An Interprofessional Residency Clinic Curriculum for Geriatrics and Palliative Care
Janel Kam-Magruder, MD | Lani Ackerman, MD | Annie Derthick, PhD | Kirstin Lesage, MD
PRiMER. 2018;2:21.
Published: 10/15/2018 | DOI: 10.22454/PRiMER.2018.183282

Abstract

Background and Objectives: Caring for geriatrics and palliative care patients requires integrated interprofessional care. Studies regarding interprofessional education in family medicine reveal concerns by residents regarding applicability in future practice. Our study objective was to determine the effectiveness of teaching multispecialty geriatric and palliative care skills to family medicine residents using an interprofessional clinic curriculum.

Methods: We evaluated an interprofessional geriatric and palliative care outpatient curriculum from March 2014 to June 2015. The interprofessional team included pharmacists, psychologists, family medicine geriatricians, and palliative care providers. Family medicine residents in a 3-year residency program completed pre- and postassessments evaluating their confidence and knowledge in specific areas of geriatric and palliative care. These assessments covered their abilities in starting advance care planning and setting goals in care discussions, as well as fall and depression assessment and elderly medication review. The subsequent resident perception of teaching effectiveness was also assessed. Qualitative comments were evaluated for themes. Patient perceptions were also surveyed.

Results: Family medicine residents completed 52 surveys (51%). Improvements in all areas were significant (P<0.05). Postevaluation mean scores by year and by session demonstrated significant improvements in palliative care tools and teaching effectiveness. Qualitative comments revealed three themes: overall positive or negative educational value and understanding of assessments, reflection on interprofessional collaboration and team experience value, and improvements in logistics and collaboration. Patient satisfaction surveys reported improved satisfaction with their PCMH.

Conclusions: The use of an interprofessional and multispecialty clinic curriculum to teach geriatric and palliative care improved resident self-assessed knowledge and confidence as well as teaching effectiveness. Further studies evaluating resident exposure to such visits could substantiate the long-term influence of this educational endeavor.

Introduction

Family physicians increasingly lead and participate in integrated professional teams. Family medicine milestones endorse “Role model[ing] leadership, integration, and optimization of care teams” by residents (Systems-Based Practice-4). Residents with interprofessional training report better communication and collaboration, and some residencies incorporate such learning experiences. However, some residents doubt the educational value and applicability of this type of teamwork for future practice. Family medicine residencies may provide ideal situations for interprofessional, multispecialty education. Family
medicine residencies often train residents in parallel with teaching programs for pharmacists, psychologists, and specialty fellowships such as those in geriatrics and palliative care.\textsuperscript{6-9} In no area of family medicine is interprofessional care more important than in geriatrics and palliative care, where complicated diseases and medical regimens, end-of-life care, and a limited specialty workforce require the combined resources of a variety of providers.\textsuperscript{10-13}

We evaluated a model of interprofessional education that colocated a multispecialty geriatrics and palliative care clinic in a residency patient-centered medical home (PCMH). Our goals for this experience included resident education in geriatrics and palliative care skills, as well as developing teaching effectiveness to promote confidence in leading future practice teams.

**Methods**

Residents from the Alaska Family Medicine Residency Clinic (AKFMR) participated in this curricular clinic (half day of didactics, patient discussion, and a clinic visit) during their longitudinal and postgraduate year (PGY) 3 geriatric block rotation. During their yearly program evaluation, previous residents had requested a specialty clinic experience to enhance geriatric teaching. Authors evaluated this curricular clinic from March 2014 through December 2015. The University of Alaska Anchorage Institutional Review Board exempted this clinic and curriculum from review.

The AKFMR program (3 years, 12 residents per year) focuses on preparing residents to practice in underserved Alaskan communities.

**Curricular Clinic Development**

The faculty team met three times to review literature, determine focus areas and learning objectives, and develop evaluations.\textsuperscript{14} The team included family medicine faculty physicians with a Certificate of Added Qualifications in palliative care or geriatrics, as well as a psychologist, pharmacist, home-visiting physician assistant, and a palliative care fellow. Focus areas included depression screening, falls assessment, symptom appraisal, and advance care planning (ACP).

**Curricular Clinic Preparation**

Residents and faculty referred their complicated geriatric and palliative care patients to the clinic. Nurses contacted the patients and caregivers prior to the clinic to explain the goals and assessments of the clinic. The faculty team and residents were emailed with information on the patients and assessments for review.

**Curricular Clinic**

On the curricular clinic morning, the faculty team and residents reviewed focus areas and assessments in a didactic session (8 am-9 am). Residents participated initially as learners, then progressed to teaching the assessments to newer residents and students in later sessions.

