Sandra Daley

Associate Chancellor and Chief Diversity Officer

Dr. Sandra Daley is the Associate Chancellor and Chief Diversity Officer (CDO) at the University of California, San Diego. In this position, she serves as a liaison for the Chancellor to the campus faculty, staff and students on various diversity efforts and issues. She is responsible for coordinating university-wide efforts that enhance diversity on the campus and increase communication and collaboration with a variety of community-based constituencies.

Dr. Daley received her medical degree from UCSD School of Medicine and completed her training in Pediatrics. She practiced in a community clinic in San Diego for more than thirteen years and taught pediatric residents at a Tijuana hospital before joining the UCSD School of Medicine faculty in 1991. She served as assistant dean of Diversity and Community Partnerships at the UCSD School of Medicine from 1995 to 2007. During that period, she crafted and implemented a number of academic enrichment programs aimed at helping disadvantaged middle, high school, community college, undergraduate and post-baccalaureate students pursue health and science careers. In School of Medicine programs such as the Hispanic Center of Excellence, Dr. Daley has worked to retain and recruit students and faculty from underrepresented Hispanic ethnic groups.

Under Dr. Daley's leadership, university-community partnerships evolved into major initiatives at UCSD's School of Medicine. UCSD was the first school of medicine in the nation to receive a Community Outreach Partnership Center award from the U.S. Department of Housing & Urban Development. The UCSD School of Medicine has also established the San Diego Comprehensive Research Center in Health Disparities, a major initiative funded by the National Institute on Minority Health and Health Disparities, which focuses on conducting research and providing education and training to students, faculty and community-based health care providers.

At the School of Medicine, Dr. Daley played a pivotal role in establishing the first Conditional Acceptance Post-baccalaureate program in a school of medicine in the University of California. She and her team also designed and now conduct the new Program in Medical Education-Health Equity (PRIME-HEq), which prepares medical students to engage in research, clinical care and advocacy that addresses minority health and health disparities.
Nurturing the next generation of academic faculty at the University of California, San Diego School of Medicine

Sandra Daley MD
Associate Chancellor
Chief Diversity Officer

Vivian Reznik MD MPH
Associate Dean of Faculty Affairs
Professor of Pediatrics and Family and Preventive Medicine
Academic Medicine Climate

- Academic medicine faculty face many unique challenges in career advancement - complicated by the variety of daily professional responsibilities in relation to job descriptions.

- Academic advancement may require excellence in clinical practice in addition to teaching, research, and service.

- Many medical school faculty are expected to generate funds through clinical practice and/or research to support their own salary.
  - adds to the personal and professional pressures of an academic career.
  - only 20% of UCSD SOM faculty have FTEs.
Academic Medicine Climate

- Complex organizational structure of an academic medical center

- Challenges lead to high faculty turnover
  - Data from the AAMC - 7.7% of men and 9.1% of women medical school faculty left their positions on an annual basis between 1995 and 1999

- Organized faculty development and mentoring programs have been shown to influence faculty retention and, ultimately, success in academic medicine
Academic Medicine at UCSD

- 900 full time faculty
- Research and clinical faculty in 5 different academic series
- Multiple practice and research sites
  - UCSD Medical Center Hillcrest
  - UCSD Medical Center La Jolla
  - VA San Diego Healthcare
Climate at UCSD SOM 1997-98

- Responded to national and state mandates – HRSA Hispanic Center of Excellence, US Office of Woman’s Health, California State Legislature

- Collected baseline data on Underrepresented minority and women faculty

- Conducted interviews with junior faculty - men and women

- Observed that attrition was high for URM faculty and mid level women
Junior Faculty Needs

- Skills and knowledge in leadership, teaching, learning, research
- Development and implementation of an academic strategic plan focused on the University of California
- Development of a relationship with senior faculty mentors
- Expanded network of colleagues within the university
Mentorship: is a formal program necessary?

Who will be mentored
How will you make the match
Voluntary mentor recruitment
Minimize the rules
Maximize the mentor's personal freedom within the relationship

- Ragins 1999
The UCSD National Center of Leadership in Academic Medicine

NCLAM
National Center of Leadership in Academic Medicine (NCLAM)

- Established 1998
- Office of Women’s Health/DHHS
- 1 of 4 national centers
- Institutionalized 2000 at UCSD
NCLAM Curriculum

- Implementing strategies to achieve career objectives
- Academic file preparation 101
- Skill Building Workshops focused on leadership, teaching & research
- Professional development project
- Instrumental mentoring
Instrumental Mentoring

- Enhance creative teaching and scholarly activities

- Development of professional networks
  - Senior mentors facilitate participation
  - Junior faculty actively identify and engage in professional activities that provide regional and national visibility
NCLAM Model for Academic Success
NCLAM Model for Academic Success

Professional Development
NCLAM Model for Academic Success

Professional Development

UC System
NCLAM Model for Academic Success

- Professional Development
- UC System
- Instrumental Mentorship
NCLAM Model for Academic Success

Professional Development

Instrumental Mentorship

UC System

Academic Success
NCLAM Research Outcomes

- Are participants more confident as academic physicians?
- Are participants staying at UCSD?
- Are participants staying in academic medicine?
- Is the program cost effective?
Methods

- Four classes (1999-2002); repeat survey 2005

- Questionnaire immediately pre/post
  - Self-efficacy

- Survey 1-4 years post
  - Faculty status

- Institution provided financial information
Self-efficacy

- Self efficacy: one’s personal belief in one’s ability to carry out a behavior that will produce a particular outcome
- Seven-point, semantic-differential scale
- Descriptors - “strong” to “weak”
- Internal consistency reliability - .69
Self-efficacy (con’t)

- 36 Academic Skills*
  - Professional Development - 10 items
  - Research - 10 items
  - Medical Education - 8 items
  - Administration - 8 items

* Bland et al, Successful Faculty in Academic Medicine
Confidence before and after NCLAM

- Pre/post self assessment
- Every class, 1999-2002
- Self efficacy scores
## Mean Confidence Scores: Pre and Post NCLAM (n=67)

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre-NCLAM</th>
<th>Post-NCLAM</th>
<th>% Improved</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Devel.</td>
<td>37.9</td>
<td>58.0</td>
<td>52%</td>
<td>0.76</td>
</tr>
<tr>
<td>Research</td>
<td>47.9</td>
<td>57.2</td>
<td>20%</td>
<td>0.35</td>
</tr>
<tr>
<td>Education</td>
<td>42.7</td>
<td>57.2</td>
<td>33%</td>
<td>0.64</td>
</tr>
<tr>
<td>Admin.</td>
<td>29.2</td>
<td>51.4</td>
<td>76%</td>
<td>0.74</td>
</tr>
</tbody>
</table>

P’s all < 0.0001
Confidence compared all other junior faculty

- 2000 Survey
- 83% response rate
- 39 NCLAM graduates
- 97 other junior faculty

* Garman et al, 2001
## Demographics

<table>
<thead>
<tr>
<th></th>
<th>NCLAM (n = 39)</th>
<th>Peers (n = 97)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>Age (years)</td>
<td>39.5 (34-45)</td>
<td>38.9 (30-58)</td>
</tr>
<tr>
<td>Years on faculty</td>
<td>3.7 (1.0-7.0)</td>
<td>2.7 (0.5-7.5)</td>
</tr>
</tbody>
</table>
## Mean Confidence Scores: NCLAM Graduates and Peers

<table>
<thead>
<tr>
<th>Category</th>
<th>NCLAM (n = 53)</th>
<th>Peers (n = 97)</th>
<th>% more confident</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Devel.</td>
<td>58.3</td>
<td>43.2</td>
<td>35%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Research</td>
<td>57.4</td>
<td>47.4</td>
<td>21%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Education</td>
<td>45.6</td>
<td>38.1</td>
<td>20%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Admin.</td>
<td>41.1</td>
<td>28.5</td>
<td>44%</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>
Retention of NCLAM Graduates at UCSD

Total faculty (67) 85%
- Women (37) 84%
- Men (30) 87%
- MDs (49) 82%
- PhDs, MD/PhDs (18) 94%

*through November 2003
NCLAM Graduates Retention in Academic Medicine

<table>
<thead>
<tr>
<th>Total faculty (67)</th>
<th>93%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (37)</td>
<td>89%</td>
</tr>
<tr>
<td>Men (30)</td>
<td>97%</td>
</tr>
<tr>
<td>MDs (49)</td>
<td>90%</td>
</tr>
<tr>
<td>PhDs, MD/PhDs (18)</td>
<td>100%</td>
</tr>
</tbody>
</table>

*through November 2003
Four-Year Retention Rate of URM Junior Faculty at UCSD SOM and for all Faculty Development participants 1999-2005

<table>
<thead>
<tr>
<th></th>
<th>SOM\textsuperscript{a}</th>
<th>NCLAM\textsuperscript{c}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>URM Junior Faculty</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained at UCSD SOM</td>
<td>58% (7/12)</td>
<td>87% (13/15)</td>
</tr>
<tr>
<td>Retained in Academic Medicine</td>
<td>75% (9/12)</td>
<td>93% (14/15)</td>
</tr>
<tr>
<td><strong>Non-Urm Junior Faculty</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained at UCSD SOM</td>
<td>N/A</td>
<td>82% (80/97)</td>
</tr>
<tr>
<td>Retained in Academic Medicine</td>
<td>N/A</td>
<td>95% (92/97)</td>
</tr>
</tbody>
</table>

URM Faculty at UCSD
1992 2.6\% (14/530) 2004 5.8\% (44/764)
Profile - Mariana Cherner, Ph.D.

