assessment with other elements to guide the practitioner through the assessment process. For example, the pocket card includes recommendations for laboratory studies such as urinalysis, thyroid stimulating hormone, vitamin B12, folate (necessary for iron metabolism), complete blood count, chem 7, and liver enzymes. The recommendations also included common medical and medication causes of delirium, instrument scoring instructions and interpretation, and documentation tips. In addition to the pocket card, an assessment guide in a two-page magazine format was developed that could be distributed by e-mail attachment, downloaded to a personal data device, and/or displayed on a desktop for reference. The pocket card and assessment guide formats contained the same information.

Learner Verification

Before general distribution of the new learning tools—pocket card and assessment guide—the final drafts were presented to participants at a VHA national conference on assessment and treatment of delirium. An evaluation questionnaire of the assessment guide and pocket card was completed and returned by 36 of the 60 attendees who were primary care providers (physicians, nurse practitioners, and physician assistants), psychologists, social workers, clinical nurses, and pharmacists. Of the respondents, 72% thought the layout was very good, 55% thought there was just enough information, and 80% indicated it was very relevant for clinical work and in particular for teaching new staff and students. Suggested revisions were to clarify the scoring protocol for some tools and to add associated references, changes that DEW subsequently made to the final products. The amount of information included on the pocket card remained unchanged due to space constraints, but we planned for future supplementary resources to meet the need for more information.

DISSEMINATION

As the largest health care system in the United States, VHA's size and complexity make a comprehensive dissemination plan for new resources a priority and a challenge. Fortunately, within the VA Office of Geriatrics and Extended Care, there are several structures that support dissemination and implementation of educational resources. The GRECCs are located in 19 of the 21 Veteran Integrated Service Networks (VISNs). The group of AD/EEs was thus one of the first stakeholders that was approached to assist in dissemination; they enthusiastically supported the 5D Project.

An e-mail notification from the DEW workgroup alerted the larger group of AD/EEs to the mailing date of a hardcopy version of multiple copies of the pocket card and assessment guide. The first printing of 5,000 copies was divided among the 21 VISNs with 200 copies of each of the two tools distributed to each VISN through the GRECC AD/EE. The remaining copies were retained by the project coordinator to fulfill special requests.

Within each unique VISN, the respective AD/EE employed distribution strategies that, in their past experience, would be most effective in that network. On a standard monthly AD/EE conference call, ideas for dissemination were shared among AD/EEs, but no formal documentation of dissemination strategies was done. Some AD/EEs distributed the tools to program planning committees so that they could incorporate the tools into content presented at VISN-wide conferences. Others distributed them to the geriatric and primary care clinics at their VISN hospitals and to the community-based outpatient clinics (CBOCs) within their VISNs. Many of the AD/EEs distributed the tools through the chairs of VISN or individual facility Dementia Committees, as all 21 VISNs and nearly all VA Medical Centers now have such committees. Anecdotal feedback from other AD/EEs and direct care providers revealed that groups of geriatric and primary care practitioners were equally enthusiastic to receive an educational tool that would assist them in meeting goals for dementia care. In addition to the verbal feedback, the demand for additional copies of the pocket card and assessment guide was brisk and taken as affirmation that we had developed a resource that was responding to the learning need.

Responding to the Demand

To date, there have been three separate printings to meet demand for the pocket card and assessment guide. The initial supply of 5,000 of each tool was so quickly depleted that an additional 6,000 copies of each were immediately ordered for a total of 11,000 copies distributed in the first 6 months of the project The most recent, third printing was ordered in the Fall of 2010 for an additional 7,500 cards and 6,000 guides. Although 17,000 copies of the pocket card and guide might seem excessive, the average distribution across 21 VISNs would be 800 copies for each VISN or, if distributed equally across all 153 Medical Centers, an average of 110 copies for each Medical Center. Thus, the quantity of tools that were distributed was reasonable for a system as large as VHA. Because VHA provides extensive and diverse training experiences to students in nearly all the health professions, even more pocket cards and guides are expected to be requested annually to meet the demand for distribution to new trainees.

