



# The American Society of Hematology (ASH) Medical Educators Institute: a Pilot Faculty Development Project for Hematology Educators

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## Abstract

Clinician educators at academic medical centers often lack the community, mentorship, and faculty development to support their missions around education scholarship and teaching. Inadequate support for clinician educators can lead to professional dissatisfaction and slowed academic advancement. In 2014, ASH conducted a needs assessment of medical school hematology course directors, hematology-oncology fellowship program directors, and other ASH members identified as educators to determine this community's desire for faculty development in medical education. These data furthered the development of an annual faculty development program for hematology educators offering an interactive curriculum and support for an educational scholarly project. The needs assessment indicated that over 70% of respondents would be personally interested in a faculty development opportunity for hematology educators and only 11% had previously participated in such a program. A steering committee designed an intervention blending didactics, interactive small group exercises, webinars, mentorship for a scholarly project, 360-degree feedback for each participant, and a forum to discuss common career development goals. Of 42 applicants, 20 participants were chosen for the inaugural workshop. Following successful execution of the workshop, participants reported significant increase in confidence in the knowledge, skills, and attitudes targeted by the curriculum. A series of follow-up webinars have been developed to deliver additional content not covered during the workshop and to continue mentorship relationships. The curriculum will be further refined based on feedback from faculty and participants. Long-term outcome measurement will include tracking all participants' publications and presentations, time to promotion, and involvement in national medical education initiatives.

**Keywords** Faculty development · Medical education · Undergraduate · Graduate · Hematology

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## Problem

Beyond information found in faculty handbooks (the explicit curriculum), most academic physicians learn how to perform and progress in their jobs through a “hidden curriculum” comprised of word of mouth, informal role modeling from colleagues, and conjecture [1]. A recent study of workplace satisfaction among US medical school faculty found a significant level of dissatisfaction with one quarter to one third of respondents being dissatisfied with their departments and schools [2]. These data, combined with the frequent lack of transparent strategies for academic success [3], creates a need for academic medical centers to be nimble, supportive, and forward thinking to ensure ongoing productivity and satisfaction of teaching faculty [4]. An emphasis on well-organized and innovative faculty development has also

proven to be effective in reducing burnout and improving retention of academic physicians [5, 6].

As a group, clinician-educators' ability to experience academic success and fulfill their professional missions as educators requires high quality faculty development [7], yet this is not universally available. Across many specialties, this faculty may struggle to adequately blend patient care, and their development of clinical expertise, with teaching of trainees, faculty colleagues, and other health professionals [8]. Faculty members in clinician-educator tracks often have very limited protected time and resources for the educator portion [7], and incentives frequently favor the clinician portion of this career track. Mentorship, community, and scholarly productivity may suffer in such cases [9]. While these challenges are not unique to hematologists, the American Society of Hematology (ASH) chose to explore whether their own community of clinician educators needed additional faculty development to better support their roles in medical education. The results of these needs assessment efforts are reported here. Additionally, noting that some subspecialties have modeled faculty development interventions for educators in their specific fields [10, 11], ASH developed a faculty development intervention designed to respond to needs assessment data and to support clinician educators within the hematology subspecialty. The inaugural ASH Medical Educators Institute (ASH MEI) launched in September 2016. This paper will also describe the development and implementation of the ASH MEI and articulate the next steps needed to continue to address the needs of hematology educators.

## Needs Assessment

In the spring of 2014, ASH assembled a steering committee of hematology educators (all co-authors on this report) who aimed to assess educational needs among the community of educators in our subspecialty. This steering committee acknowledged that a robust response rate was unlikely from a needs assessment survey of this kind. However, the committee's real goal was to determine whether there was enough potential "audience" for MEI within the population of educators in ASH to justify moving forward with pilot curriculum development.

The needs assessment was conducted by email and targeted North American ASH members with a professional focus on education. Specifically, the survey was sent via email to all ASH members who belonged to at least one of three cohorts: (1) medical school hematology course directors, (2) hematology-oncology fellowship program directors, and (3) other members who indicated an involvement in medical education in their ASH membership profiles.

