

ASPIRE: A Program for Developing Clinician Educators' Scholarship, Advancement, and Sense of Community



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INTRODUCTION: Faculty development programs encouraging clinician educators' scholarship have been established at many medical schools. The same is true for programs that address the isolation and loneliness many faculty members feel in their day-to-day clinical work and administration. Few programs have explicitly combined development of scholarship and sense of community.

AIM: The goals of the Advanced Scholars Program for Internists in Research and Education (ASPIRE) are as follows: (1) provide training in scholarship development including research methods, implementation, and dissemination; (2) provide expert mentoring and support for professional development; and (3) create a greater sense of campus community.

SETTING: ASPIRE scholars are clinician educators in the Department of Medicine at Indiana University School of Medicine.

PROGRAM DESCRIPTION: The program runs 18 months, includes intensive mentoring, covered time for scholars and mentors, resources, and two half-day educational sessions per month focused on scholarship and community development.

PROGRAM EVALUATION: Institutional leaders' public statements and actions regarding ASPIRE were documented by program leadership. Data collected from ASPIRE mentors and scholars through interviews and free text survey responses were analyzed using an immersion/crystallization approach. Two central themes were identified for both scholars and mentors: benefits and challenges of the program. Benefits included mentors, program design, community development, increased confidence, skills development, improved patient care, and institutional impact. Challenges included time to accomplish the program, balance of community-building and skills development, and lack of a clear path post-ASPIRE.

DISCUSSION: Combining skills-based learning with safe psychological space were judged important elements of success for the ASPIRE program. Conversations are ongoing to identify opportunities for scholars who have completed the program to continue to pursue scholarship, expand their skills, and build community. We conclude that the program both is feasible and was well-received.

Sustainability and generalizability are important next steps in ensuring the viability of the program.

KEY WORDS: Clinical educators; Scholarship; Career development; Leadership; Resilience.

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INTRODUCTION

The word doctor derives from the Latin verb “docere,” meaning to teach. Until the late twentieth century, the process of becoming a clinical teacher was largely informal and based on an apprenticeship model that could be summarized as “see one, do one, teach one.” As early as 1910, Abraham Flexner, in his report to the Carnegie Foundation, called for radical educational reform by standardizing the *content* of medical training and basing it squarely on scientific evidence. It did so without the benefit of much educational theory or guidance to faculty about how to teach the new model.

It would take another seven decades to acknowledge, define, and formalize the role(s) of the clinician educator. Largely driven by a shift in the 1980s from hospital-based to ambulatory care,¹ faculty were faced with the need to teach about a whole range of new conditions including chronic illness, disease prevention, population health, and social determinants of care. Given the need to expand beyond a strictly biomedical, disease-based approach, curriculum designers and medical educators turned to models such as the chronic care model² and the biopsychosocial approach³ to teach the expanded content as well as concepts from adult learning theory, such as intrinsic motivation⁴, to teach young physicians about the relationship between high quality care and patient and relationship centeredness in the clinic and the hospital.⁵ Today, it is generally recognized that being a clinical educator requires excellence in teaching and demonstrated competence in educational theory and scholarship.^{6,7}

A common challenge for clinician educators is finding the time, resources, and formal training to produce the requisite scholarship for promotion. Without some form of organizational support, success is hard won and many physician

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educators become discouraged given their full-time clinical responsibilities.⁸

There is evidence that programs that protect faculty time to pursue their interests can improve work satisfaction and reduce burnout.^{9–11} There is also evidence that the lack of faculty development resources may be a contributing factor in the reported surge in loss of resilience and career dissatisfaction.¹² Physicians who wish to advance as educators, but have limited resources and time, may find themselves frustrated and dispirited by increasing demands for throughput and few options for scholarship.