Residents presented a patient review (9 am-10 am). The team then discussed issues related to the didactic focus areas. Lastly, additional care team members (eg, ethicists, chaplains, social workers) identified other information based on the discussion.

Patient visits (10 am and 11 am) began with a nurse assessing vision and orthostatics while the residents and faculty team huddled to review key assessments. The residents interviewed, examined, and completed assessments with patients and an attending (geriatric or palliative care faculty or fellow) and a rotating pharmacist and psychologist. Additional providers, such as social workers, provided support as needed. The faculty team initially mentored residents during their patient assessments. Residents progressed in later sessions to independent interactions with supervision (Figure 1).

**Evaluation and Data Review**

Investigators developed an anonymous resident pre- and postevaluation and patient survey. The resident introductory email included instructions on completing the evaluations, and evaluations were provided prior to
didactics and then following clinics. The assessments included a knowledge and confidence self-assessment (both on a 4-point Likert scale) and qualitative comments on experience. After the clinic was implemented, a patient survey queried satisfaction (4-point Likert scale). Patients received the survey at the beginning of the visit with instructions to complete it after the visit.

**Statistical Analysis**

Investigators attained pre- and postevaluation means and analyzed them with a tailed t-test (significance $P<0.05$). Posttest scores were further compared per postgraduate year and number of sessions attended (1-4) using one-way ANOVA and Tukey post-hoc analyses (SPSS).

The authors and a nonauthor faculty analyzed qualitative comments through a standard thematic technique (MAXDQA software, Berlin, Germany: Verbi GmbH; 2017). Authors J.K.M. and L.A. met regularly to review responses, establish codes and coding frameworks, and identify and define themes and subthemes. Author A.D. reviewed the coding framework and themes. Authors J.K.M., L.A, and a nonauthor faculty then achieved consensus for the analysis as well as thematic saturation. Question prompts in the evaluations included reflection on learning points of the experience, as well as feedback on flow, content, didactics, patient interactions, or other parts of the experience. Patient survey means were calculated.

**Results**

One hundred and one evaluations were distributed, and 52 were completed (51.4%). Response numbers by session attendance and per PGY included first-session evaluations by PGY-1 (9), PGY-2 (10), and PGY-3 (4); second session evaluations by PGY-2 (5) and PGY-3 (10); third session evaluations by PGY-3 (9); and fourth session evaluations by PGY-3 (3).

Evaluations demonstrated significant perceived improvement ($P<0.05$) in the focus areas; (Table 1). ANOVA postevaluation means by numbers of sessions attended demonstrated numerically higher scores in perceived knowledge of palliative care ($F(3,47)=3.00$, $P=0.04$) and ACP ($F(3,48)=4.19$, $P=0.01$), as well as confidence in teaching effectiveness ($F(3,48)=2.954$, $P=0.042$). Post-hoc analysis revealed that the mean score in knowledge of ACP after one session was 2.78 (SD 0.52), which was significantly different from the third session's mean score of 3.45 (SD 0.33, $P=0.01$). ANOVA postevaluation scores by PGY in these areas revealed numerically higher means in perceived knowledge of palliative care ($F(2,48)=5.32$, $P=0.01$) with a post-hoc mean for PGY-1 of 2.78 (SD 0.44), which was significantly different from that for PGY-3 (3.37, SD 0.51, $P=0.01$). Knowledge of ACP in PGY-1 ($F(2,49)=7.88$, $P=0.00$) had a post-hoc mean of 2.33 (SD 0.50), which was significantly different from that for PGY-2 (3.07, SD 0.26, $P=0.01$) and PGY-3 (3.14, SD 0.65, $P=0.00$). Additionally, confidence in teaching effectiveness in PGY-1 ($F(2,49)=7.071$, $P=0.002$) had a post-hoc mean of 2.00 (SD 0.87), which was significantly different from that for PGY-3 (2.96, SD 0.64, $P=0.03$).

Qualitative responses revealed nine codes and three themes (N=86, average 14.5 words per response). The themes identified revolved around the educational value of the clinic, the benefits of collaboration, and the suggested areas of improvement (Table 2).

Patient survey responses (32% response rate, 52/162) reported improved PCMH satisfaction (mean 3.58) and sense of support (mean 3.63, Table 3).

