ORIGINAL RESEARCH

A Qualitative and Quantitative Analysis of the Geriatrics Update: Clinical Pearls Course

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ABSTRACT

Background

The University of Calgary Cumming School of Medicine Annual Geriatrics Update: Clinical Pearls Course (Geriatrics Update) is a one-day, continuing medical education (CME) course designed to enhance geriatrics competency for family physicians (FPs), given increasing population age and complexity. We aimed to evaluate how the course meets FPs' perceived learning needs and identify modifications that may better support FPs.

Methods

Descriptive data from 2018–2019 course evaluation surveys including demographic data, evaluations, and narrative feedback from participating FPs. Semi-structured phone and video-conferenced interviews with FPs were thematically analyzed each year.

Results

Evaluation surveys had high response rates of FPs (52 or 61% in 2018; 39 or 58% in 2019). Most FP respondents (84% in 2018 and 82% in 2019) intended to make practice changes. FPs were significantly (p=.001) more confident on course objectives after the course in both years. All interviewees (n=20) described fulfilled perceived and unperceived learning needs and planned to return. The Geriatrics Update course is the primary source of Geriatrics CME for 60% of interviewees.

Conclusions

Iterative evaluation of Geriatrics Update identified that the course is well received, and often FPs primary source of geriatric CME. Interviews provided additional context and descriptive feedback to improve course delivery and better meet FP learning needs.

Key words: continuing medical education (CME), continuing professional development (CPD), geriatric medicine, primary care, program evaluation, family physicians

INTRODUCTION

Family physicians (FPs) in Canada provide the majority of medical care for frail older adults, given the small number of Canadian geriatric medicine specialists (242 in 2013) who are disproportionally located in urban, often academic, centres.[1–4] Although geriatric medicine curricula have expanded throughout Canadian undergraduate and postgraduate programs, a significant amount of education in geriatric medicine occurs after formal medical training. Up to 63% of Canadian FPs state that they have had an inadequate education in common geriatric syndromes such as dementia and incontinence.[5–8] Geriatric knowledge and practice gaps result in serious morbidity and mortality as demonstrated in long-term care, with the same shortcomings often repeating over multiple years.[9]

There have been close to ten broad programs in the literature developed to enhance physician geriatric medicine knowledge and skills, using varying models of general or comprehensive geriatric continuing medical education (CME) delivery. These studies showed improvements in self-reported competency and knowledge, as well as practice changes.[1,10–17] Of approximately ten annual geriatric courses in Canada, only one has been studied and published.[13,18,19] The University of Toronto Five-Weekend Care of the Elderly Certificate Course, developed for primary care physicians, offers a comprehensive approach to primary clinical care of elderly patients, and has similarly shown improvements in self-rated knowledge and confidence in managing geriatric issues.[13] Unfortunately, the course may not be a feasible option for many primary care physicians, particularly in Western Canada.

The Geriatrics Update: Clinical Pearls [Geriatrics Update] course was designed for rural and urban family

physicians in Alberta and beyond. This one-day University of Calgary Cumming School of Medicine course provides evidence-based practical clinical information. While the Geriatrics Update course has typically been well received, with stable or increasing attendance annually, the goal is to ensure the course continues to support high-quality care of older adults in primary care. This study aimed to formally evaluate the University of Calgary Geriatrics Update: Clinical Pearls course in 2018–2019 to identify characteristics that successfully met family physicians' learning needs and areas for further improvement, as well as assess the impact of modifications following multi-modal feedback in 2018. A secondary aim was to develop a successful model of geriatrics CME through the promotion and support of high-quality care of older adults by family physicians, and the provision of up-to-date, evidence-based information that is practical and reflects the learning needs of all professionals interested in the care of older adults.

METHODS

Ethics

This study was approved by the University of Calgary Conjoint Health Research Ethics Board (Study ID: REB18-0294).

