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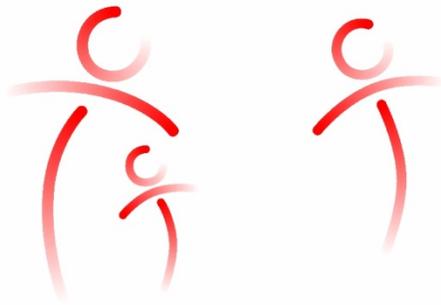
Center for Child and Human Development
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A REVIEW OF THE LITERATURE
Mentoring: An Evidence-based Strategy to Increase Diversity
Among Students and Faculty from Racial and Ethnic Groups
Underrepresented in Maternal and Child Health Training Programs

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by

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Mentoring: An Evidence-based Strategy to Increase the Diversity Among Students and Faculty from Racial and Ethnic Groups Underrepresented in Maternal and Child Health Training Programs

A Review of the Literature from 1990-2011

Table of Contents

INTRODUCTION

Definition of Mentoring

Mentoring is found across academic disciplines and in the corporate world (DiversityInc. 2011). Articles abound on the importance of mentoring and its benefits for the mentee (sometimes referred to as the protégé) and the mentor.

There are numerous definitions of mentoring, yet many studies do not start with a definition per se and instead approach mentoring by describing what mentors do or as a contrast to other roles such as clinical supervisor and preceptor (Mills, Francis, and Bonner, 2005), advisor, coach, tutor, role model, or sponsor. Berk et al. (2005) address the lack of consensus on a basic definition and conceptual issues. However, definitions that are used help to demonstrate the evolution of the concept. For example:

> *The process whereby an experienced, highly regarded, empathic person (the mentor), guides another individual (the mentee) in the development and re-examination of their own ideas, learning, and personal and professional development. The mentor who often, but not necessarily, works in the same organisation or field as the mentee, achieves this by listening and talking in confidence to the mentee.* (Oxley, Fleming, Golding, Pask, and Steven, 2003, page 10.) [This definition allows for a mentor to be affiliated with another institution and does not address the role of multiple mentors or the benefits to the mentor.]

> *Formal mentoring is when one or more mentors are intentionally assigned to a mentee and assume responsibility for facilitating the professional development of the mentee through activities such as providing information, advice, encouragement, and connections to other mentors, colleagues and professional networks. It is voluntary and can result in a two-way, mutually beneficial relationship. No one mentor can fulfill all of a mentee's needs. Mentees have a responsibility to maximize and build on the mentor/mentee relationship with other mentors and career development activities.* (Luz, 2011, page 7) [This definition acknowledges the possibility of multiple mentors, the benefit to the mentor and mentee, and places the responsibility on the mentee to maximize the relationship rather than a shared responsibility. Neither definition addresses the benefit of mentoring to the institution.]

Perhaps the lack of what seems to be a more conclusive definition can be attributed to its evolution over the years and the variable models that exist. As different mentoring models have been developed, a more dynamic interaction between mentor and mentee is understood and expected, and it's potentially significant impact is recognized for the mentee, mentor, and the institution.

Scope of this Review

This review started with a PubMed search of articles in English from 2000-2011 in December 2011 and was repeated in January 2012 to see if any additional articles had been added. Six

different searches were conducted: mentor* (generic category); mentor* and minority student; mentor* and minority faculty; mentor* and underrepresented populations; mentor* and minority student and maternal child health; and mentor* and minority faculty and maternal child health. The results are listed in the table below. For comparative purposes, the same search was also conducted for 1990-1999 to see if there were significant differences in the amount of the literature that addressed the subjects.

In addition, other reviews that compiled resources were scanned such as those by Campinha-Bacote, 2011, Frei, Stamm, and Buddeberg-Fischer, 2010; the National League for Nursing, and 2009; Sorcinelli and Yun, 2007.

Table 1: Presence of Studies on Mentoring in the Medical Literature

Keywords	1990-1999	2000-2011	Percent for 2000-2011 Mentoring Articles
Mentor*	1789	7368	100%
Mentor* and minority student	47	108	1.5%
Mentor* and minority faculty	19	92	1.2%
Mentor* and underrepresented populations	6	23	0.3%
Mentor* and minority student and maternal child health	1	3	.0004%
Mentor* and minority faculty and maternal child health	1	1	.0001%

A few articles earlier than 2000 have been included in this review when they appear to be particularly relevant. All resources that are featured in this review are in English although programs and studies conducted in other countries on this topic, while limited in number, are referenced as they relate to specific points. Large private-sector corporations introduced mentoring in the 1970s (Buddeberg-Fischer and Herta, 2006) and by the 1990s the concept gradually spread to academia and various medical professions with nursing being on the forefront in adopting this approach. The table above reflects this increased awareness in mentoring as the general articles show more than a four-fold increase from one decade to the next. Mentoring specifically for minority populations shows also a 2- and 3-fold increase from the 1990s through to 2011, although they reflect only three percent of the total number of mentoring articles for 2000 - 2011. These results are consistent with other reviews. For example, Frei et al (2010) reviewed 25 articles on mentoring programs and mentoring-related studies for medical students from a PubMed search from 2000-2008 and only two (0.08 percent) addressed issues related to URM students. While the discussion of the results briefly mentioned gender as related to diversity, there was no discussion of mentoring racial and ethnic minorities. Palermo et al. (2008, p. 524) make a similar point, referring to literature relevant to the development of URM faculty as "sparse."

Most mentor-related research presents information on programs in the United States. Writing from the U.K., Oxley et al. (2003, p.5) also note that the U.S. is the source for much of the research regarding physicians and mentoring. Indeed, in the United States, January is National Mentoring Month. Emphasizing the mentoring of children and mentoring in one's community, this recognition was made in 2002 through the combined efforts of the Harvard School of Public Health and MENTOR: The National Mentoring Partnership. Girves, Zapeda, and Gwathmey (2005, p. 451) believe mentoring is becoming a "national priority" as they reference Department of Education grants for mentoring; the White House's Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring; and the commemorative stamp by the U.S. Postal Service on "Mentoring a Child."

For decades, foundations such as the Robert Wood Johnson Foundation have supported increasing diversity in the health professions. Other foundations are also recognizing the importance of mentoring. In December 2011, the Doris Duke Foundation announced awards totaling $1.5 million to nine institutions to provide opportunities for underrepresented minority populations in high school to participate in health-related research. The goal is to increase diversity among biomedical researchers. (Philanthropy News Digest, 2011)

The medical literature reports the use of mentors in teaching and research and across multiple disciplines – dentistry, emergency medicine, family medicine, gastroenterology, internal medicine, mental health, nursing, pediatrics, public health, surgery, and more.

Use of Terminology
Sorcinelli and Yun (2009) speak to the hierarchical connotation of using the terms mentee and protégé, preferring to use "mentoring partners" in a "mutual mentoring relationship." Their point is well taken, however, for clarity, since this review is representative of the literature, the terms generally used by the respective authors of the publications reviewed will be the terms used in this document.

Authors most generally used the definition provided by Health Resources and Services Administration (HRSA) of underrepresented minorities (URM). Except for Price (2005) and Taherian, authors generally did not mention if the URMs were foreign-born or not. In addition, there was no discussion of variation within racial or ethnic groups. Given the small sample size of most studies, this is not surprising.

Diversity and the Campus Environment
Milem, Chang, and Antonio (2005) describe the complexity and intersection of multiple dimensions that influence diversity on a university campus and influence perceptions and experiences of students and faculty. An understanding of the components will help to put the context of mentoring URM students and faculty into perspective. Multiple dimensions interface with mentoring. The authors describe factors that influence the campus climate that impact the experiences of students and faculty which include:
- governmental/political forces and socio-historical forces within which the institution's exists;

- the institution's historical legacy of inclusion vs. exclusion of URM students and faculty as reflected in its mission and history of resistance to desegregation;
- the compositional diversity of students and faculty;
- organizational and structural dimensions such as tenure policies, decision-making policies, budget allocations, and diversity of the curriculum;
- psychological dimensions such as perceptions of racial/ethnic tension and discrimination, and prejudice reduction efforts; and
- behavioral dimensions including social integration across race and ethnicity, classroom diversity, degree of intra-racial and cross-racial campus involvements and teaching approaches.

STUDENTS

Research

Please see Appendix A for a matrix of relevant literature on mentoring URM students in the health care field and general mentoring articles from other disciplines.

Models

Model 1: A Chance to Succeed (A.C.T.S.) Minority Mentor Nursing Program

The following information was obtained from the website of the School of Nursing, University of Flint Michigan:

Nursing Home Page - http://www.umflint.edu/nursing/Basic_BSN/index.htm#faq-question-4

Mentoring Program - http://www.umflint.edu/nursing/ACTS/index.htm)

A Chance to Succeed (A.C.T.S.) Minority Mentor Nursing Program is housed within the Department of Nursing at the University of Michigan-Flint. It originated from the Nursing Recruitment and Retention Committee which initially consisted of nursing faculty, minority registered nurse graduates of UM-Flint's nursing program, and community-based nurses. They explored the feasibility of a mentoring program and then went on to develop it in the fall of 2004. The Committee has expanded to include members from UM-Flint's Admission Office and the Office of Equity and Diversity Services. Initially funded in July 2005 by a HRSA Nursing Initiative in Diversity grant, support of the program continues with a renewal grant in 2008.

The Program's mission is to recruit and retain minority nursing students. Its stated objectives are: 1) to assist students with system barriers; 2) to provide counseling and advice specific to the nursing program; 3) to address issues related to a lack of trust/racism, fear, and negative perceptions of the nursing program; and 4) to clarify information.

Full - and part-time pre-nursing and nursing students are matched with licensed registered nurses. Participation for both the mentor and mentee are voluntary. Students are introduced to the program every semester and can register online.

For students, the website provides a brochure, application form, an information sheet on the roles and responsibilities of mentees, and a brief bio of each mentor with her picture. Monthly meetings addressing a variety of topics are open to mentees and mentors. An application form and a list of roles and responsibilities for mentors are also on the website. Contact is to be made within one week of being matched. There should be at least one monthly face-to-face meeting of the mentoring pair. Mentees are also required to attend an orientation session, attend at least two mentee meetings per academic year, submit monthly meeting times and activities to their faculty coordinator, and submit a quarterly mentee log to their faculty coordinator. Mentors receive a training session, are to attend at least two mentors' meetings per academic year, and submit the same records as detailed above to their faculty coordinator. The program brochure states that the mentor receives faculty and peer support.

Model 2: Aid Latino Community to Attain Nursing Career Employment (ALCANCE)

The following information was obtained from the website of the College of Nursing, Washington State University: http://nursing.wsu.edu/a-z-index/alcance.html. For an evaluation of this program, see Evans (2008).

Aid Latino Community to Attain Nursing Career Employment (ALCANCE) is based in the College of Nursing of the Washington State University. "Alcance" means "reach" in Spanish. The program was developed to increase the diversity among nurses in the rural, medically underserved Yakima Valley of Washington State. It is intended to provide nursing education opportunities for minority students (largely Native American and Latino/Hispanic) from "disadvantaged backgrounds." Students enter the program through the Yakima School District Hispanic Academic Achievement Program (HAAP), the College of Nursing's NARR for middle and high school students, and the Yakima Valley Farm Workers Clinic (YVFWC) where employees or community members who have an interest in a nursing career are eligible to apply.

There is a Community Mentoring Program and a Student Mentoring Program for advanced nursing students. The latter provides initial information about nursing; support in strengthening students' skills and understanding of math, reading, and the sciences; and facilitates contact with successful minority role models. Mentoring is also available through the National Association of Hispanic Nurses and its local chapter and the Indian Nurses Association.

Model 3. American Indian Students United for Nursing (ASUN) program

As described by Wood (2001), the American Indian Students United for Nursing (ASUN) program at Arizona State University in Tempe is a federally funded program that provides financial assistance and mentoring. Students sign an agreement that any faculty member can be contacted to assist a student who needs help. Referred to as "intrusive monitoring," early intervention is seen as critical and the director of the ASUN program states that "aggressive

advisement" is practiced. In the American Indian Nursing Student Success Program at the University of Oklahoma in Oklahoma City, the director uses traditional rituals as a way to offer support to students throughout the program.

Jan Pflugfelder, Director of ASUN, has developed a student retention model for Native American students. Using a medicine wheel, the symbol of the circle of life for Native Americans, four directions (north, south, east, and west) are correlated with the "four elements of life" (spiritual, emotional, mental and physical). A dream catcher is portrayed on the wheel. This is understood to represent the "complexities of life." " 'Everything is circular, non-linear, in the Indian tradition,' Pflugfelder says." (Wood, 2001).

