



# Evaluating the Career Impact of Faculty Development Using Matched Controls

Jeffery A. Morzinski, PhD, MSW; Deborah Simpson, PhD; Karen Marcadante, MD; Linda A. Meurer, MD, MPH; Mary Ann Gilligan, MD, MPH; Tess Chandler

**BACKGROUND AND OBJECTIVES:** Faculty development (FD) is required for medical educators, yet few studies address its long-term career impact on graduates. This project presents the impact of FD on career development, as perceived by physician faculty graduates of a longitudinal primary care FD educator program, compared to nonenrollees.

**METHODS:** Between 2011 and 2016, 33 physician faculty from three departments participated in monthly half-day in-class FD for 20 months, emphasizing educator skills and career development. After physician-graduates were stratified by year, 10 were randomly selected and matched with 10 nonparticipants (controls) by specialty, gender, academic rank, and time in academic medicine. Narrative responses from semistructured interviews were recorded in a common template. Qualitative analysis methods identified themes, with agreement obtained by researchers.

**RESULTS:** Median time in academic medicine for FD graduates (50% male) was 5.5 years; controls 7.5 years (40% male). Common themes across all respondents included that they: value their roles as clinical teachers; define success as training high-quality, competent physicians; align their professional aims with organizational priorities; manage commitments; develop and sustain colleague networks; and seek continued growth. Within themes, FD graduates differed from controls, detailing greater perceived success and growth as educators, placing higher value on scholarly products and academic promotion, and having more expansive local and national colleague networks.

**CONCLUSIONS:** FD graduates, compared to matched controls, report expanded clinician-educator scope and roles, and a greater value on scholarly activity. This evaluation provides the groundwork for further investigations.

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Faculty development (FD) is required for medical student and resident faculty.<sup>1,2</sup> While the design and evaluation of FD programs has progressed,<sup>3-5</sup> significant design and outcome gaps remain. Steinert, et al, argue that qualitative, mixed-method and control group designs would help understand

program impact (eg, career impacts, building community).<sup>4,6</sup> Therefore, we compared career development as perceived by graduates of our established, longitudinal FD program with matched nonenrolled controls.

## Methods

### *Faculty Development Program Description*

Building on a 20-year history of primary care FD at the Medical College of Wisconsin (MCW),<sup>7-9</sup> we sharpened our focus on clinician-educator career development with 80 hours per year of interactive classroom sessions between 2011 and 2016. Active participation and academic project completion were graduation criteria (Table 1).

### *Evaluation Approach, Participants, and Team*

Seeking comparison group evaluation design, a matched control approach was selected<sup>10,11</sup> using structured interviews consistent with constructivist, grounded theory.<sup>12</sup> The MCW's Institutional Review Board reviewed the study protocol and found it to be exempt.

During 2011-2016, 33 physician faculty graduated from the FD program. Graduates were stratified by year (early=2011-2013; late=2014-2016) and specialty (family medicine, internal medicine, pediatrics). Ten graduates were randomly selected from these strata and matched to

From the Medical College of Wisconsin, Milwaukee, WI (Drs Morzinski, Simpson, Marcadante, Meurer, and Gilligan, and Ms Chandler); Advocate Aurora Health, Milwaukee, WI (Dr Simpson); and University of Wisconsin School of Medicine and Public Health, Madison, WI (Dr Simpson).

**Table 1: Clinician-Educator Career Development Program Features, 2011-2016**

Enrollees	9-10 per year, assistant professors in family medicine, pediatrics, and general internal medicine*
Meeting time/program length	80 hours: 4 hours, one half day per month in class, 20 consecutive months
Instructional activities	Workshops (academic advancement, group leadership, design of instruction, colleague networks), assigned readings, small-group academic projects/project advising
Program faculty/evaluation team	Full (4) and associate (1) professors in family medicine, pediatrics and general internal medicine with >80 years combined experience in primary care faculty development and program evaluation. Program coordinator experienced in evaluation and data management.

\* This evaluation focused on FD program impact on the career development of 33 physician faculty graduates. An additional 14 nonphysician faculty were also program graduates.

physician faculty controls according to gender, specialty, and years in academics. As the pool of non-FD participants was limited, we used three strategies to identify controls: (1) FD graduates' referrals; (2) FD coleaders' suggestions; and (3) departmental leadership recommendations.

Our evaluation team consisted of our five FD program faculty and a coordinator. All were experienced in FD evaluation using both qualitative and quantitative methods (Table 1).

