

Practicing Physician Education in Geriatrics: Lessons Learned from a Train-the-Trainer Model

Sharon A. Levine, MD, AGSF,* Belle Brett, EdD,[†] Bruce E. Robinson, MD, MPH, AGSF,[‡] Georgette A. Stratos, PhD,[§] Steven M. Lascher, DVM, MPH,^{||} Lisa Granville, MD, AGSF,[#] Carol Goodwin,** Kathel Dunn, MSLS,^{††} and Patricia P. Barry, MD, MPH, AGSF^{‡‡}

Evidence of poor performance in the evaluation and management of common geriatric conditions suggests the need for changing physician behavior in these areas. Traditional lecture-style continuing medical education (CME) has not been shown to be effective. Expert faculty initially trained 60 nonexpert peer educators to conduct small-group, learner-centered CME using tool kits on memory loss, incontinence, and depression. Peer educators presented 109 community-based sessions to 1,309 medical practitioners. Surveys were administered to community participants immediately and 6 months after a session. Evidence of effectiveness included statistically significant increases in self-reported knowledge, attitudes, and office-based practices on the target topics at the time of training and at the 6-month follow-up ($P < .001$) and two-thirds of respondents reporting continued use of three or more tools at 6 months. Participants reported that the interactive presentation aided their understanding of and ability to use the tool kits more than an off-the-shelf review (mean rating \pm standard deviation 4.1 ± 0.71 , with 1 = not at all and 5 = significantly). After the formal evaluation period, additional information about the project dynamics and tool kits was obtained through a small interview sample and an on-line survey, respectively. Receiving copies of the tool kits was an important factor in enabling educators to offer

sessions. Barriers to offering sessions included finding time, an audience, and space. Findings suggest that modest positive changes in practice in relation to common geriatric problems can be achieved through peer-led, community-based sessions using principles of knowledge translation and evidence-based tool kits with materials for providers and patients. *J Am Geriatr Soc* 55:1281–1286, 2007.

Key words: CME; geriatrics education; tool kits

People aged 65 and older make up approximately 50% of visits to office-based physicians.¹ Evidence of poor performance in the evaluation and management of common geriatric conditions suggests the need for changing physician practice in these areas,^{2–4} but with the pressure to increase patient load, community-based physicians find it difficult to make time for professional learning through courses or reading.^{5,6} Furthermore, the dominant form of continuing medical education (CME)—lectures with slides in large rooms to passive audiences—has not been shown to be effective in changing physician behaviors or patient outcomes.^{7,8} More promising is CME that uses active-mode learning and multimodal techniques involving dialogue between participants and instructors, either one-on-one or in small-group settings.⁹

The concept of knowledge translation¹⁰ offers an important framework for designing effective CME. Knowledge translation recognizes that successful practice change often requires more than just learning something new to improve care. Educational interventions that are responsive to point-of-service concerns, such as time constraints and office processes, are more likely to result in practice change. Knowledge translation uses evidence-based research and often employs simple tools or tool kits that make it easier for the learner to apply best evidence.^{11,12}

These tool kits, designed to educate health professionals on a specific topic, are created using a conceptual framework by conducting some type of needs assessment.^{13,14} Tool kits can consist of a single instrument¹⁵ or

*From the Geriatrics Section, Department of Medicine, School of Medicine and Boston Medical Center, Boston University, Boston, Massachusetts; [†]Brett Consulting Group, Somerville, Massachusetts; [‡]Geriatrics Section, Sarasota Memorial Hospital, Sarasota, Florida; [§]Stanford Faculty Development Center for Medical Teachers, Stanford University School of Medicine, Stanford, California; ^{||}Office of Research and Clinical Trials, Saint Vincent Catholic Medical Centers of New York, New York; [#]Department of Geriatrics, Florida State University College of Medicine, Tallahassee, Florida; **Goodwin Consulting, Yonkers, New York; ^{††}National Network of Libraries of Medicine, Middle Atlantic Region, New York University Medical Center, New York; and ^{‡‡}Merck Institute of Aging and Health, *emeritus*, Gloucester Point, Virginia.

