

The Millennium Series in Women's Health

Academic Models of Clinical Care for Women: The National Centers of Excellence in Women's Health

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ABSTRACT

Between 1996 and 1999, 18 academic health centers were awarded the designation of National Center of Excellence (CoE) in Women's Health by the Office on Women's Health within the Department of Health and Human Services and were provided with seed monies to develop model clinical services for women. Although the model has evolved in various forms, core characteristics that each nationally designated CoE has adopted include comprehensive, women-friendly, women-focused, women-relevant, integrated, multidisciplinary care. The permanent success of these comprehensive clinical programs resides in the ability to garner support of leaders of the academic health centers who understand both the importance of multidisciplinary programs to the clinical care they provide women and the education they offer to the future providers of women's healthcare.

INTRODUCTION

BETWEEN 1996 AND 1999, the Department of Health and Human Services (DHHS) funded 18 National Centers of Excellence in Women's

Health (CoEs) at academic health centers. These CoEs accepted the challenge of developing innovative model programs to promote the women's health agenda at their institutions and nationally. Using a five-pronged approach, the CoEs are fo-

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cused on advancing women's health through improving women's health clinical care, research, education, faculty leadership development, and community interaction. This paper describes the core characteristics, implementation strategies, and common challenges addressed by the 18 CoEs in developing model clinical care programs for women within the unique setting of an academic health center. These CoEs include Boston University; the University of California, Los Angeles; the University of California, San Francisco; Harvard University; Indiana University; the University of Illinois; University of Maryland; Ohio State University; the Medical College of Pennsylvania-Hahnemann University; Magee-Women's Hospital; University of Michigan; the University of Pennsylvania; University of Puerto Rico; Tulane-Xavier Universities of Louisiana; Wake Forest University; the University of Washington; the University of Wisconsin; and Yale University. There are currently 15 CoEs. The University of Maryland, Ohio State University, and Yale University are no longer designated CoEs.

BACKGROUND

The belief in the need for new models of healthcare for women developed in reaction to an uncoordinated system of care that had fragmented women's healthcare among a number of specialties and providers. Several factors have converged to stimulate a reappraisal of this traditional model of women's care. These include initiatives of women as consumers to redefine women's healthcare, the rise of primary care as a model for coordinating care, an increased number of women in positions of leadership within the healthcare professions, financial motivations to attract women as patients into healthcare systems, greater interest in and understanding of the doctor-patient relationship, and recognition of the unmet needs of underserved women within the established healthcare system.¹⁻⁵

As reviewed by Weisman et al.,⁶ the current models of women's health centers derive from several historical forces. The first women's hospitals appeared in the 1800s, but these institutions were limited to women's reproductive healthcare needs. Prior to the 1970s, the traditional model of care for women continued to divide reproductive healthcare needs from other general medical or

primary care needs, consigning reproductive care to obstetrics and gynecology and everything else to internal medicine and family medicine.⁷ As part of this traditional approach, many common healthcare needs remained unmet or uncoordinated (examples include mental health services and aspects of fertility control). Within this model of care, for both men and women, there was little focus on collaboration between patient and provider based on shared information and decision making. Instead, a hierarchical model of decision making predominated.

With the advent of the laywomen's health movement, freestanding women's health centers were the first attempts to address a number of these unmet needs.⁶ This movement stressed the role of the patient in decision making,⁸ but did not address the fragmentation of healthcare and, in some respects, further fragmented women's healthcare. Most of these centers could not provide comprehensive services and did not address the needs of women who wished to obtain care within the established medical system. Few of these centers remain in operation.⁶ The freestanding character of such centers also made them more vulnerable to social and political forces affecting women's healthcare.² For example, freestanding reproductive health centers have been subject to protests and violence against abortion services, which has not occurred in traditional medical centers offering the same services.

