Evaluation of a Nursing Home Medical Director's Curriculum for Geriatric Medicine Fellows

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Abstract

Objectives: To describe the evaluation of a nursing home medical directorship curriculum for geriatric medicine fellows.

Design: Six first-year geriatric medicine fellows from the University of Hawaii program participated in this educational intervention.

Intervention: A medical directorship curriculum based on the American Medical Directors Association's description of the roles and responsibilities of the medical director. Seven 1-hour sessions covering core topics were delivered in case-based format, with the opportunity to practice application.

Measurements: The curriculum's impact on learner's knowledge, attitudes, skills, and abilities was evaluated using pretests and posttests. The curriculum was evaluated using a structured individual feedback interview after the completion of this curriculum. Pre-post mean scores for attitudes and skills/ability items were compared using paired t-tests. A summary of comments from fellows' interviews was tabulated.

Results: Fellows showed a significant improvement in knowledge scores after the intervention (63.33% correct before the intervention and 76.67% correct after the intervention, mean change = 13.33%, P = .03). The mean overall scores for attitudes and skills/ability items increased from 4.72 to 5.33 (change = 0.61, P = .11), and 2.67 to 3.83 (change = 1.17, P = .009), respectively. Comments from the interviews were positive and fell into 3 categories. First, fellows felt that they achieved a good knowledge base. Second, they gained a better understanding of the roles and responsibilities. Last, all participants felt the curriculum was very practical and helped them feel more prepared to become medical directors.

Conclusions: An innovative curriculum for nursing home medical direction provided for first-year geriatric medicine fellows had a significantly positive impact on their knowledge, ability, and skills. The curriculum was effective in helping fellows better understand and apply what they learned regarding the roles and responsibilities in medical direction.

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Methods

Study Design and Population

Six geriatric medicine fellows participated in this seminar series as part of the mandatory geriatric medicine fellowship’s didactic curriculum in the first year of training. Seven 1-hour sessions were delivered over a 3-month period.

Specific learning objectives included (1) the fellow should be able to describe the role of the medical director in a LTC facility, (2) the fellow should be comfortable applying what he or she learned in fulfilling medical director responsibilities, and (3) the fellow should understand that teamwork is a critical aspect in effective medical direction. The curriculum was based on the American Medical Directors Association’s (AMDA) description of the roles and responsibilities of the medical director as outlined in their position statement, which was divided into 4 quadrants: (1) physician leadership; (2) patient care—clinical leadership; (3) quality of care; and (4) education, information, and communication. All topics were taught using this framework. The sessions were case-based discussions, and emphasized leadership, partnership, and culture change as essential aspects in fulfilling these responsibilities. All sessions were facilitated by a geriatric medicine faculty member who is a certified medical director (CMD) and a second-year geriatric medicine fellow who helped design and revise the curriculum content and materials provided to fellows.

The topics for these 7 sessions were (1) roles and responsibilities of the medical director, (2) infection control, (3) documentation, (4) federal regulations and state surveys, (5) quality improvement, (6) culture change in nursing homes, and (7) transitions in care. All materials were provided in a handbook.

Measurements

The curriculum’s impact on learner outcomes was assessed by examining knowledge, attitudes, skills, and abilities using pretests and posttests. Subjects were de-identified by random number assignments. Knowledge was evaluated by 5 multiple-choice questions at both time points. Question topics included (1) the role of the medical director, (2) infection outbreak, (3) litigation, (4) state surveys, and (5) culture change. Attitudes, skills, and abilities were evaluated using a retrospective pre-post design questionnaire to control response shift bias. Attitudes were evaluated by 3 items using a Likert scale with a range of 1 to 6 (1 = strongly disagree, 2 = moderately disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = moderately agree, 6 = strongly agree). Skills and abilities were evaluated by 3 items using a scale of 1 to 5 (1 = poor, 2 = fair, 3 = average, 4 = good, 5 = very good).

The efficacy of the curriculum content and instructional methods was evaluated using a structured individual feedback interview conducted within 2 months after completing the curriculum by a second-year geriatric medicine fellow. The question categories included (1) overall impression, (2) content, (3) instructional methods, (4) resources, and (5) suggestions. Fellows were informed that their responses would not affect their grades, but would be used to determine the impact this educational intervention had on their knowledge, attitudes, skills, and abilities. Their input would also provide feedback for curriculum improvement. This study was approved by the institutional review board of the University of Hawaii, and written informed consent was obtained from the participants at the time of interview.