A closer look at existing faculty development programs suggests that most are targeted to specific needs such as enhancing humanism¹³, self-care and resilience^{14–16}, or mentoring for academic productivity.^{17,18} Only one other program, to our knowledge, has explicitly attempted to combine multiple dimensions of faculty development for clinician educators into a single program.¹⁹

In 2016, leadership in the Division of General Internal Medicine and Geriatrics (DGIMG) at our institution began designing an integrated faculty development program for clinician educators interested in research, educational scholarship, and personal/professional growth. The overall goals of the program were threefold: (1) provide training in scholarship development including research methods, implementation, and dissemination; (2) provide expert mentoring and support for professional development; and (3) create a greater sense of community. The result was the Advanced Scholars Program for Internists in Research and Education (ASPIRE).

In this paper, we assess the impact of ASPIRE on the first two cohorts of scholars and mentors using a combination of face-to-face interviews and free text responses to surveys at the program's completion and one year post-completion.

METHODS

This study was approved by the institutional review board of Indiana University School of Medicine.

Program Design

ASPIRE began as a 12-month program and was extended to 16 months for cohort 1 and 18 months for cohort 2 because the goals of the program could not be accomplished in the shorter timeframe. The program is grounded in the principles of adult learning theory²⁰, evidence-based research on patient and relationship centeredness^{21,22}, and concepts from positive psychology including Appreciative Inquiry²³, building on the leaders' previous experience in successfully implementing a relationship centered culture at the institution.²⁴ The program included twice monthly half-day sessions that focused on scholarship-related skills, professional, and personal development. The sessions were facilitated by program leaders with content as well as small group expertise.²⁴

Scholars also met weekly with expert mentors and were provided support (such as access to biostatisticians) to accomplish their scholarly project. Funds for travel to a national scholarly meeting to present their project were also made available. For cohort 2, these funds were used for virtual meetings or to purchase Open Access for their published manuscripts. Each scholar received 0.20 FTE salary support for 12 months and 0.10 FTE support for 4 (cohort 1) or 6 months (cohort 2) to complete their scholarly project. Mentors were supported 0.10 FTE per year as they continued to support scholar manuscript submission, poster development, and other ASPIRE-related scholarship and professional development for each cohort post program completion. Figure 1 provides an overview of the program.

Application

A program overview and application information were sent weekly or bi-weekly to all Department of Medicine faculty approximately 6 months prior to each cohort's start date. Included were descriptions of the program, expected products and participation (including active participation in twice monthly sessions and mentoring, project presentation at a Work in Progress session and a poster session, completion of a scholarly project, and submission of a manuscript or other appropriate dissemination of the scholarly product), and application instructions. ASPIRE leadership also met with interested candidates and the chairs of multiple departments to share information about the program and answer questions in face-to-face conversations.

Junior to mid-level faculty who had not had significant opportunities to pursue scholarly work were eligible to apply. Applicants were required to provide a brief description of their planned scholarly project and details about how they saw ASPIRE advancing their professional and personal development and communities of practice. The application required a letter of support from each candidate's chair or clinical supervisor that included a commitment to protect the time ASPIRE covered for the scholar's program activities and job security following completion of the program.

Scholars

The first cohort of six DGIMG ASPIRE scholars began in 2017. The second cohort, comprised of six DGIMG faculty plus one faculty from the Division of Endocrinology, began in 2018. Prospective scholars came from multiple practice sites affiliated with three health systems (VA, safety net, and university/community) (Table 1).

Scholar Projects

Once accepted into the program, scholars began full-blown development of their scholarly project. Scholarship was defined broadly as a piece of work of interest to the

