

Women's Health Curricula: Final Report on
Expert Panel Recommendations for
Interprofessional Collaboration across the
Health Professions

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EXECUTIVE SUMMARY

Improved inclusion of women's health education among a growing cadre of health professionals is a key task for the coming decade. Today, experts in the field of women's health define the discipline as a product of cultural, social, and psychological factors in addition to biology (Verdonk, Benschop, de Haes, & Lagro-Janssen, 2009). Independent approaches to improve women's health curricula can promote advances in the field. However, women's health education would also benefit from a collaborative effort to create a broader agenda for women's health curricula.

In response to this need, the U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Office of Women's Health (OWH) commissioned this report to provide the background, recommendations, and implementation steps to improve women's health education across five specific health professions programs: medicine, oral health/dentistry, baccalaureate nursing, pharmacy, and public health. Both women's health and interprofessional collaboration are top priorities in health education, and improvements may contribute to dramatic health benefits across the population.

Three expert panel meetings were convened with 15 women's health experts to provide key content areas and implementation steps to incorporate growing interest in women's health curriculum improvement and interprofessional collaboration into the institutional mission. In addition, a comprehensive literature review and in-depth interviews with experts in women's health supports the recommendations and development of this report. This report was developed as a result of the recommendations from the three expert panel meetings.

The purpose of the study was: 1) to summarize recent literature on women's health curricula across health professions; 2) to identify key strategies for interprofessional collaboration in women's health curricula, with an emphasis on concrete actions; and 3) to develop a dissemination plan to share findings from the report and create greater awareness of women's health education needs.

EXPERT PANEL RECOMMENDATIONS

Conceptual Approaches to Women's Health Content

The report highlights a model for women's health content, outlining five key content areas and three theoretical perspectives. Key content areas in women's health across the health professions include wellness and prevention, biological considerations, selected conditions, behavioral health, and the role of the health professional. Across the health professions, key examples of conditions that are disproportionately found among women or for which the diagnosis or treatment may differ from men are highlighted. Additionally, the three theoretical perspectives—social determinants of health, lifespan approach, and cultural considerations—offer potential ways to approach topic in courses.

Gauging Institutional Readiness for Integrating Women's Health Education

The report highlights different stages of institutional awareness and steps to reach institutional readiness for integrated women's health curricula. Suggestions for communication with institutional stakeholders, prioritization efforts, assessments of current curricular content, and enlisting faculty support are provided for each stage of the process.

Action Items for Women's Health Integration and Interprofessional Collaboration

The report provides details and resources on the following specific steps taken at institutions to achieve improved interprofessional collaboration and/or increased integration of women's health content across health professional education.

- Analyze women's health content common across health professions
- Create a service learning elective with ties to women's health
- Create interdepartmental programs in women's health
- Create interprofessional core competencies in women's health
- Engage in interprofessional simulation exercises
- Establish women's health clerkships and fellowships
- Outline general and specialty women's health curriculum across disciplines
- Secure additional funding for curricula initiatives

Teaching Recommendations for Interprofessional Education in Women's Health

The report offers several suggestions to facilitate teaching in women's health across the health professions. Recommendations are inclusive of teaching strategies in both interprofessional education and women's health, but focus more often on strategies to provide additional support for faculty members incorporating additional women's health content into new and existing courses. Examples are provided for the following recommendations:

- Audit current women's health curricula
- Compile teaching resources
- Engage students in interactive exercises
- Incorporate clinical experience
- Integrate expertise from external departments
- Establish an elective in interprofessional education
- Generate a progressive complexity of tasks in teaching content

DISSEMINATION

The dissemination plan includes several suggestions to expand women's health curricula across health professions. These suggestions include public release; special notification to key health education, research, and outreach organizations; and commentary through social media. Active dissemination of the report will improve institutional awareness of the need to improve women's health curricula, motivate the development of competencies focusing on women's

health, and enhance public concern about the importance of women's health curricula in health professions education.

I. INTRODUCTION

A. REPORT GOALS AND STRUCTURE

The purpose of the study was: 1) to summarize recent literature on women's health curricula across health professions since the development of five reports written between 1997 and 2005 on the state of women's health curricula; 2) to identify key strategies for interprofessional collaboration in women's health curricula, with an emphasis on concrete actions, and 3) to develop a dissemination plan to share findings from the report and create greater awareness of women's health education needs.

The HRSA Office of Women's Health (OWH) operates with three key strategic goals: 1) Provide leadership on policy and programs; 2) Expand access to quality health services, education and community-based interventions; and 3) Support mentorship and lifelong learning opportunities. As related to women's health education and interprofessional education, HRSA OWH is working in partnership to 1) foster communication among health professional students, thereby improving patient care; 2) help students understand several health professional approaches to treatment, thereby expanding students' knowledge base; 3) create greater awareness of the complex health care decisions facing women; and 4) provide students with additional clinical knowledge in women's health in support of a lifespan approach.

Section II outlines the methodology for this report. Next, Section III provides a summary of recent literature addressing the five health professions' activities and progress integrating women's health issues into their respective curricula. Section IV provides key content areas in women's health across the health professions. Section V outlines a roadmap to implementation. Section VI emphasizes specific action items that can be implemented within institutions. Section VII concludes with a dissemination plan for efforts to share progress in women's health education. Lastly, this section contains a brief summary, list of references, and supplemental materials.

B. BACKGROUND

Women comprise half of the U.S. population and often face different health care needs compared to men. These health differences are not only in relation to reproductive health, but also in terms of sex and gender differences in health across the lifespan. Moreover, women were more likely than men to incur health care expenditures in 2011, and these health expenditures are more costly on average (U.S. Department of Health and Human Services [HHS], 2011). In some cases, women also are more likely than men to be active in health care decision-making (Arora & McHorney, 2000). Given the significant biological and social health differences experienced by men and women, improved inclusion of women's health education among a growing cadre of health professionals is a key task for the coming decade.

Today, experts in the field of women's health define the discipline as a product of cultural, social, and psychological factors in addition to biology (Verdonk, Benschop, de Haes, & Lagro-Janssen, 2009). Between 1997 and 2005, (HRSA) collaborated with several other HHS

agencies to identify progress and content in women's health curricula across five health professions, including medicine, dentistry, baccalaureate nursing, pharmacy, and public health.¹ The authors of the five original health discipline-specific reports recommended the incorporation of a lifespan approach to women's health, covering a spectrum of women's health issues rather than a narrow conception focused on reproductive health alone. A lifespan approach includes prevention and treatment for both younger and older women and addresses the potential sex/gender differences in common diseases as well as reproduction and childbearing. At the same time, each health profession focused its curricular agenda on varying aspects of women's health in relation to its overall mission.

Independent approaches to improve women's health curricula can promote advances in the field. However, women's health education would also benefit from a collaborative effort to create a broader agenda for women's health curricula. This report describes recent developments since the publication of the five original reports and note similarities that are relevant to integrate women's health-related issues in curricula across the health disciplines. Additionally, this report emphasizes interprofessional collaboration in women's health, drawing together experts from six health professions (those named in the preceding paragraph with the addition of the social work profession). The effort outlined in this report will provide key content areas, steps to implementation, and teaching ideas for women's health experts interested in pursuing advances in interprofessional education.

C. INTERPROFESSIONAL EDUCATION

In 2003, the Institute of Medicine embraced interprofessional collaboration and interdisciplinary health teams as a means of ensuring quality, patient-centered care (Institute of Medicine [IOM], 2009). New efforts to improve continuing professional development (CPD) support the use of interprofessional teams and identify successful interprofessional models in health care delivery (IOM, 2009). Since these recommendations, new funding opportunities for interprofessional collaboration through HRSA, the Josiah Macy, Jr. Foundation, and the Agency for Healthcare Research and Quality have expanded efforts in this area (IOM, 2009; Interprofessional Education Collaborative Expert Panel [IPEC], 2011; Pronovost et al., 2008). Interprofessional collaboration or training refers to instances in which students (or mentors) from multiple health professions coordinate and cooperate to improve health outcomes and provide patient-centered care (IPEC, 2011).²

A number of health care professions already include interprofessional competencies and strategies for practitioners. Six health professional associations (the American Association of Colleges of Nursing (AACN), American Association of Colleges of Osteopathic Medicine (AACOM), American Association of Colleges of Pharmacy (AACP), American Dental

¹ The collaborating agencies include the following: National Institutes of Health (NIH), the U.S. Department of Health and Human Services' (HHS) Office on Women's Health (OWH), the Centers for Disease Control and Prevention (CDC), the Agency for Healthcare Research and Quality (AHRQ), and the Food and Drug Administration (FDA).

² IPEC developed several definitions to guide their competencies in interprofessional collaboration, distinguishing between team-based care and interprofessional collaborative practice. In short, team-based care requires interprofessional education, competencies, and collaboration to become wholly effective. For the purposes of this report, Insight has adopted a broader approach to the terminology, including relevant practices regardless of a specific focus on team-based care or interprofessional collaboration. IPEC's report also offers detailed information on the key competencies for interprofessional education, which include four overarching areas: values and ethics, leveraging the roles of interprofessional partners, communication, and effective and efficient team-based care.

Education Association (ADEA), Association of American Medical Colleges (AAMC), and Association of Schools of Public Health (ASPH)) teamed to create a set of interprofessional competencies and guidelines (IPEC, 2011). Furthermore, AACCP includes interprofessional collaboration in its educational goals and accreditation standards (Meyer, 2009).

The HRSA Bureau of Health Professions (BHPr) also has several efforts underway. BHPr is actively involved in efforts with the Macy Foundation to foster a consortium of health professionals, provide key grant funding in the area of interprofessional education, and develop a coordinating center on interprofessional education (HHS, 2012; IPEC, 2011). Most recently, BHPr funded the University of Minnesota under a cooperative agreement to manage the Interprofessional Coordinating Center.

Given that there is extensive attention and interest in the use and benefits of interprofessional education, women's health initiatives may benefit from a greater inclusion of IPE to gain institutional support. Sex and gender differences can be better incorporated into health professional curricula, and interprofessional education offers a promising route to greater inclusion. Most interprofessional efforts do not focus solely on women's health topics. Since women engage with a wide array of providers across the lifespan, often interacting more frequently with health providers compared to men, women's health can be an ideal area to pursue further interprofessional collaboration. In this report, a roadmap is provided for implementing interprofessional programs in women's health and institutional models in interprofessional collaboration.

II. METHODOLOGY

This report involved several stages of analysis in an effort to describe the current state of women's health initiatives, improve the integration of women's health content into health professional curricula, establish areas of common interest in women's health across health professions, and identify potential strategies for interprofessional collaboration.

A. LITERATURE REVIEW

A systematic literature review was conducted to determine the current initiatives in women's health curricula across each of the aforementioned five health professions.³ This review consisted of literature for each profession, focusing largely on research published between 2000 and 2011. To find peer-reviewed publications, Google Scholar, PubMed, and Ebsco search engines were utilized along with references from key articles identified in the initial search and to be incorporated into the analysis. A list of the associations with relevant research is presented in Table II.1.

³ This project is funded by HRSA OWH under contract number HSH250201100147P.

