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# Faculty Development to Enhance Humanistic Teaching and Role Modeling: A Collaborative Study at Eight Institutions

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**BACKGROUND:** There is increased emphasis on practicing humanism in medicine but explicit methods for faculty development in humanism are rare.

**OBJECTIVE:** We sought to demonstrate improved faculty teaching and role modeling of humanistic and professional values by participants in a multi-institutional faculty development program as rated by their learners in clinical settings compared to contemporaneous controls.

**DESIGN:** Blinded learners in clinical settings rated their clinical teachers, either participants or controls, on the previously validated 10-item Humanistic Teaching Practices Effectiveness (HTPE) questionnaire.

**PARTICIPANTS:** Groups of 7-9 participants at 8 academic medical centers completed an 18-month faculty development program. Participating faculty were chosen by program facilitators at each institution on the basis of being promising teachers, willing to participate in the longitudinal faculty development program.

**INTERVENTION:** Our 18-month curriculum combined experiential learning of teaching skills with critical reflection using appreciative inquiry narratives about their experiences as teachers and other reflective discussions.

**MAIN MEASURES:** The main outcome was the aggregate score of the ten items on the questionnaire at all institutions.

**KEY RESULTS:** The aggregate score favored participants over controls ( $P=0.019$ ) independently of gender, experience on faculty, specialty area, and/or overall teaching skills.

**CONCLUSIONS:** Longitudinal, intensive faculty development that employs experiential learning and critical reflection likely enhances humanistic teaching and role modeling. Almost all participants completed the program. Results are generalizable to other schools.

**KEY WORDS:** faculty development; attitudes and values; professionalism.

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## INTRODUCTION

Official bodies have made strong recommendations to enhance competencies related to professionalism, medical ethics, patient-physician communications skills, and related humanistic aspects of medicine.<sup>1-3</sup> Even though there is widespread agreement that medical educational programs should find ways to enhance these qualities in their learners,<sup>4</sup> educators may be uncertain about how to teach these skills. We previously tested the hypothesis that a focused, longitudinal educational program can enhance the above humanistic qualities by designing and implementing an intensive faculty development pilot program for the purpose of positively influencing faculty members' humanistic teaching and role modeling.<sup>5</sup> Our program spans 18 months, uses small-group learning methods, and synergistically combines critical reflection with experiential learning.<sup>5</sup> We previously piloted the program at five medical schools.<sup>5</sup> Using a validated Humanistic Teaching Practices Effectiveness Questionnaire (HTPE) distributed to learners,<sup>6</sup> we showed that program participants scored significantly higher compared to control faculty members.<sup>5</sup> Here, we have tested the reproducibility and generalizability of our pilot study by expanding to eight additional academic medical centers.

## METHODS

### Intervention

Facilitators were educators from eight medical schools and teaching hospitals. All were experienced in small-group

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teaching. The sites included University of California at Los Angeles-David Geffen School of Medicine (UCLA), University of California at Davis (UC Davis), University of California at San Diego (UCSD), University of California at San Francisco (UCSF), Harvard Medical School/Brigham and Women's Hospital (BWH), University of Massachusetts Medical School (UMass), University of Connecticut School of Medicine/Saint Francis Hospital (St Francis), and the Georgia Regents University Augusta, Medical College of Georgia (GRUA). We designated facilitators as site leaders responsible for selecting program participants, organizing the faculty development program, and implementing our curriculum at their respective institutions. Selection was open to faculty from various departments depending on the site. Excepting two non-clinicians (excluded from the evaluation), the participants served as clinical teachers on an inpatient service or as preceptors in a teaching clinic. The faculty development group at each school included at least seven and no more than nine participants. Only three participants dropped out during the 18 months of the project, two who moved to different institutions and one for health reasons. Facilitators made efforts within and across sites to achieve equal participation by gender and junior faculty status, classified as within 5 years of graduation from residency training. We encouraged facilitators to select participants because they were considered to be promising clinical teachers and role models, who were willing to participate in a year-long faculty development program addressing humanistic teaching.

