Faculty Development _____

The Morehouse Faculty Development Program: Evolving Methods and 10-year Outcomes

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Background and Objectives: *African American physicians remain underrepresented among all medical school faculty, including faculty in departments of family medicine. This paper reports on a faculty development effort aimed at increasing the number and academic skills of underrepresented minority faculty.* Methods: *In 1992, Morehouse School of Medicine began a faculty development program. The program trains faculty and community-based preceptors in teaching, scientific writing, grant writing, research, and minority career issues. Formats now include a 1-year longitudinal program, 4–6-week stand-alone modules, and an executive faculty development program for physicians from across the nation. Evaluation measures include participant enrollment, completion rate, participant feedback, and self-reported academic competencies before and after the program.* Results: *A total of 113 participants completed the program from 1992–2003. Only seven enrollees failed to complete the program. Of 113 graduates, 104 (92.0%) were ethnically African American, Afro Caribbean, or African, while only two were white, non-Hispanic. More than four out of five (81%) now spend at least some time teaching on a regular basis, and 71% spend more than 25% time in teaching roles. Self-reported before-after competencies in specific academic skills such as teaching, writing, research, and grant writing rose from 2.7 to 4.1 on a 5-point scale.* Conclusions: *Faculty development is a potentially effective strategy for increasing diversity in academic primary care. Historically black and Hispanic-serving institutions can make contributions to training minority faculty. More-rigorous study could elucidate which program elements have the greatest effect on minority faculty academic career choice, scholarly productivity, and career trajectory and the extent to which these programs could be adapted to majority institutions.*

An increasingly diverse US population needs culturally competent physicians and a proportionately diverse physician workforce.[1] In 2003, roughly 12.9% (36.4 million) of the population was African American[2] and 12.5% Hispanic or Latino.[3] Yet, in that same year, only 3.4% of US medical school clinical faculty were African American, 4.1% Hispanic or Latino, and 0.1% American Indian/Alaska Native.[4] There were 200 African American full-time physician faculty in family medicine, 738 in internal medicine, and 355 in pediatrics.[5] Academic primary care departments have increasingly recognized the need to diversify their faculty.[6-9]

Much data have been published over at least 3 decades on the effectiveness of faculty development in producing and retaining academic family physicians[10-13] and faculty in other primary care disciplines.[14-17] More-recent articles have emphasized specific program formats,[18] community-based preceptor training,[19-21] and targeted-outcome formats (producing grants and papers),[22,23] while other papers have addressed obstacles and strategies for effective faculty development in an increasingly demanding 21st century academic health care environment.[24-26] One US family medicine department has even generated a faculty development course for Latin American physicians who will teach in family medicine residency programs in their home countries.[27]

However, far less has been published on faculty development as a strategy to increase the numbers of underrepresented minority faculty in US academic medicine. Aside from issues of equity and justice,

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minority physicians completing Title VII-funded faculty development programs are more likely both to serve and teach in medically underserved communities.[28] In 1998, we reported on our initial creation of a faculty development program to address this need,[29] and now (as we complete our 12th year), we report on the evolving structure and format of our Morehouse School of Medicine (MSM) Faculty Development Program and educational outcomes from the first decade.

Methods
Program Development
In 1992, the MSM Department of Family Medicine was having difficulty recruiting and retaining underrepresented minority (URM) faculty. At that time, only two physicians in the department were African American. At the same time, the Association of American Medical Colleges (AAMC) reported that there were only 52 African American full-time academic family physicians in the nation, one third of whom were on faculty at historically black institutions.[30]

We successfully sought grant funding from the Health Resources and Services Administration (HRSA) Bureau of Health Professions through the Title VII family medicine faculty development grant program. The MSM faculty development program operated out of the Department of Family Medicine for 8 years. In year 4, a second series of workshops was added on the main campus for faculty of all primary care departments, at the request of the medical school dean.

In 1997, the program moved under the administrative umbrella of the National Center for Primary Care (NCPC) at MSM. The new NCPC building also provided program office space, a large multi-configuration training room, a 45-seat computer lab, and a 12-exam room lab with a large video-monitoring suite for objective structured clinical examinations (OSCEs), where we have been pilot testing standardized preceptor teaching encounters. In the 10th year, we launched an Executive Faculty Development Program, a series of 4-day intensive hands-on workshops that reaches out to minority primary care faculty from as far away as Massachusetts, Michigan, Texas, and California.