Table II.1
Professional Associations

Program	Professional Associations
Medicine	Association of American Medical Colleges (AAMC) American Board of Internal Medicine (ABIM) American Congress of Obstetricians and Gynecologists (ACOG) Association of Professors of Gynecology and Obstetrics (APGO), Women’s Healthcare Education Office (WHEO)
Dentistry and Oral Health	American Dental Association (ADA) American Dental Education Association (ADEA)
Nursing	American Association of Colleges of Nursing (AACN) American College of Nurse-Midwives (ACNM) Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN) National League for Nursing (NLN)
Pharmacy	American Association of Colleges of Pharmacy (AACP) American Pharmacists Association (APhA)
Public Health	Association of Schools of Public Health (ASPH)
General	American Medical Women’s Association (AMWA) Institute of Medicine (IOM) of the National Academies National Women’s Health Network Society for Women’s Health Research (SWHR)

B. IN-DEPTH INTERVIEWS

Two experts in each of the professions of medicine, nursing, pharmacy, and public health, and one expert in dentistry/oral health were consulted for the interviews.⁴ The initial participants from each health profession were selected based on their substantive contributions to the original reports on women’s health curricula. In February 2012, semi-structured interviews were conducted with these experts. The purpose of these interviews was to explore progress made in integrating women’s health content into the core curriculum since the development of the previous reports (written between 1997 and 2005), to discuss barriers to integrating women’s health content into existing program coursework, and to learn about experiences with respect to interprofessional collaboration.

An interview protocol was developed to guide the discussions with the nine women’s health experts. The protocol was designed to ascertain information about each respondent’s background in women’s health, the current state of women’s health in his/her profession, barriers to implementation of women’s health curricula, and strategies for interprofessional collaboration. For each of the five professional areas, the protocol was refined to include specific issues identified in the previously conducted literature review. When pertinent, suggestions from these interviews were included as steps to implementation or teaching recommendations in future sections of this report.

⁴ The request for proposal for this project specified that only nine interviews were to be conducted. Only one expert participant for the field of dentistry was interviewed because this individual provided excellent coverage of the topic, and ADEA released results in March 2012 from its study, “Women’s Health in the Dental School Curriculum,” which updated the related curricular content in women’s health.

C. EXPERT PANEL MEETINGS

Additional experts⁵ in women's health were invited to participate in three panel discussions by teleconference and webinar. The project goal was to include three experts from each of the five health professions totaling fifteen expert panelists. These participants were selected based on their expertise in the field, often as a result of previous participation in women's health curricula efforts; the publication of peer-reviewed literature on women's health; or best practices implemented at their individual institutions. During the first discussion, panelists noted that social work and behavioral health is also integral to women's health education. As a result, the second panel meeting was conducted with the addition of a social work professional.

Suggestions and feedback were solicited from the expert panel in March, May, and August 2012. Broadly, these panels were convened to discuss strategies for interprofessional collaboration in women's health content across the six represented health professions. The first panel meeting focused on panelists' thoughts on current literature in the field and brainstorming on the structure of action steps and key content. The second panel meeting focused on updates and additions to the key content areas and brainstorming on the development of a dissemination plan. The final panel provided feedback on the structure and content of the final report, particularly the dissemination plan. HRSA OWH invited several "ex-officio" Federal representatives that engaged in other women's health efforts related to interprofessional education collaborations to participate in the panel discussions.

Appendix A includes a list of all expert panel participants.

⁵ None of the expert panelists were U.S. Federal government employees. Ex-officio members were invited to share knowledge related to their interprofessional education collaborations

III. CURRENT LITERATURE ON WOMEN'S HEALTH CURRICULA

This section summarizes the current literature on women's health for individual health professions and the findings related to women's health curricula in that field. The focus is on efforts in sex- and gender-specific curriculum development and program planning. In addition, this section also provides a summary of current efforts that may be applicable across health professions. The complete literature review for each individual health profession is provided in Appendix C.

A. CURRENT INTEREST IN WOMEN'S HEALTH CURRICULA

Awareness of the need for and importance of women's health curricula continues to grow, but there is room for significant additional progress. Several recent IOM reports have identified the basic importance of sex and gender differences in individual well-being and the progress made and gaps remaining in women's health research (IOM 2001, 2010b, 2011). Additionally, several health professions cite growing numbers of women in the field, which administrators believe will further efforts to advance education (Sinkford, Valachovic, & Harrison, 2003). According to the American College of Nurse-Midwives (ACNM), the number of certified nurse midwives, who represent one specialty in women's health nursing, fell to an all-time low in 2007, but the number of nurse midwives certified each year rose in the three subsequent years (ACNM, 2011). An increasing number of women are completing pharmacy degrees, and AACP has established a Women Faculty Special Interest Group to identify issues of importance to women faculty.

Recent curricular surveys indicate that attention to women's health is increasing, but additional topics key to health professional knowledge must be covered. A 2004–2005 survey of 1,265 medical students suggests that students feel there is only brief to moderate coverage of key women's health topics on sex and gender differences (Henrich, Viscoli, & Abraham, 2008).⁶ A 2003–2004 review of online curricula found fewer than 30 percent of medical schools with gender-specific topics in their curricula and only 9 of 95 schools (nine percent) with designated women's health courses (Henrich & Viscoli, 2006). In a recent nursing survey, only slightly more than 50 percent of RN graduates reported that they felt adequately prepared to understand and meet patients' cultural and emotional needs (Li & Kenward, 2006), including health care needs specific to women. Pharmacy students remain poorly informed about certain women's health issues, such as the provision of emergency contraceptives (Ragland & West, 2009). Under sponsorship from the NIH Office of Research on Women's Health, ADEA released new findings from an updated survey of its members' curricula objectives (ADEA, 2012). Twenty-five percent of dental schools did not offer curriculum on the following: information on women in basic science courses, a lifespan approach, developmental and psychological issues specific to women, or sexual and reproductive functions (ADEA, 2012). These results across health professions suggest that while women's health curriculum is of concern to the academic community, the interest shown in peer-reviewed publications on the topic has not yet been translated into practice.

⁶ For five topics—women's sexual practices, sex/gender in the neurosciences, occupational health, sports injuries, and dementia states—respondents generally reported no coverage compared to in-depth coverage on a scale of response items (Henrich et al., 2008).

B. IMPROVED WOMEN'S HEALTH CURRICULAR CONTENT

There were three key similarities in the literature across health professions regarding improvements to women's health curricula.

First, health professions lack competencies in women's health that would help guide faculty members as to which key topics should be covered in general and specialized women's health curricula (ADEA, 2012). A first step in establishing core competencies involves establishing key educational objectives in women's health for each field. ADEA recommended that future competencies include a lifespan approach to women's health dentistry in national examinations. The Women's Healthcare Education Office (WHEO) of the Association of Professors of Gynecology and Obstetrics (APGO) created a series of health care competencies incorporating women's health as required content. In 2006, the Association of Schools of Public Health identified new core competencies for the Masters in Public Health (MPH) programs including biostatistics, environmental health sciences, epidemiology, health policy and management, social and behavioral sciences, communication and informatics, diversity and culture, leadership, and public health biology (Calhoun, Ramiah, Weist, & Shortell, 2008), but do not include women's health as a specific topic.

Second, literature across health professions addressed the need to improve sex/gender diversity at clinical sites and in case studies used to teach key content. Case examples often employ a disproportionate focus on the use of male patients rather than female patients (Nicolette & Jacobs, 2000; Turbes, Krebs, & Axtell, 2002). In addition, ensuring that the clinic site offers experience with female as well as male patients improves knowledge of women's health; for example, medical school students using Veterans' Administration medical centers show less women's health knowledge compared to students at other sites due to the greater proportion of male patients (Orsetti, Frohna, Gruppen, & Del Valle, 2003). In dentistry/oral health, experts agree that programs must provide clinical simulations and content that represent the diversity of the patient population (ADEA, 2012). Recent curricular studies in pharmacy indicate that simulated patient interviewing during women's health courses improves knowledge of women's health issues and communication strategies (Vest & Griffin, 2011). A course in which students conduct assessments with real patients results in more confidence and greater familiarity with women's health issues (Vest & Griffin, 2011).

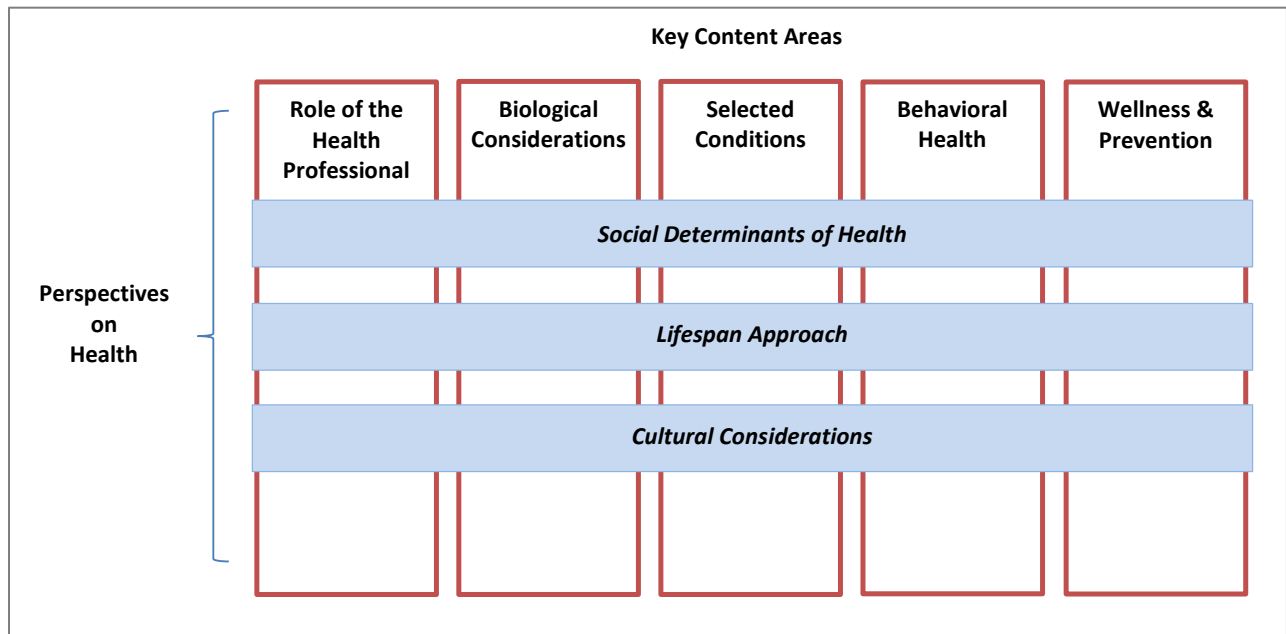
Third, Web-based tools, technology, and interactive media can enhance women's health curriculum content, increase access to women's health content, and ease implementation of new course material. Women's health care initiatives may be included in course content through online learning (Avery, Ringdahl, Juve, & Plumbo, 2003; Billings, Connors, & Skiba, 2001; Taleff, Salstrom, & Newton, 2009). Other research has proposed Web-based initiatives for graduate education in women's health (Avery et al., 2003). In another example, all providers should consider the identification of domestic violence as a key content area. Dentists are in a unique position to identify instances of domestic violence, given the likelihood of injuries occurring to the mouth, face, and neck (Love et al., 2001); subsequently, a team of researchers at the University of California San Francisco released a multimedia DVD tutorial to aid dentists in identifying domestic abuse (HHS, 2005c).