Economic motivation provided incentives for medical care institutions to support the development of a women's healthcare model. As competition for patients emerged, especially in saturated urban and suburban medical markets, healthcare administrators developed more sophisticated methods of bringing patients into the system. Hospital systems increasingly recognized the need to "know their customers."⁹ Market research indicated that women not only made more healthcare visits than men did but also made most healthcare choices for their families. This institutional goal to understand the market coincided with an increasing awareness and dissatisfaction by women that their healthcare needs were not being met by mainstream medicine.^{2,9} In the 1980s, instead of supporting the development of separate entities of clinical care as they had in the 1970s, women demanded that traditional models of care change to accommodate their needs. In response, providing the appearance of services attractive to women

became a marketing goal of major medical institutions.

Research on the patient-provider relationship has also demonstrated the need for different models of care for female and male patients.¹⁰ Such research has, in general, shown that female patients at all levels of education request additional information, and that for all but immediately life-threatening conditions, women wish a greater role in decision making.¹¹ It has also been shown that physicians do not appreciate their patients' attitudes in addressing a number of issues, including menopause,¹² and that women are, in general, less satisfied than men with patient-physician interactions.¹³

The need to address women's health as a focus is also rooted in the knowledge that specific subgroups of women are more likely to lack access to healthcare systems.¹³ Given the linkage in our system of personal economic status and employment status with insurance status, women are more likely than men to be low income and unemployed and have poorer access to healthcare. Racial and ethnic minorities have documented poorer outcomes on a number of important markers, and the need for models to address these issues for women in a coordinated fashion is clear.

By 1990, sufficient women's healthcare initiatives were in place to scrutinize their core structural characteristics. At that time women's health services could be placed in five broad categories: (1) informational and referral, (2) educational and referral, (3) women's centers without physician services, (4) women's centers with physician services, and (5) women's pavilion or hospital. The scope of service thus ranged from something as simple as a hot line to a full-scale program, including prevention and wellness, all clinical disciplines, inpatient and outpatient services, and research efforts.⁹

In 1996, the first 6 of the original 18 CoE programs were funded to develop comprehensive clinical care programs for women. These nationally designated programs exist within academic environments where they can uniquely benefit from and impact their institution's research and education programs. This review of the CoE programs confirms the finding that there is a variety of models of women's healthcare. Some include single stand-alone centers within a larger system, whereas others provide carefully integrated, multidisciplinary services for women located in multiple diverse sites.

CHARACTERISTICS OF CLINICAL PROGRAMS OF THE CoEs

The clinical programs of the CoEs are dedicated to improving the performance of academic health centers in providing comprehensive gender-focused healthcare for women. A review of the existing CoEs indicates that although several different models of healthcare delivery for women have been created, there are certain common characteristics that each CoE has adopted as a core philosophy or characteristic of care.

The clinical services and facilities of the CoEs are designed to be woman centered. Although the services need not be designated as women only, they must be women focused and women friendly, and the facilities must be clearly identified as providing services for women. The CoEs have accomplished this in several ways, including (1) availability of primary care services for women that include both reproductive health and preventive care, (2) high visibility of female providers and staff, (3) an atmosphere and environment that is welcoming to women, (4) availability of information of particular interest to women, and (5) absence of materials and attitudes that would be perceived as threatening or inappropriate to women.

The CoE clinical programs embrace the goal of providing comprehensive services across the female life span. Most commonly included services are age-appropriate preventive health services and screening, general medical care, family planning, gynecological and obstetrical care, menopausal services, mental healthcare, breast cancer screening and treatment, osteoporosis diagnosis and management, and incontinence programs. As research studies generate knowledge on conditions and illnesses affecting women, the CoEs are committed to developing gender-appropriate screening and diagnostic tests and treatment as well as prevention strategies.

The CoEs believe an interdisciplinary team of professionals who actively collaborate in care management decisions best provides such comprehensive women's healthcare. At the CoE clinical sites, there are multiple examples of healthcare teams that bring together physicians, nurse practitioners, physician assistants, nurse midwives, pharmacists, nutritionists, social workers, nurses, and other health professionals across various specialties, with a common goal of providing coordinated, consistent care. These teams are

used in diverse settings, including primary care, prenatal care, menopausal services, breast cancer treatment, incontinence services, and HIV and AIDS care, to name a few. CoE clinical providers assume the responsibility to communicate effectively with other team members and to provide the best possible care to the patient and her family or support system.

