

Models of inter-institutional collaboration to build research capacity for reducing health disparities

Coretta M. Jenerette, PhD, RN
Marjorie Funk, PhD, RN, FAHA, FAAN
Coralease Ruff, DNSc, RN, FNP
Margaret Grey, DrPH, RN, FAAN
Beatrice Adderley-Kelly, PhD, RN
Ruth McCorkle, PhD, RN, FAAN

Health disparities are inequities in the health of different groups of people that may lead to needless pain, suffering, and premature death. The Yale-Howard Partnership Center on Reducing Health Disparities by Self and Family Management is part of a federally-funded initiative to foster the development of partnerships among researchers, faculty, and students at minority-serving institutions and research-intensive institutions. The goal of the initiative is to maximize the resources available to each of the partnering institutions. The purpose of this article is to describe the models of research collaboration that have emerged from the Yale-Howard Partnership Center on Reducing Health Disparities by Self and Family Management.

The United States (US) health care delivery system is among the most advanced in the world, with outstanding providers, facilities, and technology. Many Americans receive high quality health care and enjoy easy access to care. However, not all Americans have full access to high quality health care. The National Institutes of Health (NIH) define health disparities as “differences in the incidence, prevalence,

mortality, and burden of diseases and other adverse health conditions that exist among specific population groups” in the US (<http://www.nidcr.nih.gov/Research/HealthDisparities/TransWorkGroup.htm>). Health disparities are inequities in the health of different groups of Americans. These inequities are the result of a combination of factors involving the health care system, access to care, as well as the history of the US, which includes many instances of the oppression and maltreatment of vulnerable populations.¹

Health disparities are problematic because they lead to needless pain, suffering, and premature death. Former US Surgeon General David Satcher stated that racial health disparities lead to nearly 84 000 premature deaths per year, and Senator Edward Kennedy characterized the status of minority health in the US as an embarrassment to the nation.² Health disparity statistics are alarming. For example, African-Americans and American Indians/Alaska natives have higher overall mortality when compared to any other group and have double the infant mortality rate of white Americans.³ Furthermore, minorities are less likely to receive the recommended colorectal cancer screening, more likely to be diagnosed with AIDS, and more likely to have a lower extremity amputation related to diabetes.⁴ People of color and those with lower socio-economic status are more likely to face health disparities.⁵ Despite the daunting tasks required to eliminate health disparities, improvement in care is possible.

GENESIS OF PARTNERSHIP CENTERS: NATIONAL INSTITUTE OF NURSING RESEARCH (NINR)

Nursing is a multifaceted profession composed of individuals who can influence health disparities via direct patient care, the conduct and utilization of research, and public health advocacy.⁵ In 2002, the NINR invited applications to establish nursing partnership centers to reduce health disparities. The purpose of this initiative was to foster the development of partnerships among researchers, faculty, and students at minority-

Coretta M. Jenerette, PhD, RN was a Post-Doctoral Fellow, Yale University School of Nursing, New Haven, CT.

Marjorie Funk, PhD, RN, FAHA, FAAN is a Professor, Yale University School of Nursing, New Haven, CT.

Coralease Ruff, DNSc, RN, FNP is an Associate Professor, Howard University Division of Nursing, Washington, DC.

Margaret Grey, DrPH, RN, FAAN is a Dean and Annie Goodrich Professor, Yale University School of Nursing, New Haven, CT.

Beatrice Adderley-Kelly, PhD, RN is a Professor and Interim Dean, College of Pharmacy, Nursing, and Allied Health Sciences, Howard University, Washington, DC.

Ruth McCorkle, PhD, RN, FAAN is a Florence Schorske Wald Professor, Yale University School of Nursing, New Haven, CT.

Reprint requests: Coretta M. Jenerette, PhD, RN, University of North Carolina at Chapel Hill, 4008 Carrington Hall, Campus Box 7460, Chapel Hill, NC 27599-7460.