#### *Instrument and Pilot Test*

Six interview questions were based on a clinician educator career development model<sup>13</sup> that framed key elements associated with success: alignment of interests with workplace needs, acceptance of responsibility for career growth, and participation in academic communities. The interview protocol was piloted with five experienced nonstudy eligible medical educators, informing minor protocol revisions and interview length (Table 2).

#### *Interview Administration*

After informed consent, the 10 FD graduates and controls were randomly assigned to an evaluation team member for a scheduled 30-minute telephone or in-person interview. Matched controls received up to two email invitations, with nonrespondents (more than 10 days) replaced according to the strategies above.

Interviews began with a short script reiterating the evaluation's purpose and processes (eg, data deidentification, freedom to ignore a question), followed by the interview protocol questions (Table 2). Based on study team preferences and to limit recording/transcription costs that exceeded team resources, interviewers transcribed subject responses into a form that paralleled the protocol questions. The study coordinator labeled completed forms with unique identifiers and assured all responses were deidentified.

#### *Narrative Analysis*

The interviewer, along with a randomly assigned second team member, independently analyzed each

completed response form to identify passages associated with key career development elements.<sup>13</sup> These study member pairs then met to resolve any disagreements.<sup>12,14</sup> The full evaluation team then discussed and agreed on overarching macro themes and associated micro sub-themes, identifying representative narrative passages.

#### **Results**

FD graduate and matched control characteristics were similar (Table 3). Consistent with the career-development model-guided interview questions,<sup>13</sup> four career development macro themes were common across groups, with notable differences between graduates and controls identified as micro themes (Table 4).

#### *What Success Means in Academic Medicine*

On the macro level, all defined success as training high-quality, competent physicians. At the micro level, indicators of academic success differed, with graduates' responses emphasizing scholarship and academic advancement. Controls noted

**Table 2: Six Interview Questions Asked of All Respondents (Graduates and Controls)**

<ol style="list-style-type: none"> <li>1. Describe what success in academic medicine means to you.</li> <li>2. Describe how your goals and activities align with the goals and interests of your department.</li> <li>3. Have you been able to "say no nicely" to "asks" that may exceed your time or capacity and/or are unrelated to your interests?</li> <li>4. Describe whether/how much you feel like you are part of a "colleague network" that has goals and interests related to yours.</li> <li>5. What do you do to cultivate/sustain those colleague relationships?</li> <li>6. Describe your activities in the recent 1-2 years that you feel are contributing to your growth as a medical educator.</li> </ol>
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**Table 3: Characteristics of FD Graduate and Matched Control Groups**

Characteristic	FD Graduate (n=10)	Control (n=10)
Department affiliation	Internal medicine (4) Family medicine (3) Pediatrics (3)	Internal medicine (4) Family medicine (3) Pediatrics (3)
Response rate*	71% (10/14)	48% (10/21)
Gender	50% Female (5/10)	60% Female (6/10)
Years in academic medicine (mean)	5.5 years	7.5 years
Interview duration (mean)	40 minutes	30 minutes

\*Main reasons for nonresponse were “did not reply” and insufficient time.

**Table 4: Themes in Career Development Categories: FD Graduates and Matched Control Respondents\***

Career Development Categories	Macro Themes (Shared)	Micro Themes (Different)	Representative Comments*
Success in academic medicine	Teaching well; training quality, competent physicians	FD Grads: Protected time; scholarly products to improve learning; academic promotion	“Dissemination of scholarship”; “Recognition by my chairman and my community”
		Controls: Respected by residents; excellent teaching evaluations; Academic promotion is not a #1 value	“Be respected by residents”
Activities aligned with organization	Leading; teaching and clinical goals	FD Grads: Educational leadership roles; gain funds to sustain programs; academic scholarship engaged with my educational roles/activities	“Align very well... through FD got better ideas of how things align—how to turn things into scholarship for promotion”
		Controls: Clinical leadership roles; quality improvement is valued; teach and advance my trainees	“At VA high quality and improvement research is valued”; “Be good teachers”
Colleague network	Develop and value colleagues; collaborate	FD Grads: Grow and utilize education-oriented colleague network within + outside own specialty locally + nationally; continued to meet with FD program project group postgraduation; reach out to network for questions	“I feel I could reach out—across the college—to a network of colleagues”; “A national colleague network to influence academic advancement”
		Controls: More actively focused on clinical specialty topic; don't talk or share much about our teaching	“Asthma clinic (team) are colleagues/friends”; “Interests shared are clinical not academic”
Growth strategies	Teach clinical medicine; new roles; formal courses/conferences, and reading	FD Grads: New leadership roles and medical education projects; teach about education; project collaboration with local/national colleagues; attend national educator conferences one or more times annually	“Teach other teachers. I probably learn as much as they do”; “Biggest area of growth was becoming course director”
		Controls: Participate in local projects; expand teaching strategies (debriefs at the end of rounds); add new skill (hospital administration); attend national leadership conferences and local education workshops	“For years I taught EBM”; “Teach together and social outings”; “Incorporating what I have been learning into resident-teaching on hospital administration”