Model 4. Culturally Conscious Model of Mentoring

The Culturally Conscious Model of Mentoring (Campinha-Bacote, 2010) is based upon Campinha-Bacote's model of cultural competence and describes the essential components of training mentors, acknowledged as a key factor in successful mentoring programs. In this approach, the author defines cultural competence in mentoring as (p. 131):

> *…the process in which the faculty mentor continually strives to achieve the ability and availability to effectively mentor within the cultural context of the student mentee. It is the process of the faculty becoming culturally competent, not being culturally competent, and involves the integration of cultural desire, cultural awareness, cultural knowledge, cultural skill, and cultural encounters into the mentoring process.*

Implementation is proposed to take place in two phases: 1) an overview of the mentoring process and 2) the process of becoming a culturally competent mentor. Components of course content are described and mnemonic models are recommended. The concept of culture extends beyond ethnicity or national origin and is inclusive of the multiple characteristics of diversity. The author recommends quantitative evaluation using pre- and post-tests of the Inventory for Assessing the Process of Cultural Competence in Mentoring (IAPCC-M). Qualitative evaluation is also recommended.

Model 5. Diversity Recruitment and Education to Advance Minorities in the Nursing Workforce

The following information was obtained from the website of the School of Nursing, University of Tennessee at Chattanooga.
http://www.utc.edu/Outreach/DREAMWorkNursingDiversityProgram/

The DREAMWork Nursing Diversity Program is housed in the School of Nursing of the University of Tennessee at Chattanooga. Started in 2007 with a grant from Health Resources and Services Administration (HRSA) and renewed for three more years in 2010, the Program is designed to increase nursing opportunities for URM students. It includes the introduction of nursing as a career to students in middle and high school. Mentoring is one of the supports it offers along with individualized planning, coaching, tutoring, and intensive summer programs.

Model 6 . Functional Mentoring Model

Thomas, Willis, and Davis (2007) suggest that functional mentoring (i.e. successful mentoring) involves multiple approaches: organizational strategies, faculty strategies, and minority graduate student strategies. The components of the approaches that lead to quality mentoring include:

- organizational strategies such as establishing a climate for mentoring diverse faculty and rewarding effective mentoring;
- faculty strategies including building competence in mentoring, building faculty multicultural competence and creating expanded and diverse professional networks; and
- graduate student strategies including helping URM students with program and department selection, providing multiple mentors, supporting their involvement in the university and supporting students' openness to diverse mentoring.

Model 7. Gator-Cats Mentoring Program

McWhirter, Courage, and Yearwood-Dixon (2003) describe a collaboration between the nursing programs at Bethune-Cookman College (B-CC) and the University of Florida (UF). Students complete their nursing degree at a small, liberal arts, historically African-American college with a strong religious affiliation and then go on to graduate studies at a large, mostly White public university with no religious affiliation. To encourage the recruitment and successful transition of students, the Gator-Cats mentoring program was started. (The name derives from the mascots of both schools – the Wildcats of B-CC and the Gators of UF.) The program provides assistance with Graduate Record Exams (GRE) workshops and application procedures along with other types of academic and psychosocial support. Additional academic workshops are offered during the first three semesters of the graduate program. Proactive intervention is an important strategy. The role of the faculty liaison between both institutions has been determined to be critical. Both institutions share a "commitment of time, energy, and scarce resources."

Model 8: "Juntos Podemos" Program (Together We Can)

Cantu and Rogers (2007) describe the "Juntos Podemos" Program (Together We Can) at the University of Texas Health Science Center at San Antonio School of Nursing (UTHSCSA SON). This is a Protégé-to-Mentor program in which students start as a protégé and take on the role as mentor in their second semester while continuing as a protégé. This dual role continues throughout their course of studies. The program is very successful with a high rate of students passing the NCLEX on their first attempt. This program also includes a Leadership Council, an advisory committee that partners with the local community on empowerment around health issues. This program contributes to the recruitment and retention of students. To increase outreach to potential students, Juntos Podemos has a website. (http://www.Forfuture.nurses.org)

Model 9. Mentorship Model for Retention of Minority Students

The Mentorship Model for the Retention of Minority Students was developed by the Medical College of Georgia School of Nursing in July 2001. The student body composition is 13% African-American, 85% Caucasian, and 2% other. This program, funded by a grant, is designed to recruit and retain African-American students. Having reviewed obstacles to the retention of minority students, staff developed a model that incorporates four supporting concepts: academic support, financial support, self-development, and professional/leadership development. A pre-nursing alliance has been established with a historically Black university from which most of the students transfer. A summer enrichment program offers incoming students an introduction to the new learning environment, teaching methods, and learning expectations. There is a faculty-led student support group that meets monthly and provides personal and emotional support. In the model diagrammed below, mentorship is seen as a common theme for all of the supporting concepts. Mentoring guides the program's strategies and activities. Mentors are faculty members, other students, and minority nurse leaders in the community.

Model 10. University of Saskatchewan, First Nations University of Canada, and Saskatchewan Institute of Applied Science and Technology (SIAST)

Anonson et al. (2008) report on the nursing program at the University of Saskatchewan, First Nations University of Canada, and Saskatchewan Institute of Applied Science and Technology (SIAST).

At the time of the review, just five years since its inception, the nursing program had a retention rate for Aboriginal postsecondary students that exceeded the provincial average by 13 percent. First Nation people are the fastest growing population in Canada, have a young population compared to other groups, and yet represent less than one percent of the nurses in Canada. Challenges to the recruitment and retention of First Nation students include insufficient educational preparation, language instruction in English, cultural differences, lack of role models, financial hardships, and family issues.

The nursing program provides a supportive and nurturing learning environment with child care, study space, flexibility in scheduling, international guests, innovative technologies (Simulation Man and Palm Pilots for 3rd and 4th year students), extracurricular activities, various social supports, role models, and mentoring. The approach is holistic, building on spiritual and cultural beliefs that are known to contribute to the inner strength of the students. Oral traditions and recognition of social values all contribute to teaching the triad of body, mind, and spirit. Campus Elders play a key role - they "are recognized by the community as possessing great wisdom and who are called on as an authority to advise or act on important family and community matters" (p. 278). Elders serve as a liaison between students and faculty, counsel students in need, and share traditional concepts of healing. "Their presence on campus bridges a cultural divide between the Aboriginal students and their nursing education "(p. 278).

Additional Mentoring Models

The literature contains descriptions of other nursing and higher education programs with mentoring components. These include (listed alphabetically by name of university):

Georgia Southern University - RUN2 NURSING/SCRUBS -
http://chhs.georgiasouthern.edu/nursing/?link=/resources/resources_run2nursing

University of Alaska Anchorage - Recruiting and Retention of Alaska Natives into Nursing (RRANN) and Nursing Workforce Diversity Program (NWDP) – see DeLapp et al., 2008 and http://www.uaa.alaska.edu/schoolofnursing/rrann-nwdp/index.cfm

University of Massachusetts Boston – see Dumas et al., 2008

University of New Mexico – see Lopez-Bushnell et al., 2010

University of Utah – Western Interstate Commission of Higher Education's (WICHE) Doctoral Studies Program – see Hill et al., 1999 (for doctoral students in counseling psychology)
Virginia Commonwealth University (VCU) School of Nursing in Richmond – see Marquand, 2007

JUNIOR FACULTY

> *I don't know what the rules are – how will I be judged? … I am playing a game and I don't know the rules – how am I supposed to play the game well? … It is like another world, - hidden rules, procedures, processes. It is hard to tap into. The rules of the game are so carefully concealed – I needed them to be made more explicit. You don't even realize the game at first … I am measured against a scale I don't understand … My energy is misdirected.* (Gravett and Petersen, 2007, p. 199).

> *So academic medicine is a foreign culture that isn't friendly to American Indians and Latinos. You are not going to attract Latinos, American Indians who have a community bent, who want to change social systems, who have a sense of family and community. It's very hard for us to fit in academic institutions, where that's about the individual. (URM male, early career)* (Pololi et al., 2010, 1364).

Benefits of Mentoring for URM Faculty

The quotations above summarize some of the challenges faced by minority faculty as they enter a career path in academia. It is not uncommon for URM faculty to encounter "disrespect, discrimination [social and professional], and racism" (Pololi et al. 2010, p. 1367; Nunez-Smith et al., 2007,; and Mahoney et al., 2008).

Often, new faculty members expect "dialogue, collaboration, and interaction" (Gravett and Petersen, 2007, p 196). Instead, they are surprised by the value placed on competitiveness, independence, and autonomy (Girves, 2005, p. 472). The hierarchical, individualistic system can contribute to feelings of isolation, loneliness, frustration, and disillusionment. (Gravett and Petersen, 2007; Johnson-Bailey and Cervero, 2004, Palermo et al., 2008; and Pololi et al., 2010). Mentoring contributes to a feeling of being connected and empowered (Zajac, 2011). Nivet at al. (2008), citing anecdotal information, state that URM faculties in minority-serving institutions (MSIs) experience less loneliness and isolation than that reported from other institutions. Pololi et al. (2010) also mention that departments that value research on underserved populations or have an interest in community-based health care often provide a more positive environment for URM faculty. At the same time, Nunez-Smith et al., (2007) also make the point that mentors should not assume that all minority physicians want to work in underserved communities and may have an interest in academic careers, administration, or other leadership roles.

Mentoring helps to provide a supportive environment in which new faculty members are provided a "risk free environment" (Taherian and Shekarchian, 2008, p. e96) where they can learn the institutional culture, plan career goals, and acquire additional skills necessary for success, e.g., networking, negotiation skills, writing and presentation skills. This "safe space" must also be seen as an opportunity to carry on honest dialogue between the mentor and mentee (Daley, 2008, p.540). A lack of mentoring can be seen as a structural barrier (Price et al., 2005, p. 569). Benson et al. (2002) report on the positive effects of the "psychosocial" functions of mentoring. Trower's (2009, 41) research reveals that for URM faculty, the "climate, culture, and collegiality" is of great significance. Her research also revealed that when considering policies, travel funds and a reasonable teaching load were the first two mentioned by respondents across race and ethnicity with informal mentoring coming in third place for African-Americans, Asians, and Whites. For Hispanics, limits to committee assignments came in third place. Waitzkin et al. (2006) explain the importance of a supportive and safe environment as being particularly critical when individuals have come from a historical legacy of discrimination and trauma.

Sinkford et al. (2009), in a study of a URM dental faculty development program found that 91% of the respondents believed that the mentor made a difference in their life in general and 73% reported that mentoring made a difference in their career choice. Feldman et al. (2010) report that faculty with mentors were more likely to indicate satisfaction with their work distribution and report higher self-efficacy rates. Benson et al. (2002) also report the positive impact of mentoring for URMs on their careers.

As mentors help to explain the criteria for tenure and promotion, assist with information about or the identification of funding resources, and provide feedback on work, URMs are able to advance in their careers and mentoring is seen as contributing to recruitment, retention, and reduced burn-out. (Benson et al., 2002; Daley et al., 2006; Dutta et al., 2010; Feldman et al., 2009; Kosoko-Lasaki et al., 2006; and Pololi and Knight, 2005).

Limitations or Risks of Mentoring Programs

While mentoring programs are widely perceived as beneficial, they are not without their challenges. Trust and power issues are frequently mentioned as limiting factors (Johnson-Bailey and Cervero, 2004 and Gravett and Petersen, 2007). There may be violations of confidentiality, mentor bias, time limitations (trying to meet expectations for a workload that includes teaching, research, and service), conflicting work schedules, incongruent goals, unrealistic expectations, concerns about competition for funding, the potential for exploitation when it comes to research and publication, varying levels of commitment, personality differences, and different styles of communication. (Benson et al., 2002; Feldman et al., 2009; Gravett and Petersen, 2007; Johnson-Bailey and Cervero, 2004; Pololi and Knight, 2005; and Taherian and Shekarchian, 2008). Xu (2008) distinguishes between external barriers (e.g. lack of role models; unwritten rules and norms) with internal barriers (the individual's own psychological characteristics or cultural beliefs). The internal barriers are more under the control of the individual than the external barriers. While all of this may sound disconcerting, Taherian and Shekarchian (2008) regard difficulties not as inherent to mentoring itself and instead attribute them largely to the poor implementation of the process.