E-mail: coretta.jenerette@unc.edu

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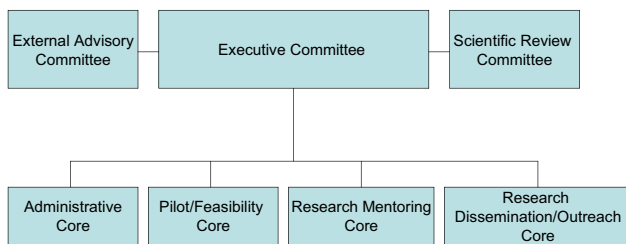


Figure 1. Administrative Structure of the Yale-Howard Partnership Center.

serving institutions and research-intensive institutions. The goal was to maximize the resources available to each of the partnering institutions. The expected outcomes were: (1) increased numbers of nurse researchers involved in minority health or health disparities research, (2) increased numbers of research projects aimed at eliminating health disparities, and (3) enhanced career development of potential minority nurse investigators. As a result of this call for applications, 8 Nursing Partnership Centers were funded. A list of the 8 Nursing Partnership Centers can be found at <http://nintr.nih.gov/nintr/research/partnershipcenters.pdf>. The purpose of this article is to describe the models of research collaboration that have emerged from the Yale-Howard Partnership Center on Reducing Health Disparities by Self and Family Management. The partners are the Yale University School of Nursing (YSN) and the Howard University Division of Nursing (HUDON [formerly College of Nursing]).

Yale-Howard Partnership Center

The idea for the Yale-Howard partnership evolved from an informal conversation between former YSN Dean Catherine L. Gilliss and former HUDON Dean Dorothy L. Powell. As a result of that conversation, the Yale-Howard Scholars Program was implemented in the summer of 2000. The program was designed as an intensive 6-week summer research internship at YSN. Selected HUDON students formed protégé/mentor relationships with YSN faculty researchers. Building on this relationship between YSN and HUDON, in 2002 the Yale-Howard Partnership Center on Reducing Health Disparities was launched as one of the 8 partnership centers funded by NINR and the National Center on Minority Health and Health Disparities (NCMHD). The Center was funded for 5 years by NINR/NCMHD, and builds on the collaborative work of YSN and HUDON faculty. The Yale-Howard Partnership Center is best described as an intra-disciplinary collaboration, as it involves 2 partners that are working jointly from a discipline-specific (nursing) basis.⁶

The Center consists of 4 cores: Administrative, Pilot/Feasibility, Research Mentoring, and Research Dissemination/Outreach (Figure 1). Each core is administered by a Co-Director from YSN and a Co-Director

from HUDON. These individuals form the Executive Committee. The Administrative Core coordinates and oversees the administrative functions between the partnering institutions. The purpose of the Pilot/Feasibility Core is to develop and manage activities related to the initiation and selection of pilot and feasibility studies for funding. The Research Mentoring Core assists faculty and students in developing skills for conducting health disparities research, especially as it relates to the conduct of the funded pilot and feasibility studies. The Research Dissemination/Outreach Core assists faculty and students in developing outreach skills and expertise to conduct health disparities research involving minority and underserved communities and disseminate the results of such research to diverse audiences including the communities involved.

The models of collaboration emerged from the funded pilot and feasibility studies. The Pilot/Feasibility Core solicits letters of intent and proposals from prospective investigators. The investigators submit drafts of their proposals for a mock review conducted by faculty peers from both institutions. The Scientific Review Committee then reviews all final pilot and feasibility study proposals using NIH criteria of significance, innovation, approach, investigator, and environment. The Scientific Review Committee makes recommendations to the Executive Committee regarding priorities for funding based on scientific merit. After funding, the Research Mentoring Core guides the pilot and feasibility study investigators in the conduct of their studies and in developing proposals for subsequent funding. During or at the completion of the pilot and feasibility studies, the Research Dissemination/Outreach Core assists with disseminating findings.

The Center's External Advisory Committee provides validation that the Center goals are being met and advises on resources that may be useful to the Center. Pilot study investigators and Core Co-Directors submit annual reports to the External Advisory Committee, which provides advice and guidance on how to overcome the challenges inherent in health disparities research and long-distance collaboration.