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Address correspondence to Sharon A. Levine, Geriatrics Section, Boston University Medical Center, 88 E. Newton Street, Robinson 2, Boston, Massachusetts 02118. E-mail: sharon.levine@bmc.org

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multiple tools, background information on the topic, local resources, forms, screening questions, information for patients and caregivers, and suggestions of ways these can be used in practice.¹⁶ Tool kits can be in print or electronic formats.¹⁷ The evidence-based nature of the tool kits presents practitioners with the best science translated into practical resources that can be adopted for use in many practice settings.

Because of its emphasis on small groups, a challenge for active-mode CME is reaching sufficiently large audiences to have an influence. A train-the-trainer approach in which experienced geriatricians teach generalist physicians to conduct local CME provides one solution to this dilemma. The train-the-trainer model has other advantages. Appropriately trained practitioners can often provide workshops in convenient locations and address problems pertaining to particular healthcare systems.^{18,19} Knowledgeable local faculty can serve as a trusted source of information, making use of social capital to recruit new learners,^{20,21} although a lack of follow-through by new trainers to conduct sessions or to maintain fidelity to the curriculum can be problematic.²²

The John A. Hartford Foundation of New York and the American Geriatrics Society initiated the Practicing Physician Education (PPE) Project in 1997 to address the need for additional geriatrics competence among generalist physicians. A comprehensive learner-centered model was developed that incorporated principles of adult learning and knowledge translation, created evidence-based tool kits on several geriatric syndromes, and trained and supported a cadre of nongeriatrician physician leaders (PLs) to present interactive, case-based tool kit sessions to primary care providers in their communities. The model was based on the premises that the PLs would be able to deliver community sessions competently, the practitioners who attended the sessions would use the tool kit materials and knowledge gained to implement changes in their care of older adults, and this approach would allow a greater number of practitioners access to quality CME in geriatrics and was potentially sustainable.

This article reports on the development of the PPE model, immediate and 6-month follow-up data from participants in community sessions offered by PLs, and later feedback from a sample of PLs and tool kit users to aid in project sustainability.

METHODS

The PPE Model

Needs Assessment and Tool Kit Development

A needs assessment was conducted at the American College of Physicians (ACP) and the American Academy of Family Physicians (AAFP) 1998 annual meetings to determine physicians' confidence and interest in learning more about 18 geriatrics topics.²³ Based on the needs assessment, a literature review, and consultation with a national advisory committee, educational tool kits were developed on memory loss, urinary incontinence, and depression. Later, additional tool kits were created on falls, heart failure, persistent pain management, and prevention.

The tool kits summarized lengthy clinical practice guidelines into efficient strategies for office-based evaluation and management, including assessment tools and

patient education materials. The tool kit components were organized into a scripted clinical evaluation process designed to achieve the practice guidelines' recommendations. The tool kit approach also focused on engaging patients in collaborative management of these chronic conditions, with patient education materials linked to each step of the clinical process.²⁴ Tool kits were provided in print, autorun CD-ROM, and on-line formats so users could select and modify specific tools for their own practice environment.

PL Training

ACP and AAFP physician members applied and were selected to participate in 10-hour PL training sessions. PLs were defined as community-based, generalist physicians who could serve as "nonexpert" peer educators in a non-hierarchical learning environment. The PL training approach was based on the successful peer training methods of the Stanford Faculty Development Center (SFDC),²⁵ with consultation from SFDC staff. PL training applicants were asked to commit to presenting at least two tool kit sessions in their communities within 1 year of their training. A stipend was provided to offset expenses of attending the PL training and to deliver the community sessions.

Geriatrician expert faculty instructed PLs in group facilitation skills and effective teaching methods needed to conduct small-group, case-based, interactive tool kit sessions for their colleagues. A scripted facilitator's guide, including "icebreakers," mini-lectures, brainstorming, and personal goal setting exercises for practice change, was developed for each tool kit. As part of their training, PLs were participant observers in a tool kit presentation, with opportunity for feedback and clarification. The only geriatrics content PLs received was in this presentation, which was meant to model what PLs would do themselves as facilitators. PLs received videotapes of these tool kit presentations to help them prepare for their community-based sessions.

