

# Changing the Culture of Academic Medicine: The C-Change Learning Action Network and Its Impact at Participating Medical Schools

Edward Krupat, PhD, Linda Pololi, MD, Eugene R. Schnell, PhD, and David E. Kern, MD, MPH

## Abstract

The culture of academic medicine has been described as hierarchical, competitive, and not highly supportive of female or minority faculty. In response to this, the authors designed the Learning Action Network (LAN), which was part of the National Initiative on Gender, Culture and Leadership in Medicine (C-Change). The LAN is a five-school consortium aimed at changing the organizational culture of its constituent institutions. The authors selected LAN schools to be geographically diverse and representative of U.S. medical schools. Institutional leaders and faculty representatives from constituent schools met twice yearly for

four years (2006–2010), forming a cross-institutional learning community. Through their quarterly listing of institutional activities, schools reported a wide array of actions. Most common were increased faculty development and/or mentoring, new approaches to communication, and adoption of new policies and procedures. Other categories included data collection/management, engagement of key stakeholders, education regarding gender/diversity, and new/expanded leadership positions. Through exit interviews, most participants reported feeling optimistic about maintaining the momentum of change. However, some,

especially in schools with leadership changes, expressed uncertainty. Participants reported that they felt that the LAN enabled, empowered, facilitated, and/or caused the reported actions.

For others who might want to work toward changing the culture of academic medicine, the authors offer several lessons learned from their experiences with C-Change. Most notably, people, structures, policies, and reward systems must be put into place to support cultural values, and broad-based support should be created in order for changes to persist when inevitable transitions in leadership occur.

**A** growing body of evidence suggests that the culture as experienced by faculty in academic health centers is nonrelational, hierarchical, unwelcoming of differences, and nontransparent. The culture discourages humanistic orientations, and those who seek professional rewards learn that the preferred route is through

competition and self-promotion rather than collaboration. Faculty report feeling alienated or undervalued.<sup>1–7</sup> According to a large national study of academic medicine faculty, a quarter of respondents reported that they had seriously considered leaving academic medicine in the past year because of dissatisfaction.<sup>8</sup> Moreover, those who advance most slowly in this culture are faculty who have traditionally been excluded from power—namely, women and underrepresented minorities in medicine (URMM).<sup>9–17</sup>

Most previous efforts to improve life in academic medicine have taken the form of skills-based faculty development programs aimed at enabling faculty to become successful in the existing culture.<sup>18–21</sup> However, the National Initiative on Gender, Culture and Leadership in Medicine, known as C-Change,<sup>22</sup> has taken a different approach. Through the creation of a Learning Action Network (LAN), this initiative sought to change the very culture of academic medicine at its five participating schools. That is, C-Change attempted to create a culture that is collaborative, inclusive, and

supportive of all faculty members' goals and aspirations, with the ultimate goal of influencing the values, norms, and actions of member schools. In this article, we describe the C-Change LAN and the impact it had on participant schools. In addition, we discuss lessons learned, in the hope that others who seek to achieve similar goals might benefit from our experience.

## C-Change: The Intervention

### Participants and logistics

Housed at Brandeis University, C-Change received generous financial support from the Macy Foundation and supplemental support from five federal agencies. We conceived the LAN as a five-year project, beginning in 2006. We selected five medical schools that were regionally dispersed (one each from the northeast, mid-Atlantic, southeast, midwest, and southwest) and similar to national norms in the demographic characteristics of their faculty. Two were public and three privately funded. Two were in the top quartile of National Institutes of Health research funding; one had a particular focus on primary care/community care. Each school accepted the invitation to

**Dr. Krupat** is director, Center for Evaluation, Harvard Medical School, and associate professor of psychology, Department of Psychiatry, Beth Israel Deaconess Medical Center, Boston, Massachusetts.

**Dr. Pololi** is senior scientist, Brandeis University, resident scholar, Women's Studies Research Center, and director, National Initiative on Gender, Culture and Leadership in Medicine: C-Change, Waltham, Massachusetts.

**Dr. Schnell** is president, Schnell Management Consulting, Baltimore, Maryland.

**Dr. Kern** is emeritus professor of medicine, Johns Hopkins University School of Medicine, Division of General Internal Medicine, Johns Hopkins Bayview Medical Center, Baltimore, Maryland.

