Abstract

Introduction: As a result of the common belief that professionals in academic medicine make less money than their private practice counterparts, as well as the rising cost of medical school and subsequent loans, medical students and residents alike are dissuaded from pursuing careers in academia. However, with greater knowledge of loan repayment programs and financial planning, students can make informed decisions about entering the field of academia. Methods: Using the Kern model, a workshop was developed to educate medical students considering an academic career about financial resources, loan repayment, student debt, and the importance of budgets. The workshop also encouraged reflection on personal and financial factors that influence career choice. Results: The workshop was implemented at five regional conferences with a total of 113 participants. After participating in the workshop, survey data showed that participants were statistically less likely to agree with the statement “Student debt will hinder my ability to pursue an academic medicine career,” and more likely to agree with the statement “Academic medicine is a financially viable career choice for me” and “A career in academic medicine will provide a comfortable salary.” Over 95% of respondents agreed or strongly agreed that each objective was met. Discussion: This workshop provided an interactive and reflective method to increase participants’ awareness of factors that influence financial considerations when considering postgraduate career choices. It highlighted factors that may be particularly relevant for an academic career choice and of resources available, especially loan repayment programs, to ensure a financially viable academic career.

Keywords
Financial Resources, Loan Repayment, Student Debt, Academic Medicine, Faculty Development, Promotions & Tenure

Educational Objectives
By the end of this workshop, learners will be able to:

1. Describe personal and professional factors that influence career choice.
2. List important financial considerations in an offer/employment letter.
3. Report financial resources that support the various academic career tracks.
4. Review federal loan repayment plans and payment scenarios.
5. Report that student debt should not hinder a career in academic medicine.

Introduction

Academic medicine encompasses a variety of career tracks for physicians to pursue, including clinical research, student and resident education, medical school administration, and beyond, allowing budding physicians to not only practice clinically, but also engage in an assortment of academic activities. The number of medical schools in the continental United States continues to grow, necessitating a parallel growth in faculty involved in academic medicine.1,2 However, studies show medical student interest in pursuing roles within academics has been limited for several reasons, including lack of mentors encouraging the pursuit of academic medicine, the burden of academic responsibilities (e.g., publishing and grant writing) alongside clinical practice, and even accumulated debt.3-5

The financial burden of loans and perceived low academic salaries has been shown to dissuade some students from pursuing academic medicine. From 2000 to 2010, the mean
medical student debt rose by 78% from $88,000 to nearly $158,000, which tripled the rate of inflation. Debt continues to rise, as median medical student debt in 2018 was found to be $192,000.7 The high cost of medical education invariably affects participation in fields like primary care and academia.8 The AAMC graduation questionnaire in 2009 showed that 22% of students were strongly or moderately impacted by debt, altering their choice of residency and subsequent specialty.9

Additionally, it has been shown that students interest in academic medicine is high, but they may be dissuaded by financial burden. However, there is ambiguity for many learners concerning which factors play the larger roles affecting the perceived and actual gap between academic and private practice salaries, including but not limited to, type of specialty, location of practice, and hours of clinical work.

Providing workshops on financial literacy can help students and young physicians make more informed career decisions about academia with greater confidence. This workshop was the first of its kind on MedEdPORTAL to provide guidance regarding financial considerations for students interested in academic medicine. The six-step Kern model was used to frame the initial and subsequent versions of this module on financing an academic medicine career.10 The workshop was developed, implemented, and/or evaluated by a team consisting of trainees interested in an academic medicine career (a gastroenterology fellow on the clinician-researcher track, and a fourth-year medical student), faculty (an associate dean for diversity and inclusion on the clinician-educator track, and an internal medicine physician on the clinician-educator track) and an AAMC financial advisor, with over 20 years of experience advising students on financial planning.

The workshop was a part of a larger academic medicine career development curriculum that has been implemented at regional conferences at medical schools across the country. Workshop content included discussions of personal and professional factors that influence academic career choice, a review of important financial considerations in an offer letter, a list of financial resources to support academic career tracks, a review of federal loan repayment programs, and a reflection on debt and the ability to pursue academia. Facilitators should be able to discuss their path to academic medicine and how financial considerations impacted their decision.

Methods

Curriculum Background and Structure

This workshop was delivered to a diverse range of trainees (e.g., undergraduate students, graduate students, residents), though was primarily targeted toward medical students.