Community-Based Sessions

Tool kit sessions were held at various sites, including community hospitals and clinics, group practice offices, local physician meetings, and ACP and AAFP state or regional meetings. PLs received periodic reminders if they had not offered sessions. Tool kits were provided for each community session participant. Participants received 1 to 2 hours of AMA Physician's Recognition Award Category 1 or AAFP Prescribed credit.

Evaluation

Data were collected on attendance at community-based sessions. Immediately after the tool kit presentation, participants were asked to indicate the percentage of material that was new, to compare the presentation's effect on their knowledge and ability to use the tools with that of an off-the-shelf review, to rate the PL's teaching skills, and to assess the extent to which stated session goals were met. They also rated themselves before (retrospective pre) and after (post) the session on multiple items reflecting knowledge and skills regarding the clinical problem. Six months after the training session, participants in the memory loss and urinary incontinence sessions were asked to repeat their ratings of the knowledge and skills items, assess the effect

of the workshop on their practice, and report on their current use of the tool kit materials. The memory loss tool kit contained two instruments available in the literature, but otherwise the materials were new, and use of the materials was considered evidence of practice change. A total of 21 patient evaluation and education tools were included in the memory loss tool kit and 13 tools in the urinary incontinence tool kit.

To further understand the project dynamics, PLs were mailed a feedback survey in July 2002. After a refresher course on a new tool kit at the 2005 ACP Annual Session, eight PLs participated in a focus group on future plans for the PL training and the tool kits. Additionally, in fall 2005, six PLs, who had conducted multiple sessions each and represented a variety of roles, settings, and tool kit training topics, were selected for a phone interview on incentives and motivators for initial participation in the program, enablers and barriers to conducting community sessions, and thoughts about the usefulness of the training. Finally, in 2006, an on-line survey was sent to 213 people who had accessed tool kits on the Internet, as well as to the most active PLs ($n = 76$). The goal of the survey was to understand better how the tool kits were being used. Web users included consumers and medical practitioners who were not physicians.

All evaluation results for the immediate and 6-month follow-up surveys were gathered on paper forms and analyzed using Stata 7 for analyses (StataCorp, College Station, TX). Two-tailed t scores and the nonparametric sign rank test were used to assess statistical significance of the mean differences, with results the same for both tests. The analytical period ended before depression tool kit community sessions could be evaluated at the 6-month mark.

The 2005 PL focus group comments and interviews were analyzed for key themes.

The results of the 2002 survey were summarized using Excel (Microsoft Corp., Redmond, WA); the 2006 Web survey was downloaded into Excel and imported into SPSS (SPSS Inc., Chicago, IL). Simple frequencies and means, where appropriate, were calculated according to subgroups of respondents. All comments and suggestions were compiled according to question.

RESULTS

Numbers Trained

During the 3-year period of formal project evaluation, 60 PLs from 24 states were trained, and 44 (73%) of these presented 109 tool kit sessions to 1,309 community-based primary care providers on the topics of memory loss, urinary incontinence, and depression. Eighteen of these PLs presented another 21 community sessions to 333 community-based participants from January 2002 to September 2006. Additional PL trainings and community interventions have continued with the ACP and other organizations; from the project's inception through September 2006, an estimated 170 PLs have conducted 267 sessions for 3,576 primary care providers.