IV. KEY CONTENT AREAS FOR COLLABORATION IN WOMEN'S HEALTH

This section outlines key topic areas in women's health suggested by members of the expert panel. Topics in this section can be used to facilitate interprofessional coursework and workshops. Key topics are organized according to five broad content areas and three theoretical perspectives that can be used to explore topics within each of the five content areas. The five topic areas (wellness and prevention, biological considerations, selected conditions, behavioral health, and professional education) are not mutually exclusive. For example, there are topics within biological considerations that may also be classified as a selected condition. Similarly, the three theoretical perspectives (social determinants of health, lifespan approach, and cultural considerations) listed are not mutually exclusive. In fact, these three conceptualizations of health share many commonalities. Cultural considerations are one of several aspects of social determinants of health. However, some health professionals may find more institutional or curricular support by adopting one particular perspective over another. These content areas and the perspectives used to explore women's health within these areas are intended to provide a framework for women's health curricula, but not define current research in the field such as one would find in a textbook.

Figure IV.1 provides an illustration of the conceptual model.

Figure IV.1
Conceptual Approach to Interprofessional Women's Health Content



The three perspectives offer a conceptual framework with which to approach course content. The social determinants of health include individual demographics and environmental concerns that may shape health trajectories. A lifespan approach encourages consideration of women's health issues as they vary across stages in the life cycle. Finally, cultural considerations guide a focus on women's health by exploring the importance of intersections of social statuses, including race/ethnicity, income, parenthood, and sexual orientation and identity (gay, lesbian, bisexual and transgender populations).

The following is an example of how an area of interest might be developed from the conceptual model. Wellness and prevention is an area of women's health that is shaped by the social determinants of health, where income and the proximity to health care facilities influence the amount of care individuals are able to seek. Faculty members could pursue coursework focusing on the ways in which social determinants of health shape women's use of cancer screening, and this could be of interest across several health professions. The above conceptual model offers a range of issues in women's health, assuming that different health professions will prioritize topics appropriately. For example, public health professionals may focus on a lifespan approach to wellness rather than biological considerations, which may be more deeply addressed in medicine. These content areas are intended to highlight potential areas for transdisciplinary work *and* areas in women's health that could be explored within a single discipline. The rest of this section provides further detail on the shared perspectives on health as well as the topics included within each of the five key content areas.

A. SOCIAL DETERMINANTS OF HEALTH

Social determinants of health are of central importance in understanding health inequities, access to care, and the environmental and social contexts that shape well-being. The World Health Organization's Commission on the Social Determinants of Health (CSDH) cited social determinants of health as a major predictor of health inequality worldwide (CSDH, 2008). The social determinants of health include individual-level and contextual characteristics that shape daily routine. For example, individual characteristics include race/ethnicity, socioeconomic status, and gender. Contextual characteristics include immediate surroundings, environmental conditions, workplace dangers, and larger cultural patterns (CSDH, 2008). These larger cultural patterns refer to the ways in which women may be expected to behave, social norms around health care issues and seeking care for less socially accepted conditions, and the social roles that men and women occupy in society. Therefore, in addressing the social determinants of health within the context of women's health, key research highlights issues associated with gender inequality, access to care, and experiences related to poverty. Expert panelists noted that when addressing social determinants of health within a women's health curriculum, it would be essential to define sex and gender and then describe the social origins, contexts, and differential diagnoses that may accompany sex/gender differences in health.

B. LIFESPAN APPROACH

The nature of women's health care needs change extensively through the aging or maturation process. A women's health curriculum must address the needs of women across the lifespan. A lifespan approach encourages practitioners to consider a woman's current context, role, and life demands when addressing her health needs. Several of the original reports on

women's health curricula in the health professions advocated a lifespan approach, and this perspective remains essential today. Additionally, several recent textbooks and articles adopt a lifespan approach to women's health across the health professions, suggesting that this is an increasingly important perspective for improving the inclusivity of women's health content (see Borgelt, O'Connell, Smith, & Calis, 2010; Tedesco & Albino, 2011). Finally, the lifespan approach overlaps with the social determinants of health approach since social roles change with age.

C. CULTURAL CONSIDERATIONS

Exploring women's health with cultural considerations in mind can promote understanding about how health varies in relation to other demographic characteristics, such as income, race/ethnicity, nativity, and sexual identity and sexual orientation.⁷ Intersectionality, a theoretical approach in this tradition, emphasizes the importance of understanding the opportunities and disadvantages in place for those at the intersection of social statuses (Collins, 1993).⁸ Recent research highlights the important role of considering several health statuses when framing health differences. As women's health is addressed, attention should be paid to the diversity within sex and gender and the different lived experiences of women across race/ethnicity, nationality, and sexuality. Moreover, this type of approach argues that many of these statuses should be examined in conjunction with each other; rather than measuring only sex/gender differences, studies should evaluate both sex and class status or sex and racial/ethnic grouping. For example, recent findings indicate that sex/gender, race/ethnicity, and income all affect patterns of difference in body mass index (BMI), where income may have a greater effect on women's BMI compared to men's (Sanchez-Vaznaugh, Kawachi, Subramanian, Sanchez, & Acevedo-Garcia, 2009). Freund and colleagues (2012) recently explored disparities in the treatment of acute coronary syndromes, highlighting racial/ethnic and sex differences. One finding from the study notes that Black men and women are significantly less likely to receive cardiac interventions or percutaneous coronary intervention (PCI) compared to White men (Freund, Jacobs, Pechacek, White, & Ash, 2012).

D. KEY CONTENT AREAS

Given the continued interest in women's health and the efforts being made within health care disciplines, it is essential to create opportunities across disciplines to expand women's health curricula. In this section, using suggestions from expert panelists and recent research in women's health, we provide a list of key content areas and specific topics within those areas. These areas have been cited for their increasing or continued importance to women's health as well as the likelihood that care for these conditions and health experiences will incorporate multiple health professions. In particular, the majority of examples included represent areas in which there is a prevalence among women or in which the diagnosis or treatment of the condition differs for men and women.

⁷ Nativity refers to the country in which one was born. Refugee and immigrant health is an area of increasing interest across health professions.

⁸ Intersectionality is defined as exploring the ways in which a combination of characteristics shapes experiences. This theoretical perspective, often used in the social sciences, emphasizes the importance of social justice and the role of power and privilege in individual interactions.

There are five key content areas that experts across the health professions cited as significant for interprofessional collaboration in women’s health. These content areas are presented with the understanding that content will address sex/gender differences. Experts also contributed key topics within each content area to serve as examples of shared interests across oral health, medicine, nursing, pharmacy, public health, and social work. Table IV.1 details these content areas and sample topics in women’s health.

Table IV.1
Common Content Areas in Women’s Health Across the Health Professions

Area	Sample Topics
Role of the Health Professional	<ul style="list-style-type: none"> • Ethics • Interprofessional Education • Knowledge of Other Health Professions • Patient-centered Decision-making • Gender in Provider/Patient Communication
Biological Considerations	<ul style="list-style-type: none"> • Age • Sex • Genetics • Hormonal Influences • Pharmacokinetics and Pharmacodynamics
Selected Conditions	<ul style="list-style-type: none"> • Autoimmune Disorders • Cardiovascular Disease • Endocrine Disorders • Endometriosis • Infectious Disease (Especially HIV) • Pregnancy and Breastfeeding (Especially medications taken during pregnancy and periodontal health in pregnancy) • Metabolic Disorders • Musculoskeletal Health • Neurological Conditions
Behavioral and Mental Health	<ul style="list-style-type: none"> • Anxiety/Stress • Depression/Bipolar Disorders • Domestic/Intimate Partner Violence • Eating Behaviors/Disorders • Sexual Behavior • Substance Abuse • Traumatic Experiences
Wellness and Prevention	<ul style="list-style-type: none"> • Access to Care • Environmental Health • Exercise Physiology • Hormonal Transitions • Nutrition • Oral Health • Reproductive Choice, Family Planning, and Obstetrics • Preventative Health Screening and Immunizations • Work-Family Balance

V. GAUGING INSTITUTIONAL READINESS FOR CURRICULAR CHANGE

This section outlines steps to achieve additional integration of women’s health initiatives at individual institutions. Often, the most successful steps to integration depend on the level of institutional readiness. As such, there are specific process suggestions for each institutional phase of readiness. These phases of readiness emphasize incremental improvements in curriculum to reach full integration over a long-term effort. Table V.1 provides definitions to assess the degree of readiness at a specific institution.

Table V.1
Stages of Awareness as an Indicator of Institutional Readiness for Interprofessional Sex and Gender Specific Women’s Health Education

Level of Awareness	Characteristics
Basic Awareness	Institutions at this stage include women’s health education in a limited fashion, often focusing solely on reproductive health. There are minimal or no interdisciplinary sex- and gender-specific health programs within the institution’s health sciences schools or colleges.
Mid-Level Awareness	Institutions at this stage have expanded women’s health education outside of the reproductive arena. The curriculum includes sex- and gender-specific health education incorporated into more than 50 percent of the degree curriculum and, when applicable, clinical women’s health education expands outside of the Obstetrics and Gynecology Department. Students might have an option to choose an elective in women’s health. These institutions may have a designated NIH ORWH Women’s Health Center of Excellence (COE) or Clinical Center of Excellence (CCOE) that has not remained active, yet women’s health awareness and educational activities implemented during the late 1990’s and early 2000’s during funding of the CCO/CCOE remain intact.
High Awareness	Institutions at this stage have integrated women’s health education throughout the 4-year curricula (when applicable) and into post-graduate training. The curriculum includes an awareness of sex and gender as individual variables to be integrated throughout basic science and clinical content. These institutions may have a designated CCO or CCOE that has remained active since funding was discontinued in 2005; they may also host women’s health fellowships, women’s health residency tracks, and specialized student certificate programs in women’s health.
Advanced Awareness	These institutions established activities to promote interdisciplinary sex- and gender-specific women’s health programs within schools/colleges in addition to interprofessional education across schools/colleges. They fully integrated women’s health, and sex and gender, as a curricular thread throughout all levels of health professional education. These institutions have avoided creating stand-alone curricula or modules, choosing instead to layer sex- and gender-specific women’s health into existing curricula as appropriate.

There are several steps women's health champions can take to promote an integrated women's health curriculum at their institutions at each stage of institutional readiness. The diagram below gives several suggestions for generating funding, institutional support, faculty engagement, and means to evaluate success.