Statistical Analysis

We compared mean scores for each attitude and skills/ability question before and after the educational intervention using paired t tests. We also created a composite score for the 3 attitude questions, and for the 3 skills/ability questions, and compared the means before and after the intervention using paired t tests. For knowledge questions, we created a sum score for each fellow (range = 0–5), and compared the percent correct before and after the intervention. We also performed qualitative analyses using data from the structured questionnaire administered at the end of the seminar series. We created a summary of interview answers and comments without identifying individual fellows. The summary was reviewed by all authors. Answers and comments from fellows were explored to generate categories and themes.

Results

Of the 6 first-year geriatric medicine fellows participating, 3 had completed residency training in internal medicine and 3 in family medicine, all in either 2010 or 2011. Only 1 of the 6 fellows had a concrete plan to be associate medical director of an LTC facility after graduation. The other 5 fellows were uncertain about future career plans. However, 4 of these 5 fellows expressed a strong interest in LTC practice after completion of geriatric medicine fellowship training.

Learner Outcomes

See Table 1. Fellows showed a significant improvement in knowledge scores after the intervention (63.33% correct before the intervention and 76.67% correct after the intervention, mean change = 13.33%, P = .03). The mean score of 3 attitude questions increased from 4.67 to 5.50 (P = .14), from 4.33 to 4.50 (P = .61), and from 5.17 to 6.00 (P = .04), respectively. The mean score of the overall attitude questions increased from 4.72 to 5.33 (Change: 0.61, P = .11). The mean score of 3 skills/ability questions increased from 3.17 to 3.83 (P = .10), from 2.67 to 3.83 (P = .01), and from 2.17 to 3.83 (P = .01), respectively. The mean score of overall skills/ability questions significantly increased from 2.67 to 3.83 (Change: 1.17, P = .009).

Curriculum Evaluation

See Table 2. Summary of the structured individual feedback interview of Geriatric Medicine Fellows.

Overall impression

Question 1: What did you think of the “Medical Directorship Seminar” series?

Overall, comments were extremely positive. The comments appeared to fall into 3 different categories. First, fellows felt that they achieved a good knowledge base. Second, all of them commented that they gained a better understanding of the roles and responsibilities of LTC medical directors. Last, all participants felt the curriculum was practical.

Curriculum content

Question 2a: Which session(s) did you find the most helpful/useful? Why?

Most of the fellows felt that session 1 (roles and responsibilities of the medical director), session 2 (infection control), and session 4 (federal regulations and state surveys) were the most helpful and useful. Typical comments expressed included (1) sessions provided a good foundation or knowledge base, (2) sessions were very practical, and (3) fellows felt that they understood how to make a difference in the nursing home.

Question 2b: Are there any topics you think should be revised, improved, or replaced? Why?
Most fellows felt that the topics covered were sufficient and appropriate, but that topics should be coordinated to prevent redundancy.

**Instructional methods**

- **Question 3a:** Did you find the “Role of the Medical Director” framework a helpful way to think about how you might create solutions for challenging problems in the nursing home?
- **Question 3b:** Do you think the content could be taught in a different way that might be more effective? What might some of the solutions be?

**Resources/Aids**

- **Question 4:** Were the materials, resources, and Web sites in the handbook helpful?

**Future directions/Suggestions/Comments**

- **Question 5:** Do you have any other comments or suggestions to improve the curriculum?

### Discussion

Although there have been multiple studies demonstrating an improvement in the quality of care in the nursing homes managed by CMDs, there have been no published studies examining the impact of a medical director's curriculum for residents or fellows. To our knowledge, this is the first study described in the literature evaluating a medical director curriculum designed for geriatric medicine fellows. Our assessment of learner outcomes demonstrated positive effects on geriatric medicine fellows' knowledge, abilities, and skills. Curriculum evaluation confirmed the program's effectiveness in helping fellows better understand and apply what they learned regarding the roles and responsibilities in medical direction. The strengths of the curriculum included the use of the medical director framework, curricular content, case-based discussions, resources, and its synergistic effects with other experiences during fellowship training.

There were several limitations to this study. The curriculum was delivered to and evaluated by only a small number of participants (n = 6) without a randomized control group. We were unable to enlarge our sample size by studying fellows in previous years because the curriculum had undergone a major revision. Another limitation was that the fellows' skills and abilities were assessed by self-report. However, longitudinal follow-up evaluations of these participants in the future may help determine the curriculum's actual effectiveness and impact in the real practice setting. It should also be mentioned that there was a possibility of bias because interviews were conducted by a second-year geriatric medicine fellow who knew the participants before their interviews. However, the presence of both negative and positive feedback suggested that the participants did not feel pressured to respond only favorably. In fact, none of the fellows had only positive or negative comments. All the fellows appeared comfortable in sharing their honest thoughts about the curriculum.