Effect of Community Sessions

During the evaluation period, community session attendance and survey response rates were as follows: memory

loss, 535 attended, 346 surveys completed (64.7%); urinary incontinence, 462 attended, 271 surveys completed (58.6%); depression, 312 attended, 164 surveys completed (52.6%). Immediately after the workshop, participants were asked the extent to which the interactive presentation enhanced their understanding of and ability to use the tool kits, compared with an off-the-shelf review. Mean rating \pm standard deviation (SD) was 4.2 ± 0.70 ($n = 264$) for memory loss, 4.19 ± 0.68 ($n = 343$) for urinary incontinence, and 4.08 ± 0.68 ($n = 160$) for depression (1 = not at all and 5 = significantly). On average, for the three tool kits, participants indicated that nearly half of the material was new (memory loss, $51.2 \pm 22.7\%$; urinary incontinence, $44.2 \pm 22.8\%$; depression, $45 \pm 21.3\%$). Community participants gave high ratings to PL facilitation skills. On a scale with seven items (1 = low, 5 = high), the mean ratings for PL facilitation skills ranged between 4.24 and 4.47.

The 6-month follow-up questionnaire response rate was 26.1% (161/617) for the pooled sample of attendees at memory loss and urinary incontinence sessions. Comparisons between (1) retrospective-pre- (before) to immediate postsession (currently) data and (2) retrospective-pre (before) to 6-month follow-up data revealed statistically and clinically significant increases in self-reported knowledge, confidence, and practice skills regarding identification and initial treatment of all tested clinical problems ($P < .001$). Most increases were sustained between the immediate post-assessment and the 6-month follow-up, with a few statistically significant declines for the memory loss module but none for urinary incontinence (Table 1). Approximately two of three respondents reported continued use of three or more of the tools at 6 months, and 90% were using at least one or two tools (Table 2). Results suggest that the presentations were effective in changing participating community physicians' knowledge base, confidence, and office-based practice behavior with respect to early detection and initial treatment of memory loss and urinary incontinence (Table 3).

Feedback from PLs Related to Sustainability

In 2002, 25 of 68 PLs (36.7%) responded to an on-line survey. The most important factors for sustaining involvement in the project were "learning more about geriatric patient care" ($n = 18$, 72%, indicating very important) and "receiving copies of the tool kits" ($n = 18$, 72%, very important). Receiving a stipend was least important for sustained involvement ($n = 4$, 16%, very important). PLs reported that they would be comfortable presenting a new tool kit without additional training but with the scripted facilitator's guide ($n = 17$, 68%) or video of the tool kit presentation ($n = 21$, 84%). Respondents were less clear that the tool kits "would be useful to primary care providers, without presenting the material in small-group, interactive sessions" ($n = 9$, 36%, yes).

Focus group participants ($n = 8$) from the 2005 refresher course were in favor of shortening the PL training to half a day, and all said that the refresher course was helpful in reviewing teaching methods and in sustaining their commitment to conducting community sessions.

PLs interviewed subsequently identified factors that enabled them to conduct sessions. These included receiving

Table 1. Short- and Long-Term Changes in Community Physicians' Knowledge, Confidence, and Practice Related to Tool Kit Content (Retrospective-Pre* to Post and Retrospective-Pre† to 6-Month Follow-Up‡): Combined American College of Physicians/American Academy of Family Physicians Data

Physician Knowledge, Confidence, or Practice	Immediately After Session				6-Month Follow-Up	
	N	Before	Currently	N	Mean ± SD [§]	
		Mean ± SD [§]				
Memory loss						
Ability to distinguish Alzheimer's disease from other forms of dementia	338	3.26 ± 0.85	4.06 ± 0.64	88	3.84 ± 0.66	
Confidence to provide initial treatment to patients with memory loss	326	3.23 ± 0.95	4.10 ± 0.72	88	4.09 ± 0.85	
Understanding of the value of assessment instruments for memory loss	331	3.26 ± 1.07	4.25 ± 0.64	88	4.18 ± 0.78	
Office's ability to deliver patient/caregiver education about dementia care	318	2.83 ± 0.91	3.88 ± 0.82	86	3.62 ± 0.95	
Urinary incontinence						
Awareness of AHCPR (AHRQ) Guidelines for UI evaluation/management	264	2.47 ± 1.02	4.15 ± 0.70	66	3.30 ± 1.07	
Confidence in the initial evaluation of patients with UI	260	3.04 ± 0.88	4.25 ± 0.63	66	3.62 ± 0.80	
Recognition of the value of UI assessment instruments	255	2.52 ± 0.94	4.13 ± 0.74	65	3.51 ± 0.92	
Office's ability to deliver patient/caregiver education about UI	241	2.62 ± 0.93	4.01 ± 0.77	65	3.25 ± 0.97	
Depression						
Awareness of AHCPR (AHRQ) Guidelines for depression evaluation and management	160	2.70 ± 0.96	4.08 ± 0.64	NA	NA	
Confidence in the initial evaluation of patients with depression	158	3.35 ± 0.90	4.20 ± 0.62	NA	NA	
Recognition of the value of depression assessment instruments	160	2.94 ± 0.97	4.24 ± 0.69	NA	NA	
Office's ability to deliver patient/caregiver education about depression care	149	2.85 ± 0.91	3.88 ± 0.86	NA	NA	