Basic Awareness

- Design proposal to correlate with and enhance institutional mission areas
- Begin discussions with institutional leadership, influential curriculum faculty (curriculum gatekeepers)
- Identify and engage Women's Health Faculty Champions
- Expand women's health education through activities such as a lecture series, grand rounds, or visiting professors
- Apply for extramural funding to pilot sex- and gender-specific women's health program development

Mid-Level Awareness

- Design proposal to correlate with and enhance mission areas
- Expand discussion with dean and curriculum gatekeepers (Associate Deans of Curriculum, Research, or Faculty Development)
- Formally invite Women's Health Faculty Champions to the table and identify achievable goals and objectives to expand sex- and gender-specific women's health education
- Expand existing sex- and gender-specific programs or create new programs
- Apply for extramural funding to expand sex- and gender-specific women's health program development

High Awareness

- Design proposal to correlate with and enhance institutional mission areas
- Present opportunities for *interprofessional* development to institutional leadership
- Identify methods to export/share expertise nationally
- Apply for extramural funding to create *interprofessional sex- and gender-specific women's health programs*

Advanced Awareness

- Design proposal to correlate with and enhance institutional mission areas and national recognition
- Engage high-level leadership (e.g., Deans, Provost, President) in discussions
- Export institution's expertise to a national audience
- Engage national experts in Interprofessional development to enhance existing infrastructure

VI. CREATING COLLABORATIVE OPPORTUNITIES IN WOMEN'S HEALTH CURRICULA

This section outlines strategies and recommendations for implementing a women's health curriculum with a focus on developing interprofessional collaboration. Often, the strategies are more inclusive so that they can be applied to interprofessional education more broadly in the hope that some of these practices can be adopted within the women's health curricula of a broad range of institutions.

As suggested during interviews with women's health experts, there are often institutional barriers to implementing new women's health curriculum and interprofessional education. In interviews with women's health experts, it was found that an adequate number of faculty in women's health, funding for women's health initiatives, a lack of core competencies focusing on women's health, and a lack of clinical experience with women's health issues all limited curricular progress (Warner-Griffin, Johnson, & Wilson, 2012). The following section is intended to facilitate institutional advances in both women's health curriculum integration and interprofessional education. Suggested action steps, teaching recommendations, and institutional models are provided. Specific subjects in the topics provided as key content areas in women's health could be applied to several of the action items and teaching recommendations listed below as a means to integrate additional women's health topics.

A. ACTION ITEMS TO FOSTER COLLABORATION

Administrators and faculty may seek ways in which they can begin to incorporate interprofessional education into their women's health curricula. This section offers illustrative examples of ways in which institutions have implemented interprofessional learning across content areas. In some cases, institutions focus specifically on teaching teamwork and interprofessional collaboration rather than integrating such topics into a particular content area.

Create Common, Content-Related Women's Health Initiatives Across Health Professions. One method for interprofessional instruction includes targeting a specific time for students from multiple health professions to engage in the same content area. In Canada, the University of Toronto offered a weeklong interprofessional course on pain management to 540 pharmacy, dentistry/oral health, medicine, nursing, physical therapy, and occupational therapy students (Watt-Watson et al., 2004). The course included 20 hours of instruction, based on the minimum requirements for pain-management knowledge from each health profession and a content search on pain management curricula (Watt-Watson et al., 2004). The program was approved through individual meetings with departmental curriculum committees and chairs to gain support, and evaluations noted improvements in student knowledge and increased awareness of interprofessional roles (Cook, 2005; Watt-Watson et al., 2004).

The Laura W. Bush Institute for Women's Health at Texas Tech University Health Sciences Center (TTUHSC) developed several interprofessional forums on sex and gender. For each session, administrators will choose a disease process and discuss what the interdisciplinary team brings to that process. For example, osteoporosis could be a potential topic that a medical provider would talk about screening, an allied health professional would talk about falls and balance, a pharmacy representative would present new alternatives for treatment, and a nurse

would address how to administer certain drugs in the office. The medical profession benefits from assembling this kind of diverse array of health professionals together in a panel, doing role-playing exercises, and holding simulations. These types of workshops engage a team approach to disease and the health process while also incorporating sex/gender differences. It is also possible to offer continuing education credits through such forums.

In a second example, a team of nurses, mental health professionals, and primary care physicians implemented a collaborative care arrangement to improve treatment for depression. To improve follow-up, coordination, and patient support, the team developed a manual for physicians, created new patient education materials, and alerted nurses to their responsibilities for facilitating follow-up communication (Solberg et al., 2001). Unfortunately, physicians did not widely use the new system of care, few patients were referred to the new system, and the intervention showed negligible improvements for patients (Solberg et al., 2001). To improve the likelihood of success, depression care systems emphasizing a collaborative approach must improve ease of access to the new protocols, and leadership must visibly and enthusiastically support new collaborative care efforts (Solberg et al., 2001). For example, another intervention, which focused on primary care physicians, nurses, and psychologists as members of a patient treatment team, gained widespread participation and resulted in improved outcomes such as better process of care and less health-related functional impairment (Unützer et al., 2002).

In a third example, the Brigham and Women's Hospital offers a joint orientation program for nurses and pharmacists. The program contains a strong interdisciplinary component that educates both pharmacists and nurses on medication use, incorporating the use of pre- and post-tests to evaluate program success and student progress (Cina et al., 2004; Manasse, 2009).

Create Core Competencies in Women's Health. Additional women's health content focusing on interprofessional collaboration and areas of overlap should be incorporated into the core competencies for dental, medical, nursing, pharmacy, and public health education. The core competencies necessary for institutional accreditation can serve as a barometer for key content areas, and requiring competencies for accreditation can encourage institutional support. However, such additions must also be made with the knowledge that current health professional students already are responsible for an extensive array of required competencies. Adding new content may exacerbate an already significant time deficit, but this alternative likely represents an improvement over the current lack of regulation around women's health content in interprofessional education.

Establish Additional Women's Health Clerkships and Fellowships. Women's health clerkships and fellowships help students focus on women's health content as an area of interest. These dedicated tracks of learning are used in several health professions. A clerkship may be implemented through elective courses, integration of content into existing courses, or new interdisciplinary curricula that are part of the larger general curriculum (Magrane, Ephgrave, Jacobs, & Rusch, 2000). In medicine, the Cleveland Clinic offers a women's health fellowship that focuses a 2-year curriculum on clinical skills, research, and interdisciplinary education (Ricanati & Thacker, 2007). Brown University offers a women's digestive disorders program where students gain women's health experience within the gastrointestinal specialty (Saha & Esposti, 2010). In nursing, a residency program could provide nurses with focused clinical experiences in women's health. Similar to physicians, nurses would rotate across clinical areas

to gain additional applied expertise (IOM, 2010a). Harvard University School of Public Health created the Women and Health Flagship Initiative (W&HI) in 2010. The initiative takes a holistic perspective, focusing on women throughout the life course as well as the nature of the health care system in which they participate (Harvard School of Public Health, 2011).

Establish a Service-Learning Elective With a Women's Health Focus. Enhancing a women's health curriculum can occur in conjunction with a program's service learning component. Service learning integrates university teaching with community development, civic responsibility, and real-life applications. A review of the literature suggests that women's health courses are often used to generate additional opportunities for students to interact with patients and provide services to the community. Students participating in a service-learning course on women's wellness report professional growth, improved critical thinking, and better preparation for nursing practice (Callister & Hobbins-Garbett, 2000).

IPEC expert panelists suggested service-learning projects as a means to provide educational opportunities for students in an interprofessional setting, and cited the University of Connecticut's Urban Health Scholars Program as one example (IPEC, 2011). An interprofessional service-learning elective could also be structured around women's health, with a clinical focus on gaining patient experience with women and sex/gender differences in medicine.

The Medical University of South Carolina (MUSC) offers an interprofessional service-learning course to medical students, physician assistant students, pharmacy students, and physical therapy students. The course includes 11 lectures ranging from office procedures and community health to student-led presentations on their own professions. Students also provided patient care at a student-run clinic in the evenings (Shrader et al., 2010). Students noted significant improvements in their experiences working in an interprofessional team and in their understanding of the role of physician assistants, and marginally significant results on the role of pharmacy in interprofessional teams.

In another example, The University of Washington in Seattle, Washington created the Student Providers Aspiring to Rural and Underserved eXperiences (SPARX) program, which establishes interprofessional teams for rural health outreach, resulting in more students opting into Family Medicine (Cook, 2005; Norris, House, Schaad, Mas, & Kelday, 2003). Students from multiple health disciplines work together to provide medical care to youth that do not typically have access to such care (University of Washington Online News, 2002).

Provide Interprofessional Simulation Exercises. The Medical University of South Carolina offered interprofessional rounding experiences using human patient simulators for pharmacy, medical, and physician assistant students (Shrader, McRae, King, & Kern, 2011). Students found the rounding experience beneficial, enjoyed the clinical setting and "hands on" experience, and engaged with students from other professions (Shrader et al., 2011). While patient simulation exercises offer opportunities to improve student interprofessional experience, they can also come at a cost in terms of scheduling, personnel, and preparation (Jeffcott & Mackenzie, 2008).

Outline General and Specialty Women's Health Curricula Across Disciplines. The health professions require additional clarity on what women's health knowledge is necessary for those practitioners with a generalist education versus those with specialty degrees. Most of the health professions offer the opportunity to focus in women's health (with the exception of dentistry/oral health). These health professions offer graduate coursework, specialty training, or residencies that emphasize women's health content and clinical knowledge. However, faculty may be unclear on what aspects of women's health content are best included for a generalist degree, given that health professionals will all have interactions with women in their careers, versus what should be reserved for more advanced specialty training. To some extent, programs should offer a "menu" of women's health content, depending on student interests and the essential knowledge for their specialty.

Secure Additional Funding. The majority of experts agreed that securing funding to pursue women's health initiatives was a major barrier to implementation. Federal funding is a key aspect to maintaining all of the components of a women's health curriculum. In most programs, a lack of funding undermined efforts. For example, one expert noted that her university received significant Federal support, which raised the visibility of the program. However, the loss of Federal funding meant that administrators had to scale back the program. Panelists offered several additional suggestions for seeking funding. For example, at several universities, experts apply for Building Interdisciplinary Careers in Women's Health (BIRCWH) awards, funded by the National Institutes of Health (NIH) Office of Research on Women's Health (ORWH). These awards are available across health professions and intended to build faculty/career interest in curricular developments.

Experts suggested that the creation of more external funding opportunities in women's health could facilitate a key step in the process of curriculum development. For example, providing dissertation funding in women's health would encourage more students to specialize in women's health (creating more demand in the short term) and expand the faculty pipeline in the long term. There are students at Johns Hopkins University pursuing funded research in gender and violence.

Structure Interdepartmental or Interschool Programs in Women's Health. Interschool models are another means of developing the women's health curriculum and creating collaboration across schools. This is one of the more popular means of engaging leaders across health professions, but implementation ranges from small-scale and short-term programs to long-term, fully funded institutions. For example, faculty or students may create conferences and interdisciplinary sessions in women's health that span schools and departments. The University of Massachusetts offers student-run conferences in women's health content offering students an opportunity to display their knowledge and fostering interprofessional relationships.

On a larger scale, a CoE in women's health creates a common foundation for women's health research. While such research-related work does not directly translate to new curricula, such efforts make other disciplines more aware of the need to include women's health in their activities.

B. TEACHING RECOMMENDATIONS FOR INTERPROFESSIONAL EDUCATION IN WOMEN'S HEALTH

Interprofessional education offers an opportunity to increase students' exposure to collaborative practice (San Martin-Rodriguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005). Additionally, many programs may wish to further incorporate women's health issues into their curricula to provide students with a better understanding of sex/gender differences. This section offers several suggestions for improving course content or new curricular structures.