Correspondence should be addressed to Dr. Krupat, Center for Evaluation, Harvard Medical School, 384 MEC, 260 Longwood Ave., Boston, MA 02115; telephone: (617) 432-1689; fax: (617) 734-5224; e-mail: ed\_krupat@hms.harvard.edu.

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participate, and its involvement was actively endorsed by its dean or chief academic officer, who agreed both to participate personally in LAN meetings and to allow a sample of his or her faculty to be interviewed and surveyed confidentially.

To engage the medical schools in a group process to drive change, the project leaders selected, from a list provided by each dean, three to four faculty from each school to become LAN members. Participants came from varied disciplines, representing basic scientists as well as specialist and generalist clinical faculty. The majority carried major administrative duties (e.g., deans and department chairs); however, early-career faculty were also represented. Over time, approximately half of the LAN members were women and about a quarter were URMM.

We hosted eight semiannual two-and-a-half-day meetings between late 2006 and early 2010, rotating among the school sites and Brandeis University. We designed the LAN meetings to support the formation of robust collegial relationships and to provide an environment of safety and trust in order to facilitate transformative thinking about culture, diversity, and organizational change. Meeting activities included the following:

- discussions of relevant literature;
- opportunities for self-reflection;
- the use of innovative dialogue strategies (e.g., Appreciative Inquiry,<sup>23</sup> World Café<sup>24</sup>);
- presentations on best practices by visiting faculty (e.g., from the National Science Foundation ADVANCE program<sup>25</sup>);
- presentations on projects aimed at accomplishing key project goals proposed by cross-school working groups; and
- discussions about in-progress initiatives (see Actions below) at each of the individual schools.

We also created two additional integrating mechanisms: (1) a LAN Liaisons Group to help maintain momentum for change across schools and (2) four cross-school Innovation

Work Groups formed around key themes derived from earlier faculty interviews (aligning policies and rewards; communication between faculty and leadership; faculty development and mentoring; creating humanistic and culturally sensitive environments).

### **Program evaluation: The data-action cycle**

The data-action cycle (collect data, act on that new information, collect new data, etc.) was a centerpiece of the project's approach. We collected, from each school, confidential qualitative and quantitative data about the professional experiences of faculty via interview and questionnaire, and we used these data to instigate data-action cycles consisting of self-analysis and planned change. We provided each school with an instrument for data collection at the institutional and faculty level (the Markers of Achievement Index, MAI) to track temporal patterns that indicated progress in leadership and achievement for female and URMM faculty. Each school also provided a quarterly report of activities, the Inventory of C-Change Activities (ICC), from March 2008 through December 2010. In addition, we interviewed C-Change faculty at the end of their institution's participation in the initiative. Approved by the institutional review board at Brandeis University, the project evaluation plan was comprehensive.

This article recounts the impact of the LAN, specifically, on the participating schools. (A forthcoming report, which describes the LAN structure and process in greater detail, addresses participant assessment of LAN components and culture, and the project's impact on participants personally.)

### **Impact of C-Change as Measured by Actions Reported by Participating Schools**

#### **Institutional participation**

Over the course of the project, three of the schools had turnover at the dean level, and a fourth school changed deans immediately after the last LAN meeting. After the appointment of a new dean, two schools withdrew from the project, one in early 2009 and one in late 2009. As a result, some schools were able to implement change across four years, whereas other schools had a shorter

length of involvement. A new, research-intensive school joined the LAN in 2009; however, we have not included data from that school in this article.

### **Actions**

The five participating schools reported a total of 201 actions, which, through consensus, we classified into 10 categories (see Table 1). Although some actions fit into more than one category (e.g., creating a new position could fit under either New/Expanded Leadership Positions or Resources/Funding), we placed each action under only one category so as to avoid counting any action more than once. Similarly, we counted the same or related actions reported more than once (e.g., planning a policy change, then implementing it) only once.