The needs assessment yielded a sample of 28 course directors, 29 fellowship program directors, and 255 other educators. Respondents represented a varied range of age groups; 21% graduated medical school between 2000 and 2009, 28% in

the 1990s, 34% in the 1980s, and 14% in the 1970s. Interest in personally attending a faculty development course for medical educators proved robust, with more than 230 of the respondents endorsing interest. Similarly, over 250 respondents indicated that they would recommend such a course to a colleague. Only 11% of respondents had participated in a workshop focused on training medical educators previously and less than half reported that opportunities for educator faculty development existed at their home institutions. Respondents were invited to write in comments about whether and how faculty development for hematology educators would be helpful, and sample responses are included in Table 1. Because of the level of agreement from the needs assessment survey and the strength of the opinions in support of an ASH MEI, ASH's interest in developing a new opportunity to address the needs of hematology educators in North America intensified.

## Development of the ASH Medical Educators Institute

### Objectives

The ASH MEI was proposed to address the faculty development needs articulated by the hematology community

**Table 1** Selected responses from participants in the needs assessment survey

- My responsibilities include teaching undergraduate [medical] students and developing an overarching curriculum for their four years in the MD program. There is very little guidance from professional organizations on how to most effectively deliver this content to this particular level of learner.
- This would be a great idea for someone like myself. I have had some experience with medical education research but do not have a lot of mentorship in my own institution.
- Yes. I think we need to be as academic in our approach to medical education as ... in our pursuit of clinical or basic research. There is a huge literature regarding adult learning and effective techniques in medical education, and as someone who certainly wants education to be a part of my career, I would love to have the opportunity to pursue an in-depth study of the medical education field.
- There is an obvious need to teach people how to adopt innovative and engaging educational strategies in 21st century medicine. There is an incredible amount of information that comes at us daily, and learning how to critically analyze that, synthesize it, and apply it to patients is a hard-earned skill. Having the talent/resources to teach physicians-in-training how to do this would be immensely helpful to any and all faculty involved in fellow education.
- There is an identified, great need for research to be performed to justify and guide effective resident and fellow training environment issues, such as the [clinical learning environment], mentoring, and career development. In addition, research is needed to justify and guide initial specialty certification and maintenance of certification processes. ASH MEI scholars could play important roles in conducting this type of research.

of educators and further supported by ASH leadership [12]. The objectives of ASH MEI were for participants to (1) cultivate increased confidence, knowledge, and skills related to optimal, evidence-based teaching strategies such as small-group learning, team-based learning, and integration of education technologies; (2) develop and refine a scholarly project in medical education that would be executed at the home institution and (3) delineate the essential ingredients for productive career development as an educator such as mentorship, portfolios, and promotion. The inaugural ASH MEI experience was scheduled for the 2016–2017 academic year.

### Participant Selection

The application process for ASH MEI participation took place in spring 2016. Eligible individuals were (1) early to mid-career faculty members (Instructors, Assistant, or Associate Professors) at a North American medical school and (2) members of ASH. Although the steering committee had (and still has) interest in opening ASH MEI to a more international audience, the decision was made for the inaugural year to focus on North American hematologists to limit variability in skill level and practice setting among participants. The application requested a description of the applicant's current role at his/her institution with emphasis on educator responsibilities, a description of the applicant's relevant accomplishments to date, a description of institutional mentors, and resources available for academic career development of the applicant. In addition, applicants provided a statement of academic goals, a career development plan, a proposal for a scholarly project, and their *curriculum vitae*.

Given the importance of local support for the applicant, we required a letter of support from an institutional leader (e.g. dean, division chief, department chair) with appropriate authority to protect the time of the applicant for pursuit of career development activities in medical education and the development of educational projects.