Audit Current Gender-Specific Women's Health Curriculum. Administrators at Laura W. Bush Institute for Women's Health at Texas Tech University Health Sciences Center (TTUHSC) are in the process of further integrating gender-specific women's health curricula into the medical school curriculum, an initiative that is expanding across other schools and departments, beginning with Schools of Pharmacy and Nursing. Administrators conducted a 1-year audit of first- and second-year medical school classes, using student scholars to track when sex/gender-related content was covered. To do the curriculum mapping, administrators funded student champions, who applied as student scholars to the curriculum program and received a \$1,500 annual stipend. The sex/gender content that students tracked only included content outside of traditional "women's" or reproductive health. They cross-referenced this content with a recent sex/gender textbook.

In a second example, the University of Texas Medical Branch used a Women's Health Initiative Task Force to develop a women's health curriculum (Philips, Anderson, & Ridl, 2003). Administrators used the Delphi Method to provide structure and process in collecting relevant knowledge on the topic. The "three-generation" Delphi Method used a literature review to establish key issues, followed by a second round of review to add/eliminate topics, then a final review to prioritize and rank the topics (Philips et al., 2003).

Compile Teaching Resources. Experts suggested that a collection of teaching resources would be helpful in avoiding duplication of educational resources in women's health across (and within) departments and schools. The Association for Reproductive Health Professionals has a teaching library, and some universities already house their curricular materials online so they are available to all university members. Additionally, faculty development workshops on what might be missing from each discipline's curriculum would be helpful to determine gaps that might be filled through online repositories. Lastly, the Sex and Gender Women's Health Collaborative is an effort underway to establish resources on sex and gender issues in women's health.

There is also widespread support for the creation of "toolkits" to provide faculty members with easy ways to incorporate content on one, key topic into a pre-existing course. This toolkit would include specific case studies, key articles and content, and topic outlines for specific women's health topics. Including additional items such as group exercises or relevant course activities for students would further increase the value of such an effort.

Employ Constructivist Learning Theory. Small groups, interactive approaches, and real-life clinical problems are excellent approaches to achieving success in interprofessional education; students rated these learning techniques with the highest satisfaction levels (Curran,

Sharpe, Flynn, & Button, 2010; Meffe, Moravac, & Espin, 2012). Evaluations from the University of Toronto's weeklong interprofessional seminar in pain management mentioned earlier in this report found that the 2 days of small-group work with students across disciplines were the most highly rated (Watt-Watson et al., 2004). Similarly, cooperative learning, which supports face-to-face interaction, group processing, small-group skills, and individual accountability, is recommended as a best practice in interprofessional education (D'Eon, 2005).

Establish a Progressive Complexity of Learning Tasks. Students learn most efficiently and successfully through a progression from simple to more complex case studies (D'Eon, 2005). For example, students may begin with paper-based case studies for their specific disciplines, followed by paper-based case studies for multiple disciplines, and then progress to patient simulation or clinical experience within their disciplines followed by experiences within multiple disciplines (D'Eon, 2005).

Incorporate Additional Clinical Experience. It is essential that students gain clinical experience in the treatment of women. Some interviewees noted that their students lacked access to clinical training sites for the treatment of women, while other interviewees felt this was not a significant barrier. Increasing clinical experience with women may only be an issue for some health professions. Creating relevant clinical experiences while supporting interprofessional education can increase student engagement (Oandasan & Reeves, 2005). These experiences could be in the form of simulation, service learning, talking to volunteer patients, or other clinical input (Reeves, 2000), and most students across health professions are likely to benefit from more clinical experiences with culturally and sexually diverse groups of patients.

Integrate Expertise From External Departments. Several universities link individual course content with that of another department or school. Faculty members do not have to become experts in all areas of women's health. For example, at Johns Hopkins University, the School of Public Health has linkages with the Department of Anthropology to provide content knowledge in courses; these relationships also provide a common set of learning objectives in women's health. In a second example, the University of South Florida in Tampa, FL, created an interdisciplinary 6-week summer session women's health course for undergraduates. The university combined expertise from the departments of Women's Studies, Public Health, Nursing, and the College of Medicine. The two-semester course included political, social, and biological topics in women's health (Tigno, Vaz, Yavneh, & El-Badri, 2009).

Provide an Elective on Interprofessional Education (IPE). Some programs incorporate IPE as a separate elective course or as a topic area within existing courses (Cook, 2005). One option may be to include interprofessional curricula in existing women's health courses or during women's health applied clinical experiences. There are mixed opinions on whether interprofessional efforts should be required or elective, as requiring the course may mean that not all students are committed to a team environment, impeding student learning (Oandasan & Reeves, 2005). Taking this a step farther, Thomas Jefferson University in Philadelphia, Pennsylvania features a department dedicated to fostering interprofessional education strategies. The Jefferson InterProfessional Education Center (JCIPE) also hosts a simulation center governed by an Interprofessional Simulation Curriculum Committee (ISCC), which includes members from nursing, medicine, occupational therapy, physical therapy, and pharmacy.

Currently, the center is working to provide infant delivery scenarios through simulation to OB/GYN medical students and BSN nursing students (Duffy, 2011).

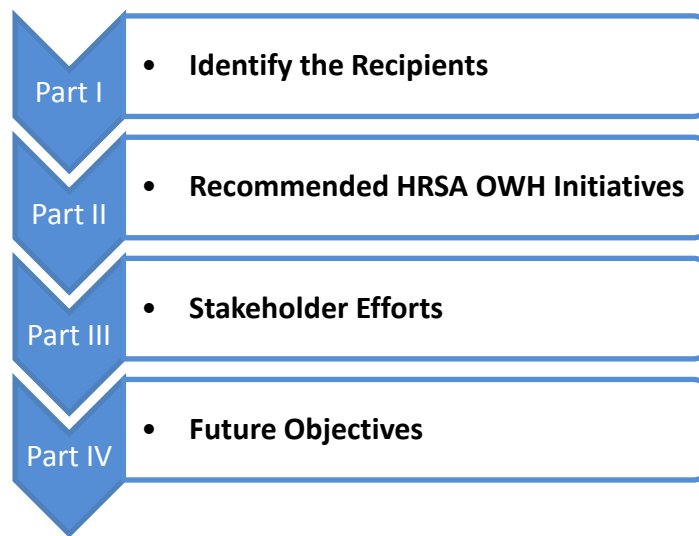
VII. DISSEMINATION PLAN

The dissemination plan will target the best audiences for the expert panel findings and recommendations on interprofessional collaboration in women’s health. Presentations and briefings for stakeholders and key audiences should emphasize an evidence-based argument on the political and social importance of incorporating women’s health curriculum across the health professions.

A. THE DISSEMINATION PROCESS

This plan provides guidelines for delivering a proactive and broad-based dissemination of the results of this study to the key stakeholders. There are four main components to the dissemination process proposed for the project on interprofessional collaboration in women’s health. Specifically, there are four primary phases: a) determining the key recipients of the information, b) outlining HRSA OWH’s key objectives, c) suggestions for stakeholder efforts in dissemination, and d) noting potentially productive future objectives (see Figure VII.1).

Figure VII.1
Dissemination Process Model



B. PART I: IDENTIFY THE RECIPIENTS

The critical point for any dissemination plan is to reach the key stakeholders with the available information. Stakeholders, in general, are defined as internal government, individuals, and constituent organizations directly affected by and/or influencing implementation of an action or policy, as well as other organizations, groups, and/or persons who may have a specific interest in either its outcomes or its applications.

Specific input on the dissemination process was solicited from this community at the second and third expert panel meetings. The key stakeholders include:

- HRSA OWH
- Expert panel
- Government agencies
- Women’s health-related advocacy, associations, and education organizations
- Research organizations and academic institutions with women’s health programs
- General public

These stakeholders can be grouped in three primary categories as illustrated in the table below. The first, and primary, stakeholders are those who were directly involved in the creation of this report. The next tier would be interested parties who were not directly involved, but who are likely invested in the findings, such as related agencies, programs, and within HRSA. The next tier would be the external stakeholders, such as researchers and policymakers who may be influenced and engaged by the results of the findings and, through their reach, may be influential disseminators of the information to other interested parties.

Stakeholder Groups	Core Members of Stakeholder Groups
Primary Stakeholders	HRSA OWH Expert Panel Members
Secondary Stakeholders	HRSA Bureaus and Offices Other Federal Agencies
Influencers	Associations, Advocacy, and Education Organizations Research Organizations and Academic Institutions Students General Public

Within these stakeholder groups, the summary and presentation of the report may need to be tailored and targeted toward the multiple audience demands within the stakeholder groups. The third group of stakeholders, influencers, includes a large number of associations and women’s health research and advocacy groups. Many of these organizations were suggested as key constituents for women’s health curricula by panel members and are listed in Appendix D.

C. PART II: RECOMMENDED HRSA OWH INITIATIVES

The outreach process may identify key strategies involving a detailed systematic plan for the communication activities by date and staff member. The communication plan should address how the report will be distributed, when, and by whom.

For this specific project, the utilization of the following was recommended:

- Utilize professional relationships with several key professional associations listed in Appendix D to share the report and an executive summary.
- Section 508 compliant posting of the report, presentations at conferences, educational and poster sessions, etc.
- Submit of manuscripts to professional organization journal, as resources allow
- Develop a Women’s Health Network listserv to encourage email exchange among women’s health researchers. This listserv will create an interprofessional network

focused on sharing ideas on key content as well as posts on news in the field and recent publications.

Lastly, expert panel members agreed that the final report be distributed with a brief summary noting key points to include a summary, key findings, and discussion of the significance of the project. Moreover, release on social media should include a short, but attention-grabbing tagline. In general, those groups directly influenced, researchers, and others will desire comprehensive documents, but the public, many health care professionals, and policymakers will respond best to concise and abbreviated materials.

D. PART III: STAKEHOLDER EFFORTS

There are several ways in which expert panelists and key stakeholders can assist in the dissemination of the final report and findings from this effort. Panelists and key stakeholders should create opportunities for presenting the findings on interprofessional collaboration in women's health. These opportunities may occur through conferences, by organizing opportunities at their own institution, or through networking efforts with related associations. In particular, key professional associations for health education and women's health research often have a national presence that can create greater awareness of continued interest in improving education in women's health. The dissemination effort would benefit greatly from contact with these associations. Stakeholders may also consider guest blog posts on the issue to create greater awareness.

Additionally, stakeholders should focus more broadly on networking with students and colleagues to share the progress of efforts in women's health curricula. Students generate interest in women's health curriculum and inspire institutional support. Key stakeholders should share the report with students and encourage students to seek additional learning opportunities in women's health content. Expert panel members also should expand their interest in women's health curricula and maintain the interprofessional relationships created through this effort. As stakeholders create change at their own institutions, group members would benefit from learning of best practices and new action items.

E. PART IV: FUTURE OBJECTIVES

It is also important to establish suggestions for future efforts in women's health. In some cases, goals may exceed the immediate opportunities for dissemination. This section outlines several objectives for future outreach related to interprofessional collaboration in women's health curricula. These objectives include further dissemination to future stakeholders or key audience members.

The expert panelists suggested holding a webinar with interested participants, especially deans of health professional schools, to inspire additional awareness of recent government and research interest in women's health curricula. Similarly, experts recommended that in the future, HRSA OWH consider holding a webinar in collaboration with other key government agencies that focuses on interprofessional education in women's health curricula.