The CoEs' clinical programs share the common philosophy of shared decision making with patients. Active participation of patients in all aspects of their care is encouraged and welcomed. One CoE convened a women's health advisory council to assess what is needed to improve health services to women.¹⁴ Necessary patient education is provided to ensure that patients can make informed decisions about their lifestyle choices, diagnostic testing, and treatment options. With their commitment to the health of women from diverse communities, the CoEs have developed culturally appropriate patient education materials and programs in multiple languages. Additionally, most CoEs provide women's health resource centers, libraries, and kiosks in order to enhance their patient education programs.^{15,16}

To be effective in improving the quality of women's health, the CoEs believe that services not only must be based on the latest scientific evidence but also must be convenient and accessible. Thus, the CoEs strive to provide services that are flexible enough to accommodate the multiple demands of women as family caregivers and workers, using expanded hours of operation, coordinated scheduling, available child care, community-based locations, assistance with transportation, and the availability of translation services. These characteristics are especially important to improve access for women who experience economic or cultural barriers.

With the advent in the early 1990s of national attention focused on the research deficit in women's health, funding for women's health research increased, and the NIH began to require that federally funded research include women as subjects. Academic health centers are conducting most of this NIH-funded research on women's health. To improve women's health with these findings, it is essential that the new knowledge generated by the recent research be translated into new clinical paradigms of care. The CoEs healthcare programs within academic health centers are uniquely positioned to translate research

findings into new pathways of care for women. The CoEs are developing integrated clinical care programs that incorporate knowledge from the emerging research with a women-focused philosophy of care that is based on the needs articulated by the communities of women they serve.

In addition to the CoEs' shared commitment to the provision of comprehensive healthcare to women across the life span, the CoEs are committed to providing training in new attitudes and knowledge about women's healthcare through their model interdisciplinary women's healthcare programs. Both within their clinical sites and throughout their larger institutions, CoEs are training the healthcare providers of tomorrow to understand the importance of sex-based biological differences and gender-based behavioral differences to the provision of high-quality healthcare for women.

CoE CLINICAL MODELS

The CoEs have implemented their shared philosophy of care through diverse models of clinical care. These models vary depending on the availability of local expertise and potential collaborators, institutional resources, and the needs of the women they serve. Services for women in underserved communities and racial/ethnic groups have been addressed, with special attention to their unique needs and challenges in accessing care. The CoEs have found that their models of care must be flexible and adaptive as new needs are identified.

The clinical models exemplified in the existing CoEs range from a One-Stop Shopping model to a Center without Walls model. The One-Stop Shopping model is one in which primary care, reproductive healthcare, and additional services relevant to comprehensive women's healthcare (e.g., mental health, mammography, and specialist services) are provided in one physical location. The Center without Walls model is one in which a network of healthcare services share a common focus and philosophy on women's health but are physically located at different sites. The sites are conveniently located near either a main CoE administrative site or the CoE clinical care center. Most of the existing CoEs have elements of both models.

The One-Stop Shopping model is most commonly found in institutions and communities

where there are minimal space constraints and economic or historical barriers to housing all providers in a single facility. Many of the CoEs have developed services using this model. The advantages of this model are decreased patient travel time to specialty services and improved collaboration, communication, and referral among providers of the services. A women's center with multidisciplinary providers can more easily bring these providers together for the educational conferences or for innovative collaborative programs to address a complex women's health condition or a special population. A facility providing care for women only is very appealing to many female patients, providing an atmosphere of comfort, familiarity, and convenience for the majority of their healthcare needs.

Not all women prefer the One-Stop Shopping model. As revealed in focus groups at one CoE, for some women, this model represents a loss of privacy and decreased freedom of choice among specialty services. When consulting physicians are located at another convenient site, some women may feel a greater freedom of choice in deciding which specialist they will see. In addition, they may feel a greater sense of privacy while seeking mental health and family planning services if these services are available off-site. CoEs have found it valuable to survey their communities to determine the characteristics of care desired by the women they serve.