Outreach/Enrollment
Program participants include both community-based preceptors and new or established faculty. Our 2002–2003 cohort included seven participants in the Executive Faculty Development Program and eight participants in the longitudinal/modular workshops. Clinical department chairs provide one afternoon per week of release time for new faculty to participate in the program. Two departments (family medicine and pediatrics) have sent 100% of their faculty through the program. We have also encouraged interdisciplinary participation by psychologists, nurse practitioners, and other professionals who have faculty appointments and

who actively teach in primary care training programs. Participants are recruited at conferences of primary care or minority medical organizations and through mailing lists. Many of our participants now cite personal testimonies from graduates of the program as the most important factor in their decision to participate. Although executive program participants must pay their own travel and lodging expenses, the program itself is cost free.

Program Structure and Staffing
There are several options for participation. MSM and other Atlanta-area faculty often choose to complete all the elements of the longitudinal/modular program in 1 year, attending every Tuesday afternoon. Other faculty and community-based preceptors find that they can only participate in one or two 6-week modules in a given year, completing the projects related to that module (such as writing a clinical case report for Writing 102) and then returning to complete additional modules the following year. Professionals from other states in the United States or other regions of Georgia typically choose the executive program, completing six modules in four intensive 4-day sessions on campus in Atlanta. We also offer brief outreach workshops (a 1-day workshop on "Making Dynamic Presentations," for example) that may be a faculty member's first experience with faculty development.

Over the first 10 years, the principal investigator (the only non-minority member of our team) has purposefully moved away from being the primary teacher in the program, transferring program management and teaching responsibilities to African American faculty. Four of the five program faculty are second-generation teachers, ie, program graduates who now teach in the workshops. Two support staff share tasks related to recruiting, workshop logistics, teacher support, communications, budget, and database management.

Curriculum Content
The teaching strategies for the program are shown in Table 1. The original curriculum was designed around a 1-year schedule of 40 afternoon workshops, with various topics and academic skills integrated into activities spread over the year. Feedback from participants convinced us to move to a modular format. All participants in a given 6-week module commit to attending all sessions of that module (one half day per week) and completing the module's required project. Workshop topics and major projects related to each module are shown in Table 2.

Additional technical competencies such as computer skills, presentation graphics, informatics, and analyzing data with statistics software are built into the workshops. We also weave in culture-affirming messages, either explicitly (for example, having the group discuss academic career paths with NCPC Director and former

Surgeon General David Satcher, MD) or subliminally (through the role modeling of our program faculty, our choice of project examples and templates, etc).

Evaluation

Participant evaluations come from three different sources: self-critique, peer review, and faculty assessment. Participants complete a needs assessment of knowledge and skills before and after each training module. We also collected data on race, academic programs, and scholarly work through a survey of participants. Statistical significance of improvements was analyzed by a paired *t* test on the matched pairs analysis of before-after data on our 5-point ordinal Likert scale. Specific evaluation variables changed between years 1–8 and years 9–10 to evaluate the specific skills tied to each specific module at the time of completing each module. Competence was also measured by the completion of assigned projects, which are required for graduation from the program.

Results
Enrollment/Completion

A total of 120 individuals enrolled in the full program in 10 academic years from 1992–2003. Seven enrollees withdrew from the program because of family and/or scheduling issues, for a 94% completion rate (113 graduates). Program graduates attended more than 75% of the workshop sessions and completed all required teaching, writing, grant writing, and research projects. Eighty-six graduates completed the longitudinal program format, 18 completed the full series of modular workshops, and seven completed the executive program in its first year (we have since graduated another 12 from this program and have 14 more participating in the 2004–2005 class). Of 113 graduates, 104 (92.0%) were ethnically African American or first-generation African or Afro Caribbean, while only two were white, non-Hispanic. The mix of graduates included community preceptors, new and established faculty, fellows, and four carefully selected chief residents (Table 3). An additional 128 individuals attended at least one full-day workshop or completed at least one 4–6 week module, without signing up for the full year-long program.

Participant Feedback

At the conclusion of each workshop series, participants evaluated the program instructors and sessions using a modified Likert scale. The mean percentage of good or excellent ratings for instructors over the 10-

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Table 1

Teaching Strategies

- Building confidence and competence in parallel by providing a nurturing learning environment and positive "success" experiences.

- Using a "just-in-time learning" strategy, by coaching participants through hands-on projects, role-plays, and interactive discussions, consciously minimizing passive-learning techniques such as lectures.[18]

- Building a positive group dynamic over time through interactive learner-centered, small-group teaching strategies.[31]

- Affirming our HBCU mission by emphasizing projects related to underserved populations and role modeling by minority teachers and program leaders.