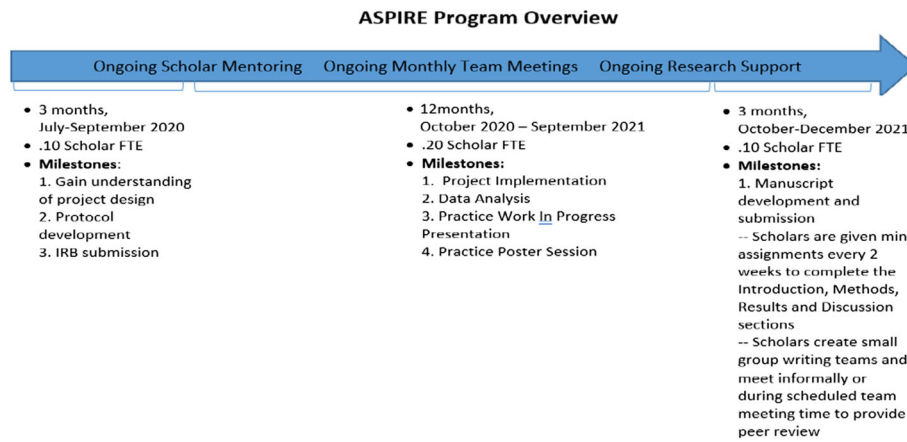


Fig. 1 ASPIRE program overview

scholar to be disseminated to the the broader community through publication or presentation.⁷ Projects completed by the first two cohorts of scholars included discovery-oriented qualitative research, and quantitatively based retrospective cohort, tool development, ecological, and predictive modeling studies (Table 2).

Mentors

Mentors and scholars were matched based on the scholar’s topic of research and proposed methodology and the mentor’s area(s) of research and methodological expertise. Mentors were all cross-appointed in the School of Medicine, the Regenstrief Institute, and the VA Center for Healthcare Information and Communication (CHIC). They came from diverse research and disciplinary backgrounds (2 MD’s; 1 DMD, 1 anthropologist, 1 clinical psychologist, and 1 communication scholar, all with PhDs), and were selected based on three criteria: (1) experience leading research programs of their own, (2) a track record of successful research mentorship,

and (3) interest and ability to mentor faculty without research experience.

Mentors worked with scholars to identify an area of focus that would meet the scholar’s interest and address an important gap in knowledge. Mentors also guided scholars through the design, implementation, and dissemination of their projects, including Work in Progress and poster sessions as well as submission of a manuscript to a peer reviewed journal. Often a portion of the mentor’s work with any scholar continued after the official ASPIRE program ended, for example mentoring manuscript and grant submissions and career coaching. Mentors met monthly as a group to discuss scholar progress, provide peer coaching, and share suggestions for improving the program.

Group Sessions

Scholars met face-to-face for half-day sessions twice a month with two ASPIRE leaders and invited presenters. Meetings were divided roughly into thirds. One-third of the meeting focused on

Table 1 Demographics of the ASPIRE Scholars

Cohort	Specialty	Type of practice				Period of formal education in healthcare research Prior to ASPIRE	Gender	Current age
		Hospital	Non-hospital	Public	Private			
1	Internal medicine	X				< 3 months	Female	43
1	Hospitalist	X				1–2 years	Female	43
1	Internal medicine/palliative care	X	X	X		< 3 months	Male	44
1	Palliative care	X				< 3 months	Female	43
1	Med/peds	X				< 3 months	Female	36
1	Internal medicine	X				3–6 months	Female	46
2	Internal medicine, endocrinology	X	X	X		1–2 years	Female	41
2	Internal medicine, geriatrics	X				< 3 months	Female	37
2	Hospitalist	X				< 3 months	Female	42
2	Internal medicine, pediatrics			X		< 3 months	Female	44
2	Internal medicine	X	X	X		< 3 months	Female	43
2	Internal medicine, geriatrics		X	X		7 months– < 1 year	Female	40
2	Internal medicine, pediatrics		X	X		< 3 months	Female	41

