The Culture of Academic Medicine: Faculty Perceptions of the Lack of Alignment Between Individual and Institutional Values

Linda Pololi, MBBS, MRCP[1], David E. Kern, MD, MPH[2], Phyllis Carr, MD[3], Peter Conrad, PhD[1], and Sharon Knight, PhD, RN[4]

[1]Women's Studies Research Center, Brandeis University, Waltham, MA, USA; [2]School of Medicine, Johns Hopkins University, Baltimore, MD, USA; [3]Boston University School of Medicine, Boston, MA, USA; [4]East Carolina University, Greenville, NC, USA.

BACKGROUND: Energized, talented faculty are essential to achieving the missions of academic medical centers (AMCs) in education, research and health care. The alignment of individuals' values with workplace experiences are linked to meaningfulness of work and productivity.

OBJECTIVE: To determine faculty values and their alignment with institutional values.

DESIGN: A qualitative hypothesis-generating interview study to understand the professional experiences of faculty and organizational approach in five AMCs that were nationally representative in regional and organizational characteristics. Analysis was inductive and data driven.

PARTICIPANTS: Using stratified, purposeful sampling, we interviewed 96 male and female faculty at different career stages (early career, plateaued, senior faculty and those who had left academic medicine) and diverse specialties (generalists, medical and surgical subspecialists, and research scientists).

APPROACH: Dominant themes that emerged from the data.

RESULTS: Faculty described values relating to excellence in clinical care, community service (including care for the underserved and disadvantaged), teaching, intellectual rigor/freedom and discovery, all values that mirror the stated missions of AMCs. However, many faculty also described behaviors that led them to conclude that their AMCs, in practice, undervalued excellence in clinical care, and their social and educational missions. Themes were seen across gender, career stage, race and discipline, except that female leaders appeared more likely than male leaders to identify incongruence of individual values and organizational practices.

CONCLUSIONS: In this study of five diverse medical schools, faculty values were well aligned with stated institutional missions; however, many perceived that institutional behaviors were not always aligned with individual faculty values.

KEY WORDS: medical faculty values; institutional values; career stage.
J Gen Intern Med
DOI: 10.1007/s11606-009-1131-5
© Society of General Internal Medicine 2009

Prior Presentation: SGIM 32nd Annual Meeting, 2009: Plenary Research Presentation.
Received May 26, 2009
Revised July 21, 2009
Accepted September 9, 2009

Published online: 16 October 2009

> Schools are the sanctuaries of our personal and civic values and incubators of intellect and integrity. The values that mark our community are the values most likely to be learned by our students.
> E. Grady Bogue[1]

Energized, creative and compassionate faculty are essential to achieving the tripartite mission of medical schools to train physicians, advance knowledge through research and provide high quality care to the communities they serve. High levels of faculty dissatisfaction,[2] attrition[3] and burnout[4,5] have been documented, but little research has focused on faculty values, their alignment with institutional values and the relationship of these to faculty's work experience.

An important correlate of job satisfaction and optimal performance is the meaningfulness of one's work.[5–6] Our and Wright's prior research on medical faculty suggested that values serve as motivators and that alignment of values with work may impact function and success.[7–9] Research in academic medicine has tended to focus on faculty satisfaction.[2,10] There has been a dearth of studies on the impact of values congruence. Values are beliefs or ideals about what is good or desirable and act as guiding principles for choices, attitudes and behaviors.[11–15] For example, a person who holds honesty as a prioritized value is less likely to cheat on tests than a person who prioritizes other values. Typically, an individual's values are acquired through interaction with family, peers and social systems.[16] They tend to be fairly stable over a lifetime.[17,18]

During in depth interviews with faculty, we identified deeply held professional values as expressed through being optimally energized in work, and explored their relationship to faculty's work experience and perceptions of institutional values.

METHODS

Setting and Participants

This study included faculty from five US medical schools engaged in an action research project: the National Initiative on Gender, Culture and Leadership in Medicine (C - Change).[19] The Initiative promotes an organizational culture in academic medicine that helps all faculty realize their potential.

The five schools were representative of different regions and organizational characteristics of medical schools, e.g., public vs. private ownership and NIH research intensive vs. primary care focus. Although the project addresses the needs of all faculty, it spotlights women, under-represented minority (URM) and generalist faculty. The project received IRB approval, and all participants gave written informed consent.