Eligible applicants were each evaluated by two members of the steering committee who submitted scores ranging from 1 to 9 on each of three domains: overall application, scholarly project, and support from the mentor and institution. Twenty applicants were admitted, ensuring no more than one per department per institution. The 20 participants, referred to as the “scholars,” included 16 women and represented 20 different institutions. Most scholars ( $N = 15$ ) were at the assistant professor level but four were instructors/staff physicians and one was an associate professor. Most ( $N = 15$ ) practiced either hematology or combined hematology-oncology in a Department of Internal Medicine but the group also included four pediatric hematologist-oncologists and one pathologist.

### Curriculum Development

The steering committee developed a curriculum (Table 2) blending in-person training, which took the form of a 3.5-day intensive workshop, with follow-up distance learning in the form of a webinar series. Workshop faculty included steering committee members, other ASH members with experience in medical education, and a statistician. A published delineation of competencies for medical educators also guides curriculum development, and MEI curriculum content has been mapped onto these competencies in Table 2 [13].

The faculty aimed to balance the teaching of core content salient to medical educators with opportunities for mentorship to facilitate development of individual scholarly projects. Some of the workshop was dedicated to exploration of key concepts in medical education such as assessment, principles of active learning, and strategies for small group teaching. Each of these sessions required participants to complete reading in advance and each was designed to leverage interactivity, serving a dual aim of teaching the desired content while modeling evidence-based and adult learner-focused educational strategies for scholars to adopt in their own teaching. Other portions of the workshop focused on career development topics such as “The Ins and Outs of Promotion,” “Defining your Value as a Hematology-Oncology Educator,” and “The Two Sides of Mentorship.” A major theme of the workshop pertained to the scholar's projects. Once accepted, scholars provided an update to the project that formed the basis of their application, and these were clustered by theme into five project groups, each led by two MEI faculty. These categories included disease-focused projects (e.g., Improving House-staff Management of Patients with Sickle Cell Disease Through Implementation of a Disease-Specific Curriculum), projects centered around competencies and entrustable professional activities (e.g., Development of a Workplace-Based Assessment Tool for the Entrustable Professional Activity Regarding Transfer of Care), innovative learning modalities (e.g., Develop a Series of Interactive “Real” Cases for Small-Group Teaching of Residents), basic educational research projects (e.g., Investigating Determinants of Hematology-Oncology Trainees' Post-fellowship Career Pathway Choices), and technology-driven projects (e.g., Assessing an Online Curriculum for Mitigating Burnout in Hematology-Oncology Trainees).

The project groups met daily during the workshop to allow each project to be presented and discussed by the small group. Feedback was provided by the small group's faculty and scholars. Based on this feedback, the scholars revised their project ideas daily, culminating in a final presentation to the entire ASH MEI group at the end of the workshop.

**Table 2** Specialized teaching competencies taught at ASH MEI [13]

Specialized teaching competency:	Program design and implementation		Evaluation and scholarship	Leadership		Mentorship	
	Learning	Teaching		Assessment	Curriculum		Leadership
Subcompetencies							
	Technology in medical education <sup>b</sup>	Active learning: team-based learning and just-in-time teaching <sup>b</sup>	Developing good multiple-choice questions and tests <sup>b</sup>	Crafting goals and objectives tailored to needs of the learner <sup>c</sup>	Defining educational research question and hypothesis <sup>b</sup>	Balancing educational, clinical, and scholarly activities <sup>d</sup>	Mentorship and coaching in hematology <sup>b</sup>
	Learning theories in medical education <sup>a</sup>	Small group teaching <sup>b</sup>	Qualitative methods in medical education research <sup>b</sup>	Identifying different curricular models <sup>d</sup>	Strategies for program evaluation <sup>b</sup>	Leadership skills and styles <sup>c</sup>	Promotion as a hematology educator <sup>b</sup>
			Reading literature on testing (psychometrics, validity, etc.) <sup>b</sup>	Curriculum development process <sup>c</sup>	Deploying effective evaluation tools, statistical analysis <sup>b</sup>	Educational leadership at the trainees' institution <sup>b</sup>	Review trainees' CV and receive feedback <sup>b</sup>
			Developing assessments to ensure outcomes are being met <sup>b</sup>	Curriculum implementation <sup>d</sup>	Educational research design in hematology <sup>b</sup>	Identifying med ed. leadership opportunities locally and nationally <sup>b</sup>	Publishing scholarly works <sup>a</sup>
			Conducting a needs assessment and analysis <sup>c</sup>		Compiling a study sample and recruiting participants <sup>b</sup>	Organizational change management <sup>d</sup>	Financing medical education <sup>a</sup>
			Developing a stepwise process for program implementation <sup>d</sup>		Challenges of different study designs and outcomes measurement <sup>b</sup>	Performance management and selection <sup>d</sup>	Program sustainability <sup>d</sup>