GRECC Monthly Audioconferences

The presentation of the pocket card and assessment guide to the VISN Dementia Committee Chairs was the first indication that practitioners would need more than the assessment guide to use the pocket card in clinical practice. The VISN Dementia Committee Chairs asked for an accompanying slide presentation that could be shared among clinicians and educators to help them use the new pocket card to assess cognitive changes in older patients. In addition, as the pocket card and assessment guide were shared with each successive stakeholder group, the feedback to the DEW workgroup remained consistent: "we need more supplementary resources to make the new tools effective."

Since 2006, the GRECCs have presented monthly audioconferences on topics relevant to care of the older Veteran (Kresevic et al., this issue). For each audioconference, participants download the slide presentation prior to the talk and then listen to the speaker via conference call. The April 29, 2010, audioconference, "Evaluating Delirium, Dementia & Depression in Older Adults: Clinical Use of the 5D Pocket Card," was presented by DEW member Stephen Thielke, MD. Attendance for this presentation set new records for the GRECC audioconferences, tallying 287 participants, more than twice the average of 125 participants for the preceding programs. This enthusiastic response affirmed again that the topic of evaluating delirium, dementia, and depression was a widely perceived learning need by VHA clinicians.

To continue to reach clinical providers, the GRECC audioconferences are archived through a site maintained by the Miami GRECC: http://greccaudio.geriu.org/. The format of the archived materials is a slide presentation with the audio related to each slide linked so that the learner can navigate the presentation easily and hear the presenter's verbal remarks related to each section. The DEW considered producing a DVD of the presentation, but the narrated slide show seemed easier to navigate and was significantly less resource intensive.

EVALUATION

The DEW sought feedback about how the pocket card and assessment guide were being used in practice. A brief eight-item online questionnaire was developed using a popular website that could be sent to respondents by e-mail. The proposed evaluation plan was reviewed by the VA Office of Research and Development's Central Institutional Review Board (IRB), who ruled that the proposed questionnaire was a quality improvement activity rather than a research activity and therefore did not require further Human Subjects' review. Subsequently, the questionnaire was sent by e-mail to GRECC AD/EEs and VISN Dementia Committee Chairs to forward to the people in their respective facilities who had received the pocket card and assessment guide. We also emailed the questionnaire to the participants in a geriatrics conference where the learning tools were distributed. We informed respondents in a cover memo that although the evaluation was a quality improvement project and not a research project, no personally identifiable information was obtained and their responses would remain anonymous.

The 119 staff members who responded to the questionnaire represented 19 of 21 VISNs and 62 of 153 facilities. Table 1 displays the multiple disciplines of the respondents, consistent with the goal of producing an interdisciplinary tool. Physicians were the most common users. The next most frequent users were nurses and psychologists who were equally likely to use the pocket card and guide. Fewer social workers, nurse practitioners, nursing home administrators, and therapists reported using the tools. Students were not asked to respond because most do not have VA e-mail addresses. Respondents in the "Other" category included chiropractor, dietician, neuropsychologist, behavioral scientist, and job titles such as program director, educator, researcher, associate chief nurse, case manager, clinical nurse specialist, nurse manager, and program support assistant. In response to a question on which of the two products was preferred (pocket card or assessment guide), almost 50% indicated either that they had no preference or that they used both in different settings; and 45% preferred the pocket card. Few respondents reported using only the full-sized assessment guide.