We selected equal numbers of medical faculty from each of the five C - Change schools through purposeful and chain sampling strategies.[20] Interviewees were invited to participate in a study of faculty experiences in academic medicine. Participants were stratified by gender, race/ethnicity, department/discipline and career stage ("early career," i.e., faculty for 2 to 5 years; "plateaued," i.e., faculty for >10 years who had not advanced as expected in rank and responsibility; faculty in leadership roles such as deans, departmental chairs and center directors (identified as "senior" in the quotations below), and former faculty who had left for a career outside academic medicine). Men and women interviewed were approximately equally divided among the career stages, but with fewer male early career participants since we reached data saturation in this category early in the study.

Data Collection

In 2006–2007, four research team members conducted 1-h semi-structured interviews (15% in person, 85% by telephone), which were audio-recorded and transcribed verbatim. Interview questions focused on aspirations of a career in medicine, energizing aspects of their work, barriers to advancement, leadership, power, values and work-family integration. The questions were open-ended, non-leading and unbiased in wording to permit the respondent to describe what was personally meaningful and salient. The interview guide was based on a pilot national series of 21 interviews of faculty conducted by the PI. Questions that specifically addressed values included**:** When have you felt most successful in your work? What do you see as valued at your institution? How do your personal values align or conflict with what you experience in academic medicine?

Data Analysis

We used an inductive and data-driven, grounded theory process of analysis.[21,22] The multidisciplinary research team identified codes for units of meaning in the masked transcripts. With coding consensus and aided by two research assistants, the team coded the 4,000 pages of narrative data. We stored and organized coded data utilizing Atlas.ti software, and identified patterns and themes emergent in the data. Data relevant to values were derived from the entire set of interviews. The example quotations in this paper illustrate dominant themes related to values.

RESULTS

Participant Characteristics

One hundred seventy faculty were invited to participate: 8 refused (usually due to time constraints), 54 did not respond, and we were unable to schedule interviews with 12 individuals, leaving 96 completed interviews. Participants were research scientists, medical and surgical sub-specialists, and generalists, 84% MD or DO, and 16% PhD. Women composed 55%, African Americans/Blacks 17%, Hispanics/Latinos 4% and generalists 20% (general internal medicine, family medicine and general pediatrics). On analysis, themes were not unique to any career stage, gender, race, school or discipline. Quotes were chosen to include a mix of gender, basic scientists, subspecialists and generalists. Quotes are identified by gender and career stage; discipline and race are not identified to protect anonymity.

Energizing Aspects of Work that Reflect Faculty Values

Dominant themes in the interviews, which delineated energizing aspects of their careers, reflected the faculty's core values in their work. Clinical caring, social mission, teaching, intellectual rigor, discovery and self-direction were themes that emerged from all categories of faculty.

Clinical Caring. Physicians often described how clinical care was energizing for them and how rewarded they feel when they help a patient. This sense of reward extended beyond curing disease and treating medical problems to "caring for people," ameliorating chronic disease, and getting to know and build trusting relationships with their patients.

> The thing that most energizes me is the one-on-one work with complicated children and their families…it's the clinical work that energizes me most. (male, early-career)

> I still think probably the most satisfying thing in my work is when I feel I've helped a patient in some way, that I've helped someone deal with a serious illness or helped them recover. (female, plateaued)

> I really do like the oneness of working with patients and getting to know them. Establishing rapport and getting them to open up to you and likewise, establishing trust. (male, left academic medicine)

> I take care of the frail elders. That really energizes me in a way that I can't explain. I love these people. I love my nursing home residents. Even after I leave a day here, I can go to the nursing home even though I'm tired and it will re-energize me. …you are more often than not looking at caring over curing, because these people are at a point where you are not going to cure anything, but you can provide them and their families with a lot of care. (female, senior)

Social Mission. Faculty valued highly the social mission of medicine to care for the underserved and disadvantaged who

would not otherwise be able to afford care. They expressed the desire to serve the community and address issues of diversity.