Table 2 ASPIRE Scholar Project Descriptions

Scholar	Project
Cohort I	
Scholar 1	Examined feasibility and acceptability of a structured ICU interdisciplinary team communication skills training workshop to improve individual and team communication with patients and families about goals of care in serious illnesses
Scholar 2	Examined geographic cohorting of hospitalists and their patients to understand the benefits and challenges of assigning hospitalists by units
Scholar 3	Retrospective chart review focused on the prevalence of advance care planning documents in patients undergoing a surgical procedure in a perioperative clinic
Scholar 4	Explored how the use of technology might improve academic hospitalist clinical teaching skills in feedback and evaluation
Scholar 5	Examined how underlying attitudes regarding uncertainty may affect a clinical teams' diagnostic test ordering behavior
Scholar 6	Examined communication between inpatient and outpatient providers during transition of care from hospital to primary care
Cohort II	
Scholar 7	Retrospective review of administrative data to evaluate the impact of primary care diagnosis, referrals, and interventions on obesity
Scholar 8	Retrospective cohort study aimed at developing a model that uses administrative and clinical data within 24 h of transfer to predict 30-day in-hospital mortality
Scholar 9	Retrospective chart review to improve understanding of hospitalist adherence to current evidence-based guidelines for prescribing and monitoring benzodiazepines for older adults
Scholar 10	Mixed methods study explored patients' experience related to discovery of a pituitary adenoma and piloted a patient education intervention to address peri-diagnostic anxiety
Scholar 11	Cross-sectional study that examined rates of depression, anxiety, and somatic symptoms in Latino immigrants based on immigration status between November 1, 2018 through March 31, 2019
Scholar 12	Retrospective review to compare treatment in place versus hospitalization for nursing home residents with urinary tract infections
Scholar 13	Qualitative study to analyze participant feedback on a new internal medicine resident curriculum on medication based treatment for opioid addiction

education and skills development, often led by a presenter with expertise in the area of focus. Early sessions included topics such as developing a research question, conducting a literature search, and choosing among methods; later sessions included analyzing and presenting data, academic writing, creating effective presentations, and promotion and tenure (see [Appendix](#) for the ASPIRE Monthly Curriculum.) One-third of the meeting focused on personal, professional, and community development. This time included an opportunity for all meeting attendees, scholars, leaders, and administrative personnel, to check in, sharing any piece of personal or professional life that they chose with the team, followed by space for discussion of personal issues that a member might bring to the group, and group reflection on a current event, piece of literature, or poem. The final third of the meeting was dedicated to scholar project updates and peer coaching.

Research Support

Scholars were supported by a core of biostatisticians, research assistants, and a research consultant from the Regenstrief Institute to assist with tasks such as data analysis, conducting interviews, IRB submission, REDCap survey development, and general guidance on project implementation.

Data Collection

The research team collected informal program evaluation data on Department of Medicine and School of Medicine leadership perspectives on ASPIRE by documenting leadership public actions and statements related to the program. Data was collected on mentor assessments of ASPIRE from individual face-to-face interviews conducted immediately post-

ASPIRE (see [Appendix](#) for the semi-structured interview guide.) Data was collected on scholar assessments of the program from three sources: (1) face-to-face interviews with all scholars immediately post-ASPIRE (see [Appendix](#) for the semi-structured interview guide); (2) free text responses to an immediately post-ASPIRE survey (see [Appendix](#) for survey questions requesting narrative responses); and (3) free text responses to a one-year post program questionnaire (see [Appendix](#) for survey questions). All cohort 1 and cohort 2 scholars participated in the immediate post-ASPIRE face-to-face interview and completed the immediate post-ASPIRE survey and the one year post-ASPIRE questionnaire.

Data Analysis

Qualitative data were analyzed by the authors using immersion-crystallization,^{25,26} a well-established qualitative research approach. Beginning with the scholar transcripts for cohort 1, the team read, discussed, and re-read each transcript, noting concepts or ideas that stood out as important, and together developed a provisional coding scheme. Complete sentences or phrases were the units of analysis for coding. A single overarching code was assigned to each unit to simplify the analysis. The team then coded a sample of the data individually, using the provisional code book, and met regularly to discuss and finalize the codes. All discrepancies were discussed and a consensus achieved. The process reached theoretical saturation when additional transcripts yielded no new information. The same process was used for analyzing cohort 2 data. No new codes emerged, and the data from cohorts 1 and 2 were combined and organized into higher level themes. The same process was used to analyze the survey and questionnaire data and the mentor interview data.

RESULTS

Institution Leadership Perspectives on ASPIRE

ASPIRE was conceived and funded by leadership in DGIMG to support and further the interests of GIMG faculty. The success of the program was clear even during the first cohort of scholars and the program quickly gained wider institutional support.