Although there was a broad range of disciplines and job positions represented, the service settings with which the respondents identified themselves were more consolidated, as displayed in Table 2. Respondents were most likely to be working in geriatrics and extended care, followed in decreasing prevalence by staff working in mental health programs, primary care providers and rural health personnel-a target audience for geriatrics

| | Response percent | Response count |
|-------------------------------|------------------|----------------|
| Chaplain or spiritual advisor | 0.0 | 0 |
| Nurse | 18.1 | 21 |
| Nursing home administrator | 5.2 | 6 |
| Nurse practitioner | 6.9 | 8 |
| Psychologist | 18.1 | 21 |
| Physician | 26.7 | 31 |
| Physician assistant | 0.0 | 0 |
| Social worker | 12.9 | 15 |
| Student | 0.0 | 0 |
| Therapist | 1.7 | 2 |
| Other | 11.2 | 13 |
| Other (please specify) | | 18 |
| Answered question | | 116 |
| Skipped question | | 3 |
| | | |

TABLE 1 Professional Groups

| | Response rercent | Response count |
|--------------------------|------------------|----------------|
| Geriatrics/Extended care | 60.9 | 70 |
| Mental health | 24.3 | 8 |
| Primary care | 14.8 | 17 |
| Rural health | 3.5 | 4 |
| Other | 9.6 | 11 |
| Other (please specify) | | 14 |
| Answered question | | 115 |
| Skipped question | | 4 |

| TABLE 2 | 2 | Service | Settings |
|---------|---|---------|----------|
|---------|---|---------|----------|

education. Responses in the "Other" category included research, dietetics, management, hospice, palliative care, and posttraumatic stress disorder. About 20% of the respondents identified with the clinical settings of either primary care or rural health, which were priority audiences for the learning tools.

Table 3 displays the types of utilization (forced choices in the questionnaire) reported as employed by those respondents who said they had used the pocket card and/or the assessment guide in the past 2 months. The most prevalent reported use of the tools was for staff training, followed by teaching students and patient assessment. The tools were used less often in guiding discussions with patients and in patient education. The tools were used least often for reassessing clinical protocols. Some "other" uses that were reported included chart reviews, interdisciplinary team meetings, and faculty development.

The questionnaire included an item for suggested changes, and 14 of 26 respondents who answered this question specifically said *none*. Several respondents requested that the pocket card be laminated and available as a downloadable file, and that the assessment guide be formatted to use as an electronic patient record documentation template. Additional comments, all of which were very positive, were submitted by 25 respondents. Typical comments included were "very helpful," "handy reference," "useful tool,"

| | Response percent | Response count |
|----------------------------------|------------------|----------------|
| Staff training | 63.8 | 44 |
| Patient education | 10.1 | 7 |
| Teaching students | 39.1 | 27 |
| Patient assessment | 33.3 | 23 |
| Reassessing clinical protocols | 7.2 | 5 |
| Guiding discussion with patients | 20.3 | 14 |
| Other | 13.0 | 9 |
| Other (please specify) | | 10 |
| Answered question | | 69 |
| Skipped question | | 50 |

| TABLE 3 Utilization | of Assessment | Guides in | Past 2 Months |
|---------------------|---------------|-----------|---------------|
|---------------------|---------------|-----------|---------------|

and "well-received by trainees." A few people expressed an opinion that assessments should be done more often at time of hospital admission and that the tools used by providers should be more standardized across VHA.

DISCUSSION

Increasingly, educators are challenged to achieve higher level outcomes from learning activities. The success of an educational program is often evaluated by using a five-level framework to measure whether the program achieved the level of impact that was intended (Kirkpatrick & Kirkpatrick, 2005; Phillips & Stone, 2002). Briefly, Level 1 reflects learner satisfaction with the program objectives and faculty presentations; Level 2 represents newly learned knowledge and/or skills; Level 3 measures learner application of behaviors in practice; Level 4 measures changes in patient outcomes; and Level 5 evaluates "return on investment" or a cost/benefit analysis of system impact. Our goal for the 5D Project was to achieve practice changes in the evaluation of delirium, dementia, and depression. Yet effecting and documenting Level 3 uptake of improvements into clinical practice is a perennial challenge (Davis et al., 1999; Kulier et al., 2010; Oxman, Thomson, Davis, & Haynes, 1995; Takayesu, Nadel, Bhatia, & Walls, 2010).