- Adapting teaching methods to autonomous professionals and diverse learning styles through individual coaching, personal selection of clinical focus areas, and option for team-driven versus individual projects.

- Providing immediate feedback from peers and faculty in a manner that is both affirming (what specifically did the learner do well?) and actionable (what specific behaviors, skills tools, etc, could the learner do to make their teaching even better?).

- Requiring tangible products or demonstrable skills at the completion of each module. Our goal is for learners to say that, "I know I can do XYZ because I have already done it."

HBCU—Historically Black Colleges and Universities

Table 2

Workshop Modules and End-of-module Requirements

Topic	Required Project
Teaching 101	• One-on-one precepting exercise • Self-critique video • Interactive 5–10 minute pre-clinic talk to a small group using non-projected media such as a flip chart or handout
Teaching 102	• A formal 15–20 minute talk to a large group using projected media (PowerPoint or mixed media)
Writing 101	• Write and submit a letter to the editor critiquing an article in a peer-reviewed journal
Writing 102	• Write and submit a case report to a peer-reviewed journal
Grant Writing	• A 5–10 page concept paper, timetable (Gantt chart), and detailed budget for a grant
Primary Care Research	• A poster presentation using bivariate analysis of a secondary data set
Curriculum Development	• A curriculum with competency-based evaluation tools

Table 3

Participant Data

Type of Participation	Ethnicity	Male (#)	Female (#)
Full-time-fellows (10)	African American African	2 2	6 0
Community-based physicians (57)	African American White, Non-Hispanic Afro Caribbean Asian (India) African	25 1 2 1 2	21 1 0 4 0
New full-time faculty (17)	African American Native American African	2 0 0	13 1 1
Existing faculty (18)	African American African Asian (India)	4 0 1	12 1 0
Executive Program (7)	African American	1	6
Chief residents (4)	African American African Afro Caribbean	0 0 0	1 2 1
Total		43	70

Table 4

Program Strengths and Suggestions
for Improvement

Top 10 Strengths

1. Small-group and individualized instruction
2. Hands-on computer training
3. Interactive seminars
4. Low student to teacher ratio and comfortable class size
5. Integration of theory and practice
6. Brings out the possible best from participants
7. Excellent instructors
8. Good organization
9. Practical hands-on experience
10. Relevant topics

Top 10 Suggestions for Improvement

1. Additional persons to help with computer lab
2. Need more time for computer applications
3. More class time for each module and more time to work with class members on group projects (eg, article or curriculum)
4. Allow time in class to complete assignments (less homework)
5. Use more videotapes
6. More discussions on cross-cultural issues
7. Stipends to ease financial strains from time away from work/practice.
8. Preparatory reading or other background information in advance
9. Break writing up into intense periods focused only on writing
10. Have handouts of presentations and teaching materials

year period is 91%. Responses to open-ended questions on strengths and weaknesses of the program are presented in Table 4.

Participants in years 1–6 of the program were enrolled exclusively in the year-long longitudinal format, where various skills were mixed into the curriculum throughout the year. Years 7–8 were a transitional year in which there were both longitudinal and modular components, but evaluations still included the same before-after competency variables in six specific areas (teaching, audiovisual skills, research/writing, cultural competency, computer skills, and administrative skills). Of 78 participants, 66 in years 1–8 completed all before-after competency self-assessments. Overall scores on a 5-point Likert scale of self-perceived competencies increased from a mean score of 2.6 before the program to 4.1 after participation in the program. Before-after differences in perceived competence were statistically significant by paired t test ($P<.001$) in the overall ratings as well as sub-ratings in all six competencies. Participants in years 9–10 rated skills in categories consistent with each module (clinical and small-group teaching, large-group teaching and presentation skills, Medical Writing 101 and 102, Grant Writing, and Research). Increases in before-after self-rated competencies were again highly significant statistically ($P<.001$), with mean Likert scores rising from 2.8 to 4.2.

*Educational Outcomes—Graduates
in Teaching and Leadership*

A total of 63.7% of graduates responded to our survey about current academic activities and scholastic productivity. More than four out of five (81%) of our program graduates are now actively engaged in full-time or part-time teaching, and 71% spend more than 25% time in teaching roles. A small number of our program graduates have received academic promotions and/or have held academic leadership positions, such as predoctoral education director (three), residency program director (three), or associate chair of a clinical department (one). Although we cannot prove a causal relationship related to our faculty development program, our Department of Family Medicine experienced significant growth in both numbers and minority representation of our faculty during this same time period. From 1992 through 2002, the number of full-time MD faculty in the department has increased from 6 to 16, and the percentage of URM faculty from 33% to 81%.