Each faculty development group was longitudinal across 18 months of curriculum, enabling development of a supportive group process conducive to reflective learning. Experiential learning allowed practicing of skills that were previously identified by the program planners as useful in delivering humanistic teaching and role modeling. Groups met for 90 min at convenient times twice monthly, beginning September 2009 and continuing until March 2011. The curriculum, provided to all sites, was developed by facilitators in the pilot project and revised for brevity and clarity by the principal investigator (WTB). Site leaders at the new sites added sessions on mindfulness, boundaries between patients and doctors, and a reflective exercise to the curriculum. The curriculum consisted of goals and objectives, teaching methods, and reading materials for each of 18 topics, some requiring more than a single session to complete.<sup>5</sup> The principal investigator participated in monthly conference calls with site leaders to review and coordinate teaching of the curriculum at all sites.

Critical reflection generally employed writing appreciative inquiry narratives followed by reflective discussion. This was interspersed in the curriculum and enhanced the learning process by widening perspective and addressing participants' attitudes and values. Some reflective exercises were formatted as general discussions or Balint groups in

addition to narrative writing. Experiential learning sessions addressed skills, such as providing feedback, dealing with difficult learners, role-modeling humanism in clinical settings, and teaching caring attitudes. Role plays often based on participants' own experiences as teachers with coaching and feedback constituted our major method for experiential learning. All groups followed the curriculum's topics, although one chose to use reflective discussion in place of most suggested role plays.

## Evaluation Design

We performed a prospective cohort study with contemporaneous controls using our previously developed HTPe questionnaire (described in Table 3) to measure learners' perceptions of clinical faculty participants who had completed the program compared to control faculty. The three dropouts and two nonclinical faculty participants in our program were excluded from the evaluation, as were six clinical faculty participants who completed the program but were not included in the evaluation because they had no clinical teaching assignments during the period of the evaluation or their learners failed to complete the HTPe questionnaire.

Clinical faculty participants were compared to one or two non-participant control teachers between March 2011 and September 2012. We instructed the facilitators at each site to select controls who were similar to participants in teaching abilities as well as gender, years of experience on faculty, age and specialty. Standard overall teaching evaluations in the year prior to initiation of the program were collected for comparison of the participants to controls, thereby allowing for correlation of the HTPe evaluation results to overall teaching abilities. We used only that part of the institution's evaluation form that rated overall effectiveness as a teacher.

Site facilitators administered an online version of the HTPe questionnaire to medical students and residents following a clinical inpatient or outpatient rotation in which they were taught by participants or control faculty members. Only those students and residents who had spent at least 2 weeks with a participant or control teacher were eligible to complete the questionnaire. We used different rotations in the same specialty and venue (inpatient or outpatient) that occurred within the same 3-month period to compare the participants with controls. There was some overlap (about 30 %) in which the same learners but on different rotations filled out evaluations on both participants and controls. All learners in the study were blinded as to whether they were evaluating faculty, who were participants or controls. We considered inpatient and outpatient settings to be equally valid sources of measurement. The learners were told that the questionnaire would not be included in the official evaluation of the teacher by their medical school or residency program.

## Measures

We developed the ten-item HTPE questionnaire using an interactive consensus process that involved previous program facilitators, who identified themes and domains of humanism used in the questionnaire from prior participants' narratives. The instrument was validated at Indiana University by exploratory factor analysis using 886 completed HTPE questionnaires (73 % response rate).<sup>6</sup> Factor analysis demonstrated a single major factor with high internal consistency reliability and low correlation to routine teaching evaluation tools.<sup>6</sup>

Learners in our study rated faculty physicians, using a Likert-like scale (1 "not at all," 10 "completely"), on ten items associated with humanistic teachers. Each participating clinical faculty member was compared to one or more control faculty members during the same 3-month period of their teaching. Three authors (WTB, GM, and MF) analyzed data from the eight institutions. The main outcome was the aggregate score on the HTPE of all participants compared to all controls at the eight schools. We also compared the study group with the control group at each site and on each item. We investigated correlations between the HTPE questionnaire scores and standard overall teaching evaluations, gender, age, and specialty.

## Analysis

The data were analyzed using R 2.15.1 statistical software (R Foundation for Statistical Computing, Vienna, Austria, <http://www.R-project.org>). Normality of evaluation data was evaluated by examining skewness and kurtosis in the participant and control groups. Additionally, normality plots were used to assess for normality and symmetry. Because

the distributions of the data for all ten questions were determined to be non-normal, the Wilcoxon rank sum test was used to test for differences between the participants and controls for all 10 items on the evaluation. For each participant and control, an overall evaluation score was created by calculating an unweighted mean for all ten evaluation scores. This overall evaluation score was tested for differences between participant and control groups by the Wilcoxon rank sum test. Differences were determined to be statistically significant if the Wilcoxon two-tailed *P*-values were equal to or less than 0.05.