> I think that academic medicine aligns very closely with what I think is correct and ethical, in the sense that I can provide care to patients and I never have to ask anybody whether they have insurance or not. I don't ever have to ask anybody if they can pay. If you come to the hospital and you're sick, I'm going to take care of you. (female, early-career)

> …my values are to provide health care, education for the community at large as well as the underserved community, and to pay particular attention to diversity in people and thinking. (female, senior)

Responsibility for Medical Education. Excellence in teaching was held as an essential value by many faculty. Faculty frequently commented on the personal meaningfulness of their role as teacher and medical educator. Numerous faculty described teaching as one of the reasons for choosing to work in academic medicine:

> Part of it is teaching others how to become a scientist or a physician, and you're perpetuating this wonderful field. (female, senior)

> I like the mission of what we're doing. I mean, it's really fun being around our young students who are trying to figure what their place in the world is going to be and how to do a good job of it and so I find that inspiring. (male, senior)

> And I get my biggest fire from taking young minds and helping shape them into physicians–high quality physicians. I'm most successful in my work when I'm actually at the bedside. When I'm at the bedside with a learner. I feel like I'm giving out. I'm giving in a way that you can only give if you're with the patient. That's when I'm most gratified. (male, senior)

Intellectual Rigor, Discovery and Self-Direction. High level intellectual stimulation, pursuit of the advancement of knowledge through research and intellectual autonomy were identified by participants as highly valued and integral to their roles as faculty.

> I think academic medicine still does pride intellectual advancement, and an eagerness for exploration, and new knowledge; that fits with what I find rewarding. I value the flexibility and freedom to pursue my own intellectual ends. (male, senior)

Many spoke of the excitement of scientific inquiry—of constructing research questions and of scientific work that reveals new insights—of how this new understanding adds to the global understanding of life and disease—and of their great satisfaction in seeing their own discovery translated into clinical application. Along with this came the gratification of having one's ideas and new knowledge receive the external recognition and accolade of being published in scientific journals. Faculty saw this as a legacy of their own hard work, intellect and contribution to the biomedical sciences.

> I had my own lab,…there was an unbelievably driving passion to answer questions in a way that I would be adding to the information that would make children's lives better. (female, senior)

> I think the few moments that I had when I was realizing that I was figuring something out that people hadn't figured out before; I was seeing data that no one had ever seen before because my experiments had generated it! That was pretty exciting. (female, left academic medicine)

Others spoke of science as serving the social mission:

> My research also opened the door to the whole question of how we use race in medicine. So there was a social part and there's a science part, and I guess I would have to say that that's probably been the highest point. (female, senior)

Other aspects of work that were described as energizing were external recognition for accomplishments, relationships with trainees, being involved in student graduation ceremonies and other university functions, taking leadership roles and accomplishing policy change.

Non-Alignment of Faculty and Perceived Institutional Values

In contrast to the highly valued and energizing aspects of life in medical school, some disturbing and deeply felt issues emerged from the data that suggested that faculty often found themselves in a conflict situation where their own individual values were not aligned with the behaviors and expectations of the institution in which they worked.

Three predominant themes emerged in the data with respect to the non-alignment of faculty and institutional values: a sense of institutional betrayal of the public trust by academic medicine, values conflict with the institutional culture regarding ethical issues and discomfort with the expectation of self-promotion.

Public Trust. Many faculty were disheartened by their perception that academic medicine is at times betraying the public trust and that it has lost its social mission. Faculty voiced this as a major reason contributing to their dissatisfaction with or departure from academic medicine.

> So while we have this emerging technology and the ability to treat patients, we have no sense of social purpose or social policy. (male, early career)

Excellence in clinical care. Embedded in the sense of betrayal of the public trust were faculty perceptions that clinical care

was not adequately supported or valued by the institution. Even though the institutional mission stated excellence in patient care as a priority, faculty perceived a failure to provide support for this mission and noted that clinical excellence was not rewarded:

> Publications and being invited to speak at other institutions, getting a lot of grants; that is valued higher than patient care. If you were to ask somebody, "who is most accomplished?"—those people are not necessarily the ones most adept at patient care. (female, early career)

