

# Health professional faculty perspectives on community-based research: implications for policy and practice

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**Summary** *Community-based research (CBR) has become central to the understanding and elimination of health disparities within the USA and across the globe. The authors sought to determine the perspectives of health professional faculty on the factors affecting their involvement in CBR and the extent of community participation in that research. Faculty from 18 health professional schools in the USA identified by their deans as being leaders in CBR completed a written survey. Respondents reported that between 5–10% of faculty in their schools were involved in CBR. Public perception of the university, familiarity with community-based organization leaders and institutional leadership were cited as the most significant factors contributing to a school's involvement in CBR. Long-term community relationships, recognition in tenure and promotion policies and access to funding were cited as factors that support faculty in conducting CBR. The authors conclude that a more significant investment of public and private funds, the development of interdisciplinary institutional structures for community partnerships and a more inclusive definition of scholarship are needed to achieve a central role for CBR in efforts to understand and eliminate health disparities.*

**Key words:** *Community-based research; community-based teaching; faculty; scholarship; community-academic partnerships; institutional research.*

## Introduction

Organizations, funding agencies, researchers and communities are increasingly calling for an approach to public health research that recognizes the important influence of social, political and economic systems on health behaviors and outcomes. These calls are due to many converging factors, including our increased understanding of the complex issues that affect health, the importance of both qualitative and quantitative research methods, and the need to

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translate the findings of basic, interventional, and applied research into changes in practice and policy (Israel *et al.*, 1997). As a result, participatory models of research, in which communities are actively engaged in the research process through partnerships with academic institutions, have become central to the elimination of health disparities as articulated by the US Centers for Disease Control and Prevention, the Institute of Medicine, the World Health Organization and other influential bodies (Stoto *et al.*, 1997; Schroeder, 1999).

Although individual research centers have reported the challenges, barriers and facilitating factors they have faced in conducting community-based research (CBR), significant questions remain about the factors that affect the involvement of higher educational institutions in CBR, and the extent of community participation in such research (Hatch *et al.*, 1993; Levine *et al.*, 1994; Schulz *et al.*, 1998; Wallerstein *et al.*, 1999). We sought to answer these questions in order to better understand the environment for CBR in the USA and to provide guidance to health professional faculty and academic institutions that seek to expand their community engagement.

In 1997, we conducted a study of eight universities to understand the factors affecting their involvement in community-based teaching, research and service, and the nature of community participation in these activities from the perspectives of senior administrators, deans, faculty members and community-based coordinators in the health professions (Calleson *et al.*, 2002). Senior administrators reported that their institution's orientation toward CBR had increased in the 3 years preceding the study (1993–1996) and was expected to continue to increase in the next 5 years (1997–2002). Deans of the health professional schools comprising these universities reported that faculty members need to be rewarded more for CBR. In this paper, we present the perspectives of faculty members within these schools who have shown leadership in CBR.

## Methods

### *Selection of universities*

As described in an earlier paper, we used a two-stage sampling design to select the universities and the key respondents within each (Schulz *et al.*, 1998). We limited the pool of candidates to the 125 universities that are academic health centers (AHCs); in other words, that have a medical school, one other health professional school (e.g., nursing, pharmacy) and a teaching hospital. We selected eight universities that by objective inclusion criteria had shown significant community involvement in the health professions. Community involvement for this study was defined as participation in community-based education (e.g., service-learning), community-based research, community-based clinical care, community service and community and economic development.

The eight participating academic health centers included two private and six public institutions and research and non-research intensive institutions. We considered a university to be research intensive if the medical school was listed in the top 25 schools funded by the National Institutes of Health (1996) in the fiscal year 1996. Four of the eight academic health centers in the study fit this profile.

### *Survey development and administration*

We developed six written survey instruments to assess the perspectives of different leaders within the university. Each of the surveys contained numeric, forced-choice and open-ended questions. Three of the surveys were geared toward senior administrators (vice chancellors, chief executive officers, and deans) and were sent directly to the individuals in these positions

at the eight academic health centers. Topics covered in these surveys include the effect of external forces (i.e. public perception, requests for assistance from the community) and internal forces (i.e., leadership, mission, faculty roles and rewards) on the institution's community involvement. The other three surveys covered similar topics and were geared toward individuals within each school who were responsible for community-based education, CBR or community service (referred to as project-level leaders). The deans of the health professional schools comprising each academic health center were asked to identify project-level leaders to complete these surveys.