When to Begin Mentoring; Choosing or Assigning Mentors

The literature frequently references the importance of beginning mentoring early in the career of a faculty member from the first weekend session of an initiative (Butler et al., 2010), within the first month of a faculty appointment (Benson et al., 2002), or within two months of a faculty appointment (Benson et al. 2002). The question is raised as to whether mentoring should be voluntary or required. Benson et al. (2002) point out that those who need it most may choose not to participate and this could be for a variety of reasons.

The advantage of an early match with a mentor then brings in the issue of identifying a mentor if one is new to an institution. Some may need assistance with matching if they have not yet had the opportunity to meet many potential mentors. While choosing a mentor is preferable to being assigned, the latter is preferable to no mentor at all (Feldman et al. 2010).

Ideally, the mentor and mentee have common ground (Johnson-Bailey and Cervero, 2004) on which to base their relationship. However, the literature is clear that the number of URMs in senior faculty positions are limited and the expectation of their being able to mentor the majority of incoming URM staff is not realistic at this time (Nivet 2008, 495). Assigned mentoring relationships may feel "forced and artificial" (Pololi and Knight, 2005, p. 868), although they may serve as a transitional method until the element of choice becomes an option. Sinkford et al. (2009), note a number of options that were used in mentoring programs that they studied – a formal selection process where the advisors decide in a group, the mentor selects, the mentee selects, and other approaches such as faculty recommendations. Much of the literature supports the element of choice as preferential. Daley et al. (2008, p. 540) believe that mentees and mentors should choose each other based on any number of common factors – similar research or clinical interests, career challenges, race, ethnicity, gender – yet, successful mentoring relationships can be successful whether these factors are the same or not.

In a study by Sinkford et al. (2009, p. 759), mentors noted the following as the top three characteristics of a successful mentor: an interest in seeing others develop and advance; invests time, energy, and effort toward their success; and leads and offers clear direction. Mentees offered the following top three characteristics of a successful mentor (p. 760): is a good listener; wants to see others develop and advance; and (tied for third place) challenges others to achieve and shares personal experience, knowledge, and skills.

There is no consensus on the frequency of contact between mentors and mentees and much depends upon the types of model and goals of the programs. For example, Waitzkin et al. (2006, p 209) report an expectation that mentors and mentees meet at least once every three months. Daley et al. (2008, p 542) describe a program at the University of California at San Diego Hispanic Center of Excellence in which mentees also participate in workshops and counseling sessions amounting to 150 hours per year. The IMeRGE Model (Bussey-Jones et al. 2006) described below and developed within the Division of General Medicine at Emory University requires weekly 90 minute to two hour meetings for at least a year.

Similarly, there is no general agreement on the length of time that mentoring relationships should last. Some are time-limited from the beginning, a designated year or two or three and others are longer-term, sometimes developing into collaborations and partnerships.

At least two references that were reviewed mentioned age (Reddick, 2011) as a factor in mentoring and in one study, those with mentors tended to be younger (Feldman et al. 2010).

Types of Mentoring
One author (Xu, 2008, p. 504) mentioned self-mentoring, believing it to be the "most important strategy because one knows one's own needs best." It includes the mentee's active searching for information that he or she needs from a variety of sources. Xu mentions mentoring columns in the *Chronicle of Higher Education* and *Minority Nurse* as potential sources.

One-on-one mentoring, peer mentoring, multiple mentors or team mentoring with a combination of mentors (at the same time), and a mentoring network (differs from the team approach as these may be formal or informal mentors and from outside or inside the university – Sorcinelli and Yun, 2007) are all mentioned in the literature. Each model has its own advantages and disadvantages.

Mentor-mentee (one-on-one) is the traditional model with a senior faculty member guiding a junior faculty member through the complexities of being new to the academic field. Much depends upon the interest, commitment, time, and skills of the mentor. A senior mentor can be instrumental in guiding the mentee to funding sources, sponsoring research, writing letters of support for promotion, nominating the mentee for awards and to professional societies, offering guidance on balancing professional and personal life, and assisting with establishing professional networks (Daley et al., 2008, p. 540 and Johnson-Bailey and Cervero 2004). Zerzan et al (2009) draw on the corporate concept of "managing up" and apply it to academic medicine with the mentee owning and directing the relationship. A checklist of activities is offered around preparing for mentorship, finding one or more mentors, characteristics to look for in a mentor,

what should take place during the first meeting, cultivating the relationship, and ending the mentorship.

There is the risk of the mentor trying to form the mentee into being a copy of the mentor and not recognizing or valuing the differences the mentee brings to the relationship. Working through potential conflicts can provide a learning experience for both the mentor and mentee (Daley et al., 2008, p. 541).

Formal peer mentoring (also called collaborative mentoring) does not have the same issues that can be attached to the hierarchical framework of a senior mentor and junior mentee. Peer mentoring helps with creating a more collaborative rather than competitive environment and participants develop a greater sense of empowerment. Within the "safe place" that is created, peers learn together, support one another, and share expertise and experiences that may be beneficial to others in similar career positions. (Balmer et al., 2011 and Pololi and Knight, 2005). The more successful models are those that are structured with specific goals and a clear plan on how to achieve them. These may change over time and flexibility is important, yet the structure remains stable.

Given the complexities and demands of academic appointments, team mentoring can address various needs and can change over time. Various models are increasingly mentioned in the literature. There are a variety of terms used – mentoring team, constellation of mentors, or a mentoring consortium. For example, the Michigan State University Center of Excellence for Cultural Diversity in Medical Education uses the term "mentoring team." This consists of a senior departmental mentor, a second mentor (possibly from a different specialization), and a complimentary mentor all working as a team (Daley et al. 2008, p 541). Balmer er al. (2011, p. 83) describe an "asymmetric set of circles surrounding the mentee" that begins with the junior faculty identifying a project mentor, followed by a network of multiple senior mentors by year two, and by year three, peer mentors are added. Feldman et al. (2010) describe a mentoring team at the University of California San Francisco that has three types of mentors – career mentor, scholarly mentor, and co-mentor. Models by Gravett and Petersen's (2007) and Lewellen-Williams et al. (2002) incorporate peer mentoring and are described below in the Models section of this document.

The Centre for Teaching Excellence at the University of Waterloo in Ontario, Canada recognizes the complexity of juggling multiple professional and personal roles - teacher, researcher, and committee member, and possibly spouse and parent and thus promotes the concept of a mentoring network which might include the following:
- a colleague who is rated as an excellent teacher;
- a teaching assistant who knows how to use the institution's learning technologies;
- a departmental colleague who has recently received tenure;
- a senior colleague with similar research interests;
- a departmental colleague who is successful in applying for grants,
- a colleague families with issues of sexual orientation, gender or disability status; etc. (http://cte.uwaterloo.ca/teaching_resources/tips/faculty-mentoring.html)

Training of Mentors

It is easy to see from the descriptions above that mentoring is something that requires multiple skills and increasingly there is a call for mentors to be trained (Jeste et al., 2009) and supported (Pololi and Knight, 2005) while multiple training programs are reported in the literature. A support system can take the form of a co-mentoring network among program coordinators (Girves et al. 2005) and among senior mentors who meet periodically to receive training on specific topics and to discuss issues as they arise. Feldman et al. (2009) describe a Mentor Development Program at the University of California, San Francisco Clinical and Translational Science Institute. This is a formalized training for mid-career and early senior faculty that prepares them to be more effective mentors to the next generation of researchers.

As mentoring has come to be increasingly recognized as a powerful tool in the recruitment and retention of URM faculty, job satisfaction, and career advancement, many universities now offer specific mentoring programs and have handbooks to accompany these programs. Generally, most provide tips on establishing a mentoring relationship, various types of mentoring, roles and expectations of the mentor and mentee, resources, sample agreements, setting goals, and so on. They also contain multiple checklists, e.g., self-assessment, career goals, an individual development plan, questions to ask a mentor or mentee, and so on.

Several examples are provided below that mention mentoring URM faculty and students. The following is not intended as an exhaustive list. University handbooks are briefly described alphabetically by state.

- Michigan State University (Luz, 2011) – This is a handbook for faculty and administrators. One of the guiding principles states, "Colleges, units and mentors should demonstrate sensitivity to potentially different challenges faced by diverse faculty including women, persons of color, and other facets of identity" (p. 5). References to diverse faculty are found in several places in the text.

- University of Massachusetts, Amherst (Sorcinelli and Yun, 2009). – This handbook is intended specifically for new and underrepresented faculty, offering an introduction to "mutual mentoring" (a model that includes a constellation of mentors with reciprocity of benefits), guidelines for protégés and mentors, suggestions for department chairs, and examples of team mentoring projects.

- University of Michigan – *How to Mentor Graduate Students: A Guide for Faculty at a Diverse University* (pp. 17-19) offers a chapter on "Mentoring in a Diverse Community" and addresses such topics as the need for role models, questioning "academic canons," feelings of isolation, the burden of being a spokesperson, hesitation to speak in class, and stereotyping. The companion piece, *How to Get the Mentoring You Want: A Guide for Graduate Students at a Diverse University*, addresses similar topics and how to approach them.

- University of Washington (Woodford, 2005) – There are two separate sections, one on race and ethnicity and another on foreign students addressing similar issues as above and offering recommendations on mentoring for each.

Institutionalization of Mentoring

To be effective, the literature supports a more formal institutional implementation and recognition of the benefits of mentoring and ways to support it. Girves et al. (2005) lists the functions of a successful mentoring office (p. 458) and success factors related to institutionalization (p. 467). Commitment of the administration is critical (Sinkford, 2010 and Zajac 2011). Sinkford et al. (2009, p. 761) specifically mention "deans, department chairs, program directors, and other campus leadership" as having a critical role in a commitment to diversity and support of "solid mentoring." Research by Pololi et al. (2010) also supports the importance of leadership as a key factor in preventing discrimination and increasing the diversity represented on faculties. Johnson-Bailey and Cervero explain the "dual dimension" of mentoring as that between the mentor and the mentee and then between the mentoring pair and the institution.

Daley et al. (2008, p.539) stress the value of mentoring to the institution:
> *Faculty mentors provide institutional leadership, embody the institution's intellectual capital, generate revenues, and hold its institutional memory. Moreover, by inducing faculty to remain, mentoring reduces the cost of recruiting and training new faculty.*

Authors advocate that mentoring be used as a criterion in faculty appointments and promotions and be listed on faculty curriculum vitae. (Benson et al., 2002; Feldman et al., 2010; and Merchant and Omary, 2010). Some institutions "buy out" protected time to contribute to the development of URM faculty as is done in the Mount Sinai School of Medicine Center for Multicultural and Community Affairs. (Daley, 2008, p. 546). Silet, Asquith, and Fleming (2010) offer other suggestions such as letters of appreciation that can be sent to the Dean or Department Chair of the mentor and annual awards that may carry financial incentives (e.g. Duke University and its award of up to $10,000). Endowments may be set up to fund "limited stipends" for mentors (Merchant and Omary, 2010, p. 24).

Structurally, mentoring is often accompanied by supplemental workshops or seminars (Butler et al., 2010; Daley et al., 2008; Feldman et al., 2009; and Johnson-Bailey and Cervero, 2004). Sonnad et al. (2011, p. 814) speak to the effectiveness of a writing group in the publication rate of junior faculty that actually showed "no significant difference" in the increase of the publication rate for URM women and White women. For URM faculty the increase was 320% and for White faculty women, the average increase in productivity was 266% (p=.63).

Institutional support of a mentoring program requires consideration of the teaching schedule, research expectations, committee assignments, or workload in general that will allow for time to participate in mentoring. All of these contribute to overall job satisfaction and retention. URM faculties often have larger mentoring responsibilities because of the limited number of URM

faculty who can mentor junior minority faculty. They also find themselves assigned to numerous committees related to diversity or the community, which decrease the amount of time they may have for research, identification of funding, or other scholarly activities that contribute more to promotion. (Rust, 2006 and Sullivan, 2010). Merchant and Omary (2010, p. 25) refer to the over assignment of URM faculty to more committees than non-URM faculty as the "Black tax" or "Hispanic tax."

Cross-Cultural Mentoring

Most references acknowledged the preference for the mentor and mentee to be of the same ethnicity or race or to have a mentor who is "culturally sensitive" (Zajac, 2011, p.76). Given the diversity as represented above, it is easy to understand why. Within a same race or ethnicity mentoring partnership, it may be easier to develop a level of trust. There is a certain level of understanding and common ground that lead to better communication and psychosocial support. Waitzkin et al. (2006) note that the same race or ethnicity mentorships offer a "sense of support" and similarities of experience.