The Center supports pilot and feasibility studies that will contribute to the understanding, development, and testing of self and family management interventions for reducing health disparities. Self and family management encompasses a broad range of health, lifestyle, behavioral, and self-assessment and treatment activities practiced by an individual and family with the support of others, especially nurses. The definition of self-management emphasizes the daily behaviors that individuals perform to manage their health and/or that families perform on behalf of their family members.⁷ The Yale-Howard Partnership Center was established to contribute to reducing health disparities among vulnerable individuals, including racial and ethnic minorities, women and children, the homeless, the elderly,

and those exposed to hazardous conditions. Those eligible to be principal investigators (PI) and receive funds to conduct pilot or feasibility studies are: (1) new investigators without funded research through an NIH R Series grant, and (2) established investigators who wish to develop skill in health disparities research within their areas of interest. The PI must be a member of the faculty at YSN or HUDON.

Collaboration between HUDON and YSN investigators is required for funding by the Center. Collaborators from the partnering institution can be co-investigators or consultants in a manner sufficient to have an impact on the outcome of the research. To identify potential collaborators, faculty from YSN and HUDON reviewed a list of faculty research interests to identify a potential collaborator with similar interests. The PI contacted the prospective co-investigator or collaborator to determine interest in working together. Once the team relationship is confirmed, it is expected that they will develop the project collaboratively, beginning with the letter of intent. Any opportunity for collaborators to meet in person is encouraged, especially at the annual M. Elizabeth Carnegie Research Conference at Howard University.

Funded investigators receive methodologic support from the Center and are expected to participate in Center training and scholarly activities, such as regular research rounds and seminars. Shared Center resources available to investigators include assistance with data collection, data management, and data analysis. The Center is especially interested in the use of shared measures across studies, so that conclusions can be drawn about key variables in relation to reducing health disparities in various underserved populations. Multi-disciplinary teams are encouraged. Seventeen pilot/feasibility studies have been funded since the Center's inception in 2002.

MODELS OF COLLABORATION

Collaboration may be defined as working together so that the needs of each individual in a situation are considered and everyone affected by a decision participates in making it. This process leads to increased cooperation.⁸ Within academic institutions concerned with health disparities, models of collaboration represent differing ways members of the faculty are building capacity and competency in conducting health disparities research.

According to D'Amour, Ferrada-Videla, Rodriguez, and Beaulieu (2005) collaboration is commonly defined through 5 underlying concepts – sharing, partnership, power, interdependency, and process.⁹ Furthermore, the most complete models of collaboration are based on a theoretical background. Successful collaborations are characterized by clear communication, true dialogue, active listening, an awareness and appreciation for differences, and an ability to negotiate options.¹⁰ Col-

laborative partnerships may benefit from a comprehensive framework that clarifies goals, objectives, and responsibilities in order to assure mutual success.¹¹ Additionally, collaborations may be more successful if partners have respect for each other's strengths.¹² Moreover, partners within a collaboration must be sensitive to the history and unique characteristics of the partnering institution and its population.¹³

Larson (2003) described 3 components of successful research collaboration: structural, process, and outcomes. Characteristics of the structural component include standardized methods of communicating, convening meetings, and decision-making. It also includes formal agreement for sharing data and other collaborative activities. The process component includes clear and explicit shared research goals and objectives, knowledge and experience with the change process, strong and clear leadership, highly efficient work processes, and student involvement. The outcomes component is characterized by measurable work products such as publications, dissertations, and presentations. Moreover, it is vitally important that collaborators have a clear understanding of what they are seeking from the other collaborator so that success can be recognized.¹³

It is also important that collaborators are aware of several potential disincentives to collaboration, such as increased requirements for time and communication, lack of clarity regarding leadership, need to share resources and revenue, and the problem of partners who do not fulfill their commitment.⁶ Additionally, in collaborations involving research-intensive schools such as YSN and teaching-intensive schools such as HUDON, it is important to consider differences in incentives to perform similar activities and, also, different activities. For example, a teaching-intensive school may value the number of courses taught and teaching awards more highly, whereas a research-intensive school may put greater value on publications and grant funding.¹³

Over the past 5 years, 3 models of collaboration have emerged in the conduct of pilot and feasibility studies funded by the Yale-Howard Partnership Center. The 3 models are: (1) traditional, (2) consultant, and (3) mentoring. The traditional model of collaboration features data collection at both sites, with the investigators from each institution sharing in the work of the project as peers. Of the 17 projects funded, 4 have used this model. These 4 projects are summarized in [Table 1](#).