- Assistant Professor of Psychiatry
- Neurocognitive consequences of HIV and Hepatitis C & Cross-cultural neuropsychological assessment
- R01- Award
Profile - Marc Norman, Ph.D.

- Associate Professor of Psychology
- Neuropsychological functioning in healthy normal adults & adults with neurological or psychiatric disorders
- NIH MH CSPAR
Profile - Andres Sciolla, M.D.

- Assistant Clinical Professor
- Assessment of competence in patient-physician communication, psychotherapeutic skills, and the integration of biomedical and humanistic aspects of medicine and psychiatry.
Profile - Cecilia Gutierrez, M.D.

- Associate Clinical Professor of Family Medicine
- Accelerated Promotion
- Developed a curriculum for residency training in family medicine
Summary of NCLAM Outcomes

- NCLAM participants have greater confidence in their skills
  - After the program, compared to their peers

- NCLAM participants stay in academic medicine
  - 85% at UCSD
  - 93% in Academic Medicine

- Program is of cost-benefit to the institution
The tenth NCLAM class completed in September, 2008

- 163 junior faculty have participated in NCLAM – 161 have completed the course
  - 92 females
  - 69 males
- 24 URM faculty completed the program
  - 15% of NCLAM faculty are URM compared to 5.8% of the total faculty
NCLAM 1999-2008

- Participants come from both the Clinical and Research tracks
  - 103 M.D.
  - 38 Ph.D
  - 12 M.D., Ph.D.
  - 6 Pharm D.
  - 1 DPM
  - 1 DO

- 13 of 14 School of Medicine Departments and the Skaggs School of Pharmacy and Pharmaceutical Sciences have participated

- 109 Senior Mentors participated
Key Principles for Mentoring Junior Faculty

- Instrumental mentoring
- Multiple mentors - within and outside the department - addressing specific developmental areas
- Demystifying the University
- Encourage faculty to engage in professional development
This guide provides a self directed approach for mentors and junior faculty as well as a departmental approach to mentoring.

The UCSD Climate

In the end, it's about creating an environment that fosters collaboration and leadership at all levels – faculty, student, staff.

And where mentorship is a natural part of the culture...
Mentors

You never outgrow your need for a mentor,
I don’t care how old you are

And that they take different shapes and different forms is a great reminder to us - if someone stretches out a helping hand, don’t look to see if it’s green, JUST TAKE THE HAND!!!

Linda Ellerbee
30th anniversary of Star Wars
Addressing Gender Equity at UCSD
California State Senate – Senator Jackie Speier
Legislative Hearing on Gender Disparity for UC Faculty

Bureau of State Audits University of California 2002:

Some campuses and academic departments need to take additional steps to resolve gender disparities among professors

www.bsa.ca.gov/bsa
Gender Equity UCSD

- Campus Wide Gender Equity Task Force 2002
- Health Sciences Equity Task Force 2003
- Campus Climate Survey 2005
UCSD Gender Equity Data 2002-03

- Women are under represented in numbers
- Women are paid less
- Women are under represented in tenure track/tenure equivalent track
- Women are under represented in leadership positions – committees, search chairs
Gender Equity UCSD 2007

Steps taken to improve the climate for women [and all faculty] at UCSD:

- Collect data and publicize it
- Salary equity oversight
- Change climate for nurturing faculty with faculty development and mentoring
<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
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<tbody>
<tr>
<td>1998</td>
<td>23%</td>
</tr>
<tr>
<td>2002</td>
<td>27%</td>
</tr>
<tr>
<td>2007</td>
<td>31%</td>
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## Women at UCSD SOM
### By Rank

<table>
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</tr>
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<tbody>
<tr>
<td>Asst</td>
<td>31%</td>
<td>39%</td>
<td>45%</td>
</tr>
<tr>
<td>Assoc</td>
<td>31%</td>
<td>32%</td>
<td>36%</td>
</tr>
<tr>
<td>Full</td>
<td>13%</td>
<td>18%</td>
<td>21%</td>
</tr>
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</table>
# Women at UCSD SOM

## By Series

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<tbody>
<tr>
<td>Adj</td>
<td>31%</td>
<td>40%</td>
<td>39%</td>
</tr>
<tr>
<td>Clin</td>
<td>13%</td>
<td>17%</td>
<td>20%</td>
</tr>
<tr>
<td>In Res</td>
<td>22%</td>
<td>22%</td>
<td>25%</td>
</tr>
<tr>
<td>Ladde</td>
<td>11%</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>Sal Clin</td>
<td>36%</td>
<td>42%</td>
<td>44%</td>
</tr>
</tbody>
</table>
Institutionalization

- Early identification of junior faculty
- Enrollment in faculty development programs
- Communication with senior investigators to identify promising trainees
- Salary equity oversight
- Comprehensive faculty database (for identification and tracking)
BACKGROUND AND SIGNIFICANCE

Over the past 75 years, responsible and respected leaders, academicians and scientists, such as Jordan Cohen, MD, president of the Association of American Medical Colleges (AAMC); Lee Bollinger, JD, president of Columbia University College of Physicians and Surgeons; and Franklin C. McLean, one of the country’s first MD/PhDs, have documented and described the need for increasing the number of underrepresented minorities (URMs) in the healthcare workforce.1-3

Bollinger and Cohen have also outlined the benefits of and strongly advocated for increasing the diversity of the faculty in schools of medicine and higher education.1,2 There is value to having a diverse faculty and student body. A diverse faculty in the health sciences center provides students and other members of the faculty with an opportunity to interact with professors and colleagues from different backgrounds and with varied perspectives on healthcare. In addition to serving as role models and mentors, URM faculty may influence curriculum design, provide education about issues of growing importance to society, introduce students and faculty to the needs of a culturally diverse patient population, promote a better understanding of the cultural and health beliefs of others and establish relationships with communities that are not often connected to universities.4-6 Increasing diversity at academic health centers may also inform the research agenda; introduce new kinds of scholarship to the institution; and increase and strengthen bench research, translational research, clinical studies and interventions that address health disparities.5,7-9

Although several studies have outlined the need for and benefits of diversity in academia, the number of URM faculty in academic health centers remains low. As of December 31, 2004, the AAMC faculty roster reported a total of 114,087 faculty members at U.S. medical institutions. Of these, 71.9% were white, 12.6% Asian and 7.2% URM (Hispanic/Latinos, African Americans, American Indians/Alaska Natives and Native Hawaiian/Other Pacific Islanders).10 Not only are URM faculty few in number but Hispanics, African Americans, Asians, American Indians/Alaska Natives and Native Hawaiian/Other Pacific Islanders are prima-
rily concentrated at the rank of assistant professor, whereas non-Hispanic whites are concentrated at the level of full professor. In addition, in the 2000 article, “Specialty Choices, Compensation and Career Satisfaction of Underrepresented Minority Faculty in Academic Medicine,” Palepu et al. found that URM faculty have significantly lower adjusted career satisfaction scores and more often report that they are considering leaving academic medicine within five years.11

In 1991, Levinson provided a summary of recommendations for increasing the retention of faculty in academic medicine: medical schools should: 1) disseminate their promotion and tenure procedures, 2) offer formal career counseling and faculty development programs, and 3) establish formal monitoring processes for their faculty as recommended by the American College of Physicians.12 In response to the more recent reports of low numbers of URM faculty, low career satisfaction and greater likelihood of leaving academic medicine, several authors have suggested strategies for increasing the retention of URM faculty. In 2004, Dr. JoAnn Moody identified 21 good practices to improve retention of faculty and stressed the need to involve both key campus leaders and academic departments in order to successfully adapt and implement these programs in colleges and universities.13

The University of California, San Diego (UCSD) National Center for Leadership in Academic Medicine (NCLAM), in collaboration with the Hispanic Center of Excellence, designed a faculty development program to increase the academic success rate of all junior faculty.14,15

This paper describes a faculty development program that is associated with an increase in the retention of URM faculty at the UCSD School of Medicine (SOM).