Many mentors may have experienced bias and discrimination in their careers and can help mentees to strategize on how to approach such issues. URM faculty may face challenges in the classroom related to their minority status (Zajac, 2011, p. 74) and they may be more aware and comment on inequities (Pololi, 2010). A decision on whether or not to confront bias in the workplace because of the potential impact that addressing it may have on the career of the URM (Price, 2005) is a topic that may be more comfortably addressed with another URM faculty member who may have already had a similar experience and can offer strategies to address such an issue. While gender is not a focus of this literature review, Pololi et al. (2010) speak to the "double disadvantage" of gender and minority status for female URM faculty. Johnson-Bailey and Cervero (2004) believe that, in their experience, race had a more significant role than gender. A lack of connection between a URM faculty member with non-URM faculty was expressed as follows in a study by Pololi et al., 2010, p.1364):

> *It makes me feel like they're so uncomfortable. We don't have the same frames of reference. And it doesn't feel comfortable on either side of the conversation. I feel like I'm making people think about things they don't want to think about and so why bother? (URM female, plateaued [in terms of career])*

Thomas (2001) speaks of "protective hesitation" in cross-cultural mentoring to address issues that may be problematic. He proposes that open acknowledgement of race as a potential barrier between the mentoring partners will enable a White mentor to better assist in handling problems as they arise. Koopman and Thiedke (2005) conducted a qualitative study of 13 Chairs of departments of family medicine in the U.S. While most believed in the value of mentoring, only four had a formal mentoring program. Some recommended multiple mentors for minority (including female) faculty to address personal career needs as well as content needs. Regarding mentoring of URMs, comments from the Chairs indicated some uncertainty. For example, as Koopman and Thiedke (2005, p. 736) report:

'That can be more challenging. I'm not as insightful when it comes to minorities [as compared to women]. I don't have confidence, perhaps, in guiding them in some areas.' (Chair F)

'Pass, I don't have a lot of experience.' (Chair F)

'It's hard to stand in their shoes. We've lost people over this. It seems to revolve around issues of trust.' (Chair N.)

Cross-cultural mentoring was not frequently cited as the preference in many studies, although it was noted as being quite common and necessary because of the small number of URM senior faculty who are available to mentor (Feldman et al., 2010; Koopman and Thiedke, 2005; and Price et al., 2005).

Merchant and Omary (2010) reference the Harold Amos Medical Faculty Development Program funded by the Robert Wood Johnson Foundation as demonstrating the positive impact that non-URM mentors can have in mentoring URM faculty. Formerly known as the Minority Medical Faculty Development Program; more can be read about it at http://www.amfdp.org/.

Daley et al. (2008, p.539), reporting on differences between minority-serving and majority-White institutions suggest that in the latter, there may be more opportunity for mentors to include junior faculty in research projects and in peer-reviewed articles. In a three-year study of minorities at three U.S. corporations, Thomas (2001, p. 104) noted that African-Americans at the executive level had "built genuine, personal long-term relationships with both Whites and African-Americans." With enough trust, both mentor and mentee in a cross-cultural mentorship are able to broaden their world view.

Johnson-Bailey and Cervero (2004) describe a very successful 13-year mentoring relationship that began as student-teacher and progressed through the changes of status to student – major professor, assistant professor- professor, and faculty member-department head. Johnson-Bailey, who was the mentee, is an African-American female and Cervero is a White male. The article illustrates many of the major concepts seen throughout the literature on mentoring URMs – sharing a common ground, differences of communication style, building trust, dealing with historical and racial tensions, bias in the workplace, open and honest discussion of issues, and the need for active listening. Both authors stress the need for those in a mentoring partnership to see each other as an individual and not as a representative of a larger social group. As the mentor, Cervero facilitated publication opportunities, assisted with navigating structural barriers of the university, and sponsored research. Both believe they learned a great deal from the partnership.

Resilience factors mentioned in the literature related to religion or spirituality include "church" (Pololi et al, 2010), faith-based collaborations (Heron, 2001), and spirituality (Merchant and Omary, 2010). However, this topic for URM faculty received no real discussion in the literature reviewed for this document. This is a noticeably different from the literature on mentoring programs for URM students.

Please see Appendix B for a matrix of additional relevant literature on mentoring URM junior faculty.

Faculty Models (Described alphabetically by name)

Model 1: Internal Medicine Research Group at Emory (IMeRGE) (Bussey-Jones et al. 2006)

Developed within the Division of General Medicine at Emory University, Bussey-Jones et al. (p. 674) describe IMeRGE as an "innovative peer mentoring group." In the absence of a limited number of available senior faculty and with the desire to foster skill enhancement, seven junior faculty members came together in 2003 to form a peer mentoring group. The group consisted of five women and two men, all from "diverse cultural backgrounds" (not specified). At the time the group started, all had been faculty members between one and five years. They shared common interests in teaching, research, and addressing racial/health disparities, yet each maintained her or his own individual distinct interests. The group expressed its primary goal as fostering

> "... a collaborative atmosphere among junior General Medicine faculty at Emory University, while simultaneously acquiring experience through an advanced faculty development program in three areas: research, advanced teaching skills, and professional development." (p. 675)

The IMeRGE model includes a core curriculum focused on professional, research and teaching development. It provides peer support such as feedback on individual research and teaching and opportunities to discuss personal and professional issues and strategies. The model also led to group projects such as curriculum development and evaluation, presenting about the model at a national meeting, manuscript preparation and two research projects.

Division support was received early in the development of the group and took the form of securing designated time and financial resources (access to a recently awarded department grant). In the beginning of the process, there was agreement on member roles and responsibilities, the development of a curriculum, the coordination of a regular schedule for meetings (once a week for one year, lasting 90 minutes to two hours each time), the identification of advisors, and collaboration on two research projects. Notes from each meeting were distributed, each member gave updates, and communication was maintained in-between meetings by e-mail. The division chief accepted the role as the advisor. While this had the potential of negating the egalitarian philosophy of the initiative, the mission statement and supporting documents of the group clearly stated the group's commitment to a peer-driven process and delineated the role of the senior advisor as providing "complementary input and guidance."

Challenges around competing responsibilities, accountability, selection of a senior advisor, and "melding interests" (around research projects) were discussed and consensus reached on solutions to address each issue.

The curriculum topics were presented by the members of the group and senior faculty within and outside the division. Through discussion and negotiation, the original curriculum topics were changed to meet the needs of the group. This flexibility was seen as a real asset.

The planning, thoughtfulness, and early agreement on the parameters of the goal and how to achieve it along with division support all contributed to the group's success. The faculty participants believe this experience to be "invaluable" to their continued academic success and met the functions of "teaching, sponsoring, guidance, professional socialization, and moral support."

Model 2. National Center of Leadership in Academic Medicine Faculty Development

The National Center of Leadership in Academic Medicine Faculty Development Model (NCLAM) (Daley et al. 2011) is a "structured junior faculty career development program designed to foster gender equity and diversity, increase retention and promotion of junior faculty, and develop young faculty for successful careers in academic medicine" (p. 816). It is housed in the University of California, San Diego. Junior faculty members receive partial funding release to participate in the program. Faculty from numerous specialty areas may participate. In the past, specialties represented included: family and preventive medicine, internal medicine, psychiatry, emergency medicine, pediatrics, and surgery.

The curriculum requires that each faculty member: (p. 817)
1. Attend a 12 half-day faculty development workshops (including goal setting, preparation of an academic portfolio, teaching and learning principles, leadership styles, negotiation skills, stress management, academic resources, grant resources, grant writing, conflict resolution, curriculum development, performance evaluation, and presentation skills
2. Participate in a structured 7-month one-on-one "instrumental" mentoring
3. Attend a 2-hour academic performance counseling session
4. Complete a professional development project

Instrumental mentoring is formal and time-limited (7 months). The junior faculty member is assigned a senior mentor from outside his or her department. The senior mentor is responsible for assisting the mentee to acquire certain skills (administrative, teaching, research) and to achieve certain objectives (e.g. complete a grant application). Opportunities and events, formal and informal, are held that facilitate networking among junior and senior faculty and alumni. Networking serves to create a supportive environment and to explain the institutional culture and expectations. Peer networks are formed and contribute to a positive environment that decreases the sense of isolation that URM faculty may feel and has the potential of fostering long-term collaboration.

Success in the program for the study by Daley et al. was defined by the number of faculty promoted to the next rank, number of publications, and the amount of grant money secured. For evaluation studies, see summaries, both by Daley et al. 2006 and 2011 on the attached matrix.

A combination of the multiple components created the successful program including instrumental mentoring, networking, professional skill development and help in understanding the institutional culture.

Model 3. Northeast Consortium for Minority Faculty Development (NECMFD)

In 2006, anticipating a severe reduction in federal funding for programs designed to increase the presence of ethnic and racial minorities in academic medicine, four programs combined their resources into the Northeast Consortium of Minority Faculty Development in order to maximize their diversity efforts. The four programs were: the Albert Einstein College of Medicine, Mount Sinai School of Medicine, the University of Medicine and Dentistry in New Jersey–New Jersey Medical School, and the University of Pennsylvania School of Medicine. Faculty from these programs participated in a series of articles for a special theme issue of the *Mount Sinai Journal of Medicine* in 2008 titled "Diversity in Academic Medicine: Call to Action." This brief description of the NECMFD model will be largely based on the selections of Butts et al. (2008), Palermo et al. (2008), and Daley et al. (2008). The model is described as an evidence-based approach to advancing the careers of minority faculty through an emphasis on specific skills and professional development.

While the institutions share certain features in common they also maintain their own specific characteristics. For example, there is agreement around basic principles and goals and a conceptual framework for developing the technical skills. The goals are grouped under the headings of Environment, Advancement, and Skills. Role models and mentors are classified under Environment. (The authors provide a well-detailed table of each of these categories. It is not reproduced here because of copyright concerns.) The conceptual framework includes "formal education; personal positioning and planning; continuous, cross-cutting, coordinated support; and mentoring and coaching."

Through successive years of implementation and development, the consortium has identified the following "ingredients for success" for URM faculty (Daley et al., p. 534):
- Setting program goals and content,
- Mentoring and coaching,
- Selecting participants,
- Providing a supportive environment,
- Managing the program, and
- Sustaining support.

A very useful table that lists required technical skills is also provided by Daley et al. (p.536). Numerous specific skills are listed under the headings of "Scholarship and research, Communication styles and skills, Clinical/basic science role and academic medicine, Teaching and education, and Leadership and policy." The latter includes mentor and protégé relationships.

Daley et al. develop their discussion further by including information about historically Black colleges and universities and minority-serving institutions that have successful programs in minority faculty development with a mentoring component. Some of the institutions are discussed separately and illustrate the range of mentoring approaches that are used:

mentor/mentee, mentee and mentors (at the same time or changing over time), a mentoring "team" or multiple mentors, and a less formal "coaching" approach.

Model 4. Peer-Onsite-Distance Model (POD)

The Peer-Onsite-Distance Model (POD) was developed by Lewellen-Williams et al. in 2002 at the College of Medicine at the University of Arkansas for Medical Sciences (UAMS). It is multi-level and is described as providing a "protective cushion of interpersonal and intrapersonal support." It is believed by the authors to be flexible enough that it can be adapted to the structure of other institutions. The model was developed from a review of the literature, structured interviews, and then survey inventories for mentors and mentees that were pilot-tested with a focus group and then distributed to interested project participants on a voluntary basis. Once developed, it was introduced at a grand rounds session and individual departments also presented the information.

The model considers mentees and mentors with a dual perspective – as individuals and as members of groups. Mentoring needs can be met concurrently or in sequentially by three different types of mentors – peer mentors, onsite mentors, and distance mentors. The POD program administrator facilitates sessions with the mentors during which they can practice their skills, review materials, share activities and approaches, discuss issues, and strategize solutions.

The model consists of five parts (Lewellen-Williams et al., pages 277- 278):
1. Mentee – a junior URM faculty member.
2. Content and interaction skills
    a. Content includes career goals, clinical skills, conducting research, confidence building, curriculum vitae development, grant writing, negotiating, organization and committee participation, professional networking, promotion and tenure, and publishing.
    b. Skills that are addressed include coaching, decision-making, goal setting, guiding, listening, problem-solving, providing feedback, reinforcing, and role modeling.
3. Peer mentors – other faculty members of similar rank that offer advice based on their own experiences and provide support.
4. Onsite mentors – senior faculty who address content areas and may also perform the roles of "advocates, liaisons, or coaches." They may have several mentees at a time, depending upon their time availability.
5. Distance mentors – from academia, the corporate world, government, and politics, these mentors make a one year commitment.