- 1) The chair of the Department of Medicine (DOM) was so impressed with ASPIRE that he (a) provided additional funding to support the ASPIRE infrastructure late in cohort 1, and (b) invested additional funds to support up to two non-GIMG faculty in both cohorts 2 and 3.
- 2) The DOM prominently featured ASPIRE in two annual presentations about the state of the DOM and included ASPIRE in the annual report.
- 3) The IUSM Dean's office learned about ASPIRE and included the program in materials for a 5-year review of the DOM by external experts and again in materials given to candidates for new DOM chair role after incumbent departed IU.
- 4) ASPIRE leadership has received multiple inquiries from other department chairs, including ones new to IU, who were directed to talk to ASPIRE leaders as it is one of the models for mentoring on campus.

Mentor Perspectives on ASPIRE

Interview Themes. The mentor interviews included two broad categories of responses, perceived benefits and challenges of the program.

Benefits. Close-Knit Community

Mentors appreciated the program's development of an active and supportive scholar community.

I've been overly impressed with every aspect of [ASPIRE] ...it was just inspiring to see ...the extent to which the program developed a cohesive group that felt supported and enriched and engaged and got to know each other Those things exceeded my expectations. (Mentor 104)

Collaborating with other Mentors

Mentors were also enthusiastic about creating a mentor community that paralleled the scholars': encouraging them to discuss individual scholar progress and to brainstorm together ways to address concerns or questions and improve the program.

It was nice to have the monthly calls with the mentors where we could problem solve...this idea that the mentors have their own network where we can talk to each other about the scholars, in general, or about you

know how our individual scholars are doing, that's pretty neat. With the other mentorship I've done I haven't had any space for problem-solving as a group. (Mentor 103)

Educating a New Generation of Scholars

Much of the enthusiasm for the program came from the mentors' sense that they were helping others realize their hopes and dreams as budding scholars.

I love interacting with the scholars and teaching them as much as I can teach. That's a rewarding process for me to help them learn and to see the learning applied in the useful way in the actual conduct of research and the generation of new scientific knowledge. (Mentor 101)

Challenges. Challenge themes included recognition that scholars were true research novices, setting limits on the scope of projects, and the future for mentees.

Novices

Mentors commented on how little research knowledge and skills the scholars possessed. One mentor noted:

Most of these people have not done a fellowship, they've not taken course work in research, which I think, is a steep learning curve for them. (Mentor 102)

Scope of Projects

Several mentors commented on the need to reign in overly ambitious project plans and ideas.

Keeping the project focused ... we had to really drill down and focus it as a project. Keeping sensitive to timelines...keeping our discussions focused so we weren't all over the map. (Mentor 103)

Scholar Next Steps after ASPIRE

Mentors often reported challenges in thinking about the next steps for each scholar post-ASPIRE.

I have been a little bit confused ... long term. Short term goals are very clear... do a project, learn a little bit more about research, but like early on or midway through we had conversations about ...is this something I want to keep doing you know... But then, what is the path for that? (Mentor 105)

Scholar Perspectives on ASPIRE

Immediate Post-ASPIRE Interview and Survey Themes. The scholar interviews also contained two broad response categories: perceived benefits and challenges of the program.

For ease of reference, we present representative quotes below. All scholar responses are available from the authors upon request.

Benefits. Scholars described benefits of the program in multiple areas including the monthly in-person sessions, focus on community, support from mentors and leaders, skills mastery, personal and professional development, empowerment, and confidence to become mentors for other colleagues.

Session Design

All scholars were enthusiastic in describing the benefits of the twice-monthly meetings, designed to include education, peer coaching, and community development:

I think it was great. The first part of the sessions included a presenter ... teaching, introducing and engaging us ...about the research.... The second part I loved as well where everyone shared their experience. ...That's how we became close-knit, by having those monthly sessions, catching up, supporting each other, throwing out ideas to each other about each other's projects, and guiding each other if we were stuck.... That was nice. (Scholar 209, interview)

Community

Almost uniformly, scholars valued the cohesive, intellectual community that developed throughout the program.