The second model emerging from the Center is the consultant model. In this model, all or the majority of the work is done at one site with guidance from a research consultant at the other site. Of the 17 projects funded, 9 have used this model. [Table 2](#) shows the consultant model projects.

The third model is the mentoring model. In this model, a more experienced, senior investigator served as a mentor for a less experienced, junior investigator

Table 1. Traditional Model of Collaboration

Title	Purpose	YSN Investigator Role	HUDON Investigator Role
Menopause and Midlife Health Risks: Black Women’s Views	To explore the perceptions and experiences of Black women in the transition to menopause	<i>Principal Investigator</i> Coordinate activities of other study personnel, conduct focus groups in the New Haven area and attend one in Washington, conduct conference calls, perform data analysis, and participate in manuscript preparation	<i>Co-Investigator</i> Attend focus group in New Haven area, recruit subjects and provide on-site support during focus group in Washington area, provide expert review during data analysis for developing culturally appropriate self-management intervention for menopause symptom management, and participate in manuscript preparation
Diversity, Poverty, and Management of Severe Asthma	To investigate the understanding of asthma management practices in low-income African-American and Latino families of infants and toddlers with severe persistent asthma following admission to an inner-city hospital	<i>Principal Investigator</i> Collect data in New Haven area, analyze data, and prepare manuscript	<i>Co-Investigator</i> Collect data in Washington area, advise on issues of cultural disparity and ethnic identity, and participate in manuscript preparation. Left HUDON during study and did not participate as planned.
Successful Aging with Sickle Cell Disease	To explore influences on quality of life in older adults with sickle cell disease	<i>Principal Investigator</i> Oversee project implementation, collect data in New Haven area, analyze data, and prepare manuscript	<i>Co-Investigator</i> Collect data in Washington area, assist with data analysis, and contribute to manuscript development
Health Care Needs of the Transgendered	To describe health care needs of trans-gendered people, self-management in health care, and the role of trust between provider and patient	<i>Principal Investigator</i> Oversee all aspects of the study, lead focus groups in New England, interview health care providers, design the Web-based survey, construct the data entry database, carry out the data checks, and complete quantitative analyses	<i>Co-Investigator</i> Lead focus groups in Washington area, participate in quantitative analysis, and provide expertise in qualitative analysis. Left HUDON before study started and did not participate as planned

YSN, Yale School of Nursing; HUDON, Howard University Division of Nursing.

and created opportunities for the newer investigator to learn and grow through the experience of participating in the pilot project. The PI can be either the mentee or mentor. Either the mentor’s or mentee’s project can be used to develop the research skills of the less experienced researcher. Of the 17 projects funded, 4 have used this model. These 4 mentoring model projects are shown in [Table 3](#).

Strengths and Limitations of Models

A variety of issues may influence the selection of a collaborative model. It is important to understand the strengths and limitations of each model of collaboration.

Traditional Model. As the name implies, the traditional model of collaboration reflects a well-established way of working together to reach a common goal.

Investigators share expertise as well as manage separate data collection sites. The traditional model implies an equal distribution of the work of the study with the PI having the responsibility of the overall project. With 2 individuals carrying out similar tasks in separate sites, there is a potential to get more work done in a shorter period of time. Therefore, the traditional model may save time.