Grants and Publications (Scholastic Productivity)

Our program participants often have little prior experience writing for scientific publication, so our strategy is to move incrementally from relatively simple, high-percentage submissions (letters to the editor) to somewhat more complex but very structured formats such as clinical case reports. All program graduates have completed draft manuscripts in these formats but have been inconsistent in following through to publication. They also complete poster presentations based on analyses of secondary data sets such as the National Health Interview Survey. Community preceptors often are satisfied with just completing the writing workshops and do not seek further publications.

Full-time faculty often recognize a need for higher-level academic skills after completion of our program. For example, four of our program graduates have now enrolled in or completed the MSM Master's in Clinical Research program. Several of our program graduates have received grant funding, often as a result of the proposals they first drafted during our hands-on workshops. The largest grant awarded to a program graduate thus far was for $1.4 million over 3 years.

Discussion

We would like to believe that the MSM Primary Care Faculty Development Program has increased the number of URM faculty in the MSM family medicine department, increased the pool of minority academic primary care physicians in the Atlanta metropolitan area, and perhaps even contributed marginally to a small increase in URM primary care faculty nationally. However, because we designed and modified the faculty development program over time, we did not conduct it as a randomized controlled trial or even with a rigorous quasi-experimental study design. Therefore, we have little scientific evidence of a cause-and-effect relationship between our faculty development program and the career choice, scholarly productivity, or career trajectory of minority faculty. We can only say anecdotally that we were failing in this area before starting the program, designed the program to address this need, and began succeeding at recruiting and retaining URM faculty only after we implemented the program. This still does not constitute scientific evidence of an intervention-derived outcome.

The good news, however, is that the number of African American full-time family physician faculty at US medical schools has more than tripled (from 52 to 169) during the first 10 years of our program (1992–2002).[32] The bad news is that this still represents only 6.0% of all family medicine faculty in a nation whose population is 12.9% African American. A significant number of these individuals are at historically black institutions. The only family medicine faculty development program reporting similarly large numbers of African American and other underrepresented minority graduates is the Cook County Hospital program, which reported in 1998 having graduated 120 physicians, half of whom were minority physicians and most of whom were practicing or teaching in medically underserved areas. In some ways our program itself might be considered at least partially a product of the Cook County program, since our program's founding director (Dr Rust) was a graduate of the Cook County program charter class.[33]

Beyond the discipline of family medicine, there are other examples of successful minority faculty development programs. Aside from the HRSA Bureau of Health Professions, the Robert Wood Johnson Foundation (RWJF) has perhaps the longest track record of funding programs that produce large numbers of minority faculty.[34] The RWJF Clinical Scholars program has now produced more than 1,000 clinical scholars, including hospital executives, medical school department chairs, and full professors. While a current description of the program does not explicitly use the word "minority," the program has been aggressive in seeking diversity among participants and has notably produced high-level leaders from among many URM participants, including the 16th US Surgeon General and current MSM President (Dr Satcher).[35]

Within individual institutions, however, it is difficult to identify programs producing significant numbers of African American primary care faculty. Published examples often include a junior-faculty mentoring model, which may be presented in the context of an institution's broader portfolio of diversity initiatives.[36,37] A more comprehensive example would be the Harvard Medical School Minority Faculty Development Program, which started in 1990 and reports that from 1997 to 2001, the number of URM assistant professors grew from 31 to 51, and the number at the instructor level grew from 222 to 403.[38]

Family medicine educators have articulated the need for more rigorous evaluation of faculty development programs,[24] and examples of such studies are beginning to appear. For example, Morzinski and Simpson report positive outcomes from their institution's internal faculty development program on four evaluation levels (reactions, learning, behavior change, and results), using instruments such as satisfaction surveys, validated competence measures, CV review, and attendance records.[39] Our MSM program outcome data are only descriptive, showing one program's success at recruiting and graduating URM (especially African American) professionals from such a program and their self-reported increase in confidence/competence (reflecting increased self-confidence or self-efficacy more than true competency). Our completion rates and the proportion of graduates engaged in ongoing teaching are similar to data reported in a national follow-up study on family medicine fellows.[40] Therefore, we acknowledge the following as limitations of our program.