The model has been very successful at UAMS. It was initially supported by a grant and has since become institutionalized, having contributed to the development of a Center of Diversity Affairs with a full-time director.

Model 5. The Southwest Addictions Research Group (SARG)

The Southwest Addictions Research Group (SARG), as described by Viets et al., 2009, was a partnership at the University of New Mexico (UMN) between its School of Medicine's (SOM) Institute for Public Health and its Center on Alcohol, Substance Abuse, and Addictions (CASAA) from 2003-2007. The focus was on research and not clinical training. The program was designed to train and mentor URM junior faculty; conduct pilot-research projects on addictions-related interventions among Latino, Native American, and rural communities in the Southwest; "develop culturally supported interventions (CSIs) or to adapt empirically supported interventions (ESIs) for these communities;" and to disseminate this information to the communities and in academia.

The components of the model included biweekly meetings, a Community Advisory Board (CAB), additional learning opportunities (e.g. seminars on grant writing or ethics), minority monthly symposia (invited speakers to present on innovative research topics), conference support in the form of financial assistance for organizational membership and travel fees, opportunities to apply for pilot research grants, and an annual process evaluation. Outcomes were positive based upon the number of grant submissions, publications, and professional presentations. The authors make recommendations for implementing SARG at other institutions including identifying and addressing institutional barriers from the beginning of the program and reassessing these on a regular basis.

Model 6. Three-Tier Model for Dialogic Mentoring – (Gravett and Petersen, 2007)

Gravett and Petersen (2007) base their model on a "radical-humanist approach" that aims to challenge power relations and emphasize social justice. Research was conducted in a South African university using a purposeful sample of 20 faculty who had been in academia for at least eight months and less than four years. There were ten females and ten males, each gender had five Black and five White participants. The authors conducted in-depth recursive interviews with inductive analysis of data. Based on their research and given some of the inherent limitations of one-on-one mentoring, the authors propose a model based on a "dialogic perspective" that encompasses three types of learning groups:
1. Mentors-mentees learning group – a mentor (usually senior faculty) with four to six mentees; the mentor assists with the everyday issues, provides consistency, and contributes to professional development by addressing such issues as time management or networking; it has the advantage of lessening any personal feelings of discomfort that may arise in a one-on-one mentoring dyad
2. Lateral learning group – newcomers and those who have been at the university for up to two years (peer group)
3. Mentor learning group – only mentors; provides opportunities to strengthen their role as mentors, receive training as needed, and discuss issues

Each of the above meets separately and there are also meetings of the combined group.

The intention is that mentees and mentors have an opportunity to explore together, creating a space for the development of an atmosphere of "co-learning." In addition to supporting newcomers on their path to an academic career, it is also the authors' intention that the interaction will "serve as a powerful transformation agent in the university, helping to build a diverse and strong academy" (p. 206).

E-MENTORING

E-mentoring is becoming increasingly popular, yet its applicability to mentoring URM students and faculty occurred infrequently in the articles reviewed in this document. Bierema and Merriam (2002, p 214) define e-mentoring as:

> *… a computer mediated, mutually beneficial relationship between a mentor and protégé which provides learning, advising, encouraging, promoting, and modeling that is often boundaryless, egalitarian, and qualitatively different than traditional face-to-face mentoring.*

In 2000, Mahayosnand (2000, p.1317) referred to e-mentoring in public health as an "investment for the next millennium" and goes on to detail successful programs such as MentorNet and Electronic Emissary.

MentorNet (http://www.mentornet.net/) uses the tagline "e-mentoring for diversity in engineering and science." It has as its mission statement:

> *To further the progress of women and others underrepresented in scientific and technical fields through the use of dynamic, technology-supported mentoring network.*
>
> *To advance individuals and society, and enhance engineering and related sciences, by promoting a diversified, expanded and talented global workforce*

According to its website, since its founding in 1997, with the intention of helping women engineers, it has made 30,531matches and has 1,228 current matches.

Electronic Emissary (http://emissary.wm.edu), based at the University of Texas, Austin in the College of Education serves K-12 students.

The Electronic Mentoring Project (http://teachnet.edb.utexas.edu/~mentorproject/info.html) is based on Electronic Emissary and links Native American adults with Native American students nationwide.

The Society for Academic Emergency Medicine has been using e-advising since 2001 (Coates et al., 2004). Its FAQs for students can be found at http://www.saem.org/e-advising-faqs-students and for advisors at http://www.saem.org/e-advising-faqs-advisors.

Stewart and McLoughlin (2007) discuss the advantages to e-mentoring and the various forms it can take, and apply its use to a health care setting. Miller et al. (2008) detail the results of e-

mentoring students in population-based public health nursing. Mentors were trained and met the students before the class started. The course was online with a completion rate of 92%.

THE STIGMA OF MENTORING

There is little mention of "stigma" per se related to mentoring in the medical literature that was reviewed for this document except for Pololi et al. (2010) in relation to affirmative action programs and Yager et al. (2007). Nevertheless, in a subtle way, it may also contribute to a hesitation on the part of URM students and faculty to participate in mentoring programs and the lack of a commitment on the part of some senior faculty and institutions. Ponce et al. (2005), looking specifically at mentoring opportunities for URM psychologists, present the concept of stigma as an obstacle to mentoring. While designed with good intentions, mentoring programs can be seen as helping those who need more skills or have insufficient knowledge. Those with more experience are not seen to need mentoring. Although URMs are accustomed to the concept of mentoring within their own cultures – e.g. apprenticeships or consulting with elders - being mentored may be seen as a sign of incompetence within the larger society.

Drawing on experiential learning theory, Ponce et al. stress the perspective that learning and developing expertise is an ongoing, lifelong process. They suggest three "low cost" strategies to help decrease the stigma associated with mentoring (p 1162): 1) senior mentors should be willing to receive mentoring as they also continue to develop their careers and acquire additional skills; 2) mentors should stress the "multigenerational" importance of being well mentored and the responsibility of mentoring others; and 3) mentors should view their role as stewards in preparing the next generation of professionals who will, with time, move on, replace them, or even exceed them in their career.

It is the opinion of this reviewer that the prior discussion on the institutionalization of mentoring will also help to decrease the stigma associated with it. Institutionalization will lend value and support to mentoring, be public recognition of its worth, hold faculty accountable for being good mentors, and provide the infrastructure necessary to implement and sustain a mentoring program. Mentoring programs that include all faculty and not only URM faculty will lessen the negative impact while having a positive effect on all.

SUMMARY

Based on the literature reviewed for this document, this reviewer recognizes recurring themes in the development of a successful mentoring program. Recommendations include:

1. Define what is meant by mentoring;
2. Emphasize benefits to all – mentee (and mentee's family for students), mentor, institution, local community, larger society;
3. Encourage a safe environment and open communication among participants;
4. Place the mentoring program within a larger diversity initiative, if possible;

5. Ensure that leadership at all levels of the university supports mentoring – include it as a criterion for tenure and promotion; provide set aside time for faculty to be serve as mentors and to be mentored; recognize mentors for their efforts; and appreciate the value of mentoring in recruiting and retaining URM students and faculty and support it in this function;
6. Train mentors and provide on-going learning opportunities and support;
7. Ask URM students and faculty what they need from a mentoring program and encourage "active listening" among all participants;
8. Include families as appropriate in the mentoring experience, especially for mentoring students
9. Identify spiritual and cultural supportive practices that can be incorporated into the larger mentoring program
10. Encourage all faculty to mentor and not just URM faculty, stressing its importance to the institution, to the next generation, and to themselves;
11. Consider appointment of a university staff liaison that functions as a Program Manager and has the responsibility of ensuring that the multiple components of the program are operating well;
12. Network among programs to share best practices and new ideas;
13. Introduce mentoring early in the career of a faculty member and for students, even consider middle school and high school as a time to begin mentoring;
14. Include an evaluation component (A quick look at the tables in the appendices of this review indicates that most sample sizes have been small.);
15. Evaluate of cost-effectiveness;
16. Consider a program of multiple mentors or a national system to address the imbalance of minority faculty who are available to mentor;
17. Explore and evaluate e-mentoring, especially for students in rural areas or who need expertise from outside their own colleges and universities or for mentors on a national level as a source of learning and support; and
18. Continue research on the role and value of mentoring among URM students and faculty

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APPENDIX A

MENTORING RESOURCES AND URM STUDENTS

Author Year Country	Purpose of Article	Participants	Type(s) of Mentoring	Program Evaluation	Findings
Abriam-Yago 2002 USA	Description of mentoring program at San José State University School of Nursing in San José, CA.		Professional nurse mentors, Peer mentors, and Faculty mentors.		The University has seen a change in student population from predominately 75 percent Caucasian and 25 percent racial and ethnic minorities in the 1980s to 75 percent students of color (mainly Vietnamese, Filipino, Hispanic, and African-American). The two major areas of need identified are emotional support and improving interpersonal communication skills. Role-playing contributes to developing assertiveness and increased confidence in clinical settings. The author presents empowerment as the goal in mentoring students of color.

Amaro et al. 2006 USA	The goal is to identify what the study population perceives to be educational barriers and by understanding these better, recruitment and retention can be improved.	17 recent RN graduates in Central Coastal California from several minority groups – African-American (from Nigeria and Ethiopia), Asian (Vietnamese and Filipino), Latino, and Portuguese. Three Asians were male.	Students reported experiencing prejudice or discrimination mostly from staff and patients in the hospital and a few from classmates. There was identification of personal, academic and cultural needs. Conclusions and recommendations included: Students are more successful when instructors use a "bridging" approach; initiate ethnic student associations for largest minority groups and create links to ethnic professional associations; need for mentors; need for tutoring – possibly initiate peer study groups; establish faculty liaison who is a member of an ethnic or racial group or someone who is familiar with theories of cultural competence.
Anders et al. 2007 USA	This subject of this article is a recruitment and retention project at the University of Texas at El Paso, School of Nursing (UTEP-SON) for "economically disadvantaged" Hispanic (and other minority) nursing students living in West Texas near the U.S.-Mexico border.		Ninety percent of the students in the project are employed part-time. The mentoring part of the program in which students were paired with registered nurses who are Hispanic and expected to meet for four hours once a month outside of the classroom did not develop as intended. Nevertheless, students did benefit from working with Hispanic nurses in clinical settings. A cultural consultant assisted faculty in becoming more culturally competent, better able to understand the needs of the students, and how to be supportive. The project has met with great success when it comes to recruitment, retention, and graduation of Hispanic BSN students. Those who completed the project passed the NCLEX-RN exam on their first try.