In the surveys, CBR was defined as 'research that involves community members in identifying specific community-based problems and environmental conditions to study. This method supports a highly collaborative model of data gathering, analysis, and policy formation between university researchers and community members. Researchers work with community members to utilize the findings in ways that directly benefit the local community. This differs from an expert model of research in which the authority and control of research questions are proposed by the researchers themselves.' Approval for the study was given by the Institutional Review Board of the University of North Carolina-Chapel Hill.

### *Analyses*

We analyzed the surveys completed by project-level leaders for CBR ( $n = 18$ ). Quantitative analyses involved descriptive statistics and two sample *t*-tests. The qualitative data were drawn from open-ended questions. We used the qualitative data to cross-check our findings with the quantitative data and to identify repeating themes that were not identified on the forced choice survey items.

## **Results**

### *Study respondents*

All eight academic health centers that were invited agreed to participate in this study. Twenty-seven health professional schools comprising these academic health centers participated in the study, including eight medical, six nursing, five pharmacy, three public health, four dental, and one allied health. Eighteen out of 27 project-level leaders in CBR completed the surveys, for a response rate of 67%. All 18 project-level leaders in CBR held faculty positions. The group was comprised of 12 women, 6 men, 17 Caucasians and 1 African-American. One respondent is a former National Health Service Corps provider, 6 self-identify as being an 'activist in the 60s' and 10 report being involved in voluntary service with not-for-profit organizations.

### *Extent of institutional involvement in CBR*

Respondents reported that between 5–10% of faculty in their school were involved in CBR. Of the 18 respondents, 11 indicated that their school has not established a set of CBR policies or guidelines for faculty to follow. Four respondents were not sure if such policies or guidelines existed at their school. Thirteen respondents, representing 7 of the 8 universities, reported that their school supports at least one center or institute that is involved in CBR. Respondents from two of the universities involved in the study reported more than one such center or institute.

Based on a four-point Likert scale ranging from 1 = 'not at all,' to 4 = 'considerable extent,' respondents indicated that the school's involvement in CBR has been embraced to a moderate extent by institutional leaders (mean = 3.07, SD = 0.73) and to slightly less moderate extents by the community (mean = 2.93; SD = 0.59) and by faculty (mean = 2.71; SD = 0.47).

### *Forces affecting the school's involvement in CBR*

*External forces.* We asked project-level leaders to identify the external forces they perceived to facilitate and/or create barriers to their school's involvement in CBR (see Table 1). Based on a five point Likert scale ranging from 1 = 'major barrier' to 5 = 'greatly facilitates,' respondents reported 'public perception of your AHC' (mean = 4.19, SD = 0.98) as the greatest facilitator of the school's involvement in CBR. 'The availability of federal and foundation grants' (mean = 3.66, SD = 1.20) and 'increased requests for assistance by the broader community' (mean = 3.65, SD = 1.11) were also viewed as significant facilitators. Social and economic decline in the surrounding community was viewed as having no impact on the school's involvement in CBR (mean = 3.00, SD = 0.61). 'Recent cuts in state and federal funding' (mean = 2.56, SD = 1.26) and 'fiscal uncertainty as it relates to the changing health care environment' (mean = 2.82, SD = 1.24) were viewed as partial barriers to the school's involvement in CBR; no major external barriers were identified among the choices given.

The open-ended responses reiterated the quantitative responses, especially pertaining to the public perception of the school and the availability of research funding. A medical school respondent wrote '*if the community perceives a need for the university to assist or partner with them, this greatly enhances the likelihood of our involvement.*' This same respondent wrote '*funding opportunities always catch the attention of researchers.*' A dental school respondent cited '*longstanding strong reputation and recent positive media*' as facilitating the school's involvement in CBR. A nursing school respondent wrote '*to make any substantial contribution to the community through research, then it is necessary to have funds.*' Another nursing school respondent elaborated that '*grant support ultimately drives the research that is undertaken ... the emphasis is currently on CBR for a number of priority nursing research areas.*'