Several panelists recommended that an advertising or mass media campaign urging greater public interest in women's health curricula would be helpful in creating broad grassroots support. Indeed, public interest can often generate increased accountability and government support. Experts recommended the use of video format and short video clips of key report findings discussed in an interesting way to attract public interest. The experts felt that, to the extent possible, the final report should be incorporated into broad efforts to improve awareness and inclusion of women's health issues on a national level in research, education, and outreach.

Expert panelists also suggested that more work needed to be done within the health professions to promote women's health curricula. For example, additional core competencies in women's health, particularly those that are tied to accreditation standards, would generate institutional support for curriculum integration. To this end, additional contact with accrediting boards and agencies to inform them of this initiative and generate dialogue around key content in women's health curriculum would be instrumental to curricular initiatives. To the extent that new competencies are written, the field would benefit from a comparison of content across health professions. Creating common ties in women's health competencies necessary for program accreditation would encourage further interprofessional collaboration.

VII. SUMMARY AND CONCLUSION

Women's health is an integral component of student training across the health professions. Given extensive sex and gender disparities in women's health, treatment, and access, and women's frequent responsibility for health care decision-making, this report emphasizes opportunities and action items to expand and improve women's health curricula across the health professions. Furthermore, an interprofessional approach to health care improves quality, patient care, and evidence-based practice. As a result, this report also engaged an interprofessional panel of experts to provide best practices that would benefit a broad spectrum of health care providers.

This report offers three key contributions: 1) a framework and common content areas for interprofessional collaboration in women's health education, 2) process-oriented recommendations for establishing interprofessional initiatives in women's health, including action items and teaching recommendations, and 3) a dissemination plan to generate additional interest in women's health curricula across the health professions.

To provide a framework and common content areas for interprofessional collaboration, three theoretical perspectives were emphasized. These perspectives provide an approach to women's health that addresses the diversity of life experiences that shape health as well as key biological differences across sex. The lifespan approach emphasizes the ways in which health care needs shift as individuals age and the importance of considering current social roles in our understanding of women's health. Cultural considerations address diversity in women's health care needs, noting the different experiences of women's across age, country of origin, race/ethnicity, and socioeconomic status. Finally, the social determinants of health focus on the ways in which context, social roles, the environment, and individual background influence health status. In this section, a table of key content areas as identified by experts in women's health was provided.

The report also provides process-oriented recommendations for initiatives in women's health education at institutions. These action steps range from mapping curricular content to engaging students and institutional administrators in long-term change in women's health curricula. There are also several suggestions to foster interprofessional collaboration among women's health experts, focusing on improving patient care through greater knowledge and improved synergy among health care providers.

Finally, the report outlines a plan for dissemination. The dissemination plan includes several suggestions to expand women's health curricula across health professions. These suggestions include public release, special notification to key health education associations, and release to the broader public through social media. With active dissemination of the report, a desired outcome is that there will be greater institutional awareness of the need to improve women's health curricula, improved impetus to develop competencies focusing on women's health, and public and awareness of the importance of women's health curricula in educating health professionals. Lastly, as mentioned earlier in this report, BHP is actively engaged in the enhancement of interprofessional education, and this report could be disseminated through BHP partners and networks

APPENDIX A: EXPERT PANEL PARTICIPANTS

Dentistry/Oral Health

- Michelle Henshaw, Professor and Assistant Dean for Community Partnerships and Extramural Affairs and Director, Division of Community Health Programs, Boston University Goldman School of Dental Medicine
- Taru Kinnunen, Assistant Professor of Oral Health Policy and Epidemiology, Department of Oral Health Policy and Epidemiology, Harvard School of Dental Medicine

Medicine

- Janet Henrich, Associate Professor of Medicine (General Medicine) and of Obstetrics, Gynecology, and Reproductive Sciences, Yale School of Medicine
- Marjorie Jenkins, Associate Dean for Women in Health and Science, Director and Chief Science Officer, Laura W. Bush Institute for Women's Health, Texas Tech University Health Sciences Center
- Virginia Miller, Professor, Surgery and Physiology, Mayo Clinic
- Abby Spencer, Associate Program Director and Site Director, Internal Medicine Residency Program Allegheny General Hospital-West Penn Hospital and Assistant Professor of Medicine, Temple University School of Medicine
- Justina Trott, Director of Women's Medical Services and Professor of Medicine, University of New Mexico Health Sciences Center

Nursing

- Janie Daddario, Director, Women's Health Nurse Practitioner Program and Associate Professor, Vanderbilt University School of Nursing
- Katharine Green, Program Director, RN to BS program and Clinical Assistant Professor, University of Massachusetts-Amherst
- Heather Reynolds, Associate Professor, Nurse-Midwifery Specialty, Yale School of Nursing
- Joan Stanley, Senior Director of Education Policy, American Association of Colleges of Nursing (AACN)

Pharmacy

- Richard Bertin, Certification and Accreditation Consulting, Former Chief Pharmacist Officer, U.S. Public Health Service
- Laura Borgelt, Associate Professor, Departments of Clinical Pharmacy and Family Medicine, Skaggs School of Pharmacy, University of Colorado
- Shareen El-Ibiary, Associate Professor of Pharmacy Practice, Midwestern University College of Pharmacy-Glendale
- Ronald Ruggiero, Clinical Professor of Pharmacy and Medicine, School of Pharmacy, University of California, San Francisco

Public Health

- Ellen Daley, Associate Professor, Community and Family Health, University of South Florida College of Public Health
- Holly Grason, Associate Professor, Johns Hopkins Bloomberg School of Public Health
- Susan Wood, Associate Professor and Director, Jacobs Institute of Women's Health, The George Washington University School of Public Health and Health Services

Social Work

- Tricia Bent-Goodley, Professor, Project Director, Campus Safety First Project (CSFP) Project Director, Men of Faith Preventing Violence Against Women Project, Howard University School of Social Work

APPENDIX B: INTERNET RESOURCES

Organization Name	Web Link
Government Sites	
White House Council on Women and Girls	http://www.whitehouse.gov/administration/eop/cwg <i>Last accessed on 6/7/2013</i>
U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality Women’s Health Program	http://www.ahrq.gov/research/findings/factsheets/women/ <i>Last accessed on 6/7/2013</i>
U.S. Department of Health and Human Services, Food and Drug Administration Office of Women’s Health	http://www.fda.gov/AboutFDA/CentersOffices/OC/OfficeofWomensHealth/default.htm <i>Last accessed on 6/7/2013</i>
U.S. Department of Health and Human Services, Health Resources and Services Administration Office of Women’s Health	http://www.hrsa.gov/about/organization/bureaus/owh/ <i>Last accessed on 6/7/2013</i>
U.S. Department of Health and Human Services, National Institutes of Health, Office of Research on Women’s Health	http://orwh.od.nih.gov/ <i>Last accessed on 6/7/2013</i>
U.S. Department of Health and Human Services, Office on Women’s Health	http://womenshealth.gov/ <i>Last accessed on 6/7/2013</i>
Research and Information	
Sex and Gender Women’s Health Collaborative Blog	http://www.sgwhc.org <i>Last accessed on 6/7/2013</i>
Institute of Medicine	http://www.iom.edu/ <i>Last accessed on 6/7/2013</i>
Society for Women’s Health Research	http://www.womenshealthresearch.org/site
Teaching Materials	
Association for Reproductive Health Professionals (ARHP)	http://www.arhp.org/ (Offers a teaching library and curricula organizer) <i>Last accessed on 6/7/2013</i>
Women’s Health Collaborative Core Curriculum	http://www.whccc.org/toc.cfm <i>Last accessed on 6/7/2013</i>

APPENDIX C: DETAILED LITERATURE REVIEW FINDINGS

Each of the sections in this appendix focuses on the current literature on women's health for the individual health profession and the findings related to women's health curricula in that field. For each health profession, the findings address recommended curricular content and suggestions for implementation.

A. UPDATE TO THE 1997 HHS WOMEN'S HEALTH IN THE MEDICAL SCHOOL CURRICULUM: REPORT OF A SURVEY AND RECOMMENDATIONS MEDICAL SCHOOL REPORT

Since the 1997 HHS report, entitled "Women's Health in the Medical School Curriculum: Report of a Survey and Recommendations," (*referred hereafter as the "1997 Medical School Report"*) attention to women's health in the medical school curriculum has increased significantly (HHS, 1997). The 2001 Institute of Medicine (IOM) report, "Exploring the Biological Contributions to Human Health: Does Sex Matter?" provided additional information for program administrators by emphasizing the basic importance of sex and gender differences in understanding individual well-being (IOM, 2001). Further, the report, "Women's Health Research: Progress, Pitfalls, and Promise," not only notes progress in women's health research, but also identify gaps that remain (IOM, 2010b).

Annual Association of American Medical Colleges (AAMC) surveys of medical school graduates conducted between 1999 and 2011 point to signs of progress in the integration of women's health issues into medical school curricula. Table C.1 below shows that the number of recent medical school graduates reporting adequate and appropriate education on women's health issues has increased since 2000 (AAMC 2001, 2011). In 1999, close to 25 percent of medical students surveyed reported that the instruction they received in women's health was inadequate. By 2011, fewer than 10 percent felt it was inadequate. In addition, there are 10 residency programs and 23 fellowship programs available in women's health and 48 academic, community-based, and rural Women's Health National Centers of Excellence (CoEs).

These CoEs were actively funded by the HHS OWH between 1995 and 2007 (Association of Academic Women's Health Programs [AAWHP], 2011; Garcia et al., 2010; Weisman, 2000). The presence of these programs and designations indicate the efforts directed toward the creation of comprehensive women's health care.

Table C.1
Recent Medical Graduates Reporting
Satisfaction with Women’s Health Instruction

Do you believe that your instruction in Women’s Health was:				
	Inadequate	Appropriate	Excessive	N
1999	24.8	72.3	2.9	14,090
2000	27.3	70.3	2.5	12,681
2001	21	76.6	2.4	14,163
...				
2007	15.5	82.6	1.9	12,527
2008	13.9	84.1	2	13,254
2009	12.3	85.8	2	13,054
2010	9.5	88.7	1.9	13,300
2011	9.6	88.5	1.9	12,465

Source: AAMC Medical School Graduation Questionnaire, All Schools Report, 2001 and 2011.

However, findings also suggest that significant room for improvement remains (Henrich, 2004; Henrich & Viscoli, 2006). There is a greater consciousness of the need for inclusion, but few schools offer a dedicated clinical rotation or actively incorporate women’s health issues to create an interdisciplinary curriculum as opposed to a single elective course (Henrich, 2004). A 2004–2005 survey of 1,265 medical students suggests that students perceive only brief to moderate coverage of key women’s health topics on sex and gender differences (Henrich, Viscoli, & Abraham, 2008). For five topics—women’s sexual practices, sex/gender in the neurosciences, occupational health, sports injuries, and dementia states—respondents generally reported no coverage compared to in-depth coverage (Henrich et al., 2008).