The most common category of action, taken by all five schools, involved *faculty development and mentoring*. All of the schools established mentoring initiatives; three established administrative mechanisms to support faculty development and mentoring, and four sent faculty off campus to programs such as the Executive Leadership in Academic Medicine program for women faculty.<sup>26</sup>

Initiatives to increase *communication to and among faculty* were, collectively, the next most common, and these, too, occurred at all five schools. These included both within-institution activities (e.g., symposia, newsletters, e-mails) and cross-institution efforts (e.g., monthly conference calls among the diversity deans at the participating schools).

Changes in *policies, procedures, and administrative structures* were also common. These types of activities, which also occurred at all five schools, included revised promotion and tenure policies, policies requiring mentoring for all faculty, and increased representation of women and/or URMM faculty on high-level committees. This category also included the establishment of spousal hiring programs and lactation rooms, flexible work policies, and inclusion of gender, diversity, and organizational culture goals in strategic plans and mission statements.

All five schools reported *data collection and management* efforts related to

Table 1

**Actions Reported by the Five C-Change Schools on the Inventory of C-Change Activities During the Project Period Classified into Ten Content Categories**

Type of activity	No. of actions	Range of actions per school	No. of schools reporting activity	Examples
<b>Faculty development (FD)/mentoring</b>	42	3–17	5	
FD initiatives on campus	15	1–6	5	FD programs for women, minorities, and all faculty on important faculty skills such as time management, work–life balance, negotiation, conflict management, career development, and promotion/tenure; new faculty oriented to FD resources and to promotion/tenure policy and procedures
Mentoring initiatives on campus	11	1–5	5	Establishment of mentoring programs for all faculty and for junior faculty in basic and clinical sciences; establishment of peer mentoring program; establishment of mentoring awards
Administrative initiatives on campus	3	0–1	3	Establishment of FD advisory group to review and make recommendations regarding FD activities campus wide; establishment of a diversity task force to review current state of institution and make recommendations; creation of department of medicine office for FD and diversity
Off-campus programs	13	0–7	4	Supporting/sending faculty to Executive Leadership in Academic Medicine Program for Women (ELAM), <sup>26</sup> to the Association of American Medical Colleges programs for early and midcareer women faculty and minority faculty, and to other off-site FD programs
<b>Communication to/among faculty</b>	38	3–17	5	
Communication regarding women or minorities	9	1–6	3	Posting on Web site of resources available for women and underrepresented in medicine (URRM) faculty; symposia on women and/or minorities in medicine and health sciences; presentation and discussion of institution-generated data with faculty subgroups
Communication regarding C-Change	6	0–5	2	Discussion of C-Change participation in e-mails and newsletters; presentations regarding participation and C-Change data to subgroups of faculty
General communication to/with faculty	4	0–3	2	Faculty affairs Web page and newsletter; department of medicine grand rounds on mentoring for diversity
Cross-institutional communication	19	3–5	5	Monthly conference calls of C-Change liaisons; diversity deans' monthly conference calls; cross-institutional working groups on FD and mentoring, on aligning rewards, policies, and mission, on creating humanistic and culturally sensitive environments, and on communication between faculty and leadership
<b>Policy, procedures, and administrative structure</b>	28	1–14	5	
Policy and procedure regarding promotion, tenure, and recognition	7	0–3	3	New promotion and tenure policies and new faculty track for clinician–educators; prestigious reward established for community-engaged scholarship
Policy regarding mentorship	7	0–5	2	Initiation of mentoring as performance requirement for department chairs and for promotion to full professor; policy that all junior faculty must have a mentor; policy that all faculty must have an annual review
Search/recruitment policy and procedure	3	0–2	2	Changes in faculty search procedures to identify females; procedures to identify and reduce bias in hiring
Human resources policy and procedure	4	0–1	4	Initiation of lactation rooms; spousal hiring system for recruiting desired candidates; institution of policy on flexible work arrangements for faculty
Strategic or action plan	3	0–2	2	Plans to increase diversity in senior faculty and leadership; support and planning to retain Native American faculty; plan to change institutional culture to be more customer focused
Membership on important committees	2	0–2	1	Senior faculty promotion committee increased membership of women from 1 in 10 to 5 in 10; members selected for medical school academic advisory committee to enhance diversity
Other	2	0–1	2	All senior-level searches advertised through, and lists of potential candidates obtained from, ELAM; establishment of "Women's Faculty Cabinet" to coordinate activities related to women