*Internal forces.* We asked project-level leaders to identify the internal forces they perceived to facilitate and/or create barriers to their school's involvement in CBR (See Table 2). Based on the same five point Likert scale as above, respondents perceived 'familiarity with leaders of community-based organizations' (mean = 4.29, SD = 0.99) as the greatest internal facilitator of their school's involvement in CBR. 'Institutional leadership' (mean = 4.18, SD = 0.95) and the 'existence of foundation or federal grants' (mean = 4.00, SD = 1.08) were also viewed as significant facilitators 'Faculty roles and

**Table 1.** Perceived external forces for a school's involvement in CBR

Variable	CBR	
	Mean (n=18)	SD
Public perception of your AHC	4.19	.98
Availability of federal and foundation grants	3.66	1.20
Increased request for assistance by the broader community	3.65	1.11
Increased need to be accountable to the state legislature	3.38	1.06
Growth of managed care	3.28	1.07
Social and economic decline in surrounding communities	3.00	.61
Fiscal uncertainty as it relates to the changing health care environment	2.82	1.24
Recent cuts in state and federal funding	2.56	1.26

This question is based on 5-point two directional scale where (1) 'major barrier,' (2) 'partial barrier,' (3) 'no impact,' (4) 'partially facilitates,' and (5) 'greatly facilitates' community involvement. AHC = academic health center (see text for definition).

**Table 2.** Perceived internal forces for a school's involvement in CBR

Variable	CBR	
	Mean ( <i>n</i> = 18)	SD
Familiarity with leaders of community-based organizations	4.29	.99
Institutional leadership	4.18	.95
Existence of foundation or federal grants	4.00	1.08
Clinical faculty interest in working with communities	3.94	1.09
Availability of a structure for community involvement (e.g. center, council, office)	3.65	1.22
Student demand to be involved in community service initiatives	3.65	.79
Faculty roles and rewards policies	2.88	1.41
Availability of staff to coordinate community-based activities	3.00	1.46

The question is based on a 5-point two directional scales ranging from (1) 'major barrier,' (2) 'partial barrier,' (3) 'no impact,' (4) 'partial barrier' to (5) 'greatly facilitates' community involvement.

rewards policies' (mean = 2.88, SD = 1.41) was viewed as a barrier to the school's involvement in CBR.

Again, the open-ended responses elaborated on the quantitative responses. A medical school respondent observed that '*though only a few faculty promote and are actually engaged in CBR, they receive moderate encouragement from institutional leadership, considerable support from each other and substantial incentive from the community in terms of intrinsic rewards.*' An allied health school respondent wrote that '*the lack of additional federal monies or federal grants prevents to some degree a total involvement or commitment to CBR.*' A school of public health respondent wrote that '*faculty are concerned about promotion and tenure.*'

#### *Faculty development, roles and recognition for CBR*

We asked project-level leaders to identify success factors for faculty who conduct CBR (see Table 3). The most important factors identified were 'a long-term relationship with the community' (*n* = 16, 88%), recognition in promotion and tenure policies (*n* = 15, 83%), access to funding (*n* = 14, 78%) and support from academic leaders (*n* = 13, 72%).

Respondents identified major challenges or impediments faculty face in conducting CBR (see Table 4). Nearly all respondents (*n* = 16, 89%) indicated 'lack of support from the academic leaders.' Other major challenges included 'insufficient release time' (*n* = 13, 72%) and 'insufficient funding available' (*n* = 12, 67%).

#### *Understanding of institutional mission*

We asked project-level leaders to report their understanding of their school's mission based on a 3 point Likert scale where 1 = 'not at all important,' 2 = 'somewhat important' and 3 = 'very important.' Respondents reported that 'providing interdisciplinary education among the students in the various health professions,' (mean = 2.65, SD = 0.49) 'increasing the number of student clinical experiences in non-hospital settings' (mean = 2.59, SD = 0.71) and 'increasing the provision of clinical services in non-hospital settings' (mean = 2.59, SD = 2.59) as being most important to their school's mission (see Table 5). 'Designing education and research to help activate and empower communities regarding their resident's health' (mean = 2.28, SD = 0.57) and 'involving community-based organizations in the AHC's mission of research, teaching and community service' (mean = 2.35, SD = 0.49) were viewed as least important to their institution's mission among the choices.