The 1997 Medical School Report noted that 84 percent of schools reported gender as a component of the curriculum, but only 25 percent offered clinical rotations in women’s health, and 11 percent featured an office or individual responsible for maintaining and developing a women’s health curriculum. Since the report, subsequent surveys show improved integration of a women’s health curriculum, but also indicate further progress is needed. For instance, a 2001 survey conducted by the Society for Women’s Health Research (SWHR) found that 44 percent of medical schools currently offer a women’s health curriculum, and of those schools, 66 percent had a designated office responsible for implementing the curriculum (Keitt, Wagner, Tong, & Marts, 2003). A 2003–2004 review of online curricula, using the Association of American Medical Colleges curricula database, found fewer than 30 percent of schools with gender-specific topics in their curricula or clerkships and only 9 of 95 schools (9 percent) with designated women’s health courses (Henrich & Viscoli, 2006).

Traditionally, interest in a women’s health curriculum is most prominent within the specialty of OB/GYN due to its singular focus on women’s health. However, women’s health should not remain the sole purview of OB/GYN. Recent research shows increasing interest in developing a women’s health curriculum within the primary care and internal medicine specialties. For example, general physicians and internal medicine candidates are not confident

treating some women's general health issues (e.g., management of uterine bleeding or initiating Depo-Provera or oral contraceptives). In addition, primary care directors often feel that residents have not mastered necessary expertise in women's health initiatives (e.g., incontinence, vaginitis, domestic violence, preconception planning, and birth control) (Dixon et al., 2003; Spagnoletti, Rubio, & McNeil, 2007; Spencer & Kern, 2008; Wayne & DaRosa, 2004).

These findings suggest that while women's health curricula is of concern to professors of medicine and the academic community, their interest has not yet been translated into practice. In particular, the issues of central concern include clinical rotations and residency tracks in women's health (outside of OB/GYN) as well as the implementation of offices/individuals responsible for outlining women's health curricula across a larger proportion of medical schools (Henrich, 2004; Henrich & Viscoli, 2006; Keitt et al., 2003). As one exception, recently discovered in peer-reviewed literature, Brown University offers a women's digestive disorders program where students gain women's health experience within the gastrointestinal specialty (Saha & Esposti, 2010).

1. RECOMMENDED CURRICULAR CONTENT

In addition to the survey of medical schools and their current women's health curriculum options, the 1997 Medical School Report also featured detailed recommendations for curricular content. The suggestions include 11 selected themes in women's health. These themes are outlined in Appendix B, which summarizes the progress for each of the five health professions discussed in this report. For example, the authors suggested women's health curricula include content on gender-specific approaches to preventive care, and gender-specific medical interviewing skills to facilitate information exchange with patients. Since this report, several peer-reviewed publications have outlined additional recommendations for curricular content, but they do not typically provide detailed outlines of new curricula or move beyond very specific recommendations for a single approach to integrating women's health. The 1997 Medical School Report remains a key document presenting a comprehensive list of women's health content in medical school curricula.

To ensure that students are adequately trained, several professional associations offer key competencies medical students must comprehend prior to completing their training. These competencies provide program administrators with content recommendations for women's health curricula. The Women's Healthcare Education Office (WHEO) of the Association of Professors of Gynecology and Obstetrics (APGO) created a series of health care competencies incorporating women's health as required knowledge for medical students. WHEO offers a Web-based interactive tool for programs to personalize the curriculum to their needs (APGO, 2005). APGO also offers content-based instructional reports on women's health. AAMC offers a Curriculum Management & Information Tool (CurrMIT) that offers information on required courses and course content, including some women's health courses (Henrich & Viscoli, 2006).

One potential barrier to women's health curriculum content is a continued emphasis on biomedical issues in medical school curricula, which limits an adequate inclusion of gender issues (Jimenez & Poniatowski, 2004). Future coursework during medical school should also include additional emphasis on the treatment of common disorders in women (Chiaramonte & Friend, 2006). Another barrier is a disproportionate focus on the use of male patients rather than

female patients in medical case examples (Nicolette & Jacobs, 2000; Turbes, Krebs, & Axtell, 2002), a shortcoming that can inhibit students' undergraduate learning because of a lack of experience with women's cases.

There are also particular areas to target in the improvement of sex and gender content. A study of second- and fourth-year medical students indicates students noted a lack of sex and gender content in the areas of nephrology, neurology, and orthopedics (Miller, Flynn, & Lindor, 2012). Areas more adequately covered, but still showing room for improvement, include knowledge of sex/gender in clinical trials, immunology, and gastroenterology (Miller et al., 2012).

Finally, using Web-based tools, such as those discussed above to enhance curriculum content or a Web-based course during medical clerkships (Zebrack, Mitchell, Davids, & Simpson, 2005), may increase access to women's health content and ease implementation of a women's health curriculum.

2. SUGGESTIONS FOR IMPLEMENTATION

Overall, recognizing existing gender inequality, noting key medical problems affecting women that are in need of attention (e.g., cardiovascular disease and mental health), and simply providing faculty with educational materials in the form of women-specific problem-based cases or key articles may improve the women's health curriculum at a school (Verdonk, Benschop, de Haes, & Lagro-Janssen, 2009). Verdonk and colleagues also report several strategies for inclusion, ranging from using individual, content-based courses to fully integrating sex and gender into the existing medical curriculum. In particular, the use of case studies and concept mapping (Weiss, Lee, & Levison, 2000) may provide a means for incorporating sex and gender issues into the program curriculum.

Women's health clerkships and fellowships help students focus on women's health content as an area of interest. A clerkship may be implemented through elective courses, integration of content into existing courses, or new interdisciplinary curricula that are part of the larger general curriculum (Magrane, Ephgrave, Jacobs, & Rusch, 2000). Yale University School of Medicine featured an Interdisciplinary Women's Health Clinic (IWHC) until 2000, when funding ended. This program featured clinical space for primary care for women, training for internal medicine residents, and a core curriculum; this clinic can provide a model for future endeavors (Henrich, Chambers, & Steiner, 2003). Similarly, the Cleveland Clinic is another example of a women's health fellowship that focuses a 2-year curriculum on clinical skills, research, and interdisciplinary education (Ricanati & Thacker, 2007).

Several authors also suggested other, more easily implemented techniques to incorporate women's health into their curricula. For example, weekly sessions in a journal-club format provide evidence-based practices for women's health during residents' clinical rotations, yet do not require a separate course or a significant time commitment (Pursley & Kwolek, 2002). In addition, ensuring that the clinic site offers experience with female as well as male patients improves knowledge of women's health; medical school students using the U.S. Department of Veterans Administration medical centers show less women's health knowledge compared to students at other sites due to the greater proportion of male patients (Orsetti, Frohna, Gruppen, &

Del Valle, 2003). Finally, training physicians in gender-appropriate quality indicators to measure patient satisfaction improves gender-specific efforts in clinical care; allowing recent graduates to generate new contributions to practice guidelines facilitates learning and incorporates new women's health topics; and providing physicians with clinical experiences in community clinics improves knowledge of local women's health issues (Weisman, 2000).

The use of problem-based learning (PBL) has been well received by medical residents in OB/GYN and internal medicine specialties (Spencer & McNeil, 2009). PBL was also suggested as a means for incorporating gender focus in the preclinical years in the original 1997 Medical School Report. Extending beyond the undergraduate curriculum addressed in this report, women's health tracks (WHTs), which are graduate programs in place at 10 universities, have been used in primary care internal medicine residency programs to educate students on gender-specific medical conditions through a lifespan approach to women's health. One such program at the University of Pittsburgh showed improved knowledge of women's health among WHT enrollees compared to students not enrolled (Spencer, Bost, & McNeil, 2007).

B. UPDATE TO THE 1999 HHS WOMEN'S HEALTH IN THE DENTAL SCHOOL CURRICULUM: REPORT OF SURVEY AND RECOMMENDATIONS

The 1999 HHS report entitled "Women's Health in the Dental School Curriculum: Report of a Survey and Recommendations" (*referred hereafter as the "1999 Dental School Report"*) describes an overall lack of evaluation or planning tied to sex and gender issues at dental schools. For instance, only one program offered an individual or office dedicated to curriculum content in women's oral health. The report found that when included, most frequently, gender-specific material is included as a part of a required course. Most often, this material focuses on issues associated with preventive care or prescriptions and patient medical interviews (HHS, 1999). There has been limited attention to measuring program incorporation of women's health in dental school curricula since the 1999 Dental School Report. However, under sponsorship from the National Institutes of Health (NIH) Office of Research on Women's Health, the American Dental Education Association (ADEA) released new findings from an updated survey (conducted in 2011) of ADEA members' curricula objectives in March (ADEA, 2012).

1. RECOMMENDED CURRICULAR CONTENT

There were a series of a series of recommendations for the content of a women's health curriculum in the dental schools. These recommendations include- expanding the definition of women's health and taking a lifespan approach to understanding women's oral health. In addition, the recommendations strongly encourage a full integration of women's health content, addressing not only basic science content, but also psychosocial issues and oral care providers' legal and social responsibilities.

Since the publication of the 1999 Dental School Report, several subsequent reports on women's health highlight gender differences and provide evidence-based research for gender initiatives (e.g., U.S. Department of Health and Human Services [HHS] 2000, 2005; Shinal & Fillingim, 2007; Studen-Pavlovich & Ranalli, 2001). In particular, HHS released a 2000 report ("Oral Health in America: A Report to the Surgeon General") focused entirely on the issue of women's oral health. Similarly, the March 2011 issue of the Journal of Dental Education is

dedicated entirely to the proceedings of the Fourth Annual ADEA International Women's Leadership Conference, which featured efforts to increase attention to women leaders in dental education, expand the evidence base of women's health, and draw connections to women's health curricula and cultural competence (Pinn & Kravitz, 2011; Roth, 2011; Tedesco & Albino, 2011). It is anticipated that increasing the number and success of female faculty at dental schools will further efforts to incorporate a women's health curriculum. In an effort to accomplish this, ADEA has reported on the increasing number of women graduating from dental schools (Sinkford, Valachovic, & Harrison, 2003). Additionally, ADEA formed a Women's Advisory Committee to address the needs of female dentists, dental educators, and patients.

In relation to the increased attention to women's health and gender-related issues in dentistry and oral health, the Joint Committee on National Dental Examinations is in the process of creating new testing and competencies for dentists. The subject content for the exam being developed includes knowledge of a culturally diverse patient population as a key component (Joint Committee on National Dental Examinations, 2011). Respondents in the 1999 Dental School Report noted that the lack of guidelines on which areas of gender-related content should be taught limited efforts to establish parameters for instructors or measure success (ADEA, 2012). The majority of respondents also noted that there were no mechanisms in place to assist faculty in incorporating women's health content (ADEA, 2012).

While there are a number of pertinent topic areas in women's health for dentistry and oral health, one frequent social problem highlighted in peer-reviewed literature is domestic violence. Dentists are in a unique position to identify instances of domestic violence, given the likelihood of injuries occurring to the mouth, face, and neck (Love et al., 2001). Leaders at academic and community women's health centers identified screening for and education about intimate partner violence as a key item on their women's health agenda (Garcia et al., 2010). Additional receptivity training for dentists on this issue may help combat domestic violence. Hsieh and colleagues (2006) found that a short, simple interactive tool provided to dentists increased their knowledge of patients potentially suffering from domestic abuse. Such a tutorial could also be incorporated into the broader dental school curriculum, as it has shown some success on a small scale (Danley, Gansky, Chow, & Gerbert, 2004). Given the potential benefits, a team of researchers at the University of California San Francisco released a multimedia DVD tutorial to aid dentists in identifying domestic abuse (HHS, 2005c).