For some cultures, the One-Stop Shopping model is less intimate and may be intimidating. Many women feel that the link with their culture and community is essential for their healthcare and may be better accomplished in smaller decentralized sites. In response, many CoEs have chosen to serve these populations with satellite clinical sites within their communities and have fostered strong partnerships with these communities in order to provide appropriate and sensitive outreach services and special services for non-English-speaking patients. These models provide a range of services at the grass roots level. For example, 1 of the 18 originally funded CoEs built on community and outreach collaborations to provide special services for its ethnic minority patients by using a pre-existing program. This program, Cultural Mediators, consists of trained professionals drawn from the ethnic community who are then assigned to patients and are available for clinic and home visits. In this way, potential gaps between

the healthcare providers and patients have been effectively bridged.

The CoEs have found the greatest barriers to the creation of One-Stop Shopping models to be financial and space constraints. Although this model has many ideal characteristics, the financial pressures placed on these stand-alone facilities can be significant and thus a deterrent to institutions adopting this model, especially in the current healthcare economy.

Several of the CoEs have been designed as Centers without Walls. These CoE clinical models were commonly developed at academic institutions where many outstanding components of women's healthcare preexisted at multiple sites. Rather than reinventing the wheel, these CoEs have emphasized collaborative efforts between preexisting services/sites in an attempt to provide seamless healthcare despite geographic constraints. Many women-focused specialty care practices have distinguished themselves by developing complex multidisciplinary programs (e.g., breast cancer, pelvic floor rehabilitation) with technology demands that realistically cannot be replicated at multiple primary care sites.

The major challenge for a Center without Walls is building a common identity as a women's health system among both the providers and staff of the multiple sites. This geographic challenge can be minimized by the convenient proximity of the sites to a central CoE administrative site or CoE clinical care center. Using common intake forms and information systems to avoid duplicating paperwork at each site, common patient education materials, a shared logo and a shared look to brochures, fliers, stationery, and so on, and having periodic group meetings/events have all helped CoEs foster a common identity and, in turn, a market identity. The infrastructure demands to ensure successful coordination of care across geographically diverse sites can be resource intensive.

One of the strengths of the Center without Walls model is incorporating services already recognized as the best within the community. Individuals dedicated to improving healthcare for women can merge their services and cooperate with others to provide a wide range of clinical care for their patients. This model allows multiple, decentralized, community-based, integrated primary care sites a chance to collaborate with centralized specialty practices that provide unique services. For some communities, net-

working smaller, conveniently located, primary care practices with centralized specialty services is the preferred model.

Whether the CoE model developed from networking existing women-focused programs within an academic institution and community or sprang from a new vision implemented in a single facility does not seem to be a predictor of its success. More important is the willingness and ability to adapt to the local climate and circumstances at play within its own geographic region. Regardless of the model chosen, the success of the CoE clinical programs must be measured by their ability to provide quality healthcare to women within a shared philosophy. The diverse models that have evolved at the National Centers of Excellence in Women's Health demonstrate the need for multiple models in the provision of healthcare for diverse women throughout the United States.

Already, the CoE program shows promise in increasing women's involvement and improving health services. Compared to a national sample of hospital-sponsored clinical women's healthcare centers, CoEs reach a more diverse population of women, including more women of color and more women who are postreproductive age.¹⁶ The CoEs also have a stronger commitment to integrating research, education, and clinical care.¹⁶

The 15 CoEs currently serve an estimated 450,540 women each year. If this comprehensive, women-friendly, women-focused, women-relevant, integrated, multidisciplinary model is replicated throughout the United States to all 126 academic health centers, millions of women would benefit.

In progress is a 2-year comprehensive national CoE qualitative and quantitative evaluation project. Through interviews with key university personnel and CoE patient satisfaction and healthcare surveys, results will report common themes among the CoEs that lead to successes and barriers and whether CoE patients' health satisfaction and utilization differ from national benchmarks.

CoE CLINICAL PROGRAMS' VALUE TO THE ACADEMIC INSTITUTION

The development and implementation of a program dedicated to women's healthcare can play an essential role in the strategic plan of an acad-

emic center toward achieving its three-fold mission of clinical care, education, and research. With the emergence early in the 1990s of the federal interest in women's health and the development of community women's health centers, it was incumbent on academic health centers to respond with appropriate and innovative strategies. The development of a women's clinical center not only can establish an academic health center as a leader among its peers in the development of innovative clinical care but also can create for the institution a position of leadership in women's health within the communities it serves.