The traditional model can be limiting if there is not a suitable site for data collection for one of the investigators. Furthermore, it may not be the best model of collaboration if the investigators know *a priori* that one individual will be doing the majority of the work and the other person may play an important, but tangential role. Additionally, although the traditional model may save time, it can require additional resources. For example, collecting data at 2 sites may require purchasing twice as much equipment to collect data concurrently. Even after the data collection is completed, both researchers need to have access to the same analysis software if both are expected to be involved in data analysis.

As noted in Table 1, four of the funded projects used a traditional model of collaboration. *Menopause and Midlife Health Risks: Black Women's Views*, a completed project, worked well and exemplified the positive aspects of using the traditional model of collaboration. The PI and co-investigator shared expertise, collected data at both sites, and contributed to manuscript preparation. Several presentations and publications have resulted from this pilot study.^{14–16}

Consultant Model. When partners bring differing strengths to a relationship, it is intuitive that consultation could be important. In the consultant model, the majority of the work of the study is done at one site. The consultant is experienced in one or more aspects of the project and provides support. The PI may be an experienced researcher, yet may need a consultant to guide a certain aspect of the project. This model of collaboration is more flexible than the traditional model in that it does not require data collection at 2 sites nor sharing grant resources. The PI requests guidance from the consultant as needed and is responsible for implementing the suggestions appropriately.

The major limitation of the consultant model is that the consultant may not have a vested interest in the overall project. In fact, it is likely the case that the consultant shares expertise about only one aspect of the project. For this reason, a less experienced researcher may require multiple consultants, which can increase the cost of carrying out the work of the project. Although the consultant model offers more flexibility than the traditional model, it can also be more time-consuming because data collection is occurring at only one site. It is also contingent on the consultant's availability when requested.

As noted in Table 2, nine of the funded projects used a consultant model of collaboration. *Particulate Matter Air Pollution in New Haven*, an ongoing project, is working well and exemplifies the positive aspects of using the consultant model of collaboration. As the study title implies, the majority of the work is being done in New Haven with the consultants providing advice about health disparities and environmental justice.

Mentoring Model. The final model is the mentoring model. In this model, a more experienced senior investigator mentors a less experienced researcher in order to increase the research skills of the novice researcher. The mentor model offers some flexibility in that the main project can be that of the mentor or mentee. In one case in our Center, the mentor's project was used first to develop the novice researcher. Then, the mentee developed an individual project, but still needed the mentor for guidance. Similar to the consultant model, this model does not require data collection at 2 sites.

Although the mentoring model has many advantages, there are limitations as well. The relationship between a mentor and mentee is often more personal than a relationship between an investigator and a consultant. For example, a novice researcher may become dependent on the mentoring relationship, which may determine the success and productivity of the novice researcher. Likewise, it can be quite time-consuming for a mentor to provide a mentee the support needed. Thus, as in all collaborative relationships—and especially in a mentoring relationship—the expectations must be clear and agreed upon by all parties.

As noted in Table 3, four of the funded projects used a mentoring model of collaboration. Two projects will be used to illustrate the best example of the mentoring model of collaboration. In *Nursing's Impact on the Quality of Life Outcomes in Minority Family Caregivers*¹⁷ (a recently completed project), the PI, an experienced researcher who wanted to develop skills in health disparities, mentored a junior investigator. The junior investigator is a co-investigator on the study and contributed by implementing outreach activities and completing a review of the science regarding minority caregivers. In the next funding cycle, the junior investigator was funded as a PI on a study entitled *Self Management during Caregiving in African American Caregivers*, an ongoing study. The junior investigator included the mentor as a co-investigator on her project so that her mentor could continue to provide research expertise and guidance in the project implementation.

