PROGRAM PROFILE

# Development of an Integrative Medicine Rotation for Family Medicine and Preventive Medicine Residency

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**Background:** Integrative medicine or complementary and alternative medicine (IM/CAM) is widely utilized by patients despite the limited training available across health care education. There is a gap between patient interest and the need for guidance amid a lack of preparation among clinicians in IM/CAM. To address this, the Baltimore Geriatric Research Education and Clinical Center created a US Department of Veterans Affairs-based whole health rotation that incorporates core IM/CAM competencies for family medicine and preventive medicine residents.

**Observations:** A structured 2-week IM/CAM curriculum was developed by medical school faculty in cooperation with a range of health care professionals. Assessments, including surveys and a case analysis, measured overall

program satisfaction, perception of IM/CAM modalities, IM/CAM knowledge, confidence in pain care, self-care perception, self-care practice, and burnout symptom frequency. Residents participating in the IM/CAM rotation reported positive experiences overall, gained knowledge for their own personal benefit, and acquired resources and skills they felt confident discussing with their patients. They also reported a slight decrease in feelings of burnout and perceived stress.

**Conclusions:** IM/CAM education, delivered as a standardized family medicine rotation, enhances resident capacity to make informed decisions and counsel patients on IM/CAM options, while also providing strategies for maintaining optimal health and well-being.

ntegrative medicine or complementary alternative medicine (IM/CAM) is increasingly being recognized as an integral part of optimal health and healing. IM/CAM "reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals and disciplines."<sup>1</sup> IM/CAM encompasses a wide range of therapies, conceptual frameworks, and health care-related professions, such as acupuncture, massage, dietary supplements, mindfulness, yoga, meditation and guided imagery.1 Research has found that 30% to 98% of patients with chronic conditions seek IM/CAM therapies. 1-3

Despite the high prevalence of patients utilizing IM/CAM therapies and the National Institutes of Health grants for IM/CAM education, implementation of IM/CAM instruction in graduate medical education programs remains inconsistent.<sup>1</sup> Barriers cited by programs include a lack of IM/CAM experts in the program, faculty training, competing financial resources, and an already full resident education schedule.<sup>4</sup> As a result, many physicians have limited or no training in IM/CAM.<sup>1,5</sup>

The US Department of Veterans Affairs (VA) offers IM/CAM health programs to veterans and caregivers as part of its whole health care initiative. 6 Several VA health care systems have adopted whole health and IM/CAM through programs for mental health integration into primary care; women's health; integrative pain care; geriatrics, through adoption of Age-Friendly Health Systems standards; and nutrition and physical activity.7-13 The VA provides training to more medical students than any other health system: > 95% of US medical schools are affiliated with a VA medical center (VAMC).14 As part of the training mission, VA seeks to encourage students of diverse professions to consider careers in the VA.<sup>14</sup>

Residency is a time for newly licensed physicians to acquire additional experience and training to translate knowledge and skills acquired during medical school directly to patient care.<sup>15</sup> However, residency curricula have limited time to incorporate IM/CAM training. Residency training is also physically and psychosocially demanding, often resulting in inadequate self-care, poor work-life balance, and disrupted sleep.<sup>16-18</sup> Resident wellness is at a historic low, resulting in high rates of burnout during training.<sup>4,15</sup>

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Fed Pract. 2025;42(1). Published online January 15. doi:10.12788/fp.0544

**TABLE 1.** Pre- and Postrotation Survey Responses (N = 12)

	Scale	Preassessment	Postassessment
26 nonconventional therapies	Yes/No		
How many ever used or currently using, mean		6.4	8.4
Would recommend, mean		8.9	13.6
Ever or would consider recommending, mean		8.8	11.1
Burnout Day/wk I feel burnt out from my work, mean	7-point	4.2	3.6
Day/wk my job makes me more callous toward people, mean	7-point	3.2	2.9
Importance of self-care for clinical nurses and doctors, mean	5-point	4.8	4.8
Use self-care plan or practice self-care strategies, No.	Yes/No	11	11
How regularly do you practice self-care (rarely to frequently)	3-point	2.2	2.4

Residency programs are required to provide wellness education; however, most programs include minimal content. 19 Despite high rates of burnout, formal curricula on the topic have not been established. 20 IM/CAM education also can provide a path for residents to learn about and engage in mindfulness-based training or cognitive stress reduction for self-care.

# INTEGRATIVE WHOLE HEALTH ROTATION

In 2017, the Baltimore Geriatric Research Education and Clinical Center (GRECC) established an IM/whole health residency rotation and created a structured curriculum incorporating self-assessment, active reflection, and self-care to complement training in specific IM/CAM modalities for residents in family medicine. The curriculum evaluated how this training improved residents' perceptions of IM/CAM and how it personally and professionally impacted the practice of self-care as a strategy to decrease burnout. We hypothesized that this structured experience would increase IM/CAM knowledge among clinicians while promoting the importance and practice of self-care to reduce burnout.