Women's healthcare programs serve as magnets for new patients, as women are the most frequent consumers of the healthcare system and influence the majority of healthcare decisions for their families. Sixty percent of the new patients attracted to the clinical program of one CoE had no prior billable activity at that institution and thus represented the recruitment of new business. Successful women's health centers, therefore, contribute to the new and pressing need of academic health centers to increase market share. Another CoE successfully used the creation of a women's health center to expand its patient base. The institution adopted the recommendation of its Women's Health Task Force to develop a comprehensive clinical delivery system for women. The initial site of operation was strategically placed within a multispecialty satellite in a suburban location, an area that captured a small portion of the market share. The women's health program was seen as the cornerstone of this endeavor. As the success of the women's health program went, so would the satellite. Within the satellite were primary care services for family members, diagnostic services, and subspecialty services for women and their families. The 3-year projected volume expectations and impact on the market share were reached within 18 months of operation.

The changing face of healthcare requires that academic centers broaden their focus from inpatient and subspecialty services to ambulatory and primary care services in a more cost-effective delivery system. With increasing market competition, academic health centers recognized a need to recruit a sufficient patient population to support tertiary care services. Women's health programs, created with a strong foundation in primary care and a system of coordination of specialty care and diagnostic services, can help meet this challenge successfully.

One CoE was supported by its medical center as part of its goal to improve customer service. This academic institution believes that the women's health program, because of its philosophy of care, serves as a model of core medical and operational quality services to replicate elsewhere in its healthcare delivery settings. Documentation of successful implementation of medical approaches, operational policies, and community outreach programs provides the supportive evidence to promote the duplication of such efforts for other parts of the health system community. This women's health program has served as a sensitive testing ground for strategies developed to update services and stay current within the marketplace.

A successful multidisciplinary women's health center that overcomes the interdepartmental turf battles of ownership of women's health can serve as a site of new training models. CoEs have found that once the disciplines work together in provision of healthcare services, cooperation with provision of medical education follows as a natural corollary. Less effort is needed to create the outpatient rotations necessary for fulfilling recent requirements to increase primary care experience in obstetrics/gynecology and gynecology experience in internal medicine. As evidenced by the educational activity in the current CoE clinical care programs, clinical teaching initiatives extend beyond resident education to include fellows and medical students. In addition to providing practice sites for ambulatory care rotations during the clinical years, the CoEs have been instrumental in bringing focus to such issues as domestic violence, gender-specific disease, and gender sensitivity in the medical school curriculum. Their presence provides a visible resource to the medical school teaching faculty, enabling interested faculty to incorporate new learning objectives within their courses.

To round out the value of the CoE programs in the advancement of the educational mission of an academic health center, it is important to note the programs' role in the development of continuing medical education (CME) programs in women's health. Such efforts include grand rounds speakers in multiple departments and, at one CoE, the development of a campus-wide women's health grand rounds followed by a networking reception. Several CoEs have launched new CME courses on women's health. Frequently, these reflect the interdisciplinary

strengths of the CoEs in both their leadership and content. The presence of substantial, attractive educational opportunities in women's health contributes to the center's reputation as a leader in the field and is instrumental in the recruitment of faculty providers, students, and residents.

The CoE clinical sites have been a valuable resource for clinical research. The practice sites can serve as a recruitment site for clinical trials. The CoEs have piloted many strategies to enhance recruitment, ranging from posters and brochures to educate women regarding the importance of their participation in research to the dissemination of information on specific research opportunities via bulletins, newsletters, or websites. In addition to fulfilling a commitment to clinical research, trial participation provides another avenue for financial support of the clinical program.