**Table 3.** Factors that support faculty in conducting CBR

Variable	CBR (n=18)	
	f	p
Long-term relationship with the community	16	88
Recognition in tenure and promotion policies	15	83
Access to funding	14	78
Support from academic leaders	13	72
Research requests by community members/agencies	10	56
Sufficient release time for faculty	9	50
Peer faculty support	8	44
Research requests by community members/agencies	6	33
Technical assistance	2	11

**Table 4.** Barriers for faculty conducting CBR projects

Variable	CBR (n=18)	
	f	p
Lack of support from the academic leaders	16	89
Insufficient release time	13	72
Insufficient funding available	12	67
Inadequate school-community relationships	7	39
Lack of faculty development	7	39
Inadequate rewards for faculty	4	22
Lack of technical assistance	4	22

**Table 5.** Respondents' understanding of school's mission

Variable	CBR	
	Mean (n=18)	SD
Providing interdisciplinary education among the students in the various health professions	2.65	.49
Increasing the number of student clinical experiences in non-hospital settings	2.59	.71
Increasing the provision of clinical services in non-hospital settings	2.59	.62
Improving the overall health of local communities	2.50	.62
Involving students, faculty, and staff in community service	2.44	.63
Conducting research on community health that involves community members or agencies	2.39	.50
Involving community-based organizations in the AHC's mission of research, teaching, and community service	2.35	.49
Designing education and research to help activate and empower communities regarding their resident's health	2.28	.57

This question is based on three point scale ranging from (1) 'not at all important,' (2) 'somewhat important' to (3)'very important.' AHC = academic health center (see text for definition).

### *Definition of community*

We asked project-level leaders to indicate how their schools define community: as the local neighborhoods surrounding the school, the city or town in which the school is located, the nearby counties surrounding the school, and/or the state-wide community. Ten of 18 (56%) respondents indicated that their schools defined community as encompassing all of the above statements; two of these 10 also included the international community in their school's definition of community. Six of 18 (33%) respondents did not include the state in their school's definition of community.

### *The community's role in CBR*

Based on the 3-point Likert scale used above, respondents indicate that community members or agencies are involved between a slight to moderate extent ( $\text{mean} = 2.67$ ,  $\text{SD} = 0.82$ ) in identifying the community's health research needs and the research objectives ( $\text{mean} = 2.56$ ,  $\text{SD} = 0.73$ ). During the analysis phase, community representatives are involved to a slight extent ( $\text{mean} = 2.20$ ,  $\text{SD} = 0.68$ ) (see Table 6). Respondents report that CBR 'increased the community's capacity to conduct independent research' by less than a slight extent ( $\text{mean} = 1.75$ ,  $\text{SD} = 0.45$ ) and that CBR at their institutions 'encourages the relationship with the community to last beyond the life of the project' to less than a moderate extent ( $\text{mean} = 2.73$ ,  $\text{SD} = 0.59$ ). A medical school respondent wrote that '*most faculty began their work in the expert paradigm but are learning or evolving into a participatory framework.*'

Based on a four point scale ranging from 1 = 'strongly disagree,' to 4 = 'strongly agree,' project-level respondents agree that collaboration exists between the community and the school ( $\text{mean} = 3.06$ ,  $\text{SD} = 0.43$ ).

### *Community outcomes*

Respondents reported on the outcomes of CBR. Based on a four point scale ranging from 1 = 'not at all' to 4 = 'considerable extent,' the outcome that received the highest rating ( $\text{mean} = 3.38$ ,  $\text{SD} = 0.50$ ) was that CBR 'improved the institution's reputation within the community.' 'Enabling our community partner to better meet needs that exist within the community' was found to be an outcome of CBR to a moderate extent ( $\text{mean} = 3.07$ ,

**Table 6.** Perceived relationships with community members/agencies through CBR

Variable	CBR ( $n = 18$ )	
	Mean	SD
Encourages the relationship with the community to last beyond the life of the project	2.73	.59
Involves community members/agencies in identifying the health research needs of the community	2.67	.82
Involves community members/agencies in defining research objectives and determining how the research will be conducted	2.56	.73
Involves community members/agencies in the analysis of the data and the distribution of the results	2.20	.68
Increases the community's capacity to conduct independent research	1.75	.45

This question was based on a four point scale ranging from (1) 'not at all,' (2) 'slight extent,' (3) 'moderate extent,' to (4) 'considerable extent.'