The 2-week IM/CAM curriculum was developed by University of Maryland School of Medicine faculty in partnership with the Baltimore GRECC and staff at the VA Maryland Health Care System. The curriculum was designed to expose residents to the 8 components of the whole health Circle of Health (moving the body; surroundings; personal development; food and drink; recharge; family, friends, and coworkers; spirit and soul; and power of the mind) in addition to IM/CAM modalities the VA is mandated to offer

to veterans (acupuncture, chiropractic, meditation, massage therapy, biofeedback, clinical hypnosis, guided imagery, yoga, and tai chi).21 Twelve residents (1 preventive medicine and 11 third-year family medicine residents) rotated individually throughout the year as part of their behavioral health block rotation. All residents completed the 2-week curriculum as their schedules allowed. The curriculum consisted of didactics sessions and activities at the Baltimore, Loch Raven, and Perry Point VAMCs. Residents completed evaluations before and after the rotation. The experience described in this article by the residents and the survey data were collected from the 2018/2019 training year. A rotation syllabus, competencies adapted from Locke and colleagues and skills residents obtain during this rotation that support these competencies, as well as a resident sample schedule were developed (eAppendix is available at doi:10.12788/fp.0544).1

# **Rotation Overview**

Schedules for each resident were built around instructional opportunities, which included 1-on-1 didactics, direct observation of treatment modalities, and personal reflection of the residents' self-care practices. While each resident's rotation schedule varied slightly due to their schedules. the foundational instruction elements were the same. Didactic session themes included an overview of IM/CAM, nutrition, narrative medicine, pain psychology, music therapy, chaplain services, motor-cognitive training, and exercise guidelines. Assigned readings, including peer-reviewed literature on IM/CAM therapies, complemented all sessions. Residents created an evidencesupported integrative treatment plan for a patient with a condition of interest to them.

Residents observed clinician-led veteran group sessions on IM/CAM treatment modalities, including guided meditation, mindfulness and relaxation, self-awareness, living well with chronic pain, tai chi, drumming for health and balance, anger management, recovery group, acceptance and commitment therapy, and Gerofit exercise. The group classes allowed residents to actively participate in the activity or discussion. Residents also shadowed VA clinicians in sleep, pain, nutrition, acupuncture, and mental health clinics.

Residents were encouraged to practice self-care during the 2-week rotation. The rotation schedule built in free time, including a 1-hour daily lunch period, for residents to consider their own health habits, complete a personal health inventory, and try self-care activities outlined on the syllabus with links to resources. These resources also served as educational materials that residents could share with patients. All materials, including didactic lectures, journal articles and self-care resources, were provided to each resident through a free online course to ensure residents had access throughout and following completion of the rotation. This content, including the rotation evaluation metrics, is available upon request from the corresponding author.

#### **Evaluations**

Residents completed a survey before and after the rotation to measure IM/CAM knowledge and application and self-care/ burnout perceptions. Residents were asked to evaluate rotation sessions and comment on whether this rotation benefited them personally and professionally (Table 1). Descriptive statistics were analyzed using Microsoft Excel. Given the small sample size and lack of statistical power, only mean survey results are reported in this article. Because this opportunity is specific to the University of Maryland School of Medicine and the proposed project was part of ordinary educational practice, the study was deemed not human subject research by the University of Maryland Institutional Review Board (HP-00089256).

Perceptions and attitudes toward IM/CAM were assessed using a survey designed by the University of Minnesota Academic Health Center. It included 18 items scored on a 5-point semantic rating scale (1, strongly disagree; 5, strongly agree). Residents rated their level of agreement with statements reflecting both positive (eg, clinical care should integrate the best of conventional and CAM practices) and negative (eg, CAM is a threat to public health) views. Three questions adapted from the NHIS Adult Complementary Health Questionnaire and UC Irvine Survey of Health Care Use and Practice assessed the use of IM/CAM resources. 23,24

Resident knowledge and application of IM/CAM were measured using a case study designed by the course faculty. The case listed a chief complaint of nerve pain, with a history of chronic pain, neuropathic pain, anxiety, chronic fatigue, depression, insomnia, posttraumatic stress disorder, history of present illness, past surgical history, medication list, review of symptoms, laboratory values, and physical examination. The residents completed an assessment before and after the rotation. Residents rated their confidence in the diagnosis and treatment of 8 medical conditions using a 5-point semantic rating scale (Table 2). Self-care importance and selfcare frequency were measured by a variety of means, including 3 survey questions, the Five Facet Mindfulness Questionnaire, 2 prompts on a 7-point semantic scale, and a slightly modified version of the validated Perceived Stress Scale.25-28

## Survey Results

Residents gave the rotation positive feedback with a mean score of 8.5 out of 10. They reported the beneficial impact of seeing the nontraditional and nonpharmacological practices in treating patients, chronic pain management team approaches, and enjoyed being able to participate in group classes with patients. Many residents expressed a desire for a longer rotation to have more time to experience the behavioral health-focused sessions. Residents also requested additional information on nutritional supplements/natural medicines, battlefield acupuncture training and osteopathic manipulative therapy practices.