## RESULTS

Ninety-five percent of participants initially chosen completed the 18-month program. Attendance at the sessions was generally good (estimated at 70 to 80 %). We collected surveys on 52 of the originally 58 participating clinical faculty teachers at the eight institutions. We compared survey results on these 52 faculty clinical teachers with 94 peer controls during the 6 months following completion of the faculty development program. Of the faculty evaluated, 27 faculty participants (52 %) and 41 controls (44 %) were male ( $P=0.34$ ); 37 faculty participants (72.5 %) and 66 peer controls (74.2 %) were >5 years post-residency completion ( $P=0.84$ ); 26 participants (50 %) and 48 controls (52.2 %) were generalists (general medicine, "medicine," family medicine) ( $P=0.80$ ) (Table 1).

Medical students and residents completed a total of 542 HTPE questionnaires. Response rates varied by institution. Response rates were 57 % (62/109) for BWH, 65 % (58/89) for GRUA, 82 % (67/82) for St Francis, 58 % (66/113) for UC Davis, 74 % (105/142) for UCLA, 66 % (29/44) for UC

Table 1. Characteristics of Participants in the Faculty Development Programs and Controls

Institution	Group	Gender		Specialty			Years since residency		Age	
		F	M	Medicine	Other	Missing	Mean	SD	Mean	SD
All institutions	Control	53	41	48 (52 %)	45	1	10.3	7.40	41.4	7.36
	Participant	25	27	26 (50 %)	26	0	9.4	6.88	41.5	6.10
BWH	Control	9	5	14 (100 %)	0	0	14.9	9.08	45.1	9.14
	Participant	4	3	7 (100 %)	0	0	13.9	9.65	45.7	8.71
GRUA	Control	11	4	6 (43 %)	8	1	12.1	7.31	42.1	8.1
	Participant	4	3	2 (29 %)	5	0	15.6	6.21	45	5.48
St Francis	Control	4	6	2 (20 %)	8	0	11.7	7.39	43	NA*
	Participant	3	5	2 (25 %)	6	0	7.3	3.55	40.9	3.80
UC Davis	Control	7	6	6 (46 %)	7	0	9.5	3.84	39.5	3.78
	Participant	4	3	3 (43 %)	4	0	8.4	3.46	38.9	3.80
UCLA	Control	10	5	5 (33 %)	10	0	7.4	7.91	39.4	8.34
	Participant	4	3	2 (29 %)	5	0	6.9	8.65	38.3	7.83
UCSD	Control	4	4	8 (100 %)	0	0	14.5	4.96	43.6	5.26
	Participant	2	3	5 (100 %)	0	0	11.2	6.22	42	7.04
UCSF	Control	5	6	2 (18 %)	9	0	4.7	2.97	39.5	4.52
	Participant	1	4	1 (20 %)	4	0	4.6	3.05	40.6	3.65
UMass	Control	3	5	5 (63 %)	3	0	8.5	8.12	41	9.6
	Participant	3	3	4 (67 %)	2	0	6	4.38	41.8	4.54

\*Missing data from this institution precludes calculating a standard deviation

San Diego, 73 % (50/68) for UCSF, and 20 % (105/537) for UMass. The total response rate for the study was 46 % (542/1184). The number of questionnaires sent out by UMass was larger than the other schools because one participant and her two controls taught an entire class. Response rates were approximately the same for all UMass faculty. The overall response rate for institutions excluding UMass was 68 %.

The main outcome—the aggregate results for participating faculty versus their peer controls—was positive and statistically significant favoring participating faculty ( $P=0.019$ ). Table 2 shows results for the participants versus controls on the HTPE questionnaire in aggregate and also by individual institutions.

Examining the data by institutions, two of the eight institutions statistically significantly favored the participating faculty ( $P < 0.05$ ). At the remaining six institutions, there were no statistically significant differences between participants and controls (Table 2).

Results significantly favored the participating faculty over controls on six of the ten individual items on the HTPE questionnaire (Table 3). On the four remaining items, results favored participants over controls with near statistical significance.