In step one—problem identification and general needs assessment—a review of the literature was conducted to assess trainees’ perceptions of the financial viability of an academic medicine career. Additionally, a FIRST financial advisor was able to offer further insight into trainees’ financial concerns and misconceptions. In step two—targeted needs assessment—the authors engaged trainees interested in academic medicine to better understand knowledge gaps and misconceptions regarding salaries and financial packages for different academic tracks. In step three—goals and objectives—the workshop goals and objectives were developed based on the results from steps one and two and guided by the expertise of the financial advisor. In step four—educational strategies—the workshop was designed to include a PowerPoint presentation to help trainees consider financial opportunities associated with an academic medicine career, resources to explore their current and future financial situation, and an interactive exercise for them to reflect on perceived assets and expenditures during and after their graduate training. In step five—implementation—the workshop was offered during five Building the Next Generation of Academic Physicians (BNGAP) national conferences designed to raise diverse trainees’ awareness of and interest in academic careers. In step six—evaluation—workshop participants completed pre- and postworkshop surveys to assess the efficacy and quality of the workshop.

The workshop was divided into two components, a PowerPoint presentation and an interactive worksheet. The first part was composed of a didactic presentation describing financial resources that supported a career in academic medicine and reviewed federal loan repayment plans. The second portion consisted of two parts: a worksheet to be filled in by participants as an exercise in creating a monthly budget for their current career stage, and a second worksheet to discuss sample student, resident, and facilitator monthly budgets. Using didactics and worksheets allowed participants to apply the concepts from the presentation with hopes of instilling confidence in their ability to build and manage budgets for their future. The resources used to implement the workshop are listed below.

Appendix A—Finance presentation: The content of the workshop was provided in the presentation, which included personal and
professional factors that influenced career choice, financial considerations in an employment letter, a description of financial resources that supported various academic career tracks, and a review of federal loan repayment plans.

Appendix B—Discussion guide: This guide provided the facilitator with an outline to conduct the workshop. The main takeaways as well as adjunctive descriptive material was outlined slide by slide, as a means of providing a thorough explanation of the presentation to ensure consistent implementation at different sites.

Appendix C—Sample budget worksheet: This handout provided a sample monthly budget for students and residents. There was also a portion to be filled out by the presenter, as an example of an attending monthly budget. This was meant for the second portion of the workshop where financial planning examples were discussed.

Appendix D—Reflection budget worksheet: This handout was an exercise in creating monthly budgets, meant to be based on the current financial considerations of each participant.

Appendix E—Pre- and postworkshop survey: The pre- and postworkshop evaluation forms included several questions, evaluated using a 5-point Likert scale. Additionally, the postworkshop evaluation also included open-ended questions to assess attendee perception of the given workshop. Our evaluation instruments consisted of a pre- and postworkshop survey that were based on a previously published format.2,11

Facilitator Guidelines
The workshop was facilitated by a total of four presenters (two single and three pairs). Among the facilitators were an associate professor of emergency medicine, an assistant professor of clinical medicine, an assistant professor of internal medicine, and an AAMC FIRST staff member. Materials required included pens, A/V equipment to show the PowerPoint presentation (Appendix A), chairs and tables for participants, materials to note responses during the discussion of sample budgets, and printed copies of the handouts and evaluation forms (Appendices C- E). The suggested length of the workshop was approximately 75 minutes, with a timeline suggested below:

- Preworkshop evaluation - 5 minutes
- Didactic portion (slides 1-47) - 40 minutes
- Discussion of budget worksheet (slide 48) - 10 minutes
- Fill-in worksheet - 15 minutes
- Question and answer period and completion of postworkshop evaluation - 5 minutes

The ideal facilitator is a financial advisor, health professional, or faculty member with experience in loan repayment and awareness of financial considerations for various academic medicine career tracks. One or two presenters can lead the workshop and should review the content, which takes approximately 3 hours. Though the didactic portion of this workshop was designed to be implemented in 40 minutes, more time may need to be allotted for this portion depending on the proficiency of the facilitator. If the facilitator has concern about whether students can understand the information in this span of time, they can give the PowerPoint presentation to students beforehand for review. Additionally, optional segments of the presentation have been marked in both the discussion guide (Appendix B) and PowerPoint presentation (Appendix A).

Statistical evaluation of the categorical survey responses was performed using SPSS statistical package. Categorization and subgrouping of the narrative comments were determined by consensus between three of the coauthors (Dennis J. Spencer, Pooja Kothari, and John Paul Sánchez).

Results
This workshop was implemented at five regional BNGAP conference sites: Duke University of Medicine, University of Minnesota Medical School, NYU School of Medicine, Indiana University School of Medicine, and University of Texas Medical Branch of Galveston. A total of 113 trainees completed the workshop evaluations: 25 from Duke, 19 from Minnesota, 33 from NYU, 20 from Indiana, and 16 from Texas.