\*Representative comments were selected by study team from response templates completed by interviewers.

disinterest in scholarship and promotion, focusing on success as teachers.

#### *Goals and Activities Aligned With Department*

At a macro level, all respondents noted shared departmental and

personal interests in improving teaching and clinical goals. At the micro level, graduates reported greater alignment between personal and department goals related to medical education compared to controls.

#### *Colleague Networks—Cultivating Colleague Relationships*

All reported cultivating relationships and forming networks. However, at the micro level, graduates cultivated and sustained clinical and education colleagues through

professional societies and academic projects, whereas controls' colleagues grew mainly from "the bedrock (of patient care.)"

### *Growth as a Medical Educator*

At the macro level, all respondents had growth strategies for teaching and leadership. They started or joined resident teaching initiatives, (rounds debrief, improving community preceptor retention) or through workshops. Both groups stressed the importance of politely saying no. "Learning my limits" improved after 2 years of faculty appointment. On the micro level, graduates aligned their education-oriented learning, conferences, and colleague networks with leadership roles.

### Discussion

Graduates and controls valued their clinical teaching roles with agreement across the career development macro themes. However, narratives differed at the micro level, with controls noting career paths aligned with clinical and/or important clinical teacher roles and achievements. Graduates reported greater success and growth as medical educators, placing high value on scholarly products, academic promotion through medical education, and enhanced academic colleague networks. These findings extend prior FD evaluation findings,<sup>6,9,15</sup> and support recently articulated views that FD, scholarship, and communities of learners have advanced the evolution of clinician-educator careers.<sup>3,4,16</sup>

This study has several methodological limits. Graduates' FD enrollment demonstrates interest in medical education, indicating possible selection bias. However, many controls reported participation in FD, typically external to our institution and of brief duration. Although the 10 graduates were randomly selected, our institution's long-standing Primary Care FD program limited our precision in matching, due to the number of available faculty controls. Finally, while we were confident that interviewer scribing within a response template was accurate

and thorough, this choice may have resulted in omissions and/or inaccuracies.

### Conclusions

This is the first published study using matched controls to evaluate the influence of longitudinal, clinician-educator faculty development on graduates' careers. While FD graduates and controls had some similar findings, key differences highlight FD graduates' expanded scope and careers as clinician-educators. These evaluation results support continuing career development programming and investigation.

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**PRESENTATIONS:** This project and/or its partial/preliminary findings were presented at the following meetings:

Morzinski J, Simpson D, Marcante K, Meurer L, Gilligan MA, Chandler T. Evaluating faculty development: lessons from a matched-control, qualitative study. AAMC-Central Group on Educational Affairs. Chicago, IL. March 29-31, 2017.

Gilligan MA, Meurer L, Marcante K, Simpson D, Morzinski J. Evaluation of a longitudinal faculty development program using a qualitative design with matched-controls. 2017. Society of General Internal Medicine Annual Meeting. Washington, DC. April 19-22, 2017.

Morzinski J, Meurer L, Simpson D, Gilligan M, Marcante K, Chandler T. Faculty development study to examine the early career success of primary care clinician-educators. Society of Teachers of Family Medicine Annual Meeting. San Diego, CA. May 5-9, 2017.

Morzinski JA, Marcante K, Simpson D, Meurer LN, Gilligan M, Chandler T. Outcomes from a qualitative matched case-control study of faculty development. Research Highlights in Medical Education. AAMC Learn, Serve, Lead Annual Meeting. November 2-6, 2018. Austin, TX.

**CORRESPONDING AUTHOR:** Address correspondence to Dr Jeffrey A. Morzinski, 8701 Watertown Plank Rd, Milwaukee, WI 53226. 414-955-4985. jmorzins@mcw.edu.

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