Standard overall teaching evaluations did not statistically differ between participating and control faculty. The participants' overall teaching evaluation averaged 4.62 out of 5 compared to 4.55 by their peer controls ( $P=0.54$ ).

Regression analysis showed no effects of years of training or specialty on the HTPE results. Mean raw HTPE scores for female participants were significantly higher compared to female counterparts in the control group (9.04 vs. 8.49,  $P=0.024$ ). Male participants scored higher but did not differ significantly from controls (8.58 vs. 8.04,  $P=0.13$ ).

**Table 2. Humanistic Teaching and Practice Evaluation (HTPE) Questionnaire Results at Each of the Eight Schools and in Aggregate**

Institution	Group	Median	Mean	P-value
BWH	Controls	8.70	8.50	<b>0.046</b>
	Participants	9.50	9.43	
GRUA	Controls	7.97	7.77	0.097
	Participants	9.00	8.82	
St. Francis	Controls	7.30	7.40	<b>0.013</b>
	Participants	8.58	8.67	
UC Davis	Controls	8.45	8.21	0.87
	Participants	8.08	8.04	
UCLA	Controls	8.95	8.69	0.67
	Participants	8.88	8.97	
UCSF	Controls	9.53	9.04	0.57
	Participants	9.36	9.18	
UC San Diego	Controls	9.35	8.82	0.77
	Participants	9.0	8.75	
U Mass	Controls	7.89	7.88	0.18
	Participants	8.74	8.65	
All Institutions	Controls	8.52	8.29	<b>0.019</b>
	Participants	9.01	8.80	

*Numbers in bold are statistically significant*

## DISCUSSION

Though many have advocated enhanced humanistic teaching, there is a paucity of data to guide faculty development programs to achieve this goal. Our validated questionnaire allows the collection of quantitative data comparing the humanistic teaching of participants in our faculty development program with controls in a multi-institutional study. Our results show that learners rate participants in our longitudinal faculty development program as better examples of humanistic qualities than control faculty with similar overall teaching abilities. These findings replicate results of our pilot study<sup>5</sup> and thereby generalize to institutions with minimal previous exposure to or influence by our original curricular development team.

Superior humanistic teaching and role modeling outcomes were demonstrated by aggregate results in our current study of eight institutions as well as our previous study of five institutions.<sup>5</sup> This observation at multiple institutions suggests that outcomes did not depend on facilitation by a single charismatic individual but on the organizational structure and educational methods employed by the program. Our facilitators had variable amounts of formal training in small-group facilitation. We note no obvious correlation between institutional outcomes and the facilitator's amount of training, but the study has too few facilitators to draw a conclusion. We do believe based on our experience that many medical schools today have one or more faculty members sufficiently experienced in small-group facilitation to undertake a program like ours.

All items on the survey favored participants over controls. These included both items reflecting humanistic qualities of participants and items reflecting mastery of specific skills related to humanistic practice and teaching. Qualitative analysis of the writings from a sample of the original participants had previously identified participants' increased sensitivity and commitment to humanistic values.<sup>7</sup> The above findings suggest that personal growth and enhancement of professional values as well as improvement in skills may have occurred for the participants during the 18 months of faculty development.

Overall teaching ability did not account for the difference between participants and controls on the HTPE, since teaching abilities were nearly the same in the two groups. We conclude that participants' superior humanistic qualities were not a reflection of overall superior teaching abilities. Our finding also suggests that effective humanistic teachers are not inferior as overall teachers.

Higher humanistic scores of female compared to male physicians are consistent with other findings, such as higher empathy scores achieved by female medical students and physicians.<sup>8</sup> There was also a trend toward higher HTPE scores in more experienced teachers. We note that many of the more experienced participating teachers in our cohort were still mid-level faculty members. We speculate that

**Table 3. The Humanistic Teaching Practices Effectiveness (HTPE) Questionnaire, with Aggregate Data for Participants and Controls for Each Question**