> I think that everybody has to re-examine what it is to be in academic medicine—and it really came to light to me about a year ago, when I was on a search committee for a division chief in another department. We were there in a circle interviewing, talking, and every single candidate that came in talked about how they needed to protect their faculty from clinical work. Yet on the other hand, patients come here expecting the most experienced and the most savvy clinicians because it's a big university academic medical center. (male, left academic medicine)

> In my discussions with the dean, he is always talking about "no money—no mission," and I understand what he is saying: if we can't keep the doors open financially, then we won't take care of any sick folks, we won't train any medical students. But my point to him was that if we lose sight of what we are here for, we have no reason to keep our doors open. I think the focus is too much on the bottom line, to the point where we talk about giving up what makes us physicians in the first place. (female, plateaued)

Community responsibility. Similarly, faculty voiced the notion that the medical school was "*hypocritical*" in its responsibility to its local community.

> But in an academic institution that doesn't value community, culture, partnerships, collaboration, I wouldn't have wanted to stay there. I would not—that's where I was going and what I valued. It was really a dead end. …I think academic institutions are still about me, the individual. They're not necessarily about community and collaboration. I think if academic medicine can figure this out, that they can change how they promote people, value collaboration, value community partnership, true partnership and what I mean by that is being able to share resources, share authority with the community, to share data, to take as long as it takes to develop a study, as long as it takes to help communities choose issues that are important to the community, which is the antithesis of the individual faculty member, isn't it? (male, left academic medicine)

> I truly believe in health care for everybody, that it's a basic human right, and that it's our goal to organize resources in our society to make sure that that can happen, and that does not happen in academic medicine. (male, left academic medicine)

Excellence in education. Faculty frequently commented on the institution's inadequate provision of support for education, of not rewarding and recognizing those faculty who excel in this area. They described a devaluing of efforts devoted to medical education.

> I run the resident clinic. We're not rewarded by the Medical School at all. Few people each year might be recognized, but for the ongoing day-to-day grind, we're not recognized by the Medical School for our efforts…We basically provide free labor, [for education] you might call it, for the school…people stay because they feel a dedication to education….(female, plateaued)

A related theme was that institutions seemed to be self-serving and self-perpetuating rather than serving of their constituents. This was likened to a corporate culture.

> I think universities are looking much more like corporations than they used to. I hear the same kind of business speak stuff at the university as I heard in the private, for-profit company that I worked for. In fact, I was noting that there were fewer differences than ever before, so I think it's become a business. And I don't think that's where education should be, and I also don't think that's where health care should be. (female, left academic medicine)

Conflict with Perceived Institutional Culture Regarding Ethical Issues. A number of interviewees described experiences of unethical and fraudulent behavior that they believed were condoned by senior faculty. These instances were described as examples of lack of alignment of their own values with those of the institution or leadership. A male leader described a situation of major unethical use of funding. At an executive level discussion about the event, he remembered the following:

> We sat in that room for quite a while and after about a half an hour when people were hemming and hawing, I said, "Isn't it pretty clear what we have to do? This man has to be fired." And, literally, a senior administrator of the institution said—the words actually came out of his mouth: "We can't do that, he's one of us." (male, senior)

This was an example of the unethical use of funds and the concept of being a 'club' member as more important than public trust or integrity. Other faculty described situations where the institution created or tolerated a situation where individuals could be motivated to be unethical in research, by placing greater emphasis and value on the funding amount and quantity of research, rather than the integrity of the research.

> Two of his research assistants, young women, came in and talked to me yesterday that they couldn't sleep for 2 weeks because they believe the person who is directly supervising them is fraudulently creating data for a research project. (male, senior)

> I think my personal values don't align terribly well with academic medicine, interestingly. Unfortunately, I find

> that sometimes I feel that studies are done for the sake of doing the study. When I actually look at it and say, "What value is that going to provide either to patients or to our knowledge or anything like that." I wonder, is it just because it's another paper? (female, early career)

A woman described times when she had been expected to lie by her supervisor and how she found this unacceptable:

> My chairman asked me to take over the new faculty, and he would give me these things that I was supposed to tell them we were going to do for them and I would say to him, "we don't do this for people. How can I tell people this is available when you and I both know we don't follow through on that?" He said, "Well, you have to because that's the only way they'll come here." Well, I don't lie. That's not what I do. Or, I said "we're lying to the people who are doing our school evaluations, we're putting things on paper that we do that we don't do, and we're not being fair to the students. The students think they're getting a good deal because they don't know any better, but you and I both know what we're doing here." And it was sort of like "well, we have to make money so the students are going to have to suck it up." (female, left academic medicine)