METHODS

The UCSD Hispanic Center of Excellence (HCOE) was established in 1993 with funding from the Health Resources Services Administration Bureau of Health Professions. This grant award supports programs of excellence in health professions education that increase the enrollment and graduation rate of students from disadvantaged backgrounds and increase the number of URM faculty in health professions schools. In order to determine the number of URM academic faculty employed and retained at the UCSD SOM, the HCOE used the SOM faculty roster and, due to the limited data on race and ethnicity available in the faculty roster, also used faculty members’ word-of-mouth referrals to identify and contact URM academic faculty employed at the SOM.

The HCOE identified and, when possible, contacted, URM faculty employed during the 1991–1996 period. While engaged in this activity, the HCOE noted a low retention rate of URM faculty at UCSD. From 1996–1998, to increase the retention of URM faculty, the HCOE conducted informal interviews with individual URM faculty members and, if needed, provided these faculty members with an introduction to institutional culture, guidance in academic file preparation and supported URM faculty participation in regional and national programs that developed skills in research, administration and advocacy.

In 1998, using information obtained from the informal HCOE faculty interviews, the SOM—with funding from the Department of Health and Human Services’ Office of Women’s Health—established the National Center for Leadership in Academic Medicine (NCLAM). The UCSD NCLAM is a structured mentorship program that addresses the professional development needs of junior faculty by providing the knowledge, attitude, skills and resources necessary to make the transition to successful careers in academic medicine.14,15

The cornerstone of the UCSD NCLAM program is a formalized, proactive, instrumental mentoring process that complements the administrative style of a leading research institution embedded in a competitive managed care environment.16 Instrumental mentoring relies on senior colleagues to collaborate with junior faculty on research or teaching projects, critique their scholarly work, nominate them for career-enhancing awards, include them in valuable networks and circles, and arrange for them to chair conference sessions or submit invited manuscripts.13 The goal of NCLAM is to increase the productivity and enhance the careers of junior faculty by improving the connection of each individual junior faculty member to the senior faculty, the campus and the resources within the institution.16 NCLAM designed and implemented a formal curriculum for faculty development that included the HCOE focus on URM faculty and institutionalized this faculty development program within the Office of Academic Affairs of the Vice Chancellor for Health Sciences at UCSD.

NCLAM limited participation to junior faculty in the UCSD Health Sciences Center, who were defined as salaried full-time faculty at the assistant-professor level for 1–5 years, not including visiting professors or other teaching positions such as instructors. NCLAM announced the program to all eligible faculty through campus mail and e-mail and provided a program description to the Chairs of all departments. The Directors of the NCLAM and HCOE programs contacted all eligible URM junior faculty, described the benefits of the program and encouraged each faculty member to enroll in the program. Non-URM participants either applied or were nominated to participate in the program by the chair of their department.

NCLAM focuses on the need for junior faculty to understand the institution’s educational mission, as well as the needs of the clinical practice environment in Southern California, by conducting a series of interventions designed to improve the performance of junior faculty in the Health Sciences Center.14 Each NCLAM participant must commit to attending and completing the following required activities:
1. Twelve half-day faculty development workshops on goal-setting and preparing the academic portfolio, principles of teaching and learning, leadership styles, negotiation skills, stress management, UCSD academic resources, UCSD grant resources, grant-writing, conflict resolution, curriculum development, performance evaluation, and effective presentation skills;
2. A structured seven-month, one-on-one instrumental mentoring program (averaging 12 hours per month);
3. A two-hour academic performance counseling session;
4. A professional development project.

One-hundred-fourteen junior faculty enrolled in the program. One URM and one non-URM junior faculty member did not complete the program. Of the 112 junior faculty who completed the program, 15 (13.4%) were URM and 97 (86.6%) non-URM faculty. Table 1 provides a more detailed description of NCLAM junior faculty participants.

All junior faculty who completed NCLAM between 1999–2005 were surveyed either on paper or by telephone to determine their current position at UCSD or other institution and to establish whether they were still in academic medicine as of July 2005. The current faculty positions at UCSD of all NCLAM participants and faculty who did not participate in NCLAM during the 1999–2004 period were verified using the faculty roster.

Data represent a cross-sectional look at URM junior faculty retention rates during two distinct time periods: 1991–1992 to 1995–1996, which represents the four years prior to the implementation of any programs designed by the HCOE or NCLAM; and 1999–2000 to 2003–2004, which represents the period after the implementation of HCOE and NCLAM programs. Data are also provided on the retention rates of URM and non-URM junior faculty who participated in the NCLAM faculty development program. Although the HCOE conducted interviews and individual advising of URM faculty during the 1996–1997, 1997–1998 and 1998–1999 academic years, no retention data are presented for those academic years to prevent counting the same junior faculty member in the retention rate at more than one time period.

Retention rates are calculated based on the following formulas:

a) Retention rate of URM junior faculty at UCSD SOM in 1991–1992 =

\[
\frac{\text{Number of URM junior faculty in 1991–1992 who were still at UCSD SOM (or in academic medicine) in 1995–1996}}{\text{Total number of URM junior faculty at UCSD SOM in 1991–1992}}
\]

b) Retention rate of URM junior faculty at UCSD SOM in 1999–2000 =

\[
\frac{\text{Number of URM junior faculty in 1999–2000 who were still at UCSD SOM (or in academic medicine) in 2003–2004}}{\text{Total number of URM junior faculty at UCSD SOM in 1999–2000}}
\]

### Table 1. Junior faculty participants in the NCLAM program at UCSD SOM between 1999–2005

<table>
<thead>
<tr>
<th>Gender</th>
<th>Underrepresented Minorities</th>
<th>% (n)</th>
<th>Non-Underrepresented Minorities</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>47%</td>
<td>(7)</td>
<td>59%</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>53%</td>
<td>(8)</td>
<td>41%</td>
</tr>
<tr>
<td>Degree</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>MD, MD/PHD or MD/MPH</td>
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<td>67%</td>
<td>(10)</td>
<td>78%</td>
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<tr>
<td>PhD</td>
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<td>33%</td>
<td>(5)</td>
<td>20%</td>
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<td>PharmD</td>
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<td>(0)</td>
<td>2%</td>
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<td>Medical Specialty</td>
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<td>Pediatrics</td>
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<td>20%</td>
<td>(3)</td>
<td>9%</td>
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<td>Family &amp; preventive medicine</td>
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<td>13%</td>
<td>(2)</td>
<td>11%</td>
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<tr>
<td>Internal medicine</td>
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<td>27%</td>
<td>(4)</td>
<td>26%</td>
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<td>Psychiatry</td>
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<td>33%</td>
<td>(5)</td>
<td>4%</td>
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<tr>
<td>Surgery &amp; surgical subspecialties</td>
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<td>7%</td>
<td>(1)</td>
<td>13%</td>
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<tr>
<td>Other medical subspecialties</td>
<td></td>
<td>–</td>
<td>37%</td>
<td>(36)</td>
</tr>
<tr>
<td>Total Number</td>
<td></td>
<td>(15)</td>
<td>(97)</td>
<td></td>
</tr>
</tbody>
</table>

NCLAM: National Center for Leadership in Academic Medicine; UCSD: University of California, San Diego; SOM: school of medicine
c) Retention rate of UCSD SOM URM junior faculty who participated in NCLAM anytime between 1999 and 2005 =

Number of URM junior faculty who participated in NCLAM during the 1999–2005 period (regardless of start date) who were still at UCSD SOM (or in academic medicine) in 2005

Total number of URM junior faculty who participated in NCLAM during 1999–2005 (regardless of start date)

The retention rates for URM junior faculty at UCSD SOM during the time period before the implementation of NCLAM and HCOE programs were compared to retention rates for URM junior faculty at UCSD SOM after implementation and to retention rates of URM junior faculty participants in the NCLAM program. Statistical significance of differences in the retention rates was tested utilizing the z statistic with p values based on two-tailed probability.