The respondents included 86 (80%) medical students, six (5%) residents, four (4%) fellows, and 12 (11%) others including undergraduate students, graduate students, and physicians. The attendees were from academic health centers in 13 different states. In terms of race/ethnicity, one (1%) identified as Hawaiian, two (2%) identified as Native American, 15 (13%) as Asian, 23 (20%) as Hispanic/Latino, 31 (26%) as White, 37 (32%) as African American, and eight (7%) as another race. In terms of gender, 67 (64%) identified as women. Ninety-one (84%) identified as straight/heterosexual, and 17 (16%) identified as a member of the LGBT community.

A paired sample t test (p < .05) was used to compare pre- and postworkshop survey responses for the three repeated questions that were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Participants exhibited a statistically significant decrease in agreement with the statement “Student debt will hinder my ability to pursue an academic medicine career” (pre M = 2.84 vs. post M = 1.88, p < .001), and a
in contemplating an academic medicine career. The module provided a balanced, interactive experience for learners through reflection opportunities (e.g., personal and professional factors influencing career decision-making), a reminder of their financial situation (e.g., MedLoan Program), and hands-on exercises with discussion (e.g., completion and discussion of budget worksheet). Based on the evaluation, facilitators who are familiar with academic medicine tracks and associated financial considerations, and who are willing to share their own financial considerations, would yield the best experience for learners.

Suggestions to improve this workshop were rare. One tangible recommendation was, “I would love if it were more real. What I mean by that is using real examples and put things in context.” To address this suggestion, we developed a sample budget worksheet with the budgets of a sample medical student and resident and columns for facilitator(s) to provide their budget. This approach provided a more real-life budget example and greater engagement of the facilitator(s) with the participants.

There are several limitations to this workshop. This module was piloted among a cohort of students who opted to participate in an academic medicine career development conference and as such were likely more interested in gaining a greater appreciation of how to succeed in academia than their peers. Considering prior research has indicated that medical students, irrespective of racial or ethnic identity, perceive the process of pursuing an academic career as secretive, this module can help clarify associated financial considerations. As with any educational module providing policy-related information, it is important for the facilitator to update core content. For example, the facilitator can update salary information and be mindful of changes to federal repayment plans and related interest rates. Also, depending on the audience (e.g., medical students interested in a surgical or primary care career) information on the salaries of specific specialties (e.g., general surgery, family medicine) can be updated. Lastly, this was a brief intervention and sustained trainees' beliefs that academic medicine is a financially viable career that will probably require their continued engagement as they manage their current finances and plan their future careers and expenditures given the vicissitudes of life. For example, the worksheets do not consider expenditures such as supporting ailing family members or an unforeseen lawsuit.

Conversations regarding the influence of finances on career decision-making are rarely discussed formally in medical school curricula and can be swayed by spontaneous faculty

| Objective | Comments |
|-----------|----------|
| Describe personal and professional factors that influence career choice. | “I appreciate how transparent the facilitator was with real-life experience with debt, compensation, and benefits.” “Thoroughly appreciated the transparency: the presenter’s debt cleared up a lot of questions I had.” |
| List important financial considerations in an offer/employment letter. | “It was very insightful in how the financial aspect plays into career decisions.” |
| Report financial resources that support the various academic career tracks. | “I liked the websites that can help guide a plan for loan repayment.” “This was my favorite talk, even though it was easily the most emotionally stressful. It really helped me learn what resources are available going forward.” |
| Review federal loan repayment plans and review payment scenarios. | “Very thorough discussion of loan repayment options and strategies.” “I now have motivation to look at my loans and determine repayment options and how long it may take to pay them off.” |
| Report that student debt should not hinder a career in academic medicine. | “Relevant, qualified data that may inform our future decisions, and let us know not to abandon our goals because of monetary fears.” |
comments. With the growing number of new medical schools there is an imperative to discuss the financial viability of an academic medicine career with the upstream pipeline of prospective faculty and to address misconceptions. Our well-received module provided a unique opportunity to help diverse trainees gain a greater appreciation of financial resources, including loan repayment plans, for various academic medicine career tracks and reflected on academia as a potential career trajectory.

Appendices

A. Finance Presentation.pptx
B. Discussion Guide.docx
C. Sample Budget Worksheet.docx
D. Reflection Budget Worksheet.docx
E. Pre- and Postworkshop Survey.docx

All appendices are peer reviewed as integral parts of the Original Publication.

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Ethical Approval
Rutgers University Institutional Review Board approved this study.

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