Blake-Beard et al. 2011 USA	"This study examined the extent to which science, technology, engineering, and math (STEM) students reported having had mentors of their own race and gender and the extent to which they have adopted the idea that matching by race and gender matters. "	1,013 undergraduate and graduate students and postdoctoral scholars actively participating in MentorNet's online community.	Self-reporting on grade point average, efficacy, and confidence as a measure of the effects of race and gender matching.	From article abstract: Analyses indicated that having a mentor of one's own gender or race was felt to be important by many students, especially women and students of Color. Students who had a mentor of their own gender or race reported receiving more help, but matching by race or gender did not affect academic outcomes. Key findings are discussed in terms of implications for future research and mentoring in the STEM fields.
Bosher and Pharris 2009 USA				Chapter 14 is written by Lorrie Davis-Dick and describes a mentoring program known as Empowering Nursing Students in the Carolinas (ENSC).
Brown 2009 USA	Examined perceived influence of African-American male mentorship on the academic success of African-American college students	7 academically successful African-American male undergraduate students at a predominately White college or university		The analysis of the research question revealed that "African-American male mentorship did not have a high impact on the successes of these seven young men." However, there did appear to be a positive influence noted about support systems in general. Among these respondents, there was the use of formal and informal support systems that appeared to influence their decision to go to college and to continue with their studies.
Buddeberg-Fischer and Herta 2006 Switzerland	Examines the types of structured mentoring programs that exist for doctors and medical students	Literature search from 1966-2002 published in Medline; 16 papers were reviewed		Only three studies included information on the costs of the programs; mostly descriptive results; authors call for better evaluation of programs including cost-benefit analysis and analysis of short- and long-term goals

Chandler and Kram 2005 USA	Using Kegan's developmental stage theory, explains how an adult development perspective can increase the understanding of mentoring (developmental) networks.			An individual's developmental stage is an important antecedent to the nature of mentoring and developmental networks that are possible. "Organizations should consider stage of potential mentors and protégés when creating formal mentoring programs, and include opportunities for individuals to reflect on their own developmental stage as part of the self-assessment and career development process."
Chemers et al. 2011 USA	Studied if the "effects of science support experiences on commitment to science careers would be mediated by science self-efficacy and identity as a scientist."	327 undergraduates and 338 graduate students and postdoctoral fellows	Web-based survey of the members of the Society for the Advancement of Chicanos and Native Americans in Science	"Among the undergraduates, science (but not leadership/teamwork), self-efficacy, and identity as a scientist fully mediated the effects of science support experiences [research experience, mentoring, and community involvement] and were strong predictors of commitment." Results for graduate/postdoctoral students were similar with the additional finding that "all three psychological mediators, including leadership/teamwork self-efficacy, predicted commitment."
Clark et al. 2005 USA	Evaluation of a new intervention - the Adult Identity Mentoring (AIM) Project	20 middle school classes of 7th grade African-Americans		Implementing a program aimed at increasing positive "possible selves" of youth improved their perspective of the future and increased protective barriers against STDs

Cross et al. 2009 USA				Recommendations from the Native American Task Force Include: (1) recruiting and retaining Native American faculty and students, (2) promoting equal value of alternative research methodologies, (3) finding student financial assistance, (4) infusing Native American content in social work curriculum, (5) building cultural competency, (6) addressing discrimination, (7) improving field placements, (8) supporting of American Indian and Native American studies programs, and (9) collaborating with Tribal Colleges and Universities. Emphasizes the importance of culturally congruent mentorship for both American Indian students and faculty.
Crutcher 2006 USA	Doctoral dissertation that studies mentors who have successfully mentored cross-culturally - race, ethnicity, gender, religion or socioeconomic status	24 mentors; ages ranged from 30's to 70's; African-American, Hispanic, White; male and female; mentored at least one year and the mentee was of a different culture, ethnicity, gender, race, religion, or socioeconomic status than the mentor.	Semi-structured, open-ended interviews	Cross-cultural mentors are engaging in social change. Author identifies the three Vs: values - clear belief system; virtues - understanding of their own strengths and limitations; and vision - clarity on what they want for themselves and society in the future.

| Cuyjet et al. 2006 USA | Examines the experiences of admission to graduation for African-American men in two- and four-year Historically Black Colleges and Universities (HBCU) using detailed analyses and case studies. | | | Disparities between African-American college men and women are greater than for any other ethnic group when it comes to academic achievement and graduation. There is a chapter on developmental and instructional mentoring. Nine programs that are successful in matriculating and graduating African-American men are profiled. These are: 1) the Student African-American Brotherhood Program; 2) the Meyerhoff Scholarship Program; 3) the Bowling Green State University's Black Men on Campus Program; 4) the Black Men's Collective; 5) the Black Male Rap Session, also known as "Beamers;" 6) the African-American Men of Arizona State University; 7) the Black Man Think Tank of the University of North Texas; 8) the It's Easier Than You Think Program at an HBCU; and 9) the Collegiate 100 Program. |
| Dolan and Johnson 2009 USA | This is an exploratory case study that reports on the motives, gains, and challenges reported by graduate/postdoctoral students who mentored undergraduates in research. | n=8 | Interviews | Graduate/postdoctoral mentors reported twice as many gains as challenges. Graduate/postdoctoral mentors experienced a wide range of gains, including improved qualifications and career preparation, cognitive and socio-emotional growth, improved teaching and communication skills, and greater enjoyment of their own apprenticeship experience. This study did not consider ethnicity, race, and gender. Authors suggest further research on the influence of these factors on mentor - protégé relationships within the undergraduate - graduate /postdoctoral student - faculty triad. |

El-Ghoroury et al. 2000 USA				This handbook discusses advice on mentoring, networking, managing stress and maintaining a work-life balance, dealing with the "imposter syndrome," dealing with racism, and creating meaningful change followed by research, teaching and other academic advice.
Ellis 2000 USA	Studied impact of race and gender on graduate studies	1997 study; 67 participants; African-American and White men and women		Mentoring, advising, and departmental environments were the greatest concerns. African-American women were doing well academically yet were more isolated than other students, a double minority status. White students did not experience the same challenges as the African-American students did.
Ensher and Murphy 1997 USA	Evaluation of mentoring program at a large West coast media organization	76 mentorship pairs; summer intern protégés, ages 16-22; African-Americans, Asians, Caucasians, Latinos, and Multiracial; all pairs were matched with the same gender	Mentors assigned; some matched with same race or ethnicity and some were not	Used modified version of Noe's Mentor Functions Scales; Regression analysis	Factors contributing to satisfaction with the mentor were "liking, perceived similarity, and psychosocial and instrumental support"
Erickson et al. 2009 USA	Study designed to examine the effect of mentoring on educational achievement and attainment in the general population	nationally representative study of adolescents in grades 7-12 in the U.S. in 1994		interviews of adolescents and their parents	Results reveal an "interesting paradox" - "informal mentors may simultaneously represent compensatory and complementary resources. Youths with many resources are more likely than are other young people to have mentors, but those with few resources are likely to benefit more from having a mentor — particularly a teacher mentor—in their lives."

Gallien and Peterson 2005 USA				Introduces the historical, present-day, and cultural context of the education of African-American students. Presents the types of academic environments and classroom strategies that support the achievement of African American college students with a focus on effective classroom pedagogy, models of successful campus retention, and mentoring techniques.
Gersick and Kram 2002 USA	This is a study of high achieving women in a Financial Services firm who have reached very senior positions at midlife.	n=10; senior female financial executives	in depth interviews with follow-up data from a conference	The study reveals the developmental challenges that these women have encountered along the way, and how they currently think about their careers and lives. The findings suggest that there are predictable dilemmas that high achieving women face over the life course that have implications for Executive Development Practices.
Gloria and Kurpius 2001 USA	The study examined the influence of self-beliefs, social support, and comfort in the university environment on the academic nonpersistence decisions of undergraduate Native American students.	83 American Indian undergraduates		Results indicate that social support from faculty members has the strongest relationship with student persistence followed by comfort in the university environment and then self-beliefs. Mentoring was viewed as a positive support on student persistence.

Guttman et al. 2011 USA	Describes the collaborative partnership of Farleigh Dickinson U Adult Nurse Practitioner Program and Monmouth University Nursing Education Program	14 scholars were mentored for faculty roles			Programs used different approaches - one focused on education courses and used an intensive teaching practicum. The other emphasized intensive clinical immersion in a selected area of concentration. The program was grant funded. A faculty member was funded to administer the grant and to serve as liaison between partners. This role was seen to be critical. Program is showing success and plans are to continue the partnership.
Habley et al. 2010 USA	Presents statistics from four-year colleges and universities with Hispanic enrollments $\geq$ 20%				Includes information on retention and degree-completion rates, factors affecting student attrition, and on-campus retention practices.
Higgins and Kram 2001 USA	Discussion of mentoring as a "multiple relationship phenomenon" - i.e. a developmental network				This paper reconceptualizes mentoring as a developmental network that comprises multiple relationships that vary in both diversity and depth of connection. An agenda for future research on mentoring is proposed. A diagram is provided to illustrate the multiple factors that shape the emergence of developmental types.
Indyk et al 2011 USA	Study of primary care medical students paired with primary care mentors beginning in their first year	First year medical students paired with primary care mentors	Mentor- Mentee relationship	Focus groups at the end of each year; quantitative and qualitative results	Students in the mentoring program showed higher rates of retention; mentors were trained; longitudinal mentoring program can be effective if it supports the needs of the students and is supportive of mentors

Jackson et al. 2003 USA	Assessment of what factors led to their persistence in college.	15 Native American college students	Qualitative interviews	Results indicate that American Indian students need contact with and support from American Indian faculty. Key factors were: support from faculty and family (sociocultural factor); developing personal assertiveness (personal factor); and coping with racism and paradoxical cultural situations (sociocultural factor). Students identified faculty warmth as a key factor in persistence and the results also indicated a need for stable mentoring relationships and programmatic support.
Katz et al. 2011 USA	Study to identify culturally relevant factors that influence the intention and ability of Native American students to attend college and pursue a career in nursing culturally relevant factors	21 Native American high school students attending a summer residency institute for students interested in college and nursing.	Open-ended interviews	Students often faced multiple challenges. Students need improved preparation for college, assistance with finances, cultural support, frequent family contact and support, reliable and stable family situations, and role models and mentors.
Keyser et al. 2008 USA	Describe how institutions can support research mentorship programs.			The authors present a self-assessment tool that organizations can use to track policies, programs, and structures that support mentoring programs. Not specific to URM faculty.
Kim et al. 2009 USA	Description of Bridges Program at the University of Illinois at Chicago	URM master's students are mentored in their transition to doctoral studies		Key contributors to the success of the students were the mentored transition and administrative and financial support. Research dyads formed between the students with faculty at partner schools were successful. Authors encourage early outreach to graduate nursing students in universities without Ph.D. programs to encourage them to consider doctoral studies.

Knoche and Zamboanga 2006 USA	Investigation of underlying themes regarding mentors' perspectives based upon participation in the Latino Achievement Mentoring Program (LAMP)	n=6; all mentees and mentors were Latino	Latino students at a Midwestern university are matched with disadvantaged Latino youth from the community	Mentors participated in semi-structured, in-depth, face-to-face interviews	Key themes that emerged were grouped into three categories: three categories: (1) the characterization of the mentoring relationship between the mentor and mentee, (2) the meaning of the mentors' relationship with the mentee's family, and (3) the mentor's personal and professional development through involvement in the mentoring relationship. This study considered the mentor-mentee family strengths and challenges and recommend further study related tot he value of mentoring and the role of family.
Larimore and McClennan 2005 USA	Literature survey on Native American student retention, discussed within the larger body of literature on retention				Emphasizes the importance of contact and support from American Indian faculty for American Indian students
Lunsford 2010a USA	PowerPoint presentation from Pre-conference workshop				How to create an effective mentoring relationship with steps that include: specify assumptions, develop evaluation framework, use logic model as a tool, the application of measurement and metrics, and monitor and improve
Lunsford 2010b USA	Explains the need to evaluate mentoring programs and then discusses the use logic models, measurement issues, survey tips, and a sample evaluation plan.				Program administrators need to understand basic evaluation measures for mentoring programs in order to improve them and to demonstrate their benefits

McGuire and Reger 2003 USA	Critique of the traditional academic mentoring model with description of a co-mentoring relationship grounded in feminist principles	Co-mentoring of two female graduate students with mentoring relationship continuing even after one moved away	Traditional methods of the expert-protégé mentoring relationship are questioned; co-mentoring is suggested as a more enriching mentoring experience yet authors do acknowledge some benefits to the traditional model.
Okawa 2002 USA	Details the experiences of two mentors and the minority students they mentored		Mentoring unpacks the benefits and challenges of being a minority in the Academy. Author explains how mentoring can "serve as cultural *and* activist practice."
Padilla USA	Presents Concept Model about what is known about Hispanics and higher education		Model includes the Macro Context, Family, Opportunity Structure, Institutional Climate, and Outcomes. Some findings indicate gender differences in which Latino males athletes who were mentored by White coaches had a strong focus on individualism and ambivalence toward their racial/ethnic identity while Latinas found support with other Latinas or Latino/a organizations, thus helping them to maintain a positive sense of racial/ethnic identity.
Patchell 2005 USA	This article looks at the multiple dimensions of mentoring as the author explains her efforts at helping Native American students enter and succeed in a "rigid-educational system."		Mentoring is a "multi-level activity." The author begins recruitment of nursing students by first approaching the family and responding to their concerns, often over several visits. The multi-dimensional approach includes "generational history, family belief system, cultural archetypes, individual learning style, and physical challenges."

Patterson and Carline 2006 USA	This is a review of partnerships between public schools and health profession schools in an effort to identify strategies to increase the representation of URMs in the health care field.			The article discusses partnership initiation, management, and institutionalization. Evaluation is an important component and needs the commitment of all partners from the beginning, being introduced as part of the program design. Partnerships are multidimensional and include academic enhancement or remediation, career awareness and motivation, mentoring, research apprenticeship, rewards incentives, and parental involvement.
Perry 1997 USA	Description of a university program to address the issue of underrepresented minorities in nursing.			Program includes academic support, mentoring, and collaboration on a project with a research faculty member.
Phinney 2011 USA	Evaluation of a mentoring program in which at-risk Latino freshmen (mentees) were mentored from fall to spring by upper division or graduate students from psychology and counseling majors	Latino college freshmen	Two longitudinal studies	Psychosocial factors for mentees improved (decreased depression and stress); factors contributing to positive outcomes were the amount of mentee-mentor contact and the quality of the relationship. Authors report the program was cost-effective.