**Conclusion**

Our curriculum provides an innovative model for colocating an interprofessional geriatric and palliative care clinic in a residency PCMH. Qualitative comments corroborate past resident studies regarding improved collaborative appreciation and were used to identify specific learned skills and to make suggestions for improvement. Residents perceived improved skills in depression, fall risk, and symptom assessment. Residents also reported improvement by number of sessions attended and PGY in palliative care skills and future teaching effectiveness. Our patients reported improved PCMH satisfaction and perceived support.
Limitations of this study include the lack of a control group (single site), follow up on qualitative comments, and repeated evaluation to assess durable effects. Furthermore, each educational method and interprofessional learner lacked separate evaluations. Residents did not perceive a significant improvement in scores by number of sessions attended, and PGY scores may demonstrate the effects of overall progression through residency as opposed to learning solely from this clinic. Low response numbers may reflect a response bias and the optional nature of the evaluation. Patient survey limitations include potential response bias and lack of presurvey and durable effect surveys.

In conclusion, colocating a specialty interprofessional geriatrics and palliative care clinic within a residency PCMH may enable resident skill growth and teaching effectiveness to improve future practice teams. Future research could further explore the impact of this clinic on resident development.

Tables and Figures
Curricular Clinic Preparation
Nurse precalls and sends letter to patient and family to explain clinic
Resident is emailed resources for assessment review and preevaluation
Resident and faculty select topics for didactics
Interprofessional team providers review patients

Didactics 8 am - 9 am
Residents along with faculty physicians, a psychologist, a pharmacist, and additional providers* review assessments and recommendations and focus on topics for discussion
Assessments and Curriculum Topics: Cognition, Depression, Gait, Symptom and Functional Assessments, Medication Review, Caregiver Support, Goals of Care Conversations, ACP Options

Interprofessional Team Patient Discussion 9 am - 10 am
Resident presents brief medical, social, and symptom history; medication review; overviews reasons for consultation; and facilitates team discussion
Identifies areas most needed for assessments and evaluations**

Patient Visits 10 am and 11 am***
Nurse evaluates patient vision and orthostatics, gives handouts for identified assessments (depression, function, symptom, caregiver burnout)
Resident, faculty, and pharmacy provider introduce visit to patient, assess symptoms and medication management, and initiate interventions
Resident, faculty, and behavioral health provider follow up patients’ depression evaluation, conduct cognition evaluation, and provide intervention

Resident and faculty elicit patient goals, complete symptom assessment, and discuss ACP options and other needed support with the patient
Additional support as identified (eg, social work and case manager) provided to the patient****
Plan is reviewed with the patient and survey is given
Team debrief with a review of assessments, plans, and teaching points
Residents encouraged to complete post-evaluation

*Interprofessional team = attending (geriatrician or palliative care faculty and fellow), psychologist, pharmacist, and additional providers: social workers, case managers, home visiting physician’s assistant, and hospital ethicist and chaplain.

**Time was devoted to certain assessments according to the level of importance, which was identified during team discussion visits. These may indicate a more geriatric, palliative, or combined focus.

****Two patients are scheduled at a time (2 patients evaluated at 10 am and 2 at 11 am each, with a resident learner) for 4 total patients in a half day. Two residents are in attendance for each half-day session.
### Table 1: Results of Resident Self-evaluations on Geriatrics and Palliative Care Skills

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean Pre (SD)</th>
<th>Mean Post (SD)</th>
<th>N</th>
<th>95% CI</th>
<th>T</th>
<th>Df</th>
<th>Sig t test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge about aim of palliative care</td>
<td>2.6(0.75)</td>
<td>3.2(0.51)</td>
<td>51</td>
<td>-0.81, -0.45</td>
<td>-7.10</td>
<td>50</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Knowledge about advanced care planning options</td>
<td>2.3(0.83)</td>
<td>3.0(0.61)</td>
<td>52</td>
<td>-0.86, -0.52</td>
<td>-8.16</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Knowledge about starting difficult discussions concerning end of life and goals and preferences</td>
<td>2.4(0.67)</td>
<td>3.0(0.63)</td>
<td>52</td>
<td>-0.75, -0.44</td>
<td>-7.55</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Knowledge regarding depression and fall risk assessment</td>
<td>2.2(0.77)</td>
<td>3.1(0.56)</td>
<td>50</td>
<td>-1.18, -0.74</td>
<td>-8.69</td>
<td>49</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Knowledge regarding medication concerns in elderly</td>
<td>2.3(0.69)</td>
<td>3.0(0.50)</td>
<td>52</td>
<td>-0.85, -0.50</td>
<td>-7.86</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Confidence in ability to assess patient symptoms</td>
<td>2.5(0.73)</td>
<td>3.0(0.61)</td>
<td>52</td>
<td>-0.67, -0.33</td>
<td>-5.91</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Confidence in ability to elicit patient goals and preferences</td>
<td>2.4(0.77)</td>
<td>3.0(0.52)</td>
<td>52</td>
<td>-0.85, -0.49</td>
<td>-7.49</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Confidence to initiate and facilitate advanced care planning conversations and options</td>
<td>2.2(0.72)</td>
<td>2.9(0.58)</td>
<td>52</td>
<td>-0.82, -0.52</td>
<td>-8.82</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Confidence using assessment tools to identify depression and fall risk</td>
<td>2.2(0.83)</td>
<td>3.0(0.63)</td>
<td>52</td>
<td>-1.04, -0.65</td>
<td>-8.75</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Confidence to use or teach assessment tools</td>
<td>2.1(0.79)</td>
<td>2.7(0.76)</td>
<td>52</td>
<td>-0.80, -0.42</td>
<td>-6.43</td>
<td>51</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Cognitive evaluation confidence and knowledge not evaluated as initial diversity tools used.
Abbreviations: SD, standard deviation; CI, confidence interval; T, computed test statistic; Df, degrees of freedom.
Pre and post means with significance P<0.05.