Limitations of Program

First, this program consistently provides a basic academic skill set, but these need to be nurtured and cultivated long after participants complete our 1-year basic faculty development program. Second, the publication record of our graduates is less than we had hoped. Other programs have cited similar difficulties. In a follow-up study on graduates of three part-time faculty development programs, Anderson et al found that only 32% of graduates had published peer-reviewed articles.[41] At least one program has reported substantially higher increases in publication rates of their participants, although their baseline publication rates were substantially higher than those of our participants.[40] A similar program explicitly designed to generate publishable papers from existing faculty generated 16 published papers from only 13 of 40 faculty participants, demonstrating that although a significant bolus of publications could be produced, less than half of faculty were successful in following through to final publication of their papers.[23]

Third, our program only provides a basic foundation for the more advanced work needed to develop scholarly productivity. According to Bland and Simpson, "Research-oriented faculty will be expected to devote 2 years or more to formal training."[26] For this reason we are now providing more advanced workshops and mentoring to program graduates with an interest in research and writing, as well as providing opportunities to participate in a 2-year master's in clinical research, with 50% protected time for this endeavor.

Fourth, minority faculty trained in the nurturing environment of our program may return to a home institution that is either hostile or indifferent to their academic success. Peterson reports from a random sample of 1,979 full-time faculty that URM faculty were more than five times more likely than majority faculty to perceive racial/ethnic bias in their academic environment and that nearly half (48%) had experienced racial/ethnic discrimination by a superior or colleague.[42] This issue is reported anecdotally by many of our participants and is captured in a quote from one of them: "This is the first academic experience that I have truly enjoyed. In most of my academic career and postgraduate education, I was usually the only person of color. Being in a class of my true peers made it extremely easy for me to excel. The program environment was nurturing and intellectually stimulating. I look forward to a lifelong relationship with my new mentors and colleagues."

Fifth, participants returning to institutions in which they are one of only a few minority faculty members may face additional barriers to their academic careers. For example, if a committee needs a minority representative, or a minority student needs an advisor, the same faculty member may be called on repeatedly to serve, but the service detracts from time available for the scholarly productivity that would lead to promo-

tion and retention. Marbella et al report that "URM family medicine faculty appear to experience a double disadvantage: being minority and working for family medicine departments," in that their academic ranks are below those of both minority medical school faculty from other departments and of non-minority family medicine faculty as well.[43]

Finally, financial sustainability of our program is still dependent on ongoing support from Title VII grants. The year-to-year uncertainty of Title VII funding is a direct challenge to minority faculty development in the United States.

Conclusions

We have achieved significant success in enrolling underrepresented minority physicians in a 1-year faculty development program. We have also demonstrated high completion rates for participants, which is contingent on completion of mandatory writing and teaching projects that are essential building blocks of an academic career. However, it is not enough just to launch our program graduates on a "fire-and-forget" academic trajectory. Graduates of our program are often rated highly as teachers but have limited publication track records and may not have the resume necessary to be competitive for high-level research grant funding. We must continue to nurture their development in more advanced dimensions such as research analytical skills, whether through technical support (access to data and biostatistical support) or through advanced research-oriented degrees.

During the program's first decade, our family medicine department and our institution as a whole were successful in increasing the numbers of African American primary care faculty. At the same time, there was a national trend toward increasing African American faculty in departments of family medicine. Since our program was not implemented as an educational research intervention, we cannot determine the specific contributions our faculty development program may have made to these trends.

However, we count our program a success even in the most conservative interpretation of these data, ie, the number of African American physicians enrolled, the high proportion completing our program, and their own self-reported increase in confidence in basic faculty competencies, and the high proportion who are actively engaged in medical teaching. Our program alone cannot solve the lack of diversity in our nation's academic health centers. Similar programs, with more-rigorous outcome evaluations and controlled or quasi-experimental study designs, could be implemented at other historically black or Hispanic-serving institutions, which have been the largest producers of URM faculty for our nation. Effective adaptations of our program in majority institutions could also be quite powerful because of their greater size, financial resources, and

infrastructure. However, such adaptations will require new strategies to achieve some of the "greenhouse nurturing" effects of a minority-dominant program, while still affirming the developmental needs of young non-minority faculty. Faculty development is a potentially powerful strategy for achieving representative, proportionate diversity among all levels of US medical school faculty and leadership, but further research is needed to define the specific elements of such programs that can reliably and reproducibly lead to improved outcomes.

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