

## BRIEF REPORT

# HIV Pre-Exposure Prophylaxis Education in Family Medicine Clerkships: A CERA Study

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## ABSTRACT

**Background and Objectives:** Little is known about human immunodeficiency virus (HIV) pre-exposure prophylaxis (PrEP) education in family medicine clerkships during medical school. Our study aimed to describe coverage of PrEP education in family medicine clerkships and explore barriers if this education was absent.

**Methods:** Data were collected through the 2023 Council of Academic Family Medicine (CAFM) Education Research Alliance (CERA) Family Medicine Clerkship Director Survey. We inquired about provision of PrEP to patients, faculty expertise with PrEP, PrEP curriculum in the clerkship, barriers to including PrEP in the clerkship curriculum, and willingness of directors to add PrEP online modules to the clerkship if available.

**Results:** The response rate was 56.8% (96/169). Nine participants did not complete the PrEP questions and were excluded from analyses. Nearly two-thirds of clerkship directors perceived PrEP as an important topic in the family medicine clerkship; however, only one-third of clerkships included PrEP curriculum through clinical experiences (58.5%), didactics (17.1%), or both (14.6%). Barriers to including PrEP were lack of time in the curriculum (63.5%) and having other more important topics to cover (25.7%), but 38.9% said they would include PrEP in the clerkship if free online modules were available.

**Conclusions:** Clerkships were more likely to include PrEP curriculum in the family medicine clerkship if they had faculty with sufficient expertise or if clerkship directors believed it was important to teach PrEP in the curriculum. Offering accessible educational content can enhance educational opportunities on PrEP for medical students.

## INTRODUCTION

More than 1 million persons aged 13 years or older live with human immunodeficiency virus (HIV) infection in the United States, and approximately 13% of them are unaware of their HIV infection.<sup>1</sup> The US Preventive Services Task Force (USPSTF) recommends with high certainty that clinicians prescribe pre-exposure prophylaxis (PrEP) to those at increased risk of HIV acquisition, given the treatment's substantial net benefits.<sup>2</sup> Of the 1.2 million people with indications for PrEP in the United States, only 30% of them were prescribed PrEP in 2021.<sup>3</sup> The federal initiative Ending the HIV Epidemic in the US (EHE) aims to reduce the number of new HIV infections in the United States by 90% and to increase the estimated percentage of people with the indication for PrEP to be prescribed to at least 50% by 2030.<sup>4,5</sup>

Previous studies have shown that notable barriers to prescribing PrEP among primary care physicians were insufficient

knowledge of PrEP; perceptions of patient risk behaviors; and the stigma, leading to discomfort in prescribing it.<sup>6–8</sup> To address these barriers, offering PrEP education early in medical education is important.<sup>9</sup> The family medicine clerkship may be the most suitable specialty to teach PrEP because family physicians regularly take care of patients with the indicated conditions, such as sexually transmitted diseases and injection drug use.<sup>10</sup>

In 2018, the Council of Academic Family Medicine (CAFM) Educational Research Alliance (CERA) conducted a survey of program directors that showed that the majority of family medicine residency programs offered PrEP training.<sup>11</sup> A 2021 cross-sectional survey of medical schools in the United States showed that only 38% of them included PrEP training, and the most common method to teach PrEP was a didactics session.<sup>12</sup> No study directly investigating PrEP education in family medicine clerkships during medical school has been

performed. Our study aimed to describe the coverage of HIV PrEP education in family medicine clerkships and explore barriers if this education was absent.

## METHODS

### Survey

A survey was sent to all clerkship directors of medical schools accredited by the Liaison Committee on Medical Education (LCME) or Committee on Accreditation of Canadian Medical Schools (CACMS) as part of the 2023 Council of Academic Family Medicine's (CAFAM) Educational Research Alliance (CERA) survey.<sup>13</sup> The survey was emailed to 163 US and 16 Canadian clerkship directors in June 2023. Invitations to participate included a personalized letter signed by CAFAM organization presidents and a link to the survey via SurveyMonkey (SurveyMonkey Inc). Nonrespondents received four weekly requests and one final request 2 days before closing the survey. The study was approved by the American Academy of Family Physicians Institutional Review Board.

Demographic questions included gender, ethnicity, and race of clerkship directors and length and type of clerkship. Participants answered questions about provision of PrEP to patients, faculty expertise with PrEP, PrEP curriculum in the clerkship, barriers to including PrEP in the clerkship curriculum, and willingness of directors to add PrEP online modules to the clerkship if available.