We really had a sense of community and family and I didn't expect it. I think of so many things in academics and clinical medicine where we really are just showing up and getting the work done and moving on... I think you don't know how important it [community] is until you get through something like a research project, where you rely on people feeling comfortable to share candid feedback. (Scholar 207, interview)

One scholar noted that the monthly team meetings were “The highlight of the month for me. I would wait for these. So energizing to be in a room full of brilliant minds with camaraderie!” (Scholar 201, survey).

Mentors

All scholars reported meeting regularly with their mentors via email/telephone or in person and were positive about the feedback support and guidance they received.

Working with my mentor has been intellectually stimulating, allowing me to feel I am able to competently pursue research projects and I have also immensely enjoyed the ability to connect with an internist who has practiced in primary care for several years and has a genuine appreciation for the complexity of our daily jobs and the demands placed on us. (Scholar 211, survey)

Some were surprised that the mentor’s role expanded beyond the narrow scope of their project, “I appreciated my mentor’s attention to my overall well-being and life balance.” (Scholar 210, survey).

Support

Scholars were often surprised by the level of support they received for their projects:

I did not expect that I would get help. I was used to thinking you are going to have to figure this out on your own...but from the IRB to just thinking about the problem there was somebody specific who was going to help you. (Scholar 203, interview)

Many appreciated working with members of a research team, noting these interactions resulted in “...increasing confidence interacting with research assistants, biostatisticians, and maintaining a positive attitude.” (Scholar 209, survey).

Scholars were also positive about program leadership characterizing them as:

Always supportive -just what this type of program needs; they have set up a 'support group' for early career physicians. While you get the research curriculum, you also develop a sense of family that not all clinicians get to experience. (Scholar 210, survey)

One scholar commented, “I appreciated all of their insights and stories throughout the year about projects they have been involved in and how they experienced and overcame obstacles.” (Scholar 203, survey).

Skills Development

Most scholars had no formal research training and found the program especially helpful in developing basic research skills:

Process, understanding the steps required in getting a project from start to finish. The very specific skills we've learned [from] session to session were incredibly valuable and helped me to feel confident that these are achievable steps. (Scholar 207, interview)

Professional Development

Few scholars had thought deeply about their careers and personal development beyond full time clinical work. The program included time for scholars to reflect with mentors and leaders on their possible futures.

It's a great program... it really shaped a little bit of who I am and I think it changed the direction of my career a little bit. It really did have a huge impact. (Scholar 212, interview)

Confidence and Empowerment

Scholars were enthusiastic, and sometimes surprised, that their time in the program empowered them to feel confident in

pursuing additional scholarship and personal goals:

This whole program has been so good, not only educating us on academia, but making us feel empowered to do things. I used to feel there's a big divide between clinical medicine and academic medicine and that I didn't even want to open that Pandora's box. It felt so intimidating. Now I feel more curious and ready to ask questions. ... I'm able to translate some of this into my clinical practice and my administrative role. ... it's had a huge impact on me personally. (Scholar 201, interview)

Mentoring Colleagues

Several scholars reported using the knowledge and skills they gained through ASPIRE to mentor their clinic colleagues in clinic-focused quality improvement projects and new research:

And I've even been able to mentor other faculty who are earlier career faculty who I see trying to work on something and realizing the skills I've acquired with ASPIRE. (Scholar 212, interview)

Challenges. Scholars also reported challenges, including balance in the ASPIRE meetings between community development and project updates, time covered to complete the program, and next career steps.

Balance

A few scholars noted that they would have preferred time devoted to personal and professional development during scholar meetings to have been used to focus more deeply on scholars' projects:

I think one thing that I really hoped for that we didn't end up doing as much as I would have liked was spending time talking about our research projects as a group during the group meetings. (Scholar 206, interview)

Time

Several scholars mentioned that the time needed to complete the program felt too short. A few offered recommendations for ways the program's time could be restructured: "I think giving a flat 15 percent for 24 months would help. It would be helpful to use the time during our manuscript writing." (Scholar 210, interview).