RESULTS

As outlined in Table 2, the four-year retention rate of URM junior faculty at UCSD increased from 58% (7/12) prior to the start of the HCOE and NCLAM programs to 80% (8/10) after implementing the HCOE and NCLAM programs. Four of the 10 URM faculty in the latter time period participated in NCLAM, 3/10 participated in the HCOE and 3/10 did not participate in either the NCLAM or the HCOE programs. When considering all junior faculty who have completed the NCLAM faculty development program since its inception, URM participants had a retention rate of 87% at UCSD SOM. Similarly, the retention rate of URM junior faculty in academic medicine increased from 75% prior to starting

the HCOE and NCLAM programs to 90% after implementing the HCOE and NCLAM program. Considering all URM junior faculty who completed the NCLAM program, 93% remained in academic medicine. Non-URM junior faculty who participated in NCLAM had a retention rate at UCSD of 82% and a retention rate in academic medicine of 95%. It appears that after participation in NCLAM, URM junior faculty had a similar retention rate at UCSD and in academic medicine as non-URM junior faculty.

When computed, the z statistic does not indicate a statistically significant difference in the faculty retention rate between the two time periods. The failure to reach statistical significance may be due in part to the small sample size.

The SOM’s focus on increasing the retention of URM faculty, coupled with the recruitment efforts of individual departments, increased the representation of URM on the academic faculty (defined as salaried, full-time faculty excluding visiting professors and instructors) from 2.6% (14/530) in 1992 to 5.8% (44/764) in 2004.

DISCUSSION

The representation of URM faculty in U.S. medical schools as reported in the AAMC publication, *Minorities in Medical Education: Facts and Figures 2005*, is “alarmingly low,” and “minority faculty members are concentrated at the level of assistant professor.” In 1998, Palepu et al. found that “minority faculty were less likely than white faculty to hold senior academic rank.” The study on faculty promotion conducted by Fang et al. in 2000 found that “after adjusting for cohort, sex, tenure status, degree, department, medical school type and receipt of NIH awards, URM faculty remained less likely to be promoted compared with white faculty.” This study suggested that improvement in the representation of URM faculty in SOMs is due primarily to efforts to

<table>
<thead>
<tr>
<th>Table 2. Four-year retention rate of URM junior faculty at UCSD SOM in 1991–1992 and 1999–2000 and for all NCLAM participants 1999–2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>URM Junior Faculty</strong></td>
</tr>
<tr>
<td>Retained at UCSD SOM</td>
</tr>
<tr>
<td>58% (7/12)</td>
</tr>
<tr>
<td>Retained in academic medicine</td>
</tr>
<tr>
<td>75% (9/12)</td>
</tr>
<tr>
<td><strong>Non-URM Junior Faculty</strong></td>
</tr>
<tr>
<td>Retained at UCSD SOM</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Retained in academic medicine</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td><strong>URM comparisons</strong></td>
</tr>
<tr>
<td>Retained at UCSD SOM</td>
</tr>
<tr>
<td>1.09 (0.276)</td>
</tr>
<tr>
<td>Retained in academic medicine</td>
</tr>
<tr>
<td>0.91 (0.363)</td>
</tr>
<tr>
<td>N/A: not available; a: Prior to COE and NCLAM faculty development programs; b: After initiation of COE and NCLAM faculty development programs; c: All participants in NCLAM program (variable follow-up); d: z statistic and p value (based on two-tailed probability); URM: underrepresented minority; UCSD: University of California, San Diego; SOM: school of medicine; NCLAM: National Center for Leadership in Academic Medicine</td>
</tr>
</tbody>
</table>
recruit junior faculty; however, medical schools have not been successful at helping URM junior faculty achieve senior rank. The investigators ask the question, “Can faculty development programs be devised to help minority faculty overcome barriers to promotion?”

Early in its efforts to increase URM representation on the faculty, UCSD SOM identified a retention rate of 58% for URM faculty and recognized that this rate would minimize the effectiveness of any strategies designed to increase the number of URM faculty in the institution. The present study demonstrates that the NCLAM model of faculty development, which stresses professional skill development, focuses on academic career advising and provides instrumental mentoring, is associated with an increase in the retention rate of URM faculty in an SOM. The results of this study are most interesting in that after participation in NCLAM, the retention rate of URM junior faculty at UCSD and in academic medicine (87% and 93%, respectively) is nearly equal to the retention rate of non-URM faculty at UCSD and in academic medicine (82% and 95%, respectively). As previously reported, junior faculty who completed the NCLAM faculty development program rated themselves significantly higher in self-confidence in all areas of professional academic skills compared to faculty who did not participate in the NCLAM program.

In his 1998 editorial, “Time to Shatter the Glass Ceiling for Minority Faculty,” Cohen presented three factors that may contribute to the lack of academic advancement of URM faculty in schools of medicine: 1) Minority faculty are disadvantaged “by comparative isolation within the academic community;” 2) “Minority faculty often feel disproportionately obliged to serve on time-consuming committees, to mentor students with complicated nonacademic problems and to engage in community service activities that are not typically career advancing;” 3) Minority faculty are less likely to attain senior faculty rank in part because “many subtle, largely unconscious social conventions, falling short of overt discrimination, have evolved over time.” This creates “a complex tangle of obstacles, not one of which is particularly noticeable but that in the aggregate constitutes a monumental hurdle for those who threaten the status quo.”

The NCLAM faculty development program addresses the factors that may account for lack of academic advancement, difficulty in attaining senior rank and lower career satisfaction scores of URM faculty. UCSD NCLAM utilizes several strategies to address URM faculty isolation: URM junior faculty are integrated into the institution through a social network that consists primarily of other junior faculty and alumni of the program. Instrumental mentoring at UCSD explicitly focuses not only on enhancing creative, teaching and scholarly activities, but also on the development of professional networks. Establishing these networks requires that senior mentors facilitate participation and that junior faculty actively identify and engage in professional activities that provide regional and national visibility. Mentors in NCLAM are encouraged to provide opportunities for junior faculty to obtain recognition for their work locally, regionally and nationally through conferences, presentations and by nominating them for career-enhancing awards.

To address the disproportionate obligation to serve on committees, mentor difficult students and engage in community service, UCSD NCLAM provides junior faculty with specific information about the institutional culture of the university and the SOM. By describing in detail the informal and formal mechanisms for promotion and tenure, junior faculty can make informed decisions about university service and learn how to clearly describe their contributions in the areas of teaching, research and community service.

The UCSD NCLAM curriculum is designed to demystify the “complex tangle of obstacles” for all junior faculty. Junior/senior faculty interactions reinforce the information contained in the NCLAM curriculum and ensure that junior faculty understand that their activities must demonstrate excellence in scholarship and innovation and must fulfill the academic mission. If this is accomplished, the institution must conduct an equitable review for promotion.

The present study is limited by small sample size due to the limited number of URM faculty at the SOM. While this precludes demonstration of statistically significant results, retention rates of URM faculty at UCSD and in academic medicine were consistently improved, whether comparing all URM faculty from the time period before and after initiation of faculty development programs or when comparing to URM faculty who specifically participated in the NCLAM program. The study design and sample size also preclude any definitive conclusions about whether the faculty development programs caused the improved faculty retention rates. The associations seen may be due to other changes occurring between these two time periods.

CONCLUSION

The implementation of a focused faculty development program that emphasizes instrumental mentoring is associated with an increase in the retention rate of URM junior faculty. In addition, there is no difference in the retention rate of URM and non-URM junior faculty who have completed the faculty development program. Longitudinal follow-up of participants in the NCLAM faculty development program is in progress to determine promotion rates to senior rank of URM and non-URM junior faculty at the UCSD SOM.

ACKNOWLEDGEMENTS

Supported in part by the Health Resources Services Administration, Division of Health Professions Diversity, Center of Excellence Program and grant #P60MD00220
from the San Diego EXPORT Center, National Center of Minority Health and Health Disparities, National Institutes of Health.