<sup>a</sup> Current or future webinar topics<sup>b</sup> Intensive workshop topics<sup>c</sup> Topics to be integrated into ASH MEI for future<sup>d</sup> Topics not yet covered in ASH MEI

## Implementation: Challenges and Measuring of Outcomes

The ASH MEI inaugural experience demonstrated feasibility. We were successful in developing a faculty development intervention aimed to cultivate knowledge, skills, scholarship, and community among a group of subspecialty educators. Educators with optimal knowledge and skill were accrued to be course faculty. The program proved attractive to more qualified and eligible applicants than could be accommodated. Once selected, hematologists (both scholars and MEI faculty) proved able to protect their time to prepare for and conduct the workshop at ASH headquarters.

Our initial delivery of ASH MEI also taught us important lessons. For example, participation in our six post-workshop webinars was inconsistent. Some webinars were attended by nearly all scholars while others had closer to 50% attendance. The webinar technology allows interactivity but we did not note much discussion on the part of the scholar participants. In response to these limitations, we plan to work with webinar presenters moving forward to ensure their content and pedagogy optimize participation and will more proactively publicize the next webinar schedule to explicitly set expectations for attendance. In addition, we noted a gap in our program related to qualitative research methods. Because many scholars proposed projects involving interviews and focus groups, we have recruited a qualitative methodologist with specific medical education expertise who will join our faculty. This individual will formally teach about qualitative research

methods in education and will provide advice to scholars whose projects employ qualitative strategies.

The impact of the ASH MEI has been, and will continue to be, measured through numerous mechanisms. First, MEI scholars were consulted in various ways for their evaluation of the program. The in-person workshop concluded with an hour spent soliciting scholar feedback on the program. After the workshop ended, scholars were invited to evaluate each individual session (including the faculty teaching those sessions) as well as to complete a summative evaluation of the overall program. This latter evaluation instrument gave participants a chance to respond to an open-ended question about how ASH MEI will be helpful in their future careers as educators. A few sample quotations from this item include:

- The MEI was a fantastic opportunity to interact with a variety of experts in medical education and acquire new skills in curriculum development, assessment, and how to promote oneself as a career medical educator.
- ASH MEI was a wonderful opportunity to work with peers and mentors in the medical education community. MEI provided a wonderful foundation for me as a medical educator and helped me connect with peers and mentors to collaborate with going forward.
- Being in the same room with 30+ medical educators at different levels of their careers provided great insight on career development, networking, and multiple opportunities for collaboration in educational research.

**Table 3** Comparison of participants’ mean pre-test and post-test ratings of confidence. Mean confidence ratings range from 1 (least confident) to 5 (most confident)