* Immediately after the session, participants rated themselves as they were "before the presentation" and as they were "currently." Scale: 1 = low, 5 = high.

† Six months after the session, participants rated themselves as they were "currently." Scale: 1 = low, 5 = high.

‡ Six-month follow-up data from depression tool kit participants were not analyzed.

§ Two-tailed *t* test; for "before" to "currently" and "before" to 6-month follow-up, all differences significant at *P* < .001, except urinary incontinence comparing "before" to 6-month follow-up, for which differences were significant at *P* < .005.

AHCPR = Agency for Health Care Policy and Research; AHRQ = Agency for Healthcare Research and Quality; UI = urinary incontinence.

copies of the tool kits, available time and audience, clout to offer sessions, and assistance in organizing sessions. Barriers included scheduling, finding an appropriate audience, and locating a suitable space.

Feedback on Tool Kits

An independent follow-up of tool kit users who are practitioners, including those who had been trained as PLs, suggested that the tool kits have "made a difference in my/our ability to provide care to older adults" (*n* = 29, 74% of 39, responding "somewhat" or "a great deal") and "patient (and family) decision-making regarding conditions/treatments" has improved through use of tool kit materials (*n* = 23, 64% of 36). On average, practitioners used two tool kits.

Table 2. Self-Report of Number of Tools in Use at 6-Month Follow-Up

Tools Currently in Use	Memory Loss Tools (n = 87)	Urinary Incontinence Tools (n = 65)
	% Respondents (95% Confidence Interval)	
0	9.2 (4.7–17.1)	20.0 (12.1–31.3)
1–2	26.4 (18.3–36.6)	15.4 (8.6–26.1)
3–6	19.5 (12.6–29.1)	30.8 (20.9–42.8)
>6	44.8 (34.8–55.3)	33.8 (23.5–46.0)

Limitations of the Project Evaluation

Limitations of the project evaluation design, due primarily to budget considerations, include the lack of a control group, the self-report method of determining effectiveness, and the lack of any objective measures of knowledge or behavioral change, such as chart reviews. The low proportion of responders to the 6-month survey is a potential source of bias, because responders may be more likely to have found sessions valuable. Finally, analysis did not enable the discovery of those aspects of the intervention that were most helpful in promoting change. For example, what was the added value of the interactive nature of the sessions that helped to promote behavior change through use of the tool kits? The tool kit user survey provides some indication that some practitioners can successfully implement tool kits without training, but the limited and possibly biased sample of that group does not provide adequate evidence for comparison.

DISCUSSION

The combination of rapid advances in medical care, increasing public pressure to achieve adherence to best practices, and evidence of the ineffectiveness of the "dark rooms with slides" approach to CME, suggests a need for new models of changing practicing physician behavior. Although research supports the superiority of active-mode learning, a lack of practical, efficient models and a preference for traditional lecture forms of CME²⁶ maintain the