SD = 0.27). The outcome that received the lowest rating (mean = 2.60, SD = 0.74) was that CBR 'enabled the school to actively involve the community in its academic programs' from a slight to moderate extent.

### **Study limitations**

The purposive sampling technique we used to select the universities limits the generalizability of the findings. We designed the study to learn from universities with health professional schools that are significantly involved in the community. The study's external validity is strengthened by our use of multiple methods to triangulate the data. Also, the study sought only US-based institutional perspectives. Despite these limitations, our findings are instructive to academic institutions, including those in other countries that are at different points along the continuum of becoming fully engaged in their communities.

### **Discussion**

Although the institutions in the study were selected based on objective criteria of their extensive community involvement, respondents report only 5–10% of their faculty are involved in CBR. Our study findings reveal a number of key issues related to faculty and community participation in CBR that have implications for future policy and practice.

#### *Funding*

Our study findings underscore the importance of the availability of external grant funding to the ability of faculty to pursue CBR. The federal funding environment for CBR in public health appears to be improving, with recent investments by the National Institutes of Health in behavioral, social sciences and environmental justice research, and by the Centers for Disease Control and Prevention in prevention research. Private foundations are also expanding their support, with the WK Kellogg Foundation's Community Health Scholars Program (a post-doctoral fellowship in CBR) and the Robert Wood Johnson Foundation's new focus in behavior change and population health sciences. Federal government funding will be even more critical in the future, as foundation grants often pay little overhead costs if any at all and academic institutions value these grants less than those which pay substantial overhead costs (Israel *et al.*, 1997). Further, having external grant support is highly correlated with faculty promotion and tenure (Calleson, 1998).

#### *Faculty roles and rewards*

Recognition in faculty promotion and tenure policies was seen by the majority of respondents as important to a faculty member's success in conducting CBR. CBR poses challenges to traditional definitions of scholarship and paths to promotion and tenure in health professional schools (Maurana *et al.*, 2000). Most academic institutions confer tenure and promote faculty based primarily on the quantity and caliber of peer-reviewed publications (Boyer, 1996). The time involved in relationship building, jointly developing and implementing the research, collecting and analyzing data, and discussing the results with the community often means that it takes longer before research results are generated and published in peer-reviewed publications (Israel *et al.*, 1997). Further, peer-reviewed publications may not be the most important mechanism for sharing results from CBR.

Health professional schools are beginning to assess how scholarship is defined and evaluated. The Association of American Medical Colleges' recent status report on faculty

appointment and tenure shows that medical schools are introducing new faculty tracks and career pathways (Jones & Gold, 2001). Association of Schools of Public Health's Council of Public Health Practice Coordinators is raising awareness and recognition of practice-based scholarship in public health (Demonstrating Excellence in Academic Public Health Practice, 1999). An American Association of Colleges of Nursing position statement on the definition of scholarship in nursing supports community-based scholarship and provides examples of the types of documentation needed for promotion and tenure reviews (AACN, 1999). Nevertheless, actual examples of promotion and tenure policies that support CBR are few and far between (National Institute of Health, 1996; Nora *et al.*, 2000). Examples of such policies, as well as portfolios of CBR faculty who have successfully navigated the promotion and tenure process, would be valuable resources. In making grant decisions, funding agencies should consider the extent to which policies and procedures are in place to recognize and reward faculty who are engaged in the grant-funded CBR.

#### *Institutional structure*

All but one respondent identified centers within the university where CBR is conducted. Since grant funding, requests from community and familiarity with leaders of community-based organizations were viewed by respondents as facilitators, these centers appear to serve an important role in facilitating community relationships, responding to community requests, obtaining grants and managing the research process. Centers can offer opportunities for multidisciplinary faculty with similar research interests to collaborate and provide peer support (Singleton *et al.*, 1997). Universities without such centers might wish to examine these models in greater detail and consider convening faculty involved in CBR from across the campus to explore opportunities for developing one. For universities that already have centers for service-learning, these centers might broaden their areas of focus to include community-based research.