(Table continues)

Table 1  
(Continued)

Type of activity	No. of actions	Range of actions per school	No. of schools reporting activity	Examples
<b>Data collection and management</b>	20	3–5	5	
Data collection	14	2–4	5	Gender demographics of search committees; data on women and minority faculty in each department; climate survey; focus group of minority faculty; needs assessment of faculty and faculty leaders
Communication/use of data	6	0–2	4	Review of data by departmental leadership and dean; use of data on patient demographics in determining desired characteristics for new division chief
<b>Engagement of (i.e., communication and/or discussion with) key stakeholders</b>	20	0–13	4	Communication about C-Change participation to leadership; presentation of needs assessment data on diversity and gender to leadership
<b>Education regarding gender and diversity</b>	14	0–8	4	
Educational sessions within reporting institution	11	0–7	3	Education of search committee members regarding unconscious bias; grand rounds on mentoring for diversity and on caring for lesbian/gay/bisexual/transgender patients; leadership workshop on communication and diversity; workshop for leadership groups on community-engaged scholarship
Multi-institutional educational conferences sponsored by reporting institution	3	0–2	2	Hosting of on-site multi-institutional conferences on culturally centered research and partnerships, on women in surgery, and on faculty of color
<b>New or expanded leadership positions</b>	11	1–4	5	
New leadership positions	10	1–3	5	New positions at the school level (vice president, assistant and associate dean, and director) and department level for FD, women, and/or diversity; new director for community-engaged scholarship
Changes in existing leadership positions	1	0–1	1	Increased support for position enacting C-Change activities; increase from 50% to 100% FTE of associate dean for faculty affairs position
<b>Recruitment and/or advancement of women and/or minorities</b>	9	1–3	5	
Promotion of women and/or minorities to senior faculty rank	3	0–1	3	More women at senior faculty ranks
Appointment of women and/or minorities to leadership positions	6	1–2	5	Increase of women in leadership positions (new chairs, division chiefs); appointment of female dean; appointment of underrepresented minority in medicine (URMM) chairs
<b>Resources/funding</b>	8	0–4	3	
Direct support to faculty	3	0–1	3	Bridge funds for researchers; seed money to faculty members to integrate diversity into medical school courses
Program support	3	0–2	2	Grant support for program that support junior faculty who pursue research in women's health
Other	2	0–1	2	Funds for support staff for FD and diversity efforts
<b>Other</b>	11	1–4	4	Faculty involvement in national groups on women and URRM faculty; application of concepts to international work; future doctors programs for rural and minority college students; awarding of Centers of Excellence in Minority Health and Health Disparities grant; establishment of/support for a center for women's health; program to improve institutional culture with respect to civility and interprofessional communication
<b>Combined total</b>	201	18–75	5	

diversity, gender, and/or culture. Using the MAI, LAN members at each school reviewed and summarized institutional data, analyzing the number of department chairs, hires, and promotions by race/ethnicity and gender. They also used data to generate a deeper understanding of their school's faculty,

to target areas for improvement, and to inform decision making.

Actions to *engage key stakeholders*, such as department chairs and other senior leaders, occurred at four schools. They included presentations and descriptions of the school's participation in C-Change

and sharing/discussion of school data and of goals and plans related to diversity, gender, and culture.

Four of the five schools reported *educational interventions related to gender/diversity*. Actions within this category ranged from educating search committee

members regarding unconscious bias, to grand rounds on caring for lesbian/gay/bisexual/transgendered patients, to workshops for leaders and administrators on diversity and community-engaged scholarship. Two schools hosted multi-institutional conferences on topics related to gender, diversity, and culturally centered partnerships for research.

All five schools reported *new or expanded positions related to gender, diversity, or faculty support*. These included new positions—at the vice president, assistant/associate dean, and director level—related to women, diversity, faculty development, and community-engaged scholarship. URMM and nonminority women filled all these positions.