Table 3. Physician Self-Reported Behavioral Change 6 Months After Workshop

Physician Self-Reported Behavioral Change	Memory Loss		UI	
	N	Mean ± SD	N	Mean ± SD
As a result of the workshop, I am more likely to encourage early reporting of memory loss (UI) symptoms	59	4.14 ± 0.63	69	4.28 ± 0.63
As a result of the workshop, I have developed a more-thorough evaluation of memory loss (UI) complaints	60	4.03 ± 0.74	68	4.01 ± 0.87
As a result of the workshop, I am more willing to suggest a thorough evaluation of memory loss (UI) when the problem arises	59	4.27 ± 0.78	67	4.16 ± 0.73
As a result of the workshop, I am more likely to distribute useful written materials to patients with memory loss (UI) and their families	59	4.02 ± 0.96	68	3.93 ± 0.97

Scale: 1 = strongly disagree, 5 = strongly agree.

UI = urinary incontinence.

status quo. A model that incorporates principles of knowledge translation and active-mode learning, uses tool kits, and trains community-based, nongeriatricians to teach general practitioners about the evaluation and management of specific geriatric syndromes in 1- to 2-hour sessions, often at the point of service, has been shown to be effective (according to self-report) and potentially sustainable with modifications.

Tool kit presentations by nonexpert ACP- and AAFP-affiliated PLs have had positive effects on community physicians' perceived knowledge and on their office-based practice with respect to memory loss and urinary incontinence. Six-month follow-up data offers evidence that many of the tools are being used in community physicians' practices. The use of nongeriatricians in helping peers improve their evaluation and management of geriatric syndromes is encouraging, given the small numbers of certified geriatricians in the United States.²⁷

The high rate of reported use of guideline-based tool kit materials 6 months after the sessions is encouraging for efforts to improve physician compliance with practice guidelines. It is likely that these positive results are due not only to the presentation of topics known to be of clinical interest by needs assessment and the interactive nature of the sessions, but also to the flexible nature of the tool kits. Although the tool kit presented a complete, scripted clinical process, the small-group training encouraged physicians to create their own process and to select or modify the tools that would function best in their own office environment. Nevertheless, the 2005 tool kit survey suggests that practitioners may want an even more user-friendly approach because of time constraints, including shortening of templates, indexing and cross-referencing, and accessibility through Electronic Health Records.

One issue that came to light during this project was the difficulty of sustaining a train-the-trainer model. In this intervention, resources allowed for substantial initial training, incentives to PLs for conducting community sessions, and frequent follow-up with PLs to encourage them to offer sessions. Without the personnel and finances to continue this support, a smaller percentage of peer facilitators are likely to conduct workshops. However, the small sample of interviewed PLs indicated that they share information about the tool kits and tool kit processes in informal ways at their institutions and with colleagues and physicians-in-training. In addition, project leaders learned that they could

substantially shorten the PL training from 10 to 4.5 hours, thus decreasing costs and potentially increasing the audience for these trainings. At the 2006 ACP annual session, 17 PLs were trained using the new half-day format. This new PL training models the desired community workshop format while providing supporting material on effective teaching techniques. Thus, even if only a small percentage of newly trained PLs conduct community workshops, and some use the information informally, dissemination of the tool kit process can continue. The data from the tool kit survey also suggest that, once practitioners are exposed to a tool kit, they will review and use, on average, at least one other tool kit.

Evaluation of behavior change outcomes from CME initiatives is uncommon.²⁸ Because of the challenges of collecting data on the results of CME—particularly practice audits—more resources may be needed for evaluation as alternative models emerge to determine which ones and what aspects are most effective. The American Board of Internal Medicine's Practice Improvement Modules are one excellent start in this direction.

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S. Levine is the PPE project codirector and expert faculty. B. Brett is the PPE project independent educational evaluator. B. Robinson is the PPE project codirector, tool kit series writer, and editor. G. Stratos was a SFDC consultant

on educational model development, facilitator training methods, survey design, and analysis. S. Lascher was an ACP consultant on data collection and analysis. L. Granville is a PPE expert faculty and tool kit author. C. Goodwin is the PPE project manager. K. Dunn is a literature review consultant. P. Barry was the PPE principal investigator during the formal evaluation period and MIAH Executive Director after the formal evaluation period.

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