### Analyses

We used descriptive statistics to summarize study variables. We used independent samples *t* tests<sup>14</sup> to determine whether having faculty with sufficient expertise, a belief that teaching PrEP in the clerkship is important, or confidence in providing PrEP to patients was associated with teaching PrEP in the family medicine clerkship. Response choices ranged from strongly disagree to strongly agree (1–5 scale) so that higher scores indicated greater agreement with statements.

## RESULTS

Of 169 surveys sent, 96 were completed for an overall response rate of 56.8%. Nine participants did not complete the HIV PrEP questions and were excluded from analyses. Most clerkship directors were female (59.8%), White (70.1%), and non-Hispanic or non-Latino (97.7%). Most clerkships (73.6%) were block only, rather than longitudinal or a combination, and were either 4 (4.2%) or 6 (32.8%) weeks long. Nearly all students (95.4%) completed the family medicine clerkship in the third year.

In response to the survey, 60.9% of clerkship directors reported providing PrEP to their own patients. Nearly two-thirds (65.5%) of clerkship directors thought including PrEP in the clerkship was important. Only 34.5% of clerkships included PrEP curriculum, and it was taught through clinical experiences (58.5%), didactics (17.1%), or both (14.6%). Barriers identified to including PrEP were lack of time in the curriculum (63.5%) and having other more important topics to cover (25.7%), but 38.9% said they would include PrEP in the clerkship if

free online modules were available. When asked where PrEP should be taught, clerkship directors responded that it should be in either the family medicine clerkship (40.5%) or family medicine residency (42.9%).

Family medicine clerkships more likely to include PrEP curriculum were those that had faculty with sufficient expertise and clerkship directors who believed teaching PrEP in the curriculum was important (Table 1). Clerkship directors who provided PrEP for their own patients or who expressed confidence in providing PrEP were not more likely to include the curriculum in the clerkship.

## DISCUSSION AND CONCLUSIONS

Two-thirds of clerkship directors stated that teaching PrEP in the family medicine clerkship is important; however, only one-third of clerkships included PrEP in the curriculum. The most common barrier to including PrEP education was lack of time in the curriculum. Because each clerkship cannot cover everything, a reasonable assumption is that some clerkship directors perceive the limited time as a barrier. However, the National Clerkship Curriculum from the Society of Teachers of Family Medicine (STFM) recommends that clerkships include “sexually transmitted infections” (p. 27) and “substance use, dependence, and abuse” (p. 25) under core health promotion topics and core chronic conditions, respectively.<sup>15</sup> Clerkship directors could easily incorporate PrEP education into these core topics and ensure that PrEP is covered during these sessions.

Our study showed that family medicine clerkships with faculty who have sufficient expertise are more likely to include PrEP, and nearly 40% of clerkship directors would add PrEP education to their curriculum if free online modules were available. Offering accessible educational content from family medicine organizations such as STFM can enhance educational opportunities in PrEP for medical students, which ultimately would help achieve the EHE goals by 2030.<sup>4,5</sup>

Response bias may have existed because more than 40% of clerkship directors did not answer our study surveys, although that response rate was comparable to the prior CERA Clerkship Director Survey. Furthermore, actual educational opportunities might be different from our findings because medical students could acquire knowledge about PrEP through hands-on clinical experience by working with their clinic preceptors. Lastly, clerkship directors might have interpreted PrEP differently. While some might have perceived it solely as pharmacological treatment, others could have viewed it as more comprehensive education, including history, indications, pharmacological treatment, and follow-up plans.

Our research assessed PrEP education in family medicine clerkships, explored barriers to including this education, and highlighted potential solutions to address the educational gaps. Further research is needed to assess the impact of free online PrEP education modules on family medicine clerkships.

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**TABLE 1.** Characteristics Associated With the Likelihood of Including HIV PrEP Curriculum in the Family Medicine Clerkship (1=strongly disagree to 5=strongly agree)

	Clerkship includes HIV PrEP curriculum, N=30, M (SD)	Clerkship does not include HIV PrEP curriculum, N=57, M (SD)	P value
Having faculty with sufficient expertise	4.2 (.94)	3.7 (1.1)	.022
Important to teach HIV PrEP in the clerkship	4.1 (.74)	3.6 (.75)	.001
Confidence providing HIV PrEP to patients	3.9 (.19)	3.7 (1.1)	.355
*Provided HIV PrEP for patients in the past year	37.7%	29.4%	.425

\* $\chi^2$  test

Abbreviations: HIV, human immunodeficiency virus; PrEP, pre-exposure prophylaxis; M, mean; SD, standard deviation