Another faculty member described her experiences with her supervisor:

> Like the kind of leaders I saw in my early career, including my division chief. There's no way I want to be in a situation where I have to be deceitful in order to get people to do what they need to do. Or where I would have to work on scheming and cover-ups, as a way of doing my job. And that's what I think he felt he had to do—hide money, lie about money or at least cook the books a little bit. And not be concerned about a student's career, a fellow's career, because you had financial obligations to meet. (female, plateaued)

Twelve of 16 female leaders interviewed mentioned a lack of alignment of their own values and practices they observed in their organizations, and 5 of 12 male leaders commented similarly. Both male and female leaders stated that they only act in accordance with their own values.

Self-Promotion. Another area where participants were concerned was that they perceived self-promotion as necessary for survival and success. Some faculty commented on how distasteful they found being required "*to brag*" about themselves and that they found this behavior to be out of line with a personal value of being humble and more dedicated to achieving good than to personal aggrandizement. The following are illustrative:

> She said you have to brag. She said you have to brag, you really do. And that's very difficult, and I think that's difficult for many people because it's not the nature of some of our cultures, experience and maybe just family culture, too. It's not there for some of us. (female, senior)

> I wasn't driven by the self-promotion that I think has to come on in academic institutions. So that self-promotion becomes more important than the work from an academic, non-tenured faculty member. All of a sudden, they lose sight of why they're doing what they're doing. It's all about getting new grants, it's a club of 'I have more than you and I'm the expert in this.' So it's a little bit of unreal, self-promoting kind of environment. (male, left academic medicine)

DISCUSSION

Our research adds to the literature on the culture of academic medicine by more comprehensively and explicitly identifying faculty values, and faculty perceptions of the lack of alignment of their own and perceived institutional values. Faculty reported being most energized when they were engaged in clinical caring, the social mission of medicine to provide excellent care for all patients regardless of means, teaching, intellectual stimulation and advancement of knowledge. These valued activities aligned with the stated values of their five institutions. The faculty members we interviewed often inferred the values of their institution by observing behaviors and actions. They reported a significant lack of alignment between their own and perceived institutional values. In particular, numerous faculty perceived a lack of attention to the social mission of providing care for all people and to the community, a lack of prioritization of excellence in clinical care, a devaluing of educational roles, questionable ethical behavior among leadership or management, and the necessity for self-promoting behavior to achieve success. Values incongruence was associated with dissatisfaction, demoralization and sometimes with intent to leave their institution or academic medicine. Several quotations were from former faculty, but the same perspectives were expressed within all career categories.

Others have written about the link between authenticity and productivity. Authenticity reflects acting in accordance with one's values, preferences and needs, as opposed to acting merely to please others, to attain rewards or avoid punishments.[6,23,24] Faculty are more likely to instill a passion for medicine in their students or conduct stellar research if they are working on something that they are personally passionate about and that is aligned with their values.[6] The contrasting state of 'burnout' results in lesser performance and 'depersonalization' or the absence of bringing one's personal self to work.[24] Literature from other fields suggests that institutions need the ideas, self-expression, questioning and creativity that comes from empowering employees.[25,26]

Faculty values aligned well with the stated missions of most medical schools: clinical care, education and research. However, faculty based their perceptions of institutional values on observed behaviors rather than mission statements. An organization achieves congruence when its espoused principles and actions are aligned; our faculty frequently reported the lack of such congruence. Outside medicine, Waterman,[27] found that nine companies that practiced according to their values outperformed the Dow Jones industrial average by 350%. Collins also found that

organizations were most successful where their values were embodied in the fabric of the organization, in its systems, practices, process and rewards.[28]

Our results align with the research findings[29] that women value consistently more than men benevolence and universalism (understanding, appreciation, tolerance and protection for the welfare of all people), and female physicians are more motivated by helping others than males.[8] This would suggest that lack of alignment of values as shown in our data may contribute to women's lack of advancement in academic medicine. Another study from our interview data set shows that URM faculty report a call to serving their own underserved communities.[30] The latter data suggest that values incongruence may be one factor contributing to the difficulty of academic medicine in recruiting and retaining URM faculty members.[31,32]