Course Description

The annual Geriatrics Update course objectives focus on clinical pearls and best practice using a blend of plenary group sessions, interactive small group workshops, plenary short snappers, and panel discussions from a primary care perspective. While the course was designed primarily for family physicians, allied health professionals are welcome to attend.

Course objectives and topics are chosen each year by the Geriatrics Update Planning Committee, which includes rural and urban family physicians with a range of experience and expertise in geriatric medicine, as well as a geriatric medicine specialist (HNS, course chair). The program changes annually based on perceived and unperceived needs assessment sources locally and nationally, including evaluations from the previous year's iteration, evaluations of other CME courses offered locally, national geriatrics CME needs assessment sources, and local referral patterns to specialized geriatric services. Course topics and the type of session from the 2018 and 2019 programs can be found in Table 1; rationale for topic inclusion and format can be found in Table 2.

Study Design and Participant Recruitment

Descriptive data were obtained from voluntary online evaluation surveys following completion of the Geriatrics Update course in September 2018 and 2019, respectively. The bulk of qualitative data came from one-on-one interviews with family physician volunteers.

All participants were notified of the study on the registration form, and family physicians were given the opportunity to voluntarily participate in interviews. Convenience sampling was employed to recruit interview participants from registered family physicians through onsite recruitment at the course venue, as well as through the registration and evaluation forms. Interviewees were eligible for the study if they were attendees and English-speaking family physicians (as the course and interviews were offered exclusively in English); there were no other exclusion criteria. Consent was obtained either in-person or via e-mail.

Family physicians were contacted by the interviewers (LT in 2018, PH in 2019) after course completion to schedule an approximately 15-minute interview at their convenience. Interviews were conducted over the phone or via video-conferencing software (e.g., Skype), between September to November of 2018 and 2019. A semi-structured interview guide was developed with the support of local education scholars, including a Professor in Medical Education and Community Health Sciences, a Care of the Elderly Physician, and a Geriatrician with a Master's in Education. Participants had the opportunity to reflect on their practice and potentially claim credit for "linking learning to practice" through the College of Family Physicians of Canada. The interview script is provided in Appendix A.

Data Analysis

Descriptive data collected from evaluation surveys included basic non-identifying demographic data, overall course evaluations, pre- and post-course confidence in course objectives, individual session evaluations, intention to change practice, and free-form text for open-ended comments. While data from participants from various allied health professionals and learners were collected, only family physician data was analyzed, given the objectives of this study. Paired *t*-tests were used to assess before and after changes in confidence with respect to the annual course topics across 2018 to 2019. All quantitative data were analyzed (by PH) using IBM SPSS Statistics Version 25.0 (IBM SPSS Statistics, Armonk, NY).

Qualitative data obtained from semi-structured interviews were digitally audio-recorded without personally identifiable information, independently transcribed verbatim, and thematically coded. Two members (LT in 2018, PH in 2019) independently identified and coded salient themes and subthemes from the transcribed interviews. Themes were then discussed with one other team member (primary investigator HNS) to confirm consensus was reached and, where possible, saturation of themes. Exemplar quotes were then chosen to support the qualitative themes.

RESULTS

Descriptive Data

A flow diagram of the course attendees and study participants is shown in Figure 1. Overall survey response rates were 60% (n=90) and 45% (n=64) in 2018 and 2019. Family physicians comprised more than half of surveys completed (58%, n= 52 in 2018; 61%, n=39 in 2019). Surveys completed by other health professions (including registered nurses, nurse

TABLE 1.
Course topics and session format[a] from the 2018 and 2019 Geriatrics Update programs