We were not able to demonstrate improvements in fellows' attitudes toward medical direction in our study. We found significant discrepancies between the learner evaluations and curriculum evaluations. Accurate attitude assessment can be difficult to test quantitatively, as it is heavily reliant on self-judgment and perception. The attitude we were hoping to demonstrate was that the medical director should approach the role with an attitude of humility and an understanding of the nursing home culture so as to foster teamwork and change. Although we were not able to demonstrate this in our evaluation, this approach was certainly evident during the case-based discussions at each of the sessions. It seems that a better way to assess such attitudes in the future may be to allow fellows to describe their experiences during fellowship training.

Using the framework of AMDA's medical director roles and responsibilities as a theme was a strength as well as a weakness. To help fellows apply this framework more easily, we considered several strategies. We thought it might be helpful to rename some of the categories, and give more clear examples of each. For example,
Table 2
Curriculum Evaluation: Structured Individual Feedback Interview for Geriatric Medicine Fellows

<table>
<thead>
<tr>
<th>Structured Questions</th>
<th>Answers</th>
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<tbody>
<tr>
<td>1. Overall Impression: What did you think of the “Medical Directorship Seminar” series?</td>
<td>“I was able to learn key points”; “I now know the basics of medical direction.”; “I gained a better understanding of the roles and responsibilities of LTC medical directors”; “the curriculum was practical”; “the sessions are very useful”; “I feel ready to be a medical director.”</td>
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<tr>
<td>2. Curriculum Content: Which session did you find most helpful and why?</td>
<td>This session was “the most useful”; “covered the basics,” “provided a foundation of medical direction,” and “easily captured the concepts of medical direction roles and responsibilities, even for the beginners.” “I previously never learned this topic anywhere else.” “The session helped me to expand my knowledge about medical direction.” “It deepened my understanding.” “I can understand how to make a difference in the nursing home.”</td>
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<tr>
<td>Session 1: Roles and responsibilities</td>
<td>“Very relevant and practical.” “Useful to see the medical director’s perspective in the approach to policies and procedures for infection control.” “I realized a different way of seeing things in LTC.” “Really useful, especially because there was an actual influenza outbreak occurring during the time of the session, and so was able to apply the learning to a real case.”</td>
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<tr>
<td>Session 2: Infection control</td>
<td>“Very practical.” “Good to cover the basic documentation rules at nursing homes.” “Helped me understand how documentation can be helpful or harmful to individual residents, staff, the facility, and physicians from clinical, legal and regulatory standpoint.” “Useful to cover lots of good and bad case examples.” “I better look at my own documentation and others more closely.” “Interesting to know the medical director’s perspective.”</td>
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<tr>
<td>Session 3: Physician documentation</td>
<td>“I was unaware of the state survey process prior to the session.” “I didn’t know that the sessions were available to the public.” “This was my only opportunity to learn about this.” “It gave me a broader perspective of how nursing home surveys affect nursing home practice.”</td>
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<td>Session 4: Federal regulations and state surveys</td>
<td>“Systems-based learning is already covered in the fellowship training program. However, it was good to have the medical director’s perspective towards quality improvement.” “The case examples were good.” “I learned how to be creative in resolving issues by incorporating various perspectives.” “It made me think about developing and implementing a program using a facility systems approach.”</td>
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<tr>
<td>Session 5: Quality improvement</td>
<td>“I liked the videos.” “I found the session very relevant.” “Rather inspiring.” “This topic was already covered during the geriatric medicine fellowship training.” “This topic could come in the earlier part of fellowship training.” “May be good for residency training.”</td>
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<td>Session 7: Transitions in care</td>
<td>“Redundant—this topic was already covered in grand rounds, visiting lecturers, and other conferences during the fellowship year.” “I understand the current trend.” “It is a very valuable concept.”</td>
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<tr>
<td>2b. Curriculum Content: Are there any topics you think should be revised, improved, or replaced? Why?</td>
<td>“There is nothing to add.” The curriculum “had all the essential components.” “Topics should be coordinated to prevent too much redundancy.” “The framework was helpful in breaking down the roles and responsibilities into its various aspects in order to address a problem.” “It was an effective approach to medical directorship.” “A more organized approach.” “It was difficult to apply and utilize this framework.” “It was difficult to remember the 4 main categories.” “It was difficult to understand each category.” “I was unable to identify the categories clearly, since there was a lot of overlap.” “I needed frequent reminders during each session.” “The case scenarios were good.” “I enjoyed learning what was going on behind the scenes.” “I would like more readings or assignments prior to each session, and clearer assignments and expectations.” “I would like additional board exam questions at the end of each session.” “I liked the sessions with the second-year fellow, as this added different inputs and perspectives.”</td>
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<tr>
<td>3a. Instructional Methods: Did you find the “Role of the Medical Director” Framework a helpful way to think about how you might create solutions for challenging problems in the nursing home?</td>
<td>“The handbook was helpful during sessions.” “I will refer to these resources in the future as I encounter complex issues in the nursing home as medical director.” “I liked the resources listed as Web links.” “I will keep the handbook as my survival guide book.” “The combination and integration with medical director’s rounds and fellowship training were good.” “A good supplement to the medical director rounds.” “Rounding with medical directors was more useful and meaningful after this curriculum.” “Sessions helped augment the learning especially given the limited time with medical directors.” “I feel more prepared or ready to be a medical director, which I feel would not be achievable with clinical exposure or shadowing alone.” “Remove sessions 6 and 7, because of too much overlap and redundancy within the fellowship training program.”</td>
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<td>3b. Instructional Methods: Do you think the content could be taught in a different way that might be more effective? What might some of the solutions be?</td>
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<td>4. Resources/Aides: Were the materials, resources, and Web sites in the handbook helpful?</td>
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<td>5. Future Directions/Suggestions: Do you have any other comments or suggestions to improve the curriculum?</td>
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“Quality of Care” could be renamed “Systems” and “Patient Care” could be renamed “Clinical.” The creation of a mnemonic could also facilitate application (“SPEC” for Systems, Physician, Education, and Clinical). Providing a pocket card during the seminar series could also be helpful, and even serve as a handy reference during medical directorship rounds.