### Table 2: Qualitative Statements From Resident Evaluations

<table>
<thead>
<tr>
<th>Theme</th>
<th>Subtheme Definition (n*, % of 86 Total Comments)</th>
<th>Sample Quotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational value</td>
<td>Participants described the clinic and didactic as an overall positive educational experience (7, 8.1%).</td>
<td>&quot;After 4 times of being a part of geri/pall clinic I look back and realize how much more comfortable I feel managing geriatric patients and end of life issues now. The rest of my residency and when I’m out in practice I feel confident I can use these skills and offer an extra layer of care to my geriatric patients.&quot;</td>
</tr>
<tr>
<td></td>
<td>Participants described positive educational experience due to learning assessment tools or resources (25, 29.0%).</td>
<td>&quot;Specific memory tasks like grandchildren’s names might be a screening tool for dementia in foreign language speakers.&quot;</td>
</tr>
<tr>
<td></td>
<td>Negative: Participants described negative feelings towards the clinic and didactic experience (2, 2.3%).</td>
<td>&quot;I felt overwhelmed because I was thinking about all of the medical issues that needed to be addressed.&quot;</td>
</tr>
<tr>
<td>Collaboration value</td>
<td>Participants described an appreciation for the experience in team collaboration (15, 17.4%).</td>
<td>&quot;Multifaceted approach with feedback from team is very constructive and efficient&quot;</td>
</tr>
<tr>
<td></td>
<td>Participants described appreciation for specific professionals (11, 12.8%).</td>
<td>&quot;Pharmacy is very important part of the team...review of MAR useful for decreasing anticholinergic side effects.&quot;</td>
</tr>
<tr>
<td></td>
<td>Participants described improved reflection on patient care or appreciation of goals (9, 10.4%).</td>
<td>&quot;There is a balance between patient autonomy and paternalism that may vary between providers and patient backgrounds.&quot;</td>
</tr>
<tr>
<td>Suggested improvement</td>
<td>Participants described logistical improvements to the clinic (6, 7.0%).</td>
<td>&quot;Concern about number of people in room, one suggestion is to have resident and behavioral health in room only.&quot;</td>
</tr>
<tr>
<td></td>
<td>Participants requested improved learning of specific tools in the clinic (5, 5.8%).</td>
<td>&quot;I would like to see more advanced care conversation, geriatric screening, cognitive screening.&quot;</td>
</tr>
<tr>
<td></td>
<td>Participants suggested improvement in collaborative interactions (6, 7.0%).</td>
<td>&quot;Determining flow for interview [during patient review discussion] was difficult, primarily with different group members taking different parts, however it worked well after initial struggle.&quot;</td>
</tr>
</tbody>
</table>
Acknowledgments
The authors thank the additional team members who started this curricular clinic: Dr Stephen Rust, Dr Anne Musser, Shannon Fowler, Robin Cooke, Kathryn Butler, Judith Renwick, Sarah Dewane, and Dr Harold Johnston.


Corresponding Author
Janel Kam-Magruder, MD
janel.kam@providence.org

Author Affiliations
Janel Kam-Magruder, MD - Alaska Family Medicine Residency (Anchorage, AK), Alaska Hospice and Palliative Care Fellowship, and University of Washington School of Medicine, (Seattle, WA).
Lani Ackerman, MD - United Family Health, Guangzhou, China
Annie Derthick, PhD - Alaska Family Medicine Residency, Anchorage, AK
Kirstin Lesage, MD - Essentia Health, Duluth, MN

References

Copyright © 2018 by the Society of Teachers of Family Medicine