REFERENCES


CAREER OPPORTUNITY

Pulmonary and Critical Care Faculty with interest in mechanical ventilator weaning and pulmonary rehabilitation: The Pulmonary and Critical Care Medicine Division at the University of Maryland School of Medicine is seeking one additional faculty member at the Assistant Professor level to join a new mechanical ventilation, weaning, and pulmonary rehabilitation program at the University of Maryland. Duties will include attending in the University of Maryland Medical Center’s new state-of-the-art MICU and participating in clinical and outcomes research and education. The Ventilator Weaning Program is centered in the University Speciality Hospital at Baltimore’s Inner Harbor, 6 blocks from the University of Maryland Medical Center. Candidates should submit cover letter, CV and a brief statement summarizing clinical and research interests to Steve Scharf, MD/PhD, Search Committee Chair, (sscharf@medicine.umaryland.edu) c/o JoAnn Gibbs, Academic Programs Office, Department of Medicine, University of Maryland Medical Center, 22 S. Greene Street, Baltimore, MD, 21201. Please cite Position 3-309-441. The University of Maryland is an AA/EEO/ADA Employer. Women and members of minority groups encouraged to apply.
Innovative Mentoring Programs to Promote Gender Equity in Academic Medicine

Saralyn Mark, MD, Heather Link, MHS, Page S. Morahan, PhD, Linda Pololi, MB,BS, Vivian Reznik, MD, MPH, and Susanne Tropez-Sims, MD, MPH

ABSTRACT
The authors describe the history, characteristics, and goals of four innovative programs, each in a medical school, that were established in 1998 to help faculty members of both sexes obtain mentors and thereby facilitate their career advancement. The programs were established as the result of an initiative by the Office on Women's Health (OWH) within the U.S. Department of Health and Human Services. Specifically, the OWH convened the National Task Force on Mentoring for Health Professionals, which determined that two principles are paramount to the success of any mentoring relationship or program: institutional commitment and institutional rewards and recognition to mentors. In accordance with the task force findings, the OWH created the National Centers of Leadership in Academic Medicine, one at each of four medical schools: MCP Hahnemann School of Medicine; the University of California, San Diego, School of Medicine; East Carolina University School of Medicine; and Meharry Medical College School of Medicine. The authors give highlights of each program's goals and progress, and note that, ideally, these programs will eventually serve as models for similar programs at other schools. Programs such as these foster the advancement of a diverse faculty, a more supportive academic environment, and the education of providers who are sensitive to the needs of all their patients, staff, and colleagues. Acad. Med. 2001;76:39–42.

BACKGROUND
All faculty members in academic medicine, both men and women, often face challenges in career advancement that require in-depth understanding of the many complex organizational structures of academic medical institutions as well as the professional steps necessary for advancement from junior to senior faculty status. Combined with daily professional responsibilities—including teaching, research, and clinical practice—together with family responsibilities, successful career advancement may often appear to be a daunting path to junior faculty.

While more women join the medical profession each year, fewer women than men are able to advance through the ranks of academic medicine. Participation by women in the medical professions has improved greatly over the last century. Women are projected to constitute over 30% of the physician population by 2010, which is an increase from 7.7% in 1970. Additionally, women represent approximately 44% of the entering medical students across the United States, an increase of over 23% since 1979, and there are currently eight women deans of medical schools.

In this article, we report on the histories, characteristics, and goals of four innovative mentoring programs, each in a medical school, that were established to help faculty members of both sexes obtain mentors and thereby facilitate their career advancement.
spite this progress, women are underrepresented in the upper echelon of academic medicine.\textsuperscript{1} In 1999, women accounted for 10.6\% of full professors, compared with 30.9\% for men.\textsuperscript{2} Additionally, women remain less likely to advance into tenure-track faculty positions due to professional demands as well as family time constraints.\textsuperscript{2,7} Clearly, gender equity has not yet been achieved in academic medicine.

One major barrier to the advancement of women as well as men at academic medical institutions is a lack of role models and mentors. Mentoring may be a critical step in the promotion from junior to senior faculty membership. Mentoring relationships have been shown to be important in obtaining further funding for research projects and recognition for work-related achievements; ultimately the lack of mentors may halt the advancement of individuals into significant leadership positions.\textsuperscript{2}

\textbf{CENTERS OF LEADERSHIP IN ACADEMIC MEDICINE}

The Office on Women's Health (OWH) within the Department of Health and Human Services (DHHS) recognized a need to address the issue of mentoring in academic medicine as part of its mission to foster the recruitment, retention, and promotion of women in scientific careers and in the health professions. This mission also acknowledges the critical need to establish gender equity throughout all health care professions. To address this need, the OWH convened in 1998 the National Task Force on Mentoring for Health Professionals, which determined that two principles are paramount to the success of any mentoring relationship or program. The first is institutional commitment. The second is institutional reward and recognition to mentors, such as financial incentives, development of a criterion for promotion based on mentoring excellence, and mentoring awards. Furthermore, it was strongly felt that both men and women require equal access to mentoring programs that may facilitate their successful career advancement.

In 1998, in accordance with the findings of the Task Force, the OWH created the National Centers of Leadership in Academic Medicine (hereafter, “Centers”), which launched a nationwide effort to develop model demonstration mentoring programs for men and women in academic medicine in a wide variety of medical school organizational contexts. These programs have two goals: (1) to foster gender equity in medicine, and (2) to promote the leadership advancement of junior faculty, both women and men, into senior faculty positions. The following four sites for Centers were selected through a national solicitation for demonstration projects: MCP Hahnemann School of Medicine, Philadelphia, Pennsylvania; University of California, San Diego, School of Medicine, La Jolla, California; East Carolina University School of Medicine, Greenville, North Carolina; and Meharry Medical College School of Medicine, Nashville, Tennessee. Each of these four medical schools demonstrated an existing institutional commitment to faculty development and proposed strategies to overcome the institutional, economic, and organizational barriers to mentoring programs for all faculty.

\textbf{MCP Hahnemann’s Center}

The Center at MCP Hahnemann features two pathways in its mentoring program, each focused on their new and junior faculty members.\textsuperscript{8} The first pathway is a preceptoring program for first-year instructors and assistant professors, who are invited to choose one or more senior faculty preceptors who have volunteered to provide organizational information and career planning advice during a junior faculty member’s first year at the university.\textsuperscript{9} The second pathway is a mentoring program designed for junior faculty in the middle of their assistant professorships. This program invites junior faculty mentees to select senior faculty mentors who have volunteered to help prepare them for promotion to senior faculty positions. Each pathway is supported by an information-rich Web site used to facilitate the partnerships. MCP Hahnemann is thoroughly evaluating these two programs using an institutional report-card approach to concisely assess changes in the numbers of women and men in leadership positions, and to evaluate the participants’ satisfaction and degrees of learning and networking.\textsuperscript{10} An advisory committee of internal and external leaders reviews the program annually.

\textbf{East Carolina’s Center}

East Carolina University has a tradition of supporting the professional and personal advancement of its faculty through faculty development programs.\textsuperscript{11} The Center at East Carolina has designed and implemented three different programs, described below, to provide two alternative paths to the same goals of advancing junior faculty members’ careers and fostering gender equity in academic medicine.

Senior and leadership faculty members participate in the school’s Mentoring Skills Program, which explores and promotes effective mentoring skills within a collaborative senior learning group. The Personal Mentoring Program pairs a junior faculty member with a trained senior mentor to assist the junior faculty in making career development decisions and in aligning personal and institutional goals. Finally, the Collaborative Mentoring Program convenes a group of junior faculty for facilitated collaborative career planning, together with structured experiential sessions designed to develop skills in areas important for career advancement. The Collaborative Mentoring Program is intended to foster personal
growth and awareness of values and priorities and their congruence with academic and professional goals. These three programs, in addition to the development of a computerized faculty tracking system to monitor the success of the program, form the core activities of the Center at East Carolina.

University of California, San Diego's Center

The cornerstone of the Center at the University of California, San Diego, School of Medicine (UCSD) is a mentoring program tailored to the management style of the university and to the managed care environment present in Southern California. The Center at UCSD created programs of faculty performance development to meet the professional needs of all junior faculty. This type of program, emphasizing an understanding of the institution's mission as well as the work environment, selects interventions to improve each individual's academic performance with the goal of improving the efficiency and efficacy of the overall institution.

The Center at UCSD has established several goals, including designing a formal mentoring system for junior faculty, to provide increased connection between senior faculty, campus, and organizational resources. The following seven program activities were chosen for the first class at the UCSD Center:

- training and education, including faculty development workshops;
- a formal mentoring program;
- the establishment of a faculty leadership council;
- special events for the community;
- academic performance counseling;
- the creation of a Web site for the Center; and
- extensive resource development.

An ongoing evaluation continues to measure participant satisfaction, degree of learning, performance, and the impacts of the mentoring program on the careers of both the men and women junior faculty and on the institution.