Pizur-Barnekow et al. 2010 USA	Study of an interdisciplinary MCHB funded training program - Preparing Academically Successful Students in Maternal and Child Health (MCH PASS) - at the University of Wisconsin-Madison.	n=16; URM undergraduate students		Undergraduates in occupational therapy and speech-language pathology received financial support and training in maternal and child health. All except one went onto graduate studies. Participants gained increased understanding of how to better serve young children with disabilities and their families.
Reyner and Dodd 1995 USA	Study to determine what factors contributed to success and persistence of Native American students	24 American Indian students who were seniors at a state supported college in Montana; various tribal affiliations	In-person and telephonic interviews.	Major obstacle to college success were identified as: prejudice, finances, language, and alcohol. Twelve recommendations are provided including the assignment of a volunteer faculty mentor from the same major or area of interest to each incoming student; new students should enroll in at least one low enrollment course so as to receive more faculty attention; have a liaison person in the financial aide office; encourage Native American organizations to provide mentoring; and hire more Native American/Alaska native faculty.
Segrest et al. 2010 USA	Description of Launching Native Health Leaders (LNHL) – a program to recruit undergraduate students to attend health and research conferences to encourage retention and help impact health and research in Native American communities			Native American students are seen as "knowledge brokers" in building the capacity of academia to partner with Native American communities. The LNHL mentoring approach encourages students to use the Hero's Journey as a metaphor for their academic experiences and research career opportunities while drawing on traditional values and approaches. Case studies illustrate how this can be done. The holistic approach to health (including spiritual and emotional components) and its incongruence with "Western" approaches to research are discussed.

Shotton et al. 2007 USA	Study of a student-initiated, peer mentoring program for freshman, sophomores, and transfer American Indian students, started in 2001. The American Indian Retention Program (AIRP) was developed and totally administered by the students.	n=7; American Indian students in a predominately White midsized, public, Midwestern university	Peer mentoring - provides supports directed toward academic success, social integration, and personal development	focus groups and interviews of 7 mentors, ages 19-22, who had participated as new students and then went on to mentor others in their junior and senior years	Key elements identified as necessary for the establishment of the peer mentoring relationship were:1) the peer mentor's commitment to the program and the protégé, 2) the expression of genuine care for the protégé by the peer mentor, 3) the protégé's perception of the peer mentor as admirable, and 4) the ability of both members of the mentoring pair to relate to one another. A second major finding was that peer mentors have an important role in supporting students to overcome barriers to academic success. Appendices provide the mission statement, guiding principles, goals and objectives, and plan for the program.
Tekian et al. 2001 USA	Pilot study of mentoring and advising at-risk URM students prior to entering medical school and the effects on their performance	22 students			Students had a variety of mentors - physicians, teachers, advisors, medical students, family and clergy. Those with physician mentors had less difficulties academically. The ratio was the same of students who found their advisors to be helpful and not helpful. The assignment of advisors by the administration did not appear to have positive outcomes for the advising and mentoring process.
Thomas et al. 2007 USA	Studies strategies to improve mentoring opportunities for minority students				Begins with definitions of mentoring; uses the term "functional mentoring" for healthy mentoring relationships; cross-cultural mentoring; same race or ethnicity mentoring; consequences of negative mentoring experiences. Authors suggest successful mentoring involves multiple approaches: organizational strategies, faculty strategies, and minority graduate student strategies.

Voss et al. 2005 USA	Examination of the historical context of American colonial Indian education policy and challenges students face today in higher education			American Indian students identify the need for American Indian faculty mentors to assist them in negotiating academia while maintaining their cultural identities and bonds. There is a model for social work education that includes mentoring although it is not a specific mentoring model.
Weaver 2000 USA	Examination of the professional educational experiences of Native American social workers and students	63 Native American social workers and social work students	Qualitative study	Expressed need for more cultural content in curriculum. Identified need of American Indian students to have American Indian faculty as mentors to assist them in navigating academia while trying to maintain their cultural identities and bonds.
Wood 2001 USA	Description of several nursing programs designed to recruit and retain Native American nursing student; programs are showing great success in retention, the graduation rate, and the number of students who go on to graduate work			Mentoring is critical to recruiting and retaining Native American students. Important to know family; maintains open door policy; use of "intrusive monitoring" – being alert to students who are having difficulties and following up quickly; important to be aware of traditional beliefs and include cultural elements when possible (e.g. an annual traditional Indian potluck meal; events open with prayers, or open a ceremony to spiritually empower new students); circle of life concept for peer mentoring; many students complete their studies and go on to nurse in their home communities

APPENDIX B

MENTORING RESOURCES AND URM JUNIOR FACULTY

Author Year Country	Purpose of Article	Participants	Type(s) of Mentoring	Program Evaluation	Findings
Balmer et al. 2011 USA	Study of mentoring component of Amer. Ped. Assoc.'s Educational Scholars Program; focus on mentee's perspective; 2007-2008	(n=36); Race was listed as African-American, Asian, two or more races, and White; Pediatrics	"constellation of relationships" as mentoring evolved beyond a project mentor to multiple senior mentors and peer mentors (diagram)	Evolving focus group design; longitudinal study	Began as functional approach with mentors assisting with completion of a project; demonstrates needs change over time and additional mentoring relationships developed; 77% of mentors were same race as mentee with no discussion of significance; offers four lessons for practice
Benson et al. 2002 USA	To determine if a voluntary mentoring program with minimal resources be effective during a major institutional reorganization.	20% of junior faculty and 30% of senior faculty participated; African-Amer., Asians, Hispanics, Caucasian; multiple specialties	two-tier (first year preceptorship followed by mentoring over longer period of time); voluntary participation; junior faculty chose preceptor/mentor	self-reported survey data, focus groups, individual interviews, database of participation statistics	Results so positive that program became institutionalized; greater participation by minority faculty in both tiers of program; contributed to retention rate and productivity of faculty
Berget et al. (2010) USA	Describe a partnership in 2005 and 2006 between the Center for Minority Health at the University of Pittsburgh and the Center of Excellence in Minority Health at Jackson State University to design and present a Summer Research Career Development Institute.	55 postdoctoral fellows and assistant professors from around the country	Activities and workshops designed to help them in the development of research projects and the identification of funding strategies		The planning and evaluation model details barriers to success encountered by URM faculty, the components of the curriculum that address the barriers, outcomes, and short- and long-term evaluation results. Isolation and lack of mentoring were identified as barriers and participants had activities and received information on choosing an effective mentor, coping skills, and networking with other minority faculty. Many elements of this entire model can be adapted by other institutions.

Berk et al. 2005 USA	An Ad Hoc Faculty Mentoring Committee at the Johns Hopkins University School of Nursing explored how to measure the effectiveness of faculty mentoring relationships.				Committee developed a Mentorship Profile Questionnaire (describes the characteristics and outcome measures of the mentoring relationship from the perspective of the mentee) and the Mentorship Effectiveness Scale (evaluates the characteristics of the mentor). No mention of URM mentoring.
Butler et al. 2010 USA	To describe effectiveness of URMs in Diverse Surgeons Initiative (preparedness and mentorship program)	(n=76); Surgery	URM and non URM faculty members served as mentors and special sessions on Minimally Invasive Surgery (MIS) basics were offered over a 9-month period	Collected post-general surgery residency training and employment information	Mentoring is "essential " for a career in academia; mentoring began during their first weekend session and lasted for years; authors hope good results will encourage other medical specialties to develop similar national programs for URMs; support of diversity initiatives needs support of all faculty and not only URM faculty
Daley et al. 2006 USA	To determine the effectiveness of a junior faculty development program and try to counteract the disadvantages experienced by URMs	15 URMs and 97 non-URMs; multiple specialties	"instrumental" mentoring (average of 12 hours/ month) in addition to faculty development workshops, academic performance counseling session; project	Tracked four-year retention rates	URM junior faculty in School of Medicine increased from 58% to 80%; URMs in academic medicine increased from 75% to 90%; for those who completed the program, there was no difference in the retention rate of URM and non-URM faculty
Daley et Al. 2011 USA	To study the career status of URMs who completed a faculty development program ten years earlier	30 URM faculty who self-identified as African-American, Hispanic, Native American, and Pacific Islander	Instrumental mentoring	10 year longitudinal study; cohort of 30; this study reports on 12	Program was so successful, it is now institutionalized; 92% promoted to associate professor; 12 faculty authored 196 peer reviewed articles; ten obtained $12.6 million in funding and were the principal investigators

Dutta et al. 2010 USA	To identify potential positive and negative factors that impact URM faculty and their research efforts and careers	(n=39); African-American, Asian, Caucasian, and Hispanic; 14 foreign-born and 15 speak English as a second language; Rehabilitation and Allied Health	Not described	3-tier data collection	Begin recruitment in high school; long-term mentoring is beneficial; suggest 4 strategies regarding mentoring (described in narrative)
Edwards et al. 2008 USA	Examines the experiences of African-American female social work faculty in predominately White institutions of higher education				Feelings of marginalization, isolation, and invisibility are shared by the women in these studies. The research highlights the disregard for the major tenets of the profession and mission of social work education displayed by their White American counterparts. Recommendations include recruit and encourage minority students to pursue doctoral education; identify promising minority graduate students and mentor them; formal mentoring programs for junior faculty.
Elliot et al. 2010 USA	Study of how Native American women physicians define their personal and professional success. Intended as a way to better inform the use of mentoring and to encourage diversity; study took place 2006-2007	N=5; Native American women physician faculty		Qualitative study, snowball sampling	Good use of quotations with faculty expressing who they are, their world view, and their experiences; their identity is preeminently defined as being a Native American; traditional values are paramount, and giving back to the community is vital; and mentoring played an important role in their accomplishments.

Espinoza-Herold and Gonzalez 2007 USA	Article seeks to document recommendations from senior scholars on effective strategies to mentor graduate students and junior faculty.				Recommendations indicate that characteristics of good mentors include (a) acting as role models for learning how to use coping strategies and to develop resiliency to overcome challenges, (b) facilitating opportunities for scholarly productivity and academic success, (c) networking with colleagues to form a collective power, and (d) establishing an empathic connection between the mentor's multicultural experiences and the protégé's diverse background. Conclusions refer to the need to continue advancing diversity issues and mentoring programs for junior scholars in American universities.
Feldman et al. 2009 USA	Assessment of the Mentor Development Program at UCSF; measured increase in 5 issues (skill building tips, becoming a better mentor, policies and procedures, plans/goals, and increased interaction with other mid-level mentors and senior faculty)	(n=26); URMs (6 individuals, 23% - Asian, "Multi," "Other"); Schools of Dentistry, Medicine, Nursing, Pharmacy	Mentoring Team - Lead Mentor, Co-mentor, Career Mentor, and Advisor; mentors were mid-level or early senior faculty; also series of 10 case-based seminars; electronic faculty forums; wiki site	Pre- and post- survey using 5-point Likert scale	Positive results - Mentors-in-Training (MIT) reported program helped them to become better mentors, indicated an increase in confidence as a mentor, and increased understanding of mentoring issues at UCSF; authors state mentoring is "critical component" for career development and for ensuring pipeline of scientists;

Feldman et al. 2010 USA	To study characteristics related to having a mentor; mentoring and self-efficacy; and nature of mentor-mentee interactions	(n=464); African-American, Asian, Latino, White, and Other; of those with mentors, URMs =7%; Schools of Dentistry, Medicine, Nursing, Pharmacy	Mentoring Team with Career mentor, Scholarly mentor, and Co-mentor	Surveys; descriptive statistics; collected data analyzed using chi-square tests and odds ratios and t-test.	Findings: those with mentors were younger; self-efficacy scores significantly higher for those with a mentor; URMs as likely to have career mentors as non-URMs; "…UCSF Faculty Mentoring Program is the largest and most comprehensive program for academic health sciences faculty in the nation." (See description under Models)
Gravett and Petersen 2007 South Africa	To explore how new staff experience their entry into the academic community; historically, university faculty are largely white and male with efforts to offer appointments to "designated groups" ("Black people" - Africans, Coloureds, and Indians), women, and people with disabilities	Purposeful sample of 20 new staff - 10 males and 10 females, each gender with 5 black and five white	Dialogic three-tier mentoring model	Qualitative research design	Model uses a radical-humanist perspective referred by authors as dialogic approach; authors conclude this model is more effective than the "traditional mentoring," assists new staff in entering academia, and can serve as an agent of change in the university by supporting diversity. See illustration of the model in the Faculty Models section.
Kosoko-Lasaki et al. 2006 USA	Description of mentoring programs for women and URM faulty and students at Creighton University Health Sciences School and Wake Forest University School of Medicine	130 students and >50 women and URM faculty had participated in these programs at the time of the study			To ensure success of women and URM in their academic careers, specific mentoring is required at all levels of academia. The mentoring programs have been successful in the short-term. Because of difficulties in expanding various support activities, keeping participants engaged, and closely monitoring the progress of the junior faculty, one university hired a program coordinator. Adding a coordinator allowed expansion of the program and more careful monitoring. The need for evaluation of measurable outcomes was noted.