Past research has indicated that using multifaceted educational approaches, such as practice-based tools, quality improvement data, and using opinion leaders to influence practice behaviors, have the most success in effecting practice changes (Bradley et al., 2004; Gifford et al., 1999; Grol & Grimshaw, 2003; Vickrey, 2005). The DEW used continual learner feedback, formal and informal, to ensure that the 5D assessment guides were practice based and had supplementary learning modalities to assist educators and learners in the use of this tool. Although not formally identified as opinion leaders, the leadership in GRECC, GEC, and primary care would influence practitioners to incorporate clinical and educational behaviors into everyday practice.

The respondents to the evaluation questionnaire were end users of the new tools. As reflected by the results of the preliminary learner verification, the educational tools were well received by VHA clinicians. We succeeded in reaching an interdisciplinary group of clinical providers. Almost 90% of respondents were in a clinical discipline, including medicine (26.7%), nursing (25%), social work (13%), and psychology (18%), and smaller numbers of rehabilitation therapists and dieticians. The supplementary guide format that can be downloaded in an electronic file was used by 50% of the respondents is worthwhile. The large percentage of user/respondents in GEC probably explains the high prevalence (64%) of use of the guides for staff training. Yet the assessment tools were also used in patient care for patient assessment (33%), guiding discussion with patients (20%), patient education

(10%), and reassessing clinical protocols (7%). Thus, the new tools appear to be acceptable and accessible by multiple members of the health care team.

The results of the evaluation highlight some potential barriers. The main audience for the tools was expected to be primary care providers. We also thought that rural providers would find these tools to be particularly convenient and helpful, given the overwhelmingly geriatric patient base in rural clinics and their providers' relative lack of opportunities to receive geriatric continuing education compared to their more urban colleagues. However, the questionnaire results indicated that 60% of the users were in geriatrics and extended care programs, almost 15% were in primary care settings, and just 3% were in rural health settings. It is unclear whether rural health providers are using the tools but did not respond to the questionnaire, or if they simply identified more strongly with geriatrics or with primary care than with their rural practice settings.

Limitations

For the purpose of this article, we assumed that respondents to the evaluation questionnaire were representative of all end users; however, the "convenience" method of data collection employed an e-mail response format. As such, we do not know exactly how the tools were originally distributed within each VISN and facility nor how representative the sample respondents were. Notably, respondents did not include staff from two of the 21 VISNs (10%) and almost two thirds of the VA's medical centers, which limits the confidence with which conclusions drawn can be used without additional information. Simply sending information to a provider is not a reliable way to change behavior, and self-report on a questionnaire may not accurately reflect actual behavior in practice. Considering these limitations, DEW intends to work more closely with key stakeholders-GRECC AD/EEs, VISN and Facility Dementia Committee chairpersons, and primary care leadership—to improve the dissemination of the tools to clinical providers. One additional strategy that may be productive is to add an academic detailing approach (Wong & Lee, 2004) to reach out more personally to primary care providers, especially in rural clinics.

CONCLUSION

A low-tech, easy-to-use pocket card and assessment guide to evaluate delirium, dementia, and depression received favorable reception from an interdisciplinary group of clinical providers. Respondents to an evaluation questionnaire offered only minor suggestions for change, such as laminating the tools and providing a format that could be downloaded to a personal digital device. The learning need was affirmed repeatedly and the choice of educational content and format were well accepted. With responses from 90% of the VISNs, and 40% of facilities (62 of 153), we reached across most of the VHA to some degree; however, a small percentage of respondents (18%) to the questionnaire represented the target audience: primary care and rural clinics. A larger percentage of respondents were in geriatric specialty settings and used the assessment tools for didactic and just-in-time education in a clinical context. Such teaching tools may be achieving our goal to improve evaluation of delirium, dementia, and depression. However, dissemination to primary and rural clinics remains a priority. Meeting these goals will be a worthwhile challenge.

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