Meharry's Center

Meharry Medical College School of Medicine, a leading medical institution among historically black colleges, has made great strides with its mentoring program. Meharry created a one-on-one mentoring program and has focused on this as the central activity of its Center. The mentor–mentee pairs set goals for career advancement and sign a contractual agreement, endorsed by the mentee's chairperson. Mentor–mentee pairs, selected through an application process, attend brown-bag luncheons on topics identified from the needs assessment made by the faculty. Meharry's Center collaborates with the college's faculty development office to facilitate the senior faculty workshop, which was designed to improve the mentor's mentoring skills prior to initiating the mentoring relationship. One major accomplishment of the Center is the provision of protected time in the contracts of faculty members, which allows faculty members to participate in important career development efforts such as the mentoring program. An ongoing evaluation and close monitoring of the mentor–mentee pairs are included in the central functions of the Center.

Assuring Gender Equity through Equal Mentoring Opportunities

The designation of the four National Centers of Leadership in Academic Medicine is the first public/private effort to help foster the institutionalization of mentoring programs. These four programs represent a targeted approach to establish gender equity in academic medicine. Ideally, as these programs continue to develop and evaluate their efforts, they will be replicated or used to amplify current mentoring efforts at other academic medical institutions across the nation.

This type of program fosters an environment that assists medical schools in recruitment, development, retention, and advancement of junior faculty, and recognizes the efforts of the senior faculty in this process. An important expectation is that mentoring programs such as these, which promote the advancement of a diverse faculty, will foster academic medical center environments that support a new generation of providers who are sensitive to the needs of all their patients, staff, and colleagues. By ensuring that gender equity and equal opportunities for mentoring are available for all members of academic medicine, this scenario can be realized.

References


Development of Junior Faculty’s Self-efficacy: Outcomes of a National Center of Leadership in Academic Medicine

KAREN A. GARMAN, DEBORAH L. WINGARD, and VIVIAN REZNIK

In 2000, several articles were published discussing the importance of academic medical centers’ addressing the attitudes and obstacles junior faculty have concerning their career progress and success.1–3 All agreed that formal mentoring programs, whether gender-based or work-environment–driven, would have positive effects on junior faculty’s performance, attracting and retaining those who have chosen academic medicine as their careers. In 1998, the Office of Women’s Health within the U.S. Department of Health and Human Services created four National Centers of Leadership in Academic Medicine (NCLAMs) to help faculty members of both sexes obtain mentors and thereby facilitate their career advancement.4 This study is the first in a series of reports of outcome data collected by the University of California, San Diego’s (UCSD’s) NCLAM in evaluating whether a formal mentoring process in an academic medical center has an impact on junior faculty’s self-efficacy, thereby leading to development of career competency.

Mentoring has traditionally been viewed as a human resource strategy for enhanced leadership development, professional socialization, and competence in education and business training.5 Few studies have addressed the significance of formal mentoring in the development of professionals in the field of health care.6 Review of the literature showed that those studying the concept of mentoring have proven a strong correlation with the concept of self-efficacy.7,8 Self-efficacy is one’s personal belief or conviction in the ability to carry out a behavior that will produce a particular outcome, a sense of confidence that one can organize and complete a behavior competently.9 In other professional-education literature, self-efficacy has been seen as an important motivational construct. It influences both goal and goal attainment, an individual’s choice of activities and tasks, and his or her coping skills while engaged in those tasks.10,11 An effective mentorship program in academic medicine, therefore, should be able to facilitate the self-efficacy of the participant through encouragement, recognition of potential, role modeling, and promotion of opportunities. Self-efficacy is the mentoring outcome of information cognitively processed by a participant through performances needed to fit changing circumstances in his or her career.

Method

The cornerstone of the UCSD NCLAM program was to design a formal mentorship process that matched the administrative style of a leading research institution embedded in a competitive, managed-care environment. The program emphasized an understanding of the institution’s educational mission, as well as the many needs of the clinical practice environment in Southern California by selecting not one but a series of interventions designed to improve each participant’s diverse academic performance. These interventions included (1) required participation in 12 half-day faculty development workshops (Goal Setting and Academic Portfolio; Principles of Teaching and Learning; Leadership Styles; Negotiation Skills; Stress Management; UCSD Academic Resources; UCSD Grant Resources; Grant Writing; Conflict Resolution; Curriculum Development; Performance Evaluation; and Effective Presentation Skills); (2) an arranged seven-month, one-on-one, senior/junior faculty mentoring relationship (averaging 12 hours per month); (3) a two-hour academic performance counseling session; and (4) a finished professional development project. The goal of UCSD NCLAM was to improve the productiveness of the overall School of Medicine by improving each individual junior faculty member’s connections to his or her career, the senior faculty, the campus, and the organizational resources.12

The total population of 163 UCSD junior faculty received a survey asking them to rate their self-confidence concerning 36 professional academic skills. A total of 136 responded, for an 83% return rate and a sample size large enough to allow for a 95% level of confidence. Thirty-nine junior faculty either volunteered or were nominated by their chairs to participate in the seven-month NCLAM program, and the 97 remaining were identified as the control group for this study. Participants in NCLAM were given the survey instrument twice, before they began the experience and then after completion of the program. The junior faculty in the control group were surveyed at the end of the NCLAM program in 2000. Table 1 describes the key demographics of the two junior faculty groups. There was no significant difference between the two groups.

The survey was derived directly from the professional academic skills published by Bland and colleagues13 as predictors of which faculty members would be achievers and which would not. The UCSD junior faculty were asked to rate their confidence relative to 36 seven-point, semantic-differential items anchored by the descriptors “strong” and “weak.” There were ten items identifying skills involving professional development; ten in skills concerning research; eight in skills concerning education; and eight in skills addressing administration. For

| Table 1. UCSD Junior Faculty Characteristics, 2000 |
|----------------------------------|-----------------|-----------------|
| Characteristic                  | NCLAM (n = 39)  | Control (n = 97) |
| Gender                          |                 |                 |
| Women                           | 56%             | 44%             |
| Men                             | 41%             | 59%             |
| Age                             |                 |                 |
| Mean                            | 39.5 years      | 38.9 years      |
| Range                           | 34–45 years     | 30–58 years     |
| Time as UCSD faculty            |                 |                 |
| Mean                            | 3.7 years       | 2.7 years       |
| Range                           | 1–7 years       | .5–7.5 years    |

Moderator: Lynn Cleary, MD
example, junior faculty were asked, “Identify your level of confidence, from strong to weak, in being able to demonstrate your proficiency in . . . (1) identifying your own personal professional goals, interests and rewards (under professional development); (2) developing plans for implementing a study, including timeline, budget, and requirement for personnel, facilities and supplies (research); (3) selecting and preparing instructional materials such as syllabi and visuals (education); and (4) describing the faculty and administrative governance structure (administration).” For assessment purposes, the scale positions between strong and weak were later converted to numerical values from 1 to 7, with 1 representing a weak response and 7 a strong response. The internal consistency reliability of the instrument was .69.

Survey data were analyzed by generating the mean and standard deviation for each category of items on the questionnaire: professional development, research, education, administration, and total. Paired t-tests were used to compare the NCLAM participants’ self-rated scores before and after the program, and analysis of variance determined the relationship between the NCLAM participants and the control group.

Results

Junior faculty’s self-efficacy scores concerning the 36 professional academic skills categorized by Bland and colleagues are presented in Table 2.

Before they participated in the formal mentoring process, NCLAM participants rated themselves significantly less confident than their peers, by 9% in the area of professional development, by 10% in education, and by 20% in administration. Overall, their confidence was 6% lower than that of the control group; however, this difference was not statistically significant.

After completing the entire seven-month NCLAM experience, the 39 junior faculty rated themselves significantly higher in self-confidence in all areas of professional academic skills. Compared with their peers, they were now 34% more confident in their abilities in professional development, 22% more confident in their research capabilities, 20% more confident of their education skills, 44% more sure of their administrative responsibilities, and 29% more confident overall. Those items that showed the greatest increases in confidence by the 39 NCLAM faculty were their confidence in “Describing UCSD’s decision-making process regarding finance, personnel, and medical education program responsibilities” (administration; mean average increase of 3.06) and “Developing a promotion package” (professional development; mean average increase of 2.84). The item that showed the smallest increase in confidence was “Critically evaluating a research article” (research; mean average decrease of .02). This content item was not taught willing faculty members’ own internal motivation, based on their own individual experiences and competencies, are very possible.

The hypothesis of the NCLAM design was that mentorship need not be defined in the classic view characterized by a central primary relationship developed over an extended period of time. In the case of this program, a secondary relationship created over a brief period of time, facilitated in both small workshop groups and one-on-one meetings, and developed to acquire special individualized knowledge, significantly influenced junior faculty members’ self-perceptions. Programs such as the National Centers of Leadership in Academic Medicine need to be created as the mediator between junior faculty’s own self-expectations and actual academic performances.