#### *The role of CBR in the academic mission*

Respondents regard community-based teaching and clinical care as more central to their school's mission than CBR. With the increasing emphasis on preparing community-oriented, culturally competent health professionals (Pew Health Professions Commission, 1995), perhaps it is easier to see how the teaching and service missions are strengthened by community involvement than the research mission. Project-level respondents for CBR perceive less collaboration with the community than our previously reported data from project-level respondents for community-based education (Calleson & Seifer, 2002). This may be in part because hosting students for service-learning or clinical placements is viewed by communities as having fewer threats and greater value than being involved in research (Gelmon *et al.*, 1998). In minority communities in particular, a history of skepticism and mistrust exists over research conducted by universities that is not easily overcome (Connors & Seifer, 1997; Corbie-Smith *et al.*, 1999). Community-based organizations may be more willing to participate in research if they are approached and treated as partners in the process (Israel *et al.*, 1997; Seifer & Maurana, 1999). Findings from a national demonstration program of service-learning in the health professions suggest that faculty-community relationships that begin when students are placed in community agencies can evolve over time to include research and evaluation components (Gelmon & Holland, 1998). These findings highlight the important role of service-learning in helping to build a foundation of trust with communities that is essential for the conduct of community-based research.

### *Community participation, partnership and capacity-building in CBR*

Our findings reveal that public perception both drives and is enhanced by a university's involvement in CBR. Respondents clearly see strong, sustained community relationships as being key to being able to conduct CBR. Yet, much of the CBR taking place in these institutions should not be considered community-based *participatory* research. In this study, as one moves from the identification of community health concerns, to determining the research question and methods, to analyzing the data and disseminating the results, respondents perceived less and less involvement of the community. Research is needed to better understand community participation in CBR, especially from the perspective of community agencies and members.

Community-based participatory research places a high value on sustaining community-campus partnerships and building the capacity of communities to identify and solve problems (Israel *et al.*, 1997). Community capacity building was not viewed as a significant part of CBR by study respondents. In considering the school's mission, respondents viewed activating and empowering communities as secondary to involving the community in the academic mission. These findings do not reflect published community-based public health research principles (Schulz *et al.*, 1998). The lack of policies or guidelines for conducting CBR in these universities may exacerbate or perpetuate the lack of community participation in all aspects of the research process. Universities and community partners without these policies can learn from those that have them in place. Institutions that have service-learning guidelines in place could adapt those for community-based research purposes. Faculty development, such as post-doctoral or mid-career fellowships, mentoring and training, could play an important role in equipping faculty with the knowledge, values and skills required to conduct CBR.

### *Implications for the field of service-learning*

Our findings raise important questions and issues for the field of service-learning. Many of the same challenges and barriers that faculty face in conducting CBR have been described in connection with service-learning. Together, faculty involved in CBR and faculty involved in service-learning from across the health professions could comprise a more significant force for change within the institution than either group working alone. Linking teaching and research in the same community offers the potential to bring greater benefits to both the campus and the community, through interdisciplinary collaboration, strengthened partnerships, and the translation of research into practice.

## **Conclusion**

A more significant investment of public and private funds, the development of interdisciplinary institutional structures for community partnerships and a more inclusive definition of scholarship are needed to achieve a central role for CBR in efforts to understand and eliminate health disparities. Much of the CBR taking place in health professional schools may not be community-based *participatory* research. Universities need to invest resources in community partnerships that address community concerns in order to build the trust necessary for community-based research. The fields of service-learning and CBR would be well-served by working together to address shared challenges.