Next Steps

Finally, there were a few concerns raised about life and scholarship after the program:

I'm still not sure what happens to me next. I'm still feeling a little bit unmoored. ...but at the same time it's

not paralyzing me because I feel like I have access to more people that I can ask these questions to and I will get direction. (Scholar 203, interview)

One Year Post ASPIRE Survey Themes

Scholars reported the impact ASPIRE had on their clinical work and professional engagement one year after completing the program.

Patient Care. A few scholars commented that ASPIRE had an impact on the way that they cared for patients. One scholar noted: "It [ASPIRE] has improved my approach to symptoms and my patience in helping patients through them." (Scholar 210).

Clinic and Institutional Impact. Several scholars chose to pursue projects in their home clinic environments: "I am more willing to consider and take on new projects [in clinic]." (Scholar 201). Others shared their new skills with colleagues interested in research and quality improvement: "ASPIRE has allowed me to apply research knowledge with my other colleagues and help treat their patients. As I take care of patients, I now look for more safety and quality projects to do." (Scholar 211). Some scholars stated their project findings led to larger, institution-wide impact: "Based on the success of my pilot project, leadership at my hospital has made a request to further implement similar educational training with nurse residents across the institution." (Scholar 203).

Professional Development. Scholars noted the long-term impact of the program on promotion and career focus: "Would not have pursued promotion if not for ASPIRE." (Scholar 202). A second scholar commented: "I'm now planning community-based interventions for my next project that targets the patient base I care for." (Scholar 211).

New Scholarship. Scholar comments indicated that the program was a motivation to pursue additional scholarship: "I am seeking more scholarly activities and able to provide more input/advice to others on projects they want to pursue." (Scholar 201). Some revealed that the program had connected them with potential research partners and projects: "My research connected me to other researchers and additional research projects." (Scholar 212). One noted with pride, "A year out from ASPIRE I was invited to give grand rounds at another institution." (Scholar 202). A second scholar shared: "[ASPIRE] encouraged my job transition to Geriatrics and encouraged more manuscript publications." (Scholar 211).

In the one year post survey, ASPIRE leadership requested information on post-ASPIRE scholar outcomes and continues to communicate regularly with ASPIRE scholars from both cohorts to track products and progress the scholar associates with their work in the program (Table 3).

Table 3 Post-ASPIRE Scholar Outcomes

Scholar	Publications	Published abstracts	Poster presentations	Presentations	Grants	Promotion	Awards/ achievements	Peer mentoring	Service
Cohort 1									
Scholar 1	4	3	1	2			1		
Scholar 2	8	3	1	11	1	1	1	2	1
Scholar 3	4	4	1	8			1		
Scholar 4		1	1	3				1	
Scholar 5			1	1					
Scholar 6	1		1	3					
Cohort 2									
Scholar 7		1	1	6			2		1
Scholar 8	1	1	1	1				1	1
Scholar 9	1	1	1	3				1	
Scholar 10	1	1	1	1				1	1
Scholar 11	1	1	1	2					
Scholar 12	1	2	1	1					
Scholar 13	1	2	1	1					

The full list of scholar publications is available upon request

The one year post-ASPIRE survey included two focused questions: (1) If you had to do it over again, would you choose to be involved in the ASPIRE program? (2) Would you recommend ASPIRE to others? All but one scholar replied enthusiastically that they would participate in ASPIRE again. That person noted that the timing had not been good. Responses to the second question were 9 respondents stating Definitely, 2 stating Maybe, and 1 stating Likely.

DISCUSSION

Faculty development for clinician educators has made great strides over the past two decades with teaching academies, leadership programs, and peer mentoring now available in many medical schools and healthcare organizations. At the same time, it is increasingly difficult for interested faculty to find the time, resources, and mentors to produce the scholarship necessary for advancement. Many studies suggest that physicians, clinician educators among them, are feeling isolated and unfulfilled by the stresses of contemporary practice.¹⁰ Without viable options for personal and professional development as an antidote, these physicians may continue to be at risk for burnout and its attendant negative effects.