The literature stated that self-efficacy instruments, although a self-reporting tool, did correlate with choice of activities, effort expended, and persistence. Those who reported low self-efficacy, like the sample NCLAM participants, are shown to avoid tasks. When facing difficulties, self-efficacious learners will expend greater effort and persist longer than their peers. The next critical evaluation step for the UCSD National Center of Leadership in Academic Medicine is to document the outcome performances (appointments, publications, promotions, or resignations) of their participants versus those peers who did not volunteer or were not appointed by their chairs. Identifying successful academic performances related to self-efficacy will enable institutions to assist all willing junior faculty to navigate career success, obtain recognition, and sustain commitment to academic medicine.

<table>
<thead>
<tr>
<th>Skill Categories (No. of Skills)</th>
<th>Mean (SD)</th>
<th>Range</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional development (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-NCLAM</td>
<td>39.4 (9.7)</td>
<td>20–57</td>
<td></td>
</tr>
<tr>
<td>Post-NCLAM</td>
<td>58.3 (7.5)</td>
<td>41–70</td>
<td>vs. pre-NCLAM = &lt;.0001</td>
</tr>
<tr>
<td>Control group</td>
<td>43.2 (10.3)</td>
<td>21–69</td>
<td>vs. post-NCLAM = .05</td>
</tr>
<tr>
<td>Research (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-NCLAM</td>
<td>50.5 (13.9)</td>
<td>20–69</td>
<td></td>
</tr>
<tr>
<td>Post-NCLAM</td>
<td>57.4 (10.8)</td>
<td>30–70</td>
<td>vs. pre-NCLAM = &lt;.0001</td>
</tr>
<tr>
<td>Control group</td>
<td>47.4 (13.5)</td>
<td>15–70</td>
<td>vs. pre-NCLAM = .23</td>
</tr>
<tr>
<td>Education (8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-NCLAM</td>
<td>34.3 (8.2)</td>
<td>14–49</td>
<td></td>
</tr>
<tr>
<td>Post-NCLAM</td>
<td>45.6 (6.3)</td>
<td>27–56</td>
<td>vs. pre-NCLAM = &lt;.0001</td>
</tr>
<tr>
<td>Control group</td>
<td>38.1 (8.4)</td>
<td>17–56</td>
<td>vs. pre-NCLAM = .02</td>
</tr>
<tr>
<td>Administration (8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-NCLAM</td>
<td>22.9 (8.5)</td>
<td>9–43</td>
<td></td>
</tr>
<tr>
<td>Post-NCLAM</td>
<td>41.1 (7.3)</td>
<td>23–55</td>
<td>vs. pre-NCLAM = &lt;.0001</td>
</tr>
<tr>
<td>Control group</td>
<td>28.5 (8.9)</td>
<td>10–51</td>
<td>vs. pre-NCLAM = .001</td>
</tr>
<tr>
<td>Total (36)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-NCLAM</td>
<td>147.2 (26.8)</td>
<td>88–204</td>
<td></td>
</tr>
<tr>
<td>Post-NCLAM</td>
<td>202.8 (25.1)</td>
<td>140–247</td>
<td>vs. pre-NCLAM = &lt;.0001</td>
</tr>
<tr>
<td>Control group</td>
<td>157.3 (31.1)</td>
<td>86–237</td>
<td>vs. pre-NCLAM = .08</td>
</tr>
</tbody>
</table>

Partially supported by U.S. HRSA, Bureau of Health Professions, Division of Health Professions Diversity.
Correspondence: Vivian Reznik, MD, Department of Pediatrics, UCSD School of Medicine, 9500 Gilman Drive, La Jolla, CA 92037-0831.

References


Faculty members in academic medicine face challenges in career advancement, which is complicated by daily professional responsibilities. Their academic advancement requires excellence in clinical practice as well as teaching and research, and an understanding of the many complex organizational structures of academic medical institutions. These challenges have been especially difficult as the world of medicine has been compromised by the increasing financial and clinical burden associated with the managed care environment. These challenges can lead to high faculty turnover. Data from the Association of American Medical Colleges (AAMC) indicate that 7.7% of men and 9.1% of women medical school faculty left their positions on an annual basis between 1995 and 1999.1 In recent years, mentoring has been suggested as critical to faculty retention and promotion, as well as advancement to significant leadership positions in academic medicine.2,3

The University of California, San Diego (UCSD), School of Medicine enjoys a reputation of excellence in both research and clinical service to the community. The vision that created this successful academic medical center and campus, did not however, create an organized focus to foster the professional development of the many complex organizational structures of academic medical institutions. These challenges have been especially difficult as the world of medicine has been compromised by the increasing financial and clinical burden associated with the managed care environment. These challenges can lead to high faculty turnover. Data from the Association of American Medical Colleges (AAMC) indicate that 7.7% of men and 9.1% of women medical school faculty left their positions on an annual basis between 1995 and 1999.1 In recent years, mentoring has been suggested as critical to faculty retention and promotion, as well as advancement to significant leadership positions in academic medicine.2,3

The University of California, San Diego (UCSD), School of Medicine enjoys a reputation of excellence in both research and clinical service to the community. The vision that created this successful academic medical center and campus, did not however, create an organized focus to foster the professional development needs of its junior faculty. Over the past five years this has changed. In 1998, the Office of Women’s Health of the U.S. Department of Health and Human Services selected UCSD as one of four National Centers of Leadership in Academic Medicine (NCLAMs) in the country.4 The UCSD NCLAM is an innovative professional development plan committed to providing assistant professors the knowledge, attitude, skills, and resources necessary to make the transition to successful careers in academic medicine.5

UCSD’s NCLAM, described in more detail elsewhere,5 is a seven-month program, which includes a curriculum-based series of professional development workshops, academic strategic career planning, individualized academic performance counseling sessions, a formal junior/senior mentoring relationship focused on a professional development contract, and community network building for both junior and senior faculty. Goals of the program are targeted both for the institution and for individual participants. For the School of Medicine, the goals are to provide a formal mentoring system for junior faculty, to provide feedback to junior faculty about their academic progress in the University of California system, to enhance the connection of junior faculty to the School of Medicine, and to increase the sense of community for both junior and senior faculty. Complementary goals for junior faculty are to develop skills appropriate for their career path, to develop a personal academic strategic plan aligned to the requirements for success at the University of California, and to expand a network of colleagues within the university.

The NCLAM program requires a commitment from each junior faculty to participate fully in the program. This includes attendance at weekly half-day workshops, completion of an individual professional development contract, and regular meetings with a senior mentor focused on completion of the contract. In return for the time dedicated to NCLAM, each participant’s department is compensated at the rate of 5% of his or her base salary while in the program.

The present study assessed four primary outcomes associated with participation in the UCSD NCLAM program: whether participants stayed at UCSD, whether they stayed in academic medicine, a quantitative assessment of improved confidence in skills needed to succeed in academic medicine, and costs of the program compared to dollars spent on junior faculty recruitment.

Method

Sixty-seven junior faculty members completed the NCLAM program between 1999–2002 with 18, 22, 13, and 14 in each class, respectively. Participants either volunteered or were nominated to participate by their department chairs. To qualify, they had to be between one to five years at the assistant professor level. Approximately 30% of School of Medicine’s junior faculty have participated in NCLAM. Twelve out of 13 departments in the School of Medicine were represented. There were 49 faculty members with MDs, 11 with PhDs, and seven with MD/PhDs. Six of the participating faculty members were underrepresented minorities, 30 were men, and 37 were women. Fifty-nine senior faculty members served as mentors, several more than once: 44 with MDs, 11 with PhDs, one with an MD/PhD, and three with other degrees (DO, EdD and RN). There were 34 men and 25 women mentors.

All participants completed a survey at the beginning and end of the NCLAM professional development program. The survey was derived directly from the professional academic skills published by Bland and colleagues.6 Junior faculty were asked to rate their level of confidence on 36 seven-point, semantic-differential items anchored by the descriptors strong and weak. The survey included ten items identifying skills involving professional development, ten in skills comprising research, eight in skills concerning education, and
eight in skills addressing administration. For assessment purposes, the scale positions between strong and weak were later converted to numerical values from seven to one, with 7 representing a strong response and 1 a weak response. The internal consistency reliability of the instrument was .69 (Cronbach’s alpha). Survey data were analyzed by generating the mean and standard deviation for each category of items on the questionnaire: professional development, research, education, and administration. Paired category of items on the questionnaire: professional development, analyzed by generating the mean and standard deviation for each change, and effect-size of the instrument was .69 (Cronbach’s alpha). Survey data were analyzed by generating the mean and standard deviation for each category of items on the questionnaire: professional development, research, education, and administration. Paired t-tests, percent change, and effect-size r’s were used to compare the NCLAM participants’ self-rated scores before and after the program. Data comparing the first two classes to a control group has been published elsewhere.