CHALLENGES OF WOMEN'S HEALTH CENTERS IN ACADEMIC SETTINGS

The challenges facing the CoE women's health clinical programs stem from external forces as well as those unique to the academic setting. One of the primary challenges in developing an interdisciplinary program in an academic center is that each faculty member is usually housed in a particular department that has its own mission, including clinical service, research, and education. The successful interdisciplinary team requires full cooperation from contributing departments outside its own structure. The individuals who participate at the grass roots level in the interdisciplinary approach must see themselves not as defending a particular turf but as participating in a shared venture to serve patient needs, with the aims of increasing knowledge and developing a new approach to women's health issues. Critical support for such collaboration must come from the chairs of each supporting department, reinforced by the deans, who must be able to oversee the broad perspective for the institution. Increasingly, academic health centers are recognizing the benefits of these multidisciplinary clinical services in providing opportunities for trainees from all levels (medical students, residents, and fellows) to develop and learn an interdisciplinary approach to women's health issues. The multidisciplinary approach is also seen as a mechanism for advancement of the faculty's academic goals, such as obtaining new research

funding for the study of interdisciplinary approaches to health problems. For many departments, demonstration of a focus on women's health is a strong attraction for talented individuals to their training programs and faculty.

Another major challenge to the development of the CoEs' clinical programs has come from the various financial constraints imposed by the changing marketplace for healthcare in general and the financial concerns facing academic health centers in particular. Declining reimbursement and increasing overhead costs, which often fall particularly heavily on primary care practices, have been major impediments to starting and continuing integrated women's healthcare programs, not only at academic health centers but in the private sector as well.^{6,17} The recent challenging financial times for academic health centers have prompted a reevaluation of the size and value of primary care programs at many institutions. Because financial cost centers are frequently department based, it is difficult to track the overall financial value of primary care to its institution.

Freestanding women's health centers have often relied on income from surgical, cosmetic, and complimentary services to maintain financial viability.¹⁸ Within academic health systems, women's health centers have been viewed as contributing to the systems' overall success by attracting patients, particularly managed care patients, thus producing additional downstream revenue. The sources of this type of revenue have included capitation, as well as fee-for-service payment for obstetrical, surgical, other subspecialty, laboratory, and radiology services. To advocate for the funding of primary care programs based on downstream income, it is essential to have adequate accounting and information systems that allow for the evaluation of the impact of a women's health center on the institutional bottom line. Academic health centers often have lacked such systems, thus making it difficult or impossible for faculty to demonstrate the financial advantages of supporting a women's health program. Furthermore, it is very difficult to document the often cited positive impact on market share of attracting a large, satisfied population of female patients because of their influence on the decisions of their family to seek care at the same institution.

Another important financial variable affects faculty, often women, staffing academic women's

health centers. They face well-documented challenges to clinical productivity, both as women physicians and as staff of an integrated center. More and more, clinical success at academic health centers is being defined by numbers of patients seen and amount of income billed and collected. Evidence shows that new patients to multidisciplinary women's health practices expect more time with the provider and more health and diet information than in a traditional practice.¹⁹ Many physicians, both male and female, note that patients with particularly high psychosocial and counseling needs seek female physicians. Female physicians have been found to do more counseling and prevention than their male counterparts.²⁰ Furthermore, female patients present a different array of problems to female physicians. In a recent study, women receiving care from female physicians indicated more female-specific, endocrine, general, and psychosocial problems than women seeking care from male physicians.²¹

Female physicians in practices with a high volume of managed care patients are more likely than male physicians to voice dissatisfaction with the amount of time they have to spend with patients. Anecdotally, female physicians in private practice have responded by maintaining the time they spend with patients. They are accepting reduced income, working longer hours, or both, options that may not be available or practical in a centrally managed academic group practice.²² Women's health center physicians who work in environments where patient panel size is a primary measure of productivity are also likely to suffer in comparison to colleagues working in practices with higher percentages of male patients, as women patients visit the doctor or healthcare provider more frequently. Given these circumstances, it is particularly helpful to have documentation of the downstream revenue coming from serving such patients.