	2018	*2019*
Opening plenary	Too Much of a Good Thing? How to Successfully Deprescribe	Where Do Older People Belong? Everywhere! EDs and the Continuum of Care
Plenary Short snappers		Clinical Pearls for Diagnosing the Older Adult with Cognitive Impairment Clinical Pearls for Medical Management of Dementia Approach to Behavioral and Psychological Symptoms of Dementia: An Overview Depression and Anxiety Across the Continuum Asymptomatic Bacteriuria
Concurrent workshops	Handling That Cannabis Conversation Managing Responsive Behaviours in Dementia Jagged Little Pill – Non-pharmacological Strategies for Managing Insomnia Successfully Supporting Dying in Supportive Living Assessment and Management of Depression in Older Adults Is This Parkinson's?	Dementia – a Deeper Dive – from Symptoms to Diagnosis Managing Dementia in the Community – After the Diagnosis Managing Chronic Pain in Older Adults Fitness to Drive in the Older Adult Clinical Pearls for a Primary Care Approach to Frailty
Plenary Short Snappers (presented by panel members) followed by Panel Discussion	Transitions and Responsive Behaviours: Connecting Care Across the Continuum Short snappers: Impact of transfer on responsive behaviours Locus of control to minimize impact of transfer on responsive behaviours Resources to minimize impact of transfer on responsive behaviours Restraint as Last Resort policy and responsive behaviours Interdisciplinary panel representing: geriatric mental health/ psychiatry; advanced practice nursing in Seniors' Health; home care administration; acute care	Addressing Gender and Vulnerability Issues in the Older Adult Short snappers on different vulnerable older adult populations from clinician/ researcher experts who then formed the panel: Sex and gender HIV in older adults LGBTQ2S+ Economically disenfranchised Different cultures/ new comers to Canada

[a]The planning committee selects topics and decides which session format (e.g., plenary keynote or panel, short snapper, or concurrent workshop) would best fit the learning objectives by consensus. Concurrent workshops are designed to be more interactive in smaller groups and allow more depth of discussion. The short snappers allow different perspectives from different speakers followed by a panel discussion; ideal for controversial content or unperceived needs. The plenary sessions typically highlight a specific expert speaker and/or topic of broad interest/ perceived need.

practitioners, pharmacists, occupational therapist, surgical assistants, psychologists, social workers, and learners) were not included in this analysis.

Demographic data is described in Table 3. The majority of family physician respondents had been practicing for over 10 years, (63.4% [2018] and 69.2% [2019]). Approximately 30% of family physicians had attended the year previous to the time of the survey, and most reported implementing practice changes as a result. Most family physicians (84% [2018] and 84% [2019]) intended to make practice changes following the course.

Course evaluations using a 5-point Likert scale (1 indicating Strongly Disagree and 5 indicating Strongly Agree) are listed in Table 4. Course evaluation data had an overall left skew. Participating family physicians reported a significant increase (all p values = .001) in confidence in overall course objectives (Figures 2a and 2b). Individual sessions, including compiled plenaries, short snappers (2019), breakout rooms, and panels, were rated between 4.0 to 5.0 for having met stated learning objectives and provided active learning (2018), clinical pearls (2019), and interactivity (Table 2).

Qualitative Themes

Four major themes emerged from the qualitative interviews. The themes include: fulfilled needs through geriatric CME, feedback on course structure, knowledge translation, and systems of geriatric and primary care.

Theme 1: Fulfilled Learning Needs

> "I keep returning [to the course] because it reflects the work I do…care of the elderly is important for me". – FP1

All attendees felt that the course fulfilled perceived and unperceived learning needs, due to relevance physician's increasingly or primarily geriatric practice (90%), interest in staying up to date (30%), or interest in the topics (30%). Physicians attended to obtain dedicated geriatrics CME, fulfill

perceived learning needs, and networking with specialists. Accordingly, interviewees found the course relevant, valuable, and in a convenient location relevant to their practice. Physicians also identified several practice changes in the free-form text, including reframing of behavioural and psychological symptoms in dementia (BPSD), and functional/ frailty screening. Seventeen (85%) of interviewed participants planned to return.