All participants were surveyed in 2002 to assess their current position at UCSD or elsewhere, whether they were still in academic medicine, whether they had been reviewed for and/or received a promotion, and reaction to the NCLAM experience. Complete surveys obtained for 66 out of 67 participants. Information on current job position was reconfirmed in 2003 for all participants.

Finally, financial information on the NCLAM program and recruitment costs associated with faculty turnover were ascertained and compared. Return-on-investment (ROI) for the School of Medicine was calculated using the standard ROI formula:

\[ \frac{\text{Total Benefits} - \text{Total Costs}}{\text{Total Costs}} \times 100 \]

Results
As shown in Table 1, after completing the program, junior faculty were significantly more confident in their academic roles at UCSD as well as their skills in education, research, and administrative responsibilities (all p values < .001). The largest improvements reported by junior faculty were in professional development and administrative skills (effect-size r = .76 and .74, respectively). A prior analysis, based on only the first two classes, demonstrated significantly greater confidence in all skill categories for participants compared to peers who had not participated in the program.

As shown in Table 2, ten out of 67 NCLAM participants left the UCSD School of Medicine by July 2003, five of which also left academic medicine. Thus, 85% of the 67 junior faculty participants remained at UCSD while 93% are still in academic medicine. Nine of the ten faculty members who left UCSD, and all of the five who left academic medicine were MDs. There were no significant differences in retention at UCSD for women and men (84% and 87%, respectively) or retention in academic medicine (89% and 97%, respectively). Five out of six underrepresented minority faculty members remained at UCSD; all remained in academic medicine.

Records are not available to assess the turnover in nonparticipants at UCSD. However, data from the AAMC indicate that 9.1% of female and 7.7% of male medical school faculty left their positions on an annual basis between 1995 and 1999. Applying these statistics to the number of men and women in each year of observation (reducing the number of participants by the expected loss and increasing it by the new class size) produces an expected loss of 5.4 men and 8.4 women by July 2003. Participants have been followed from one year after graduation (class of 2002) to four years (class of 1999). The expected turnover for UCSD NCLAM participants, had they not participated, would have been a total of 14 instead of ten faculty members.

The total cost of the implemented program to the academic medical center over four years has been $670,000—approximately $10,000 per junior faculty member (including salary reimbursement to the departments, operational program costs, and a $1,000 stipend for each senior mentor). In order to assess the relative cost—benefit of the NCLAM program, this four-year cost was compared to the estimated savings generated by having to recruit fewer faculty members given improved retention rates.

Recruitment costs vary by institution and type of faculty. For clinicians, temporary salary support while building a practice tends to be more common in places like California, where professional reimbursement is poor. At UCSD, the average cost of recruitment includes $10,000–15,000 for interviews (advertising, airfare, meals, etc.), startup costs ranging from $250,000–400,000 for a junior basic scientist to $150,000–300,000 for a junior nonbench scientist, and salary support over three years totaling $150,000–400,000. For clinicians, the latter includes clinical support (nurse, medical assistant, etc.) instead of research startup support. NCLAM participants include clinicians, bench, and nonbench scientists. The present study uses a conservative estimated recruitment cost of $250,000. This estimate does not include costs associated with search committee and staff time, lowered productivity, overtime for other faculty to maintain workload, lost patients, or canceled clinics, but is in line with estimates of $250,000 from other institutions.

Using the AAMC estimates of an annual attrition rate of 9.1% for women and 7.7% for men, the estimated savings created by

<table>
<thead>
<tr>
<th>Skill Categories (No. of Items, Possible Points)</th>
<th>Pre-NCLAM Mean (SD)</th>
<th>Post-NCLAM Mean (SD)</th>
<th>Mean Difference</th>
<th>Percent Change</th>
<th>Effect Size r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional development (10, 70)</td>
<td>37.9 (9.8)</td>
<td>58.0 (7.0)</td>
<td>19.9*</td>
<td>52%</td>
<td>.76</td>
</tr>
<tr>
<td>Research (10, 70)</td>
<td>47.9 (14.5)</td>
<td>57.2 (10.2)</td>
<td>9.4*</td>
<td>20%</td>
<td>.36</td>
</tr>
<tr>
<td>Education (8, 56)</td>
<td>42.7 (9.8)</td>
<td>57.2 (7.4)</td>
<td>14.1*</td>
<td>33%</td>
<td>.64</td>
</tr>
<tr>
<td>Administration (8, 56)</td>
<td>29.2 (1.0)</td>
<td>51.4 (9.8)</td>
<td>22.1*</td>
<td>76%</td>
<td>.74</td>
</tr>
</tbody>
</table>

*p value < .0001 based on paired t-test.
NCLAM is the difference of replacing the ten faculty members who participated and left versus an estimated 14 faculty who would have left without the program, and the cost of the running the program. Using the conservative estimate of $250,000 for recruitment costs per faculty member, the difference in the recruitment costs saved (four faculty equals $1,000,000) and the cost of the NCLAM program ($670,000) over four years is $330,000. Using the savings in recruitment dollars as the only measurable benefit (it is difficult to make a dollar estimate on the academic productivity of the group), the ROI for NCLAM after four years is 49%, or a return of $1.49 for every dollar spent.

Discussion

UCSD’s NCLAM model provides a structured program of support for clinical and nonclinical junior faculty through their initial years in academic medicine. Tracking demonstrates that 85% of the 67 junior faculty participants remained at UCSD while 93% were still in academic medicine one to four years after participation.

A total of ten NCLAM participants have left UCSD, compared to 14 expected based on national data from the AAMC. Since analysis at any single institution will be based on small numbers, this difference is not statistically significant but in the desired direction. National statistics may not be applicable to UCSD, however, given the managed care environment in California. The AAMC data may also be an underestimate, as it is based on all faculty, not just junior faculty, where turnover may be higher. Other reports have estimated turnover ranging from 8% a year among academic physicians in Missouri, 38% over seven years among internal medicine faculty, and 55% over four to five years for young primary care physicians. Additional follow-up will lead to more stable estimates of NCLAM’s retention rates, as well as assessment of rates of promotion.

While UCSD would like to keep all junior faculty members at the institution, an additional indicator of program success is retention in academic medicine. Out of 67 NCLAM graduates, 93% have stayed in academic medicine. All underrepresented minority faculty and all PhD faculty have stayed in academic medicine. National or regional data on retention in academic medicine for these faculty groups is currently unavailable.

The NCLAM graduates rate themselves significantly higher in self-confidence in all areas of professional academic skills after completion of the program. NCLAM graduates also rate themselves higher than peers who did not participate in the program. Using conservative estimates of expected turnover rates and local recruitment costs, the NCLAM program proves to be of cost–benefit to the institution.

Succeeding in a faculty career in academic medicine has become much more complicated in recent years, with rapid changes in health care delivery bringing new demands and new methods to the education, clinical, and research work environments. UCSD’s NCLAM has invested in a structured mentoring program for professional development that has proven successful in increasing faculty retention at the institution and in academic medicine, and in increasing faculty skills, confidence, and moral, while proving to be cost-effective.

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References

10. Jackiewicz, Thomas, Chief of Staff, Dean’s Office, UCSD School of Medicine, San Diego, California. Personal communication, March 7, 2003.
Faculty Mentoring

Department Chair’s Retreat
Lake Arrowhead – October 17, 2008
Traditional Definition of Mentor

“Individuals with advanced experience and knowledge who are committed to providing support and upward mobility to their protégé’s careers”

Two Purposes for Mentoring

• Advice and assistance with career advancement.

• Guidance and support for issues related to the work environment.
Terminology

- Mentor vs. Career Advisor
- Internal vs. External Mentoring
- Traditional Mentoring
- Group Mentoring
- E-mentoring
- Peer mentoring
- Conference Mentoring
**Chair’s Role in Mentoring**

- Responsible for oversight or mentoring at department level.
- Communicate the importance of mentoring.
- Recognize mentoring efforts.
- Establish formal mentoring for new faculty.
- Monitor & evaluate mentoring success.
- Work with others to establish interdepartmental / division level mentoring.
Career Mentoring

• The need for mentoring, guidance, advice and encouragement for career success doesn’t end when tenure is granted.