The fellows pointed out redundancy with regard to the topics on culture change and transitions in care. Indeed, although there were speakers and conferences during the past year that covered these topics, this will not be the case every year. In addition to improved coordination with the other educational offerings, we plan to increase the curriculum’s effectiveness by inviting the nursing home leadership and their interdisciplinary teams to present current innovations in these areas and discuss how changes in their facilities were rolled out. This would also better illustrate and role model the importance of leadership and partnership in producing change.

There are several factors that we believe are essential for successful implementation. (1) It is important that at least 1 faculty
member knowledgeable and experienced in medical direction should facilitate these sessions. A CMD is preferable, as this would also demonstrate to the fellows the importance of commitment to this role. (2) It is also important for the fellowship program director to understand the importance of this topic and the influence it can have for the future of LTC, so that they will provide adequate protected time and support for this curriculum. In addition, the program director can provide a forum for fellows to discuss common on-call issues as additional learning opportunities that can be discussed in the context of medical directorship. (3) The nursing home clinical faculty and medical directors should also be familiar with the curriculum, as oftentimes questions regarding medical directorship may be triggered during the course of clinical care. Faculty play an important role in reinforcing concepts learned in the seminars, as fellows see how to apply their learning to real-life situations. (4) Finally, administrative support is also important to collect and process the results of the surveys and evaluations so that the curriculum can be continually shaped to meet the needs of the learners and the resources of the program.

Conclusion

This curriculum meets a critical need in LTC. Physician input into improving the operation and management of the LTC system is essential, and the role of the nursing home medical director has increased over the years.7–12 AMDA developed the CMD program for practicing physicians to equip physicians with certain knowledge and skill sets so as to help them successfully manage the expected clinical and managerial challenges encountered in our rapidly changing LTC environment. In 2001, AMDA created a “Futures Program” that provided scholarships and a special educational track for a limited number of interested residents and fellows to attend the AMDA annual conference to help them gain competency in this area. However, because many graduating geriatric medicine fellows eventually take on nursing home medical director positions, providing them with the basics for this role makes a lot of sense and helps equip greater numbers of nursing home medical directors to address the needs of our aging population.

In summary, an innovative curriculum for medical direction was successfully implemented and provided to first-year geriatric medicine fellows. We believe that this strategy can be replicated at other geriatric medicine fellowship programs. We are sharing this curriculum with others by including it in a medical education Web site (Portal of Online Geriatrics Education, www.POGoe.com). We are hopeful that exposure and training regarding nursing home medical directorship during fellowship training will increase the number and quality of nursing home medical directors across the nation. Longitudinal follow-up of these fellows should help determine whether they eventually pursued a career in medical directorship. In addition, we may also consider performing needs assessments for other potential learners, such as internal medicine and family medicine residents. The results of this study are encouraging. We believe it is an important step in geriatric medicine fellowship education and the future of medical direction in LTC.

References