Question	Average score participants as a percentage (n=52)	Average score of controls as a percentage (n=94)	% Difference between scores of participants and controls (rounded)	Wilcoxon P value
1. Listens carefully to connect with others	88 %	85 %	3.5 %	0.12
2. Inspires me to grow personally and professionally	88 %	83 %	5.7 %	<b>0.038</b>
3. Skillfully recognizes and supports emotions of patients, team, and self in difficulty situations	89 %	83 %	5.2 %	<b>0.026</b>
4. Actively uses teaching opportunities to illustrate humanistic care	87 %	83 %	4.2 %	0.096
5. Stimulates reflection by the team on our approach to the patient	88 %	82 %	6.2 %	<b>0.010</b>
6. Helps me use personal and social information about patients in their care	88 %	84 %	4 %	<b>0.043</b>
7. Serves as outstanding role model for how to build strong relationships with learners as well as patients	89 %	84 %	5.0 %	0.051
8. Explicitly teaches communication and relationship building skills	84 %	78 %	6.6 %	<b>0.011</b>
9. Inspires me to adopt caring attitudes towards patients	89 %	83 %	5.8 %	<b>0.010</b>
10. Patients and learners come to know him/her as both a good clinician and a caring person	90 %	86 %	4.6 %	0.11

*Numbers in bold are statistically significant*

these faculty members may be achieving their peak performance as teachers in the range of 7 to 15 years on faculty. The developmental stages of medical teachers warrant further study as do the effect of programs such as ours on gender differences in empathy and other humanistic qualities.

We believe that the organizational and educational methods employed by our program account for its success at multiple institutions in enhancing humanistic teaching and practice. Critical reflection can encourage both cognitive and emotional self-awareness of one's beliefs, values, and attitudes.<sup>9</sup> We believe that the supportive group process over time reinforces group members' commitments to humanistic behaviors and values, such as compassion, empathy, and respect. The supportive group process also encourages critical reflection and creates an environment conducive to providing honest feedback on skills and professional qualities. In other similar programs, educators believe that reflective learning is essential to achieve personal growth and/or identity development by participants in a program.<sup>9-14</sup> The experiential learning methods used in our curriculum not only enable mastery of skills but also provide participants with experiences for reflective teaching and practice. We believe that these synergistic educational processes account for the program's success as much as or more than the sequence or specific topics chosen for the curriculum.

Our program seems to meet a need for faculty members at the multiple institutions. This is demonstrated by the willingness of busy clinical teachers to volunteer and participate in the program with only three dropouts despite its length and intensity.

The chief limitation to our HTPE findings is potential selection bias. Participants and controls were not randomly

selected. Though similar in teaching abilities and several other qualities to the participants, controls may not have started with the same inherent humanistic attributes. Also, six of the eight institutions in the current study showed no statistical differences between participants and controls on the HTPE. However, numbers at individual schools were too small for us to predict statistical significance. We also noted a ceiling effect with high HTPE scores for controls and participants at four institutions (UC Davis, UCLA, UCSF, and UC San Diego) (Table 2). The ceiling effect with control faculty scores near the top of the range makes it less likely that the participating faculty could sufficiently have exceeded control HTPE scores to achieve significantly superior outcomes at these institutions.

Our study buttresses the evidence that longitudinal faculty development combining critical reflection with experiential learning enhances humanistic teaching and practice. Our study shows that aggregate results in a multi-institutional study can achieve statistical significance even though small numbers and local factors may preclude significance at some of the individual institutions. Several studies and reviews of somewhat similar programs at single institutions have also suggested positive outcomes.<sup>15-19</sup> However, our positive aggregate outcomes at multiple institutions shown in this as well as our previous study are more conclusive and more indicative of generalizability.<sup>5</sup> Our multi-institutional study design also demonstrates that many medical schools and teaching hospitals have the resources and skilled facilitators needed to implement similar longitudinal, intensive, small group-centered faculty development programs. Our success in recruitment and attendance at every school demonstrates practical feasibility.

Our program seems to meet a need of many faculty members to engage with others around topics related to

humanistic teaching. We believe that influential teachers such as our participants will then positively impact the learning climates and the informal curricula at their institutions. This favorably influences the humanistic medical competencies of learners. We plan further studies to investigate how our program affects participants' longer term career development and accomplishments and to determine the sustainability of our program and its influence on the learning climates at institutions.

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**Ethical Approval:** The study received approval or a waiver from the Institutional Review Board of each participating institution.

**Conflict of Interest:** One of the authors delivered expert witness testimony unrelated to this study. The other authors declared they have no conflicts of interest.

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