The ASPIRE program was conceived as an integrated approach to professional development based on scholarship and simultaneously modeling the value of community and relationships in promoting resilience and healthy coping. The program is grounded in sound principles of adult learning

and stresses the importance of autonomy, partnership, and “double loop learning,” in which learners and program leadership cycle back and forth teaching and learning from one another.²⁷ It also brings together small groups of clinicians, largely without research experience, with a gifted set of nationally and internationally successful research mentors.

From our evaluation, four aspects of the program stand out. First, the clinician educators who went through the program clearly found it valuable, from expert guidance in conceptualizing and conducting a scholarly project to interpersonal support and project feedback among peers. Second, there is an inherent tension between content and process in any community of practice, and perhaps especially in communities where balancing the two is not the norm, as is the case in medicine. Third, there are unanswered questions about what happens after the program completes. And fourth is the question about resources and sustainability.

Although noted as a tension by a few of the scholars, personal relationships and safe psychological space were highly valued. The literature in quality and safety in medicine and other industries makes clear that psychological safety is a prerequisite for high quality and resilience in fields as diverse as aviation and recombinant DNA research.^{28,29} Based on our analyses, it appears that creating a safe space to explore a range of personal and professional issues was an important element of the program. Additional evidence for this assertion comes from the scholars themselves who have asked to continue to meet monthly as a community even long after the program officially ended.

ASPIRE was designed to be of primary value to physicians with an interest in academic faculty development and secondarily of value to the health system. Not all scholars experienced this alignment and the question of program fit within the overall health system is a work in progress. One potential intersection of ASPIRE with the needs of operational healthcare environments is the Indiana Learning Health System Initiative³⁰, which seeks to help health systems implement a learning health system philosophy³¹. (Dr. Schleyer, one of the ASPIRE mentors, directs that initiative.) In fact, a previous ASPIRE scholar is now piloting a predictive algorithm³² to help increase appropriate palliative care and hospice referrals with one of our health system partners.

Finally, the question of resources and sustainability is important to address. The first cohort of scholars was funded entirely by DGIMG. In its second year, the Department of Medicine underwrote one additional slot for a non-DGIMG specialist (an endocrinologist in cohort 2). On the one hand, ASPIRE is a relatively resource-intensive experiment; on the other hand, to recruit and retain a physician who has left the practice or the profession because they are burned out or for other reasons is an expensive proposition that can cost hundreds of thousands to over a million dollars. Compared with cost recovery of this magnitude, the investment in ASPIRE seems quite modest. It remains to be seen whether the business case for programs like ASPIRE can persuade senior leaders to invest their limited resources in faculty development. Time will tell.

Limitations

ASPIRE was designed to study the feasibility of recruiting and training clinician educators in a variety of research approaches and at the same time providing safe psychological space for them to develop into a community of practice.

The first limitation is small sample size and data limited to two years' experience, a limitation over which we had no control. Partly to overcome limitations of quantification and out of a desire to produce "thick descriptions"²⁹ of the scholars' and mentors' lived experiences, we chose a multimethod qualitative approach to evaluating the program.

The second limitation is that the evaluation co-evolved with changes in the program over time. This was a deliberate choice and one that, while useful, limits the utility of the findings for others wishing to implement similar programs.

The third limitation was an unanticipated "tail" of post-ASPIRE activities including time and resources for scholars to revise and resubmit manuscripts. Unfortunately, we did not collect data on this aspect of the program.

CONCLUSION

More than a century after Flexner's influential report put the science of medicine front and center in training physicians, the science of education has made its way into the halls of academia as a legitimate pursuit in terms of pedagogy, practice, and

promotion. Clinician educators are a vital source of energy and commitment in ensuring that tomorrow's doctors have the necessary evidence and tools to care for patients, colleagues, and themselves. ASPIRE is one small step in helping faculty remain resilient and productive while pursuing their hopes and dreams in a complex healthcare environment.

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