One limitation of our study is that our data were drawn from just five medical schools, but the schools were chosen to be representative of the nation in regional and organizational characteristics, and their faculty demographics at the time of this study were almost identical to national means. However, for a qualitative hypothesis-generating study, the large number of respondents and multi-institutional sample are strengths. The responses may not be representative of the responses of all faculty, but do come from a diverse group of faculty in terms of gender, discipline, career stage and race within each of the five disparate medical schools. The themes we heard were dominant in the data and evident across all career stages of faculty. To assess for generalizability, the findings from this study are being tested in a nationally representative survey of faculty from 26 medical schools. Another strength of the study is that it involved a research team from different disciplines and used accepted and rigorous approaches to hypothesis- generating qualitative research. The carefully maintained confidentiality and anonymity of interviews protected respondents and probably increased their willingness to be frank. Many interviewees commented that they were grateful to have the opportunity to express their views. However, this strength is also a limitation as it prevented us from analyzing data by subgroups, which might have jeopardized the anonymity of participants.

By identifying faculty's deeply held values as expressed when they feel most vital and successful, we hope that this study will increase medical school leaders' awareness and promote congruence between individual values and institutional values, assisting the realization of the full potential and contributions of a diverse faculty. What may be more challenging are faculty perceptions that the stated social and educational missions of academic medical centers, which are well aligned with their individual values, are not fully congruent with institutional behaviors. The findings of this study should encourage academic medical institutions to address these faculty perceptions of the culture.

Acknowledgements: *The authors gratefully acknowledge the critical funding support of the Josiah Macy, Jr. Foundation, Brandeis University Women's Studies Research Center, and Wanda Jones and Anna Kindermann for leading the interagency agreement to provide supplemental support by the Office of Public Health and Science, Office on Women's Health and Office on Minority Health; the National Institutes of Health, Office on Research on Women's Health; the Agency for Healthcare Research and Quality; the Centers of Disease Control and Prevention and the Health Resources and Services Administration.*

The authors thank Meg Lovejoy and Marianne MacPherson, who participated in data coding, and Kerri O'Connor for manuscript preparation. The authors are indebted to the medical faculty who generously shared their experiences in the interviews.

Conflict of Interest: *None of the authors have any conflict of interest to disclose. The authors had access to all the study data, take responsibility for the accuracy of the analysis, and had authority over manuscript preparation and the decision to submit the manuscript for publication. The funders had no involvement in the design of the study, the collection of data, analysis and interpretation of the data, and the decision to approve publication of the finished manuscript. Dr. Pololi had full access to all of the data in this study and takes responsibility for the integrity of the data and the accuracy of the data analysis.*

Specific contributions from each author: *Pololi: conception, design, data collection, analysis and interpretation, drafting the article, final approval*
Kern: interpretation, drafting the article, final approval
Carr: design, data collection, analysis and interpretation, drafting the article, final approval
Conrad: design, data collection, analysis and interpretation, drafting the article, final approval
Knight: design, data collection, analysis and interpretation, drafting the article, final approval

Corresponding Author: *Linda Pololi, MBBS, MRCP: Brandeis University, Mailstop 088, Women's Studies Research Center, Waltham, MA 02454-9110, USA (e-mail: lpololi@brandeis.edu, URL: http://cchange.brandeis.edu).*