TABLE 2. Confidence in Diagnosis and Treatment of Health Conditions (N = 12)a

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Condition	Diagnosis preassessment, mean	Diagnosis postassessment, mean	Treatment preassessment, mean	Treatment postassessment, mean
Depression	4.3	4.7	4.4	4.4
Anxiety	4.2	4.7	4.4	4.4
Dementia	3.8	4.0	3.4	3.6
Posttraumatic stress disorder	3.4	4.1	3.5	3.5
Chronic pain syndrome	3.0	4.2	3.2	3.8
Fibromyalgia	3.2	4.0	3.3	3.8
Osteoarthritis	4.3	4.7	4.3	4.3
Cervicogenic/ chronic headache	3.3	3.9	3.3	3.8

<sup>&</sup>lt;sup>a</sup>Confidence scale: 1, very unconfident; 5, very confident.

All residents reported the rotation personally and/or professionally benefited them (Appendix).

Given the sample of 12 residents, values are presented as prerotation to postrotation comparisons without statistical analysis. There was a trend towards an increase in the reported use and recommendation of 26 modalities of nonconventional therapies following the rotation. There was also a slight increase in resource knowledge and use of these resources, and residents reported accessing more types of resources. Mean scores of the case study to gauge knowledge and application of IM increased from 7.5 at baseline to 11.0 after the rotation. Resident confidence in diagnosis increased for all 8 conditions, but confidence in treatment only increased for 4 conditions.

Results of self-care importance, self-care frequency and mindfulness were consistent baseline to postrotation. The mean time residents spent regularly practicing self-care during a work week increased slightly while feelings of burnout decreased. The perceived stress scale average score decreased from 13.4 at baseline to 10.5 after rotation.

# **DISCUSSION**

The implementation of an IM residency rotation that incorporates whole health and interprofessional practices demonstrated improved perception and increased use of

IM/CAM resources and knowledge among a small sample of third-year residents. Residents reported they had a positive experience participating in the rotation and gained knowledge, resources, and skills they felt confident discussing with their patients.

Many studies reported favorable attitudes and perceptions of IM/CAM use among physicians, but few have assessed these measures while implementing a training curriculum.3,4,22 Gardiner and colleagues reported on the perception and use of IM resources among family medicine residents.4 The study found that while 58% of all residents reported IM/CAM as an important part of their training, only 60% reported they received it or had specific learning objectives in their curriculum.4 The program outlined in this study and previous research illustrate that physicians recognize the importance of IM/CAM education in training programs, but most were unaware of the resources available or did not feel comfortable counseling patients about most IM/CAM applications.

Residents in this program slightly increased their use of IM/CAM to diagnose and treat medical conditions after the rotation. A study by Wahner-Roedler and colleagues assessed physician knowledge regarding common IM/CAM therapies.<sup>3</sup> On average, physicians only felt knowledgeable and comfortable counseling patients for 3 of

13 listed treatments/techniques and few natural herbal treatments. The study also found that most physicians had difficulty accessing IM/CAM information at their institution despite having free access to electronic databases. However, this study only assessed physician attitudes of IM/CAM and did not include an educational component to increase their knowledge of the modalities.<sup>3</sup> This evaluation supports the need for interventions like the program described in this article that provide physicians with access to evidence-based resources combined with the applied experiences to increase their comfort within this growing field.

Though the sample size in this study was small, its results support existing research indicating that clinicians view selfcare as important. Many residents were already using a self-care plan at baseline, but there was slight increase in the practice of self-care during the rotation and a slight decrease in burnout. Previous research reflects high rates of burnout and relatively poor quality of life among primary care physicians. 15 Burnout is associated with lower quality of care, lower patient satisfaction and contributes to medical errors. Studies suggest as many as 60% of primary care physicians report symptoms of burnout, which negatively affected the quality of patient care they provide.15

Despite the profound effects burnout has on physicians and patient care, a standardized wellness education or self-care tool kit is not currently available. The University of Massachusetts recently introduced a pilot program to promote resident wellness that demonstrated favorable results.15 A meta-analysis of physicians and medical trainees found decreases in anxiety and symptoms of anxiety as well as a decrease in burnout among participants in cognitive, behavioral and mindfulness interventions.29 However, unlike our program, these programs focused solely on the well-being of medical trainees, residents, and physicians and didn't focus on the patient-clinician interactions. Given the impact on patient care, there is a need to develop and implement additional programs like our residency rotation that promote health and wellness among physicians while also evaluating how physicians may translate these skills to patient education.