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## References

- AACN TASK FORCE ON DEFINING STANDARDS FOR THE SCHOLARSHIP OF NURSING (1999). *Position statement on defining scholarship for the discipline of nursing*. Washington, DC: American Association of Colleges of Nursing.
- BOYER, E.L. (1996). The scholarship of engagement. *Journal of Public Service and Outreach*, 1(1), 11–20.
- CALLESON, D.C. (1998). *Community-campus partnerships: a study of the involvement of academic health centers in their communities [dissertation]*. Raleigh, NC: North Carolina State University.
- CALLESON, D.C. & SEIFER, S.D. (2004). Community-based education in the health professions: Opportunities for collaboration and competition. *Journal of Interprofessional Care*, 18(1), 63–74.
- CALLESON, D.C., SEIFER, S.D. & MAURANA, C. (2002). Forces affecting the community involvement of academic health centers: Perspectives of institutional and faculty leaders. *Academic Medicine*, 77(1), 72–81.
- CONNORS, K. & SEIFER, S.D. (1997). *Overcoming a century of town-gown relations: Redefining relationships between communities and academic health centers. Expanding boundaries: Building civic responsibility within higher education*. Washington DC: Corporation for National Service.
- CORBIE-SMITH, G., THOMAS, S.T., WILLIAMS, M.V. & MOODY-AYERS, S. (1999). Attitudes and beliefs of African Americans toward participation in medical research. *Journal of General Internal Medicine*, 14(9), 537.
- DEMONSTRATING EXCELLENCE IN ACADEMIC PUBLIC HEALTH PRACTICE (1999). Washington, D.C.: Association of Schools of Public Health Council of Public Health Practice Coordinators.
- GELMON, S. & HOLLAND, B. (1998). *Health professions schools in service to the nation report: 1996–98 final evaluation report*. San Francisco, CA: Community-Campus Partnerships for Health.
- GELMON, S.B., HOLLAND, B.A., SEIFER, S.D. & SHINNAMON, A. (1998). Community-university partnerships for mutual learning. *Michigan Journal of Community Service-Learning*, 5, 142–160.
- HATCH, J., MOSS, N., SARAN, A., PRESLEY-CANTRELL, L. & MALLORY, C. (1993). Community research: Partnership in black communities. *American Journal of Preventive Medicine*, 9(suppl.), 27–31.
- ISRAEL, B.A., SCHULZ, A.J., PARKER, E.A. & BECKER, A.B. (1997). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19, 173–202.
- JONES, R.F. & GOLD, J.S. (2001). The present and future of appointment, tenure, and compensation policies for medical school clinical faculty. *Academic Medicine*, 76(10), 993–1004.
- LEVINE, D.M., BECKER, D.M., BONE, L.R., HILL, M.N., TUGGLE, M.B. 2nd, ZEGER, S.L. (1994). Community-academic health center partnerships for underserved minority populations. *JAMA*, 272, 309–311.
- MAURANA, C., WOLFF, M., BECK, B.J. & SIMPSON, D.E. (2000). *Working with our communities: Moving from service to scholarship in the health professions*. San Francisco, CA: Community-Campus Partnerships for Health.
- NATIONAL INSTITUTE OF HEALTH (1996). *Fiscal Year 1996. Data created from IMPAC File*. Washington, DC.
- NORA, L.M., POMEROY, C., CURRY, T.E. JR., HILL, N.S., TIBBS, P.A. & WILSON, E.A. (2000). Revising appointment, promotion, and tenure procedures to incorporate an expanded definition of scholarship: the University of Kentucky College of Medicine experience. *Academic Medicine*, 75(9), 913–924.
- PEW HEALTH PROFESSIONS COMMISSION (1995). *Critical challenges: Revitalizing the health professions for the twenty-first century*. San Francisco, CA: UCSF Center for the Health Professions.
- SCHROEDER, S.A. (1999). Improving the health of the American public requires a broad research agenda. *Academic Medicine*, 74(5), 530–531.
- SCHULZ, A.J., ISRAEL, B.A., SELIG, S.M., BAYER, I.S. & GRIFFIN, C.B. (1998). Development and implementation of principles for community-based research in public health. In: R.H. MacNAIR (Ed.), *Research strategies for community practice* (pp. 83–110). New York: Haworth Press.
- SCHULZ, A.J., PARKER, E.A., ISRAEL, B.A., BECKER, A.B., MACIAK, B.J., HOLLI, R. (1998). Conducting a participatory community-based survey: collecting and interpreting data for a community health intervention on Detroit's east side. *Journal of Public Health Management and Practice*, 4(2), 10–14.
- SEIFER, S.D. & MAURANA, C. (1999). Health professions education, civic responsibility and the overall health of communities: realizing the promise of community-campus partnerships. *Journal of Interprofessional Care*, 12(3), 253–256.
- SINGLETON, S., HIRSCH, D. & BURACK, C.A. (1997). *Organizational structures for community engagement*. Boston, MA: New England Resource Center for Higher Education.

- STOTO, M.A., GREEN, L.W. & BAILEY, L.A. (1997). *Linking research and public health practice: A review of CDC's program of centers for research and demonstration of health promotion and disease prevention*. Washington, DC: Institute of Medicine.
- WALLERSTEIN, N.M. (1999). Power between evaluator and community: Research relationships within New Mexico's healthier communities. *Social Science & Medicine*, 49(1), 39–53.