REFERENCES

1. **Bogue EG.** An agenda of common caring: the call for community in higher education. In: McDonald W, ed. Creating Campus Community: In Search of Ernest Boyer's Legacy. 1st ed. San Fransisco: Jossey-Bass; 2002;1–19.
2. **Schindler BA, Novack DH, Cohen DG, Yager J, Wang D, Shaheen NJ, Guze P, Wilkerson L, Drossman D.** The impact of the changing health care environment on the health and well-being of faculty at four medical schools. Acad Med. 2006;81:27–34.
3. **Alexander H, Lang J.** The Long-Term Retention and Attrition of US Medical School Faculty. Analysis in Brief, 8(4). Washington DC: Association of American Medical Colleges; 2008.
4. **Shanafelt TD, Sloan JA, Haberman TM.** The well-being of physicians. American J Med. 2003;114:513–9.
5. **Shanafelt TD, West CP, Sloan JA, Novotny PJ, Poland GA, Menaker R, Rummans TA, Dyrbye LN.** Career fit and burnout among academic faculty. Arch Intern Med. 2009;169(10):990–5.
6. **Kahn WA.** To be fully there: psychological presence at work. Hum Relat. 1992;45:321–49.
7. **Pololi LH, Dennis K, Winn GM, Mitchell J.** A needs assessment of medical school faculty: caring for the caretakers. J Contin Educ Health Prof. 2003;23:21–9.
8. **Wright SM, Beasley BW.** Motivating factors for academic physicians within departments of medicine. Mayo Clin Proc. 2004;79:1145–50.
9. **Pololi LH, Knight SM, Dennis K, Frankel RM.** Helping medical school faculty realize their dreams: an innovative, collaborative mentoring program. Acad Med. 2002;77:377–84.
10. **Bunton SA.** US Medical School Faculty Job Satisfaction. Analysis in Brief:8(5). Washington DC: Association of American Medical Colleges; 2008.
11. **Schwartz SH.** Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. In: Zanna MP, ed. Advances in Experimental Social Psychology. Vol. 1. New York: Academic Press; 1992;1–65.
12. **Halstead JM, Taylor MJ.** Learning and teaching about values: a review of recent research. Camb J Educ. 2000;30(2):169–202.
13. **Pendelton D, King J.** Values and leadership. BMJ. 2002;325:1352–5.
14. **Pololi L.** Career development for academic medicine–a nine step strategy. BMJ Careers. 2006;322(7535):38–9.

15. **Rokeach M.** A theory of organization and change within value-attitude systems. J Soc Issues. 1968;24(1):13–33.
16. **Feather NT.** Values in Education and Society. New York: Free Press; 1975.
17. **Rokeach M.** The Nature of Human Values. New York: Free Press; 1973.
18. **Rokeach M.** Understanding Human Values: Individual and Societal. New York: Free Press; 1979.
19. National Initiative on Gender, Culture and Leadership in Medicine: C - Change. Available at: http://cchange.brandeis.edu accessed Aug 29, 2009.
20. **Biernacki P, Waldorf D.** Snowball sampling: problems and techniques of chain referral sampling. Sociol Methods Res. 1981;10:141–63.
21. **Glaser BG, Strauss AL.** The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine; 1967.
22. **Charmaz K.** Constructing Grounded Theory: a Practical Guide Through Qualitative Analysis. Thousand Oaks: Sage Publications; 2006.
23. **Goldman BM, Kernis MH.** The role of authenticity in healthy psychological functioning and subjective well-being. Ann Am Psychother Assoc. 2002;5(6):18–20.
24. **Maslach C.** Burnout: the Cost of Caring. Englewood Cliffs: Prentice-Hall; 1982.
25. **Van Maanen J, Schein E.** Toward a theory of organizational socialization. In: Shaw B, ed. Research in Organizational Behavior. Greenwich: JAI Press; 1979;209–64.
26. **Weisbord MR.** Productive Workplaces: Organizing and Managing for Dignity, Meaning and Community. San Francisco: Jossey-Bass; 1987.
27. **Waterman RH.** Adhocracy: the Power to Change. New York: Norton; 1992.
28. **Collins JC, Porras JI.** Built to Last: Successful Habits of Visionary Companies. New York: Harper Business; 1994.
29. **Schwartz SH, Rubel T.** Sex differences in value priorities: Cross-cultural and multimethod studies. J Pers Soc Psychol. 2005;89(6):1010–28.
30. **Pololi L, Cooper L, Carr P.** Race, Disadvantage, and Faculty Experiences in Academic Medicine, submitted for publication.
31. Association of American Medical Colleges. Faculty Roster 2008. Available at: http://www.aamc.org/data/facultyroster/ accessed Aug 29, 2009.
32. **Castillo-Page L.** Diversity in Medical Education: Facts & Figures 2008. Washington: Association of American Medical Colleges; 2008.