TABLE 2.
Example topic selection, session format, and rationale

Topic (year)	*Session Format*	*Rationale*
Handling That Cannabis Conversation (2018)	Concurrent workshop	Cannabis legalization in 2018
Successfully Supporting Dying in Supportive Living (2018)	Concurrent workshop	Medical Assistance in Dying legalization in 2016
Managing Chronic Pain in Older Adults (2019)	Concurrent workshop	Opioid Crisis; pain short snappers/panel discussion was well received in a previous course and accordingly was offered again but as a concurrent workshop for further depth given ongoing learning need
Is this Parkinson's (2018)	Concurrent workshop	Evaluation topic suggested on previous evaluations; common clinical challenge; referral patterns/ long waitlist for movement disorder clinic
Diagnosing and managing cognitive impairment (2019)	Concurrent workshops (in depth) Short snappers (overview/ key points)	Local referral patterns and physician to physician telephone consultations revealed knowledge gaps in the initial diagnostic workup and management of dementia
Behavioural and psychological symptoms of dementia; Responsive behaviours (2018 and 2019)	Short snappers and Panel re. systems (2018) Single Short snapper overview clinical management (2019)	Local and national needs assessments as well as local referral patterns
Addressing Gender and Vulnerability Issues in the Older Adult (2019)	Short snappers and Panel (2019)	Identified by the Canadian Institutes of Health Research (CIHR) Sex- and Gender-Based Analysis Policy as well as the Institute of Gender and Health, and the Truth and Reconciliation Commission of Canada as a key unperceived learning need

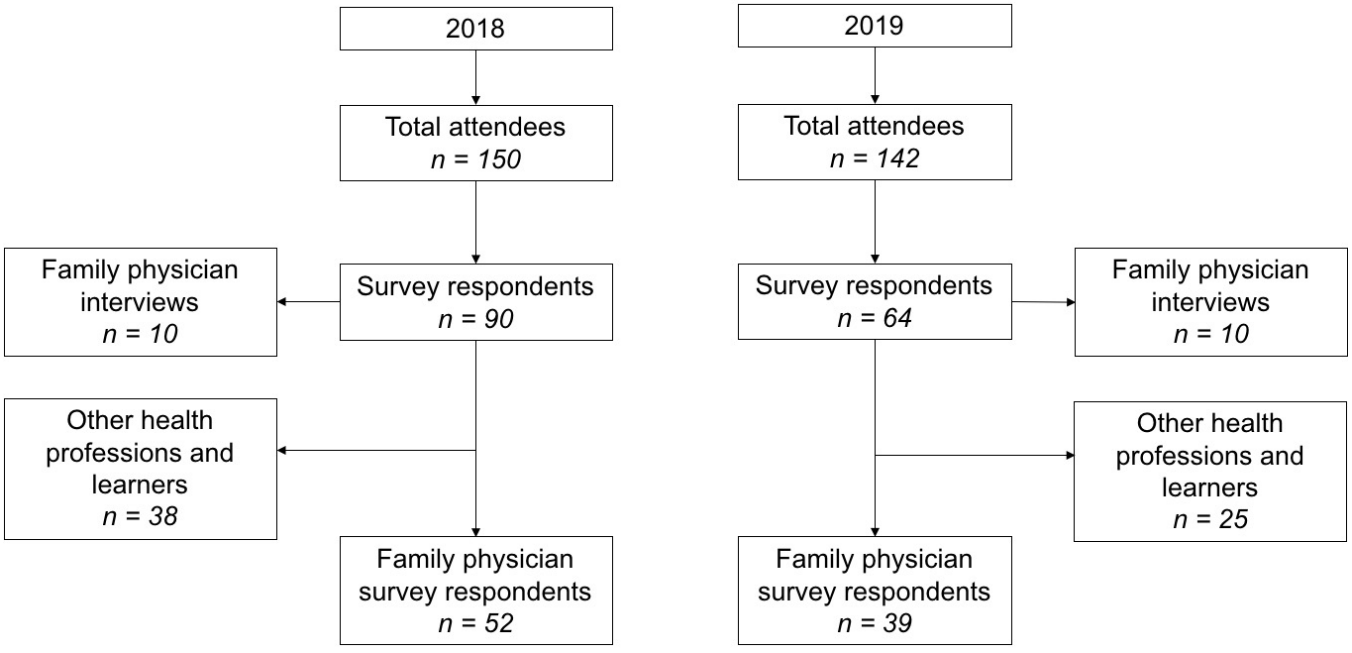

FIGURE 1. Flowchart of Geriatrics Update course attendees, survey respondents, and interviewees in 2018 and 2019