The least common activities included efforts aimed directly at the *recruitment and advancement of women and minorities* (five schools) and the relatively few instances of providing *new funding or fiscal resources* (three schools). We may have, however, underestimated the prevalence of these activities, to the extent that, as mentioned, we coded actions with multiple foci (e.g., new funding aimed toward increasing diversity) into only one category.

Lastly, four schools reported actions that could not be categorized (e.g., applications of culture concepts on an international scale and programs on increasing civility and interprofessional communication).

### Perceptions

Although most of our data on the impact of C-Change emanated from the ICC reports that the participating schools submitted, we did interview 21 faculty participants (4–6 at each school).

Of the 18 respondents who felt capable of judging, 17 said that participating in C-Change assisted, accelerated, or caused culture-related changes at their schools. They used terms such as “enabling,” “consciousness-raising,” “empowering,” “facilitating,” and even “therapeutic” to describe their experience with C-Change. The interviewees reported that the presence of C-Change at their schools provided “traction,” “legitimacy,” “visibility,” and “credibility” for change.

One LAN participant noted, “This project put the issues front and center, pointing

out our weaknesses in organizational structure.” Another said, “Our dean used C-Change as leverage. Having a national platform for things we wanted to do locally gave us credibility.”

Ten respondents were optimistic about maintaining the momentum for change, seven were uncertain or mixed, and four provided unclassifiable responses. At the one school with stable leadership, five of the six responses were optimistic, whereas at the schools experiencing changes in the dean’s office, of those who gave classifiable responses, five were optimistic, six uncertain, and one mixed.

### Can We Create Effective Culture Change in Academic Medicine?

Increasingly recognizing that academic medical culture may itself be an underlying problem, some members of the academic medicine community have recently called for change in that culture.<sup>1,2,5,8,27–31</sup> Considering the LAN retrospectively, and defining culture as “a shared pattern of attitudes, beliefs, values, goals, and practices,” we assert that the actions the LAN schools reported constitute a change in culture. On the basis of LAN member reports, we believe that the newly developed policies, practices, and organizational structures have had an impact on the experience of being a faculty member at the schools. Although the change occurred to varying degrees at the participating schools, consequential outcomes at each school were associated with this cross-institutional learning community project.

Whereas most interventions report data at the most basic of Kirkpatrick’s levels of impact<sup>32</sup> (i.e., reaction and learning), the ICC data presented here are at Kirkpatrick’s highest levels (i.e., behavior and results). Noteworthy changes that aligned closely with C-Change goals occurred in the policies, practices, and administrative structures of participating schools. These changes included increased financial, leadership, and organizational support systems for faculty, new programs to communicate values and educate faculty about diversity, the creation of new policies and positions aligned with these values, advancement of women and minority faculty to leadership positions and senior ranks, and the allocation of resources to support these efforts.

To the extent that values are a central part of culture, the change that occurred at the LAN member schools may be seen in another way, too. That is, if the missions of participant institutions already included statements about inclusion, diversity, collaboration, and supporting varied faculty interests (e.g., patient care, community health, education, and research), one could argue that the major impact of the C-Change LAN was not to change institutional values but to reduce the chasm between espoused values and the institution’s actual culture, as expressed in organizational structure and practice.

Although we cannot establish a clear cause–effect relationship between the intervention and the outcomes reported, our best available source of whether these changes would have occurred in the absence of the program are the opinions of those involved in the project itself. LAN members, who felt very comfortable expressing critical feedback with one another and with the project team, told us that the project made it impossible for leaders and others at their schools to ignore key issues that had remained dormant for a long time, that the LAN helped the schools create an agenda for change, and that it provided support and legitimacy for those who advocated change.

### For Those Who Would Follow: Lessons Learned

As expected in the evaluation of an innovative and ambitious project, we faced challenges and learned lessons in the process of this initiative. The first relates to evaluation design. We underestimated the time required to create meaningful, measurable change and to develop, administer, and analyze instruments to assess that change. Initially, we had hoped to collect data from faculty at our five schools and a set of comparison schools before and after the intervention. Although qualitative interview data<sup>1,2,13,14</sup> from the five participant schools were available to stimulate discussion during the early LAN meetings, data from the preproject survey of faculty on cultural change were not available to the schools until almost three years into the project. Furthermore, a national economic downturn—coupled with changes in

funding foundation leadership and priorities—resulted in four instead of five years of funding and an inability to extend the project. Additional funding and a greater duration would have been required to assess pre–post perceived culture change (via the C-Change Faculty Survey) at participant institutions and to compare these changes with data from nonparticipant schools. Therefore, we were required to rely solely on the ICC reports of actions initiated in the schools to assess school-level impact, and we were unable to compare our results with changes that may or may not have occurred at nonparticipating schools.