Each of the 3 models of collaboration had studies that did not progress as planned. Reasons include changes in employment where a collaborator was no longer at the partnering institution, lack of communication, or an individual not completing agreed-upon tasks. These problems occurred most often in the consultant model of collaboration. The problems con-

Table 2. Consultant Model of Collaboration

Title	Purpose	YSN Investigator Role	HUDON Investigator Role
Self Management in African-American Women with Diabetes	To explore factors that may contribute to self-management of diabetes in African-American women	<p><i>Consultant 1</i> Provide expertise in cardiovascular risk development in type 2 diabetes, provide support related to methodological issues of project, and share in manuscript preparation</p> <p><i>Consultant 2</i> Provide expertise in diabetes self-management behavior, evaluate quantitative measures, assist PI in project development, and assist with manuscript preparation</p>	<p><i>Principal Investigator</i> Train project personnel, convene and conduct project meetings, oversee data collection and analysis, provide on-going evaluation, and prepare manuscript</p>
Preparing At-Risk Youth for Success	To evaluate the impact of a behavior modification strategy on behavioral functioning and resilience in a sample of at-risk youth	<p><i>Consultant</i> Share research expertise and provide guidance</p>	<p><i>Principal Investigator</i> Train project personnel, convene and conduct project meetings, oversee data collection and analysis, provide on-going evaluation, and prepare manuscript</p>
Connecting Sisters: Women of Color with Breast Cancer	To bring breast cancer survivors and key stake holders together to share knowledge gained from survivors with the community and to develop an explicit structure to foster participation and a partnership that builds on established relationships	<p><i>Principal Investigator</i> Provide project oversight, implementation, and data analysis</p>	<p><i>2 Consultants</i> Use knowledge and skills of the process of networking with existing organizations and African American breast cancer survivors in Washington community to provide advice in project development and implementation</p>
Particulate Matter Air Pollution in New Haven	To determine the feasibility of using an integrative model for environmental health research for guiding a community-based participatory study group process in an urban community	<p><i>Principal Investigator</i> Provide project oversight, implementation, and analysis</p>	<p><i>2 Consultants</i> Provide advice regarding methods in health disparities and environmental justice</p>
Coping Strategies and Behavioral Factors of Adolescents who Experienced the Violent or Sudden Death of a Sibling	To explore the coping strategies and behavioral factors of adolescents who have experienced the violent death of a sibling	<p><i>Consultant</i> Provide research expertise and guidance in project implementation</p>	<p><i>Principal Investigator</i> Provide project oversight, implementation, and data analysis</p>

Table 2. Continued

Title	Purpose	YSN Investigator Role	HUDON Investigator Role
Systematic Examination of the Treatment Dissemination Efforts within a Community Mental Health Center	To assess the systemic successes and barriers associated with disseminating a treatment to an underserved population	<i>Principal Investigator</i> Responsible for overall conduct of the study	<i>Consultant</i> Advise on the development of and subsequent analysis of questions on cultural sensitivity and treatment satisfaction in minority families
Culturally Competent Psychiatric Mental Health Nursing Care	To provide evidence-based descriptions of the characteristics of culturally competent psychiatric nursing care from both patient and nurse perspectives	<i>Consultant</i> Provide consultation regarding focus group design, data analysis, and interpretation	<i>Principal Investigator</i> Responsible for the overall conduct of the study, data collection, analysis, and manuscript preparation
The Lived Experience of Resilience in African-American Family Caregivers of Alzheimer’s Disease and Related Dementia Patients Living in an Urban Community	To investigate the lived experience of resilience in African-American family caregivers of Alzheimer’s Disease and Related Dementia patients living in an urban community	<i>Consultant</i> Provide consultation regarding analysis of phenomenological data	<i>Principal Investigator</i> Responsible for the overall conduct of the study, data collection, analysis, and manuscript preparation
Perceptions and Lived Experiences of African-American Caregivers	To examine the perceptions of the African-American caregiver in the caregiving experience and to identify the physical, mental, and social challenges of caregiving to family members who are chronically ill, aged, or disabled	<i>Consultant</i> Provide overall project consultation with specific emphasis on data analysis	<i>Principal Investigator</i> Responsible for overall investigation including conducting all interviews, recruiting participants, and executing all phases of the project

YSN, Yale School of Nursing; HUDON, Howard University Division of Nursing.

cerning studies that used the consultant model may be related to the major limitation of this model: the consultant may not have a vested interest in the overall project. For instance, a well-known researcher in a specific area may be asked to consult on several projects. Coordinating several projects requires prioritization and may result in less-than-timely feedback to a PI on a pilot or feasibility study.