TABLE 3.
Family physician participant demographics

	2018 (%)	*2019 (%)*
Years in Practice	(n = 52)	(n = 39)
0–5	9 (17.3)	6 (15.4)
6–10	10 (19.2)	6 (15.4)
11–15	9 (17.3)	8 (20.5)
16–20	6 (11.5)	3 (7.7)
>20	18 (34.6)	16 (41)
Attended Last Year	(n = 50)	(n = 38)
Yes	15 (30)	11 (28.9)
No	35 (70)	27 (71.1)
Made Practice Changes Since Last Course Attendance	(n = 15)	(n = 11)
Yes	13 (86.7)	8 (72.7)
No	2 (13.3)	3 (27.3)
Intention to Change Practice	(n = 51)	(n = 38)
Yes	43 (84.3)	31 (81.6)
No	8 (15.7)	7 (18.4)

TABLE 4.
Overall course evaluation by family physician participants using a 5-point Likert scale between 2018 and 2019

	2018 Median (IQR) (n = 52)	*2019 Median (IQR) (n = 38)*
Met stated objectives	4.0 (4.0–5.0)	3.0 (3.0–4.0)
Relevant to practice	5.0 (4.0–5.0)	4.0 (3.0–4.0)
Enhanced my knowledge	4.0 (4.0–5.0)	3.0 (3.0–4.0)

> "…one of the breakaway sessions was [a driver's assessment] and that was being highlighted as an issue and there were just a couple of things that I maybe hadn't even identified as a gap in my knowledge but that was picked up and talked about at the conference which I really liked." – FP2

Interviewees believed that the specific geriatric CME provided by the course fulfilled perceived learning needs and

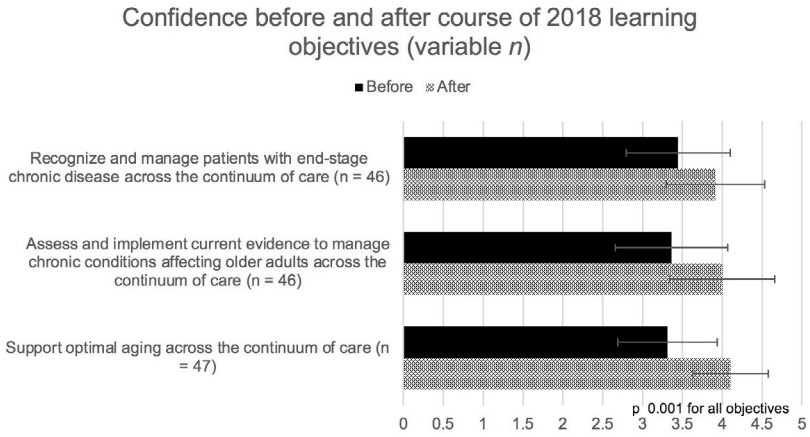

FIGURE 2a. Family physician confidence in course learning objectives before and after the 2018 Geriatrics Update course using a Likert scale