Jaime and Rios 2006 USA	Study of a Native American faculty member and Native American student in a predominately White university; considers negotiation of cultural isolation and resistance to prejudice encountered	One faculty member and one student			The faculty member and student found relief from the cultural dissonance encountered in the academic setting by providing support to each other.
Johnson-Bailey and Cervero 2004 USA	Discusses the complexities and success of a 13-year cross-cultural mentoring relationship that began as a student-teacher and continued as student-major professor, assistant professor - professor, and faculty member-department head	Case study of cross-cultural mentoring. Two individuals, African-American female who started as the student and a White male who was the teacher; Adult Education	Recommend that new faculty develop "Mentoring consortium" to address multiple needs - e.g., co-mentors, self-mentoring group with other scholars or faculty	Each author presented her and his own perspectives separately and then together reviewed the issues with references to other studies	Cross-cultural mentoring can be successful - requires starting with some similarities or common ground and open communication. Need to consider 6 issues: trust between mentor and protégé, acknowledged and unacknowledged racism, visibility and risks related to minority faculty, power and paternalism, benefits to mentor and protégé, "double-edged sword of 'otherness' in the academy"
Koopman and Thiedke 2005 USA	Study of attitudes toward mentoring of family medicine department chairs with emphasis on female and minority faculty	13 Chairs in US departments of family medicine	Respondents recommended multiple or serial mentors to meet career and content needs	Purposeful sampling; semi-structured and open-ended interviews	While most respondents believed that mentoring is valuable, few of the departments had formal mentoring programs; mentoring relationships evolve over time with possible development into a peer relationship

Mahoney et al. 2008 USA	Examination of perceptions and experiences of URM faculty at University of CA, San Francisco because of constitutional measure to outlaw affirmative action programs	36 faculty; 17 African-American, 3 Asian, and 16 Latino; study was designed to ask about their experiences as minorities, perspectives on diversity and discrimination in academic medicine, and recommendations for improvement	Study was not designed to specifically address mentoring and this topic came up in the evaluation	One-on-one interviews using an interview guide with open-ended questions	All participants considered mentoring to be of great importance in contributing to their success; mentoring was correlated with career satisfaction; minority mentors provided "cultural and emotional support and a sense of belonging to a community;" mentors helped mentees to understand and function within the institutional structure; agreement on a need for more mentors; having multiple mentors was beneficial and the decision to chose multiple mentors was usually made because of necessity
Merchant and Omary 2010 USA	Analyzes the lack of URMs in U.S. medical school faculty and makes recommendations for the "pipe" and the "pipeline"				"Women URMs are doubly underrepresented, particularly as the academic rank increases from the instructor to the professor level and gender discrepancies occur more prominently among White female faculty." Authors make recommendations for the recruitment and retention of URMs beginning pre-doc and advocating support of increasing the number of URM and non-URM faculty that can serve as mentors for URM students and junior faculty.
Palmer et al. 2011 USA	Describes the assessment process used to evaluate the value that faculty development adds to the institution at one medical school.	Emphasis on women and junior faculty.		Changed was measured over approximately two years.	Includes description of interventions and programs that influenced the results. "Results show significant gains across all items and multiple faculty demographic groups. The findings have implications for both decisions about faculty development and assessing its impact."

Pololi and Knight 2005 USA	Comparison of two different mentoring programs	Junior and senior faculty	Dyadic ("traditional") and Collaborative Mentoring (facilitated group peer mentoring) Programs	Qualitative research design	Results suggest that URM faculty may benefit from "nontraditional" mentoring models
Price et al. 2005 USA	To explore perceptions of physician faculty regarding cultural diversity climate at institution (Johns Hopkins) and facilitators and barriers to success	29 non-tenured physicians in tenure-track representing 9 clinical departments, 4 career tracks, and 4 ethnic groups (African-American, Asian, Hispanic, White)	N/A	Qualitative research design using focus groups and semi-structured interviews	Four suggestions for improving diversity climate at university; lack of mentorship for URMs as a structural barrier hindered success
Price et al. 2009 USA	Assess perceptions of URMs and majority faculty physicians regarding diversity climate at Johns Hopkins University School of Medicine and to identify suggestions for improvement	n=352; URMs (n=30; 8.5%); more difficulty reported in recruiting URMs for this study; URM = Black, not Hispanic; Hispanic; and Native American. Majority = White, not Hispanic; Asian)	Not detailed; for URMs, n=24 (80%) who had at least one mentor.	Cross-sectional survey using multivariate logistic regression	Fewer URM faculty reported having mentor of same race or ethnicity. URM and non-URM had mentors with similar career paths. Mentors rarely discussed personal or social matters and did not teach negotiation skills. Most interaction with mentors concerned institutional and career issues. No racial or ethnic differences reported in the quality of mentorship; URM more likely to believe faculty recruitment was biased and less likely to anticipate being in current institution in five years.

Sambunjak et al. 2006 USA	Review of medical literature, 1991- 2006, about prevalence of mentoring and its relationship to career development	42 articles (39 studies) met criteria for systematic review. Most studies were from the U.S., although several were from Canada, Germany, and the U.K.		Used multiple databases. No restrictions were placed on language or study methods. No qualitative studies.	While most of the literature speaks to the importance of mentoring in academic medicine, these authors conclude that "the evidence to support this perception is not strong." They call for evidence-based research using more rigorous evaluation methods and cross-disciplinary approaches. This is the article cited most frequently by other authors in this current review when it came to questioning the efficacy of mentoring.
Sinkford et al. 2009 USA	Presents lessons learned from the American Dental Education Association Minority Dental Faculty Development Program	46 URM candidates (24 African-American, 18 Hispanic/Latino, 4 Native American)	Mentor/mentee; some programs offer peer-to-peer mentoring; multiple mentors for some respondents	Annual series of qualitative and quantitative assessment of grantee programs; use of W.K. Kellogg Logic Model as planning and evaluation tool; site visits; document review; annual leadership meetings	Results and lessons learned: institutional leadership is essential; programs tried to address financial imbalance between practice and research; internal and external partnerships form collaborative environments that encourage learning; solid mentoring contributed to personal and profession success; many mentees participated in some way in community-based practice and research; and need for long-term research support for new faculty members.
Smalling , S. USA	Reference from Wisdom Council member with one page summary provided	American Indian faculty and students			In an academic setting, mentoring helps to manage conflict and maintain cultural integrity; mentors share wisdom and serve as a sounding board; participants value culturally congruent role models and mentors; mentors lessen the impact of feelings of isolation; American Indian faculty would like the opportunity to engage with other American Indian faculty at other universities for collaboration and peer mentoring.

Stanley and Lincoln 2005 USA	Details a cross-cultural mentoring relationship and suggests lessons learned	2 women, African-American (mentee) and White (mentor)		Attracting and retaining African-American faculty at institutions where they are a minority is a challenge. Providing mentoring has implications for success for the minority faculty and the institution. Authors provide a list of 10 very useful lessons learned such as: "cross-race mentoring may begin with an 'assignment,' but it is built on a relationship" and "mentoring is a part of the institutional citizenship responsibilities of every senior faculty member, not a form of overload."
Taherian and Shekarchian 2008 USA	Discussion paper of mentoring physicians - purposes, advantages, challenges, styles of mentoring, and recent developments			Authors believe that implementation of any mentoring program is key to its success; emphasis on "active listening" and its importance to the mentoring relationship; they discuss cost-effectiveness and make the point that while mentoring can offer many benefits, there is still not strong enough evidence in the literature to support this.
Tippeconnic Fox 2008 USA	Studies joys and challenges of being a professor as experienced by American Indian women	10 American Indian women in public Research I universities	Qualitative study	Experiences are both satisfying and challenging - respondents note feelings of isolation, that their research is undervalued, it is difficult to find mentors, and there is a lack of colleagues to assist in developing ideas thus having to go outside their departments for intellectual support

Turner et al. 2008 USA	Literature review of 252 publications from the past 20 years (1988-2007) on barriers and successes of faculty of color in academe, focusing on departmental, institutional, and national contexts.			Authors found promoting mentoring programs to be paramount in all examined contexts. Mentoring has a significant amount of empirical support as a method for integrating and supporting faculty of color into academe by: 1) improving rates of publication, 2) increasing grant submissions, 3) improving student evaluations, and 4) allowing for socialization.
Viets et al 2009 USA	Description of a culturally centered mentorship program based at the University of New Mexico.			Example of a culturally competent mentoring model (CCMM) for minority faculty researchers (from a variety of disciplines) that included collaboration with the Community Advisory Board, monthly symposia with renowned professionals, pilot projects, and conference support. Mentees showed increases in grant submissions, publications, and professional presentations.
Waitzkin et al. 2006 USA	Evaluation of mentoring programs for URM faculty and advanced graduate students in the Southwest United States	n=18; African-American, Caucasian, Hispanic, and Native American	Intensive Institute, tutorial sessions, one-on-one mentoring, informal get-togethers, mentee support groups, community Advisory Board sessions, research methods, grant applications and management	On-going evaluation; interview instrument for mentees and mentors sent by email as preparation for telephone interviews; narrative evaluations	Those with common research interests had more positive mentoring experiences; unsuccessful matches were attributed to scheduling conflicts, geographic distances, and personality differences; same gender and or ethnicity/race between the mentees and mentors contributed to a greater sense of support for the mentee; contributed to career development (grant proposals, publications)

Walters and Simoni 2009 USA	Need to address barriers to American Indian and Alaska Native (AIAN) scholars in mental health and HIV fields		Good synopsis of barriers including mistrust of educational systems and health research, educational barriers, role burdens, marginalization of research interests, discrimination, and microaggressions. Authors make specific suggestions to overcoming barriers encouraging that AIAN "values, principles, and ways of relating are respected and ultimately integrated into larger academic system." Specific suggestions include research partnerships, changing the reward systems, and using the two ethical frameworks of "independence" and interdependence."
Yager et al. 2007 USA	Description of training program to develop minority faculty for mental health services research careers – the Research Infrastructure Support Program (MRISP) and NM Mentroship and Education Program both funded by NIMH	American Indian and Hispanic	Program began at University of New Mexico and expanded to regional and national programs. Mentorship and Education Program included annual training institute with didactic curriculum, tutorial sessions, one-on-one mentoring, participation of a community advisory board, informal gatherings, and peer support groups.
Zellers et al. 2008 USA	Article reviews history of mentoring programs in the U.S. in business and academe, notes challenges associated with the study of mentoring, and reviews prior limited research.		Recognizing that mentoring is contextual, the authors stress the importance of understanding mentoring programs within the context of academic culture rather than trying to model them according to corporate culture. Authors encourage more public dissemination and sharing of faculty mentoring models that work with other universities.

The National Center for Cultural Competence

The National Center or Cultural Competence (NCCC) provides national leadership and contributes to the body of knowledge on cultural and linguistic competency within systems and organizations. Major emphasis is placed on translating evidence into policy and practice for programs and personnel concerned with health and mental health care delivery, administration and advocacy. The NCCC provides training, technical assistance and consultation and contributes to knowledge through publications and research. It creates tools and resources to support health and mental health care providers and systems, supports leaders to promote and sustain cultural and linguistic competency, and collaborates with an extensive network of private and public entities to advance their implementation of these concepts. The NCCC provides services to local, state, federal and international governmental agencies, family advocacy and support organizations, local hospitals and health centers, quality improvement organizations, national professional associations, and foundations. In addition, the NCCC's web based curricula, publications, and products are accessed by tens of thousands of individuals each year.

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