Partnership strength and weaknesses are supported by the literature. For example, several of the pilot/feasibility studies that did not progress as planned lacked elements of clear communication.¹⁰ Investigators tended to be more successful, as determined by

timely completion of the pilot project and subsequent presentations and publications, when partners demonstrated effective communication and were sensitive to the history and unique characteristics of the partnering institution as well as its population.¹³

As collaboration occurred between individuals from a research-intensive environment and individuals from a non-research-intensive environment, many lessons were learned. First, each partner had to be sensitive to the strengths and limitations of the other partner. Individuals from both institutions had competing demands for time and productivity. When considering the infrastructure needed to sustain a partnership, one must

Table 3. Mentoring Model of Collaboration

Title	Purpose	YSN Investigator Role	HUDON Investigator Role
Colorectal Cancer Self-Management in African-Americans	To describe colorectal cancer self-care management among African-Americans age 50 years and older	<i>Mentor</i> Consult with investigators on all aspects of the project, provide expertise in preparing survey instruments and assist in data interpretation	<i>Principal Investigator/ Mentee</i> Train project personnel; convene and conduct project meetings; oversee data collection, analysis, and ongoing evaluation; report findings; and prepare manuscript
Health Locus of Control and Factors that Influence African-American Women's Breast Cancer Experience	To describe African-American women's experience with breast cancer	<i>Mentor</i> Provide expertise with qualitative project design, implementation, and data analysis	<i>Principal Investigator/ Mentee</i> Hire research assistant, train project staff, convene periodic meetings, collect and analyze data, and develop manuscript
Nursing's Impact on the Quality of Life Outcomes in Minority Family Caregivers	To expand an existing patient intervention trial by adding caregiver outcomes with a subsample of minority caregivers of patients newly diagnosed with ovarian cancer	<i>Principal Investigator/ Mentor</i> Oversee overall conduct and implementation of the study, and prepare manuscript	<i>Mentee</i> Implement community outreach activities, review the state of the science regarding minority caregivers
Self-Management during Caregiving in African-American Caregivers	To describe the lived experiences and coping strategies of African-American caregivers who provide care for African-American women with cancer	<i>Mentor</i> Provide research expertise and guidance in project implementation	<i>Principal Investigator/ Mentee</i> Implement the study, collect data along with research assistant, complete data analysis, and develop manuscript

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look beyond simply considering faculty and students. One must also consider the systematic effect of partnerships that require the infrastructure to manage additional issues and activities such as the increased work of processing additional grant proposals, budgets, and human subjects' protection applications.

SUMMARY

Developing a research partnership takes time and commitment to build a meaningful collaboration that is beneficial to both entities. The 3 models of collaboration emerging from this partnership were the traditional model, the consultant model, and the mentoring model. Although the purpose of this article was to describe models of collaboration that have emerged from the Yale-Howard Partnership Center, we acknowledge the

importance of continued evaluation of the success of the different models. Each of these models has specific characteristics, benefits, and limitations. Based on our experience, the traditional and mentoring models have worked best as models of collaboration in the Yale-Howard Partnership Center. The consultant model required individuals to be selective in the choice of consultants to ensure that the work of the project is done.

The 3 models of collaboration resulted in faculties at both institutions exhibiting enhanced competencies in the design and conduct of research related to eliminating health disparities and in strengthening their respective research environments. Specifically, more research related to health disparities is being conducted at YSN and the research infrastructure has been enhanced at

HUDON. The partnership also demonstrated that the career trajectory and research capacity of individual faculty members can be influenced through deliberate application of principles of collaboration.¹⁸ Success was also determined by the number of publications and presentations resulting from the project. Additionally, the outcome of the collaboration can be seen in subsequent health disparities research that builds upon the pilot work. As we near the end of the 5-year partnership, it will be important to assess outcomes associated with these models of collaboration. An analysis of these outcomes may be useful as we plan for future collaborations to advance our science and provide health care for all people.⁸

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