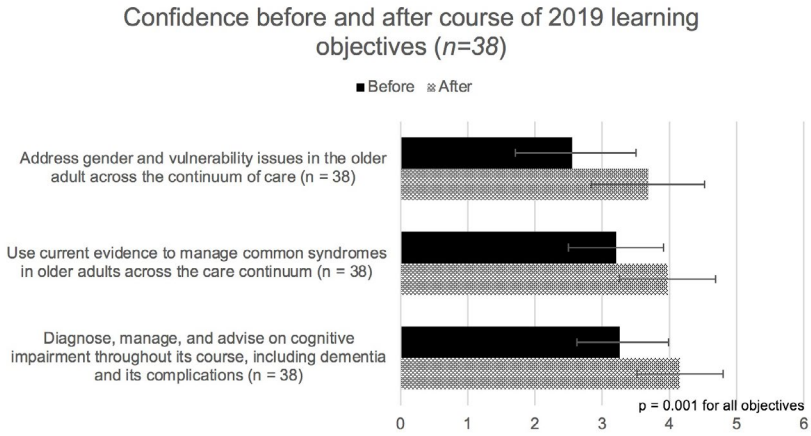

FIGURE 2b. Family physician confidence in course learning objectives before and after the 2019 Geriatrics Update course using a Likert scale.

identified unperceived learning needs. The Geriatrics Update course was the main source of CME for eleven (55%) of interviewed physicians. Other commonly used resources were divided into geriatric specific CME, such as other geriatric conferences or courses, and non-geriatric–specific resources including study groups, online podcasts, journals, and family medicine conferences.

Theme 2: Feedback on Course Structure

> "[I] liked the keynote format and you have enough choices in breakout sessions plus back together with the groups and … the little snappers at the end." – FP3

Across both years, interviewees unanimously expressed interest in clinical pearls, or practical teaching points. In 2018, there was an interest in short snappers, and additional shorter sessions were incorporated in the 2019 course. Positive feedback on these short snappers was identified as a subtheme in 2019 interviews. Primary care practitioners were also interested in hearing from specialists, particularly regarding opinions and experiences where gaps in diagnosis and management guidelines might exist.

Other areas of suggested improvement included timing logistics—physicians were looking for opportunities to balance presentations, discussions, and networking, following venue changes and delays in the course schedule. Resources for both doctors and patients were provided at the course, to which interviewees (30%) provided strongly positive feedback.

Theme 3: Knowledge Translation Needs in Geriatrics

> "…algorithms are also very helpful […and…] that definitely helps me in terms of sometimes a chaotic consultation and being able to follow a type of pattern of I've done this and this if that's a possibility then that really helps." -FP4

The use of clinical pearls was similarly described as a vital knowledge translation method for interviewees. Comments from qualitative interviews and open-ended surveys requested that presentations with clinical vignettes be tailored to specific primary care settings, such as the office or a long-term care facility. Other areas that physicians thought could support knowledge translation was through algorithms and frameworks that could be easily accessed in a point-of-care setting, including frailty assessments and roadmaps for the diagnosis and management of common geriatric syndromes (e.g., dementia).

Theme 4: Systems of Geriatric and Primary Care

> "…it's the geriatric patients that do tend to need the most time and see me the most often so I think in primary care we are managing a lot of the common geriatric topics." – FP5

Despite a variety of practice models, family physician interviewees described a gradual change in their practices, which are serving increasing proportions of geriatric patients. This is closely tied with increasing patient complexity, necessitating more frequent and longer visits in order to provide holistic care. A number of interviewees described an increasing responsibility to manage previously specialist-managed conditions, including dementia, mood disorders in older adults, driving assessments, BPSD, and complex family discussions.

DISCUSSION

As the population continues to age and increase in medical complexity, effective and efficient geriatrics CME models for family physicians are imperative in order to improve the care of older adults. Our study uses a multi-method approach to examine the Geriatrics Update course as a successful model for geriatrics CME. The course is adaptive, with topics that change annually based on needs assessments, including local referral patterns, and the utilization of iterative feedback to improve FPs' learning experience. Quantitative and qualitative survey data showed that FPs find that the course consistently met their learning needs, identified unperceived needs, and was relevant to their practice. This was additionally captured in significant improvements in pre- and post-confidence levels in individual course objectives and positive responses on individual sessions.