Competing demands on provider time have proven a significant barrier to successful development of integrated women's health clinical programs in the academic medical setting. This problem has several aspects. First, successful competition for patients, particularly managed care patients, has been a principal driving force in securing financial support for women's health programs. However, faculty at academic health centers who might participate in such programs often have relatively little clinical time to offer. Managed care plans not uncommonly require

physicians to have a minimum number of available patient care hours per week in order to be listed as primary care providers. This often amounts to the equivalent of at least half-time clinical practice or more, which is incompatible with the schedules of most physicians pursuing traditional academic careers. Academic health centers have successfully negotiated around such issues, but this takes commitment and knowledge on the part of those involved in contracting. Even in the absence of such contracting issues, a core value of many women's health programs—that patients will have easy and quick access to their primary care physician—is difficult to achieve, given the relatively small amount of time academic physicians traditionally spend in clinic. Thus, many successful integrated women's health programs are staffed, at least in part, with physicians and others engaged in full-time or nearly full-time clinical practice. Although this solves many of the issues of access and optimal continuity of care, it raises others regarding the role of these clinicians in the overall academic mission of the women's health center and their status and ability to be promoted within their academic departments.

To overcome these challenges, CoEs have articulated their potential contribution to the financial viability and core missions of their academic institutions. Where the information infrastructures have been available, they have documented in dollars the downstream income from the practices. Critical to the successful implementation of an integrated, multidisciplinary clinical program is the visible support of the leadership of the academic health center, including the relevant department chairs, deans, and the CEO/COO of the clinical enterprise. With the support of those outside and above the departmental power bases, many of the challenges delineated here can be met, and the creation of a comprehensive clinical care program can be realized.

The CoEs report that their designation as National Centers of Excellence has enhanced their ability to create innovative multidisciplinary programs for women at their academic health centers. This designation brought external validity to existing programs, enabling them to garner more support from their academic institutions and other funding sources. Program funding is cost shared between the federal government (75%) and academic health centers where the centers are located (25%). The federal government (DHHS

Office on Women's Health) provided \$12 million as of September 30, 2000. The centers have, in turn, leveraged \$129 million in funds for all their activities as of September 30, 2000. Approximately 71% of these leveraged funds are from external grants, foundation awards, and private sector dollars.

The following list outlines funding for the CoE Program from its inception to September 30, 2000:

DHHS OWH funding	\$11,868,068
25% or more cost share	11,285,253
Additional CoE internal funds	26,272,245
External funds to CoE	70,807,494
Dollars to CoE partners	21,331,125
(Due to the CoE designation)	
Total	\$141,564,185 ²³

The national designation has served to heighten the visibility of the importance of women's health and brought more university and community participants to the design and implementation of programs. Academic health centers that used their CoE funds to support a clinical director noted that this has resulted in more rapid program development. The CoEs believe that being a National Center of Excellence in Women's Health has been instrumental in attracting faculty, residents, and medical students interested in women's health to their institution. All CoE programs concur that the CoE designation has contributed to advancing their women's health clinical programs.

DISCUSSION

The academic medical institutions represented in this paper were awarded the designation as a National Center of Excellence in Women's Health by the OWH within the DHHS and were provided with seed monies to develop model clinical services for women. The programs they are developing differ in organizational structure but share core characteristics. Each has made efforts to develop women-centered facilities and services, with at least one main primary care site dedicated to women's health. All have defined women's health as more than reproductive health and are working to develop a comprehensive program of gender-specific services that can meet a woman's health needs across her life span. Depending on local resources and population needs,

these services may be centralized in a women's center or exist as a convenient network of women's services located near the main CoE administrative or clinical care center.

A common goal of these CoE clinical programs is to take advantage of their academic environments to expedite the translation of new women's health research knowledge into effective new paradigms of clinical care. A core mission of each CoE is to provide training opportunities that highlight the importance of evidence-based clinical care for women, which is provided in a gender-sensitive manner that recognizes and supports women in their desire to play an active role in their health and healthcare decisions. A major challenge of the academic environment to the success of these multidisciplinary ventures is the inherent power structure of the academic institution. Comprehensive women's healthcare does not recognize departmental boundaries, yet academic power is still departmentally defined and often vigorously defended. The permanent success of comprehensive clinical programs, such as those being designed by the National Centers of Excellence in Women's Health, will require the support of the leaders of their academic health centers who understand the importance of multidisciplinary programs to the clinical care they provide women and the education they offer the future providers of women's healthcare.

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