Lead in statements	Pre-test Mean (SD) N = 16–17	Post-test mean (SD) N = 16–17	p value (t test)
I understand the principles of team-based learning	3.82 (0.71)	4.82 (0.38)	<i>p</i> < .001
I understand the principles of just-in-time teaching	3.35 (0.84)	4.65 (0.48)	<i>p</i> < .001
I feel confident in my ability to develop educational research questions and hypothesis	2.59 (0.77)	4.35 (0.48)	<i>p</i> < .001
I feel confident in my ability to determine the benefits and challenges of different study designs	2.88 (1.08)	4.12 (0.58)	<i>p</i> < .001
I feel confident in my ability to articulate goals of assessment	2.88 (0.96)	4.00 (0.69)	<i>p</i> < .001
I feel confident in my ability to identify assessment strategies for goals of assessment	2.65 (0.90)	3.88 (0.68)	<i>p</i> < .001
I am able to describe key principles of choosing an assessment instrument	2.59 (0.84)	4.06 (0.64)	<i>p</i> < .001
I am confident in my ability to write good multiple-choice questions	3.24 (1.06)	4.53 (0.50)	<i>p</i> < .001
I can identify common flaws in multiple choice questions	3.35 (1.08)	4.71 (0.46)	<i>p</i> < .001
I understand the different factors impacting adult learning in the millennial generation	3.47 (0.78)	4.71 (0.46)	<i>p</i> < .001
I am familiar with education technologies available for medical education	3.00 (0.84)	4.35 (0.59)	<i>p</i> < .001
I am confident in my understanding of the principles of constructing good exams	2.65 (0.68)	4.35 (0.48)	<i>p</i> < .001
I understand how to read the literature on testing (psychometrics, validity, etc.)	2.59 (1.03)	3.63 (0.78)	<i>p</i> < .001
I am confident in my understanding of UME and GME financing	2.24 (0.73)	3.94 (0.43)	<i>p</i> < .001
I understand the importance of return on investment (ROI) in medical education	2.71 (0.82)	3.88 (0.48)	<i>p</i> < .01
I feel confident in designing and analyzing education research projects	2.23 (0.70)	4.00 (0.61)	<i>p</i> < .001



Second, faculty served as another crucial data source evaluating each individual session of the ASH MEI as well as completing a summative evaluation of the overall program. Faculty feedback was also collected in a conference call to debrief about the experience.

Each project group had two faculty facilitators who completed summaries about each scholar's project. The summaries conveyed strengths of the project and delineated opportunities for improvement. When relevant, group leaders would highlight unmet needs for funding, mentorship, or institutional support. The project summary sheets were shared with each scholar as well as his or her institutional mentor in the months following the in-person workshop. In addition, all scholars and faculty completed 360-degree evaluations of every other individual at ASH MEI, allowing each person to receive additional feedback on his or her own performance and contribution to the institute workshop.

MEI scholars completed a survey 8 weeks before and within 1 month after the intensive workshop. The survey asked participants to self-assess their understanding of, and confidence approaching, the 16 knowledge and skills objectives taught through the workshop. Of the 20 inaugural participants completing the pre-workshop survey, the proportion reporting they "strongly agreed" that they understood or felt confident on each of the 16 objectives ranged from 0 to 14%. After the workshop, we noted improvement in the reported levels of confidence. Of the 18 participants completing the post-workshop survey, the proportion reporting they "strongly agreed" that they understood or felt confident on the 16 objectives ranged from 6 to 83%. The mean positive change in self-reported confidence was 34% (Table 3). These data are encouraging but additional data points will be needed to fully document the impact of ASH MEI on participants.

## Next Steps

Moving forward, rigorous outcome measurement will continue. In addition to the strategies described above, ASH will track specific long-term outcomes for scholars and their projects. The goal of these outcome measures is to determine the ability of the scholar to successfully develop as an educator. Key outcome measures will include development and advancement of novel educational resources or curricula, dissemination of education materials via any medium (e.g., online compendia such as MedEdPORTAL), publication or presentation of educational research studies, development of new projects for grant applications, presentations of medical education work at national and international meetings, acquisition of education leadership roles at scholars' own institutions or extramurally, and academic promotion to Associate Professor or Professor.

In summary, the ASH MEI represents a faculty development intervention for hematology educators that demonstrate feasibility and improve self-assessed confidence among participants. While the intervention has focused on North America to date, application in more global settings is a future aim. We believe the ASH MEI can serve as a model for providing faculty development to medical educators within a subspecialty.

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