Short snappers are an example of the iterative nature of the course, and were increased as a result of feedback in 2018, which participants appreciated in subsequent evaluations. This is consistent with the literature assessing CME lecture formats and have shown family physician preferences towards short, summarized material designed to enable quick interventions in clinical practice.[20–23] Logistical challenges were acknowledged in the evaluations from a venue change in 2019 that affected course timing. However, course evaluations showed that the course still provided a positive experience.

Other geriatric CME studies for FPs have used various models including in-office training and one-day programs, and have shown that respondents felt better equipped to care for geriatric patients and described intent to change practice.[10–12,14,15,17,16] Our program, which includes interactive and case-based scenarios, similarly identified intent for practice changes and positive course evaluations. However, the use of subjective evaluations limits the depth to which these studies can be compared. Systematic reviews of CME methodology suggest that interventions that have evidence for changing physician behaviour include interactive sessions.[23,25–26] Qualitative analysis of the Geriatrics Update aligned well with these recommendations, for example, given positive feedback from the interactive driving assessment session.

Limitations

It is difficult to compare year-to-year changes in overall course evaluations as they are confounded by logistics (e.g., venue and timing), in addition to the topics chosen, though participants provided positive feedback on their experience and the course's relevance. While the majority of physicians expressed intent in making practice changes, there was neither

demonstration of behaviour changes nor their potential effect on clinical outcomes. Despite that, previous studies have shown a significant relationship between intent and behaviour change in clinicians, and this is further strengthened by most participants' self-reported practice changes as a result of previously attending the course.[27] In addition, despite multiple strategies to recruit interviewees, including during online registration, at the in-person conference, and during the online evaluation form, there were only 10 interviewees from each year. While a strict number of participants to reach saturation is dependent on the homogeneity of the sample, previous studies have identified that saturation typically occurs within the first 12 interviews.[28,29] Given the breadth of the data provided, we believe that our sample was adequately representative.[30,31] In addition, despite varying practice models from our sample, the same themes were drawn from their interviews.

CONCLUSION

Iterative evaluation of the Geriatrics Update identified that the course revealed unperceived learning needs and was the primary source of geriatric CME for many family physicians. Our course showed significant improvements in objectives on an annual basis, and these were similarly captured in qualitative interviews and open-text comments. Many physicians showed a willingness to return, and our course continues to remain dynamic, evolving yearly with new and relevant topics. In addition, the same principles of short snappers, clinical pearls, and interactive sessions can be applied to a virtual setting, increasing the accessibility and convenience for family physicians. Our course has been offered virtually as a result of the coronavirus pandemic in 2020, identifying opportunities for future studies to assess both virtual and in-person learning modalities for the successful delivery of geriatric CME.

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CONFLICT OF INTEREST DISCLOSURES

The authors declare that no conflicts of interest exist.

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APPENDIX A. QUALITATIVE INTERVIEW SCRIPT

Thank you for participating in this research study conducted by [the authors] to assess the Clinical Pearls: Geriatric Update Conference. Our goal is to formally assess the conference to understand how we can better meet the educational needs of conference participants in the future.

We will now be performing a semi-structured interview that will be recorded and transcribed verbatim with identifying information (your name, practice community) removed. Transcriptions will later be thematically analyzed. You are being asked to take part because you have attended the Geriatrics Update, either for the first time or as a recurrent attendee.

We anticipate that the interview will take approximately 20 minutes. You have already filled out a consent form. If there are any questions that you don't wish to answer, or if you would like to stop at any time, please let me know.

Do you have any questions? I will now ask you the interview questions.

1. What made you choose the Geriatric Update? For returning physicians:
   i. We noticed you have attended before, why do you keep returning, what are the things you value about this course?
   ii. Will you return again? Why?
2. Do you use other sources of CME for geriatrics? If so, does this conference provide value that other CME forms do not?
3. What about your professional context makes this course relevant to you?
4. Are there deficiencies in conference topics or delivery that can be improved?
5. Have you learned anything from this course that will help you change or reconsider your practice?
6. What can we improve upon to help you transfer new learnings from this conference into practice?

That is the end of my question list. Thank you again for participating.