To assess possible causal linkages between the project and these changes, we had to rely on the subjective, retrospective perceptions of LAN members. This is a significant limitation, not simply because their recollections are subject to selection, recall, and other biases but also because we did not have any direct means of assessing the extent to which a broader range of faculty at member schools experienced the organization changes.

We also desired to use data from the MAI, which we created a priori, to document faculty progress and achievements at each school by gender and ethnicity in order to provide further objective evidence of change. However, we learned just how challenging the collection of systematic and comparable data across schools can be. Schools made uneven progress in collecting data. Their efforts took longer than anticipated, and the data they produced varied in quality. As a result, we could not use institutional records for pre–post comparisons, although the introduction of the MAI as a tracking device was itself a valuable intervention at the schools.

Across the five schools, the impact of the C-Change LAN project differed, as reflected in the range, number, and types of actions reported. The school that implemented the most change reported over four times the number of actions reported by the least active school. Aside from length of participation, other possible reasons for this variation include factors such as the stability and assertiveness of local leaders, the alignment of institutional mission with the goals of the project, the breadth and depth of involvement, support

(financial and otherwise), openness to introspection, and external or fiscal pressures.

Although C-Change was not meant to be a top-down intervention, in part it relied on the central role of leaders at the highest level. The impact of the changeover in deans at three of the five schools during the course of the project was greater than we had anticipated, as two of the initial five withdrew from the project after the change. Although it is possible that the withdrawal represented a change in the school's basic interests and values, LAN faculty at those schools indicated that it did not. They felt that it more likely reflected a decision by a new leader to withdraw from a specific project that he or she had not personally chosen/initiated. We suggest that starting with or quickly developing broad-based support may be critical for ensuring that the changes persist in the face of new leadership. Recognizing that changes in leadership, including in the dean's office, are inevitable, one senior LAN participant pointed out: "Change has to come from dedicated faculty. They are the permanent residents of the medical school."

Another key lesson we learned is that if a community hopes to create permanent change, then that community needs to put in place people, structures, policies, and reward systems to support cultural values. Most participating schools found that when values were translated into new policies and practices, and when new positions were created to support these, commitment to change was likely to thrive and become deeper and more broad based. Four schools that wanted to translate an espoused institutional value for diversity into something that was concretely realized created leadership positions for diversity, multicultural affairs, and faculty enrichment during the project. At another institution, policies for forming chair search committees with balanced gender representation were put in place, resulting in more productive searches and more diversity in leadership. Within a relatively short period, this procedure became second nature in high-level searches such that faculty there could barely imagine that gender-balanced search committees had not always been standard practice.

A related challenge was the ongoing engagement of LAN members between meetings. Several commented that finding time to devote to the project in their home institutions was difficult, especially because they were overwhelmed with other activities. One commented that the "vast majority of LAN members had 'day jobs' that took them in other directions, and it was never clear how to allow LAN members to find the time to follow through once they returned home." We had wanted to provide funding to protect faculty time and support projects at the schools, but we were not able to do so, nor were institutions required to provide any kind of financial support, protected time, or matching funds for their faculty. Our experience therefore suggests a need to provide some form of support, either externally or through an institutional commitment of time, money, recognition, or opportunities for scholarship so as to encourage faculty to become involved in institutional change efforts.

### In Sum

Culture change is a daunting, long-term, but not impossible task. Despite the challenges we encountered, we present evidence that a cross-institutional, collaborative, learning-community approach—wherein participants experience the culture they hope to establish more broadly—facilitates, supports, and accelerates culture change in the form of enhanced activities, policies, and structures. We hope that our findings and the lessons we learned will be useful to others who aspire to further improve the culture of academic medicine.

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