While this program still exists for third-year residents at Baltimore GRECC, it has significantly changed since the COVID-19 pandemic. For about the first 6 months of the pandemic, when physical distancing requirements were in place, family medicine trainees were not able to rotate. Upon return to the facility, many group classes were cancelled and some clinicians no longer offered the sessions. The rotation has evolved to a hybrid format, where many group classes for veteran patients are offered virtually, and residents observe a mix of virtual and in-person shadowing opportunities. Our formal evaluation included administering the survey and occurred from July 2018 to July 2019 but wasn't implemented upon return to post-COVID activities due to the inconsistent experiences offered to residents over the past few years. Future research should evaluate the impact of this hybrid program on the clinicians and explore dissemination to other VAMCs and their academic affiliates.

# Limitations

Project recruitment was limited to 11 family medicine and 1 preventive medicine resident. Perceptions, use of IM/CAM, and knowledge about IM/CAM could be considerably different in different departments with varying schedules, hours worked, and patient volumes. Secondly, the survey was conducted 2 weeks apart. Indications of self-care and burnout may not reflect long-term effects, adoption, or maintenance. Future research should include longer follow up to examine how this type of educational activity may impact burnout rates of physicians following the completion of residency, as well as changes in perspectives of IM/CAM while practicing as a physician. Trainees were exposed to a wide range of health care professions, but additional research is needed regarding medical resident perceptions of the roles of specific professions in a collaborative health care team.<sup>30,31</sup>

# **CONCLUSIONS**

The residency rotation program illustrates the benefits of establishing a standardized IM/CAM rotation that includes self-care resources in family medicine programs to adequately train clinicians to practice wellness and promote it to their patients. The results of this project suggest this type of training will help residents assess the literature to better counsel patients on IM/CAM options while also providing strategies for maintaining optimal health and well-being for health care professionals. Broadening and shifting the scope of medicine from treatment to prevention, personal wellness, and optimal healing should be a top priority.

# Acknowledgments

The authors thank the clinicians who permitted the residents to observe their sessions and/or served as preceptors for the residents, the veterans who allowed the residents to participate in the group classes and observe their interactions during the sessions with the clinicians, and the residents for participating in this project.

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# **Author disclosures**

Dr. Hogans serves as Director-at-Large of the American Academy of Pain Medicine and receives royalties from the American Academy of Neurology. The other authors report no actual or potential conflicts of interest with regard to this article.

# Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

#### Ethics and consent

This project was deemed not human subject research by the University of Maryland School of Medicine Institutional Review Board.

# **Funding**

This project was supported in part by a GME enhancement program initiated by the Veteran's Access, Choice, and Accountability Act, Baltimore Geriatric Research Education and Clinical Center, and AHA CDA (EAD; 19CDA34660015 /Elizabeth Parker/2019). The funders did not play a role in the design of the study, or the collection and analysis of data.

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# **Appendix.** Responses on Personal and/or Professional Benefits to IM/CAM Residency Rotation

#### Responses

Both; I exercise more often and am more informed about referring patients to nonconventional approaches for either psychiatric disorders or pain management.

It was good. Personally/professionally I plan on using the resources provided for my professional practice.

Yes; personally, I am able to incorporate self-care/mindfulness to my daily endeavors. Professionally, I have a wide range of treatment plans I can incorporate to my patients treatments. I can apply this when interacting with my patients in the future.

Absolutely. [It] arms [doctors] with more knowledge of essential components of a team-based approach to care and broader knowledge of modalities to use. I personally appreciated the resources, operational implementation tools taught, and opportunity for mentorship.

Yes, it helped me personally relieve some of the stressors from work, educated me more about [the] veteran population and multiple services which I can use on current and future practice.

Yes, I learned about practices (ie, mindfulness, guided imagery) that I can use in my personal life but also recommend to patients in the future. I know more about what the VA offers for the few veterans I see.

Yes. [It] gave me resources to use for my patients and myself.

Many of the workshops were personally applicable, increased knowledge about multi-interdisciplinary approach to pain and well being.

Yes, improved exposure and understanding of CAM.

Yes, I am much more aware of CAM and am happy that I can genuinely recommend some of these practices to my patients in the future and also explain them to my patients as well.

Abbreviations: CAM, complementary and alternative medicine; IM, integrative medicine; VA, US Department of Veterans Affairs.