Women's health issues also have been incorporated into the dental hygiene curriculum to better prepare dental health care workers to treat women. In a 2007 survey of dental hygiene program directors, the women's oral health issues most commonly covered were periodontal/gingival health/disease, effects of hormones on these issues, and oral effects of pharmaceuticals on women (Gibson-Howell, 2010).

2. SUGGESTIONS FOR IMPLEMENTATION

The 1999 report encouraged the use of database technology to increase ease of access to women's health information. The authors also suggested establishing an interdisciplinary Women's Health Task Force within the American Association of Dental Schools (now ADEA) to continue curriculum assessment. Currently, ADEA is planning a Women's Health Information Network (WHIN) to provide a knowledge resource for curricula development

(Sinkford et al., 2003). WHIN is an online data source created using focus groups with dental practitioners to determine key information to include for curricular content (Sinkford et al., 2003).

ADEA's 2012 report also offered several recommendations for improved women's health curriculum, including the following:

- Improve access to content through database technology
- Include a lifespan approach to women's health dentistry in national examinations
- Provide clinical simulations and content that represents the diversity of the patient population
- Develop a set of educational competencies in women's health for dentistry

C. UPDATE TO THE 2001 HHS WOMEN'S HEALTH IN BACCALAUREATE NURSING SCHOOL CURRICULUM: REPORT OF A SURVEY AND RECOMMENDATIONS

The 2001 HHS report entitled "Women's Health in the Baccalaureate Nursing School Curriculum: Report of a Survey and Recommendations" (*referred hereafter as the "2001 Baccalaureate Nursing School Report"*) presented survey findings on the extent to which women's health topics had been integrated into the nursing curriculum. Nursing schools showed substantial integration of a women's health curriculum, with 90 percent of schools including required courses on domestic violence; the effects of gender on health across life stages; nutrition; and 10 other women's health-related topics. A large proportion (80 percent) of schools encouraged coursework on communicating with women and 60 percent offered courses on lesbian women (HHS, 2001). These accomplishments are not necessarily a surprise. Feminist theory has been present in nursing education for more than 20 years (Andrist, 1988), and nurturing qualities such as caring, conversing, and comfort are generally emphasized in nursing practice (Schaefer, 2003).

However, the 2001 Baccalaureate Nursing School Report also found that only 22 percent of schools have an office or dedicated individual for integrating a women's health curriculum, and there is room for improvements in other subject areas of women's health than those discussed above. A recent report from IOM (2010a) highlights the current state of nursing, focusing on the need for improved education and licensing requirements, the nursing shortage, and the necessity of preparing nurses to practice "culturally relevant care." The IOM report also noted efforts to extend nursing education beyond the baccalaureate degree to include advanced practice registered nurses (APRNs), some of whom could elect to specialize in women's health as a key population.

Unfortunately, there is relatively little national information updating the extent to which nursing programs have further incorporated a women's health curriculum. In a recent survey, slightly more than 50 percent of RN graduates reported that they felt adequately prepared to understand and meet patients' cultural and emotional needs (Li & Kenward, 2006), which might include health care needs specific to women. New curricular content continues to address women's health care through the use of cultural competencies, though it does not always cite women specifically as a patient subgroup under consideration.

According to the American College of Nurse-Midwives (ACNM), there are currently 39 midwifery post-baccalaureate programs accredited by the Accreditation Commission for Midwifery Education (ACME). Such graduate programs may increase the availability of faculty with research and expertise in women's health to teach additional courses at the undergraduate level. The number of certified nurse midwives, who represent one specialty in women's health nursing, certified in a given year reached an all-time low in 2007, with only 285 midwives certified in that year. However, the number of nurse midwives certified each year has since risen in each of the three subsequent years (ACNM, 2011).

1. RECOMMENDED CURRICULAR CONTENT

The original report offered numerous topical recommendations for inclusion in a nursing curriculum focusing on women's health. These recommendations include training in gender-specific communication styles, health consequences of traumas, fitness and nutrition, sex/gender differences in specific conditions, lesbian and gay health issues, and health problems for women with disabilities. A broader initiative toward cultural competency in nursing has received greater attention in peer-reviewed publications as both graduate and undergraduate programs work to educate students to treat diverse patient groups (e.g., Brennan & Cotter, 2008; Cross, Brennan, Cotter, & Watts, 2008; Cuellar, Brennan, Vito, & de Leon Siantz, 2008). The American Academy of Nursing considers cultural competency to include sensitivity to vulnerability due to race, gender, and sexuality (Cuellar et al., 2008; Giger et al., 2007).

The emphasis on cultural competency and diversity in nursing is also used to design courses targeted at specific female patient populations. For example, nurses can provide culturally specific information to women on breast care (Meneses & Yarbrow, 2007). In an effort to increase breast cancer awareness internationally, a "train-the-trainer" program was developed that prepared nurses for in-depth patient education in developing countries (Meneses & Yarbrow, 2007). Similarly, hospitals in Germany now offer breast care nurses (BCN), who are specially trained to assist in the quality of life of breast cancer patients; the European Society of Mastology (EUSOMA) has trained 45 BCNs to date (Voigt et al., 2011).

Improvements to the women's health curriculum in nursing could occur in conjunction with other aspects of the nursing program curriculum. For example, enhancing a women's health curriculum may also improve a program's service learning component. Service learning integrates university teaching with community development, civic responsibility, and real-life applications. A review of the literature suggests that women's health courses are often used to generate additional opportunities for students to interact with patients and provide services to the community. Service learning engages students with the community, provides opportunities for hands-on experience, and encourages cultural diversity (Callister & Hobbins-Garbett, 2000). Students participating in a service-learning course on women's wellness report professional growth, improved critical thinking, and better preparation for nursing practice (Callister & Hobbins-Garbett, 2000).

Women's health initiatives can also be used to improve nurses' command over electronic health records. Nurses must increasingly be familiar with electronic health records and documentation. The Columbia University School of Nursing used its Women's Health Nurse Practitioner program to train nurses in the use of the National Health Information Infrastructure

(Jenkins, Hewitt, & Bakken, 2006). Finally, improving nurses' experience with "aesthetic knowing" using student and patient narratives can improve patient care, particularly that of women (Leight, 2002; Schaefer, 2003).⁹ Nurses' skills involve both science and observation; using stories to establish trust, connection, and increased familiarity may help nurses to improve their patient care (Leight, 2002).

2. SUGGESTIONS FOR IMPLEMENTATION

In the 2001 report, the authors suggested multiple options for implementation of the recommendations. Course content could be provided through lectures, small-group work, or clinical practicum. Stand-alone courses on women's health would provide broader access to the information, even outside of the school of nursing. Finally, the authors encouraged increased collaboration among faculty across disciplines outside of nursing to increase the depth of knowledge offered in women's health courses.

There are three additional recommendations for implementation from peer-reviewed literature. First, a nursing residency program could provide nurses with focused clinical experiences in women's health. Similar to physicians, nurses would rotate across clinical areas to gain additional applied expertise (IOM, 2010a).

Second, women's health care initiatives may be included in course content through online learning (Avery, Ringdahl, Juve, & Plumbo, 2003; Billings, Connors, & Skiba, 2001; Taleff, Salstrom, & Newton, 2009). Using a multidisciplinary curriculum and an online format for ease of accessibility, faculty members introduced students to a more holistic approach to women's health care in a trial effort (Taleff et al., 2009). Other research has proposed Web-based initiatives for graduate education in women's health (Avery et al., 2003).

Last, there are several recommendations in the literature for the implementation of a cultural competency curriculum; this can include racial/ethnic, class, or gender diversity. For example, an initiative in place at the University of Pennsylvania School of Nursing includes initial online clinical assessments followed by case studies, multicultural clinical vignettes, and a cultural assessment of the clinical agency as useful teaching strategies to improve cultural competency (Cross et al., 2008). Cuellar and colleagues (2008) offer strategies for incorporating cultural competency into the undergraduate nursing curriculum, including guest speakers, discussion, case studies, simulations and role-playing, community panels, debates of controversial topics, and films.

D. UPDATE TO THE 2005 HHS HEALTH PROFESSIONS TRAINING, EDUCATION, AND COMPETENCY: WOMEN'S HEALTH IN THE PHARMACY SCHOOL CURRICULUM REPORT

In the 2005 HHS report entitled "Health Professions Training, Education, and Competency: Women's Health in the Pharmacy School Curriculum" (*referred hereafter as the "2005 Pharmacy School Report"*), a Web-based survey of schools of pharmacy was utilized to determine the extent to which women's health was listed as course content. The survey

⁹ Aesthetic knowing refers to expressive, subjective ways of understanding patient problems versus more formal, scientific means of evaluation.

revealed that approximately 40 percent of schools offered women's health courses in 2004 as either electives or required course content (HHS, 2005a). Since that time, AACP and the Center for the Advancement of Pharmaceutical Education (CAPE) created new Educational Outcomes (a description of the professional knowledge, skills, attitudes, and values that would be expected of graduates) in 2004, and women's health features prominently into these outcomes. Research since 2005 does not address the extent to which women's health has been further incorporated into the pharmacy curriculum. However, several measures are in place at AACP to better include a women's health perspective. An increasing number of women are completing pharmacy degrees, and AACP has established a Women Faculty Special Interest Group to identify issues of importance to women faculty. Additionally, pharmacy students are encouraged to participate in women's public health initiatives (Cerulli & Malone, 2008). Unfortunately, evidence suggests that pharmacy students remain poorly informed about certain women's health issues, such as the provision of emergency contraceptives (Ragland & West, 2009). Furthermore, much of the attention in the pharmacy literature with regard to women's health more frequently concerns issues of sexuality and reproduction rather than a broader, lifespan approach.

1. RECOMMENDED CURRICULAR CONTENT

In the original report, a curricular framework was developed, and AACP established a curricular resource center (CRC). A review of AACP's CRC indicated that a set of materials dedicated solely to women's health topics was not available. The curricular framework recommended in the original report provides a thorough understanding of gender differences in drug therapies across the life course in addition to desired student outcomes by lifespan area. Unfortunately, there is little updated information outlining advancements in curricular content. Recent literature suggests that elective courses in women's health alone may not produce optimal outcomes among pharmacy students. While elective courses in women's health may increase awareness of sex and gender issues, they may not provide all the necessary information and training for improvement on formal assessments (Marshall & Ashworth, 2010). Students enrolling in such a course at one university did not show improved scores on final assessments (Marshall & Ashworth, 2010).

2. SUGGESTIONS FOR IMPLEMENTATION

The 2005 schools of pharmacy report also offered suggestions for implementation, urging programs to focus on the development of instructional resources, particularly by using a Web-accessible framework. The report also stated that materials should be flexible in design to be adapted easily by multiple institutions.

Schools of pharmacy may also wish to focus on broadening student experiences with female patients and information exchange with patients. For example, recent curricular studies in pharmacy indicate that patient interviewing during women's health courses improves students' knowledge of women's health issues and communication strategies (Vest & Griffin, 2011). A course in which students conduct assessments with real patients results in more confidence and greater familiarity with women's health issues (Vest & Griffin, 2011). Additionally, like nursing, cultural competency electives are receiving additional attention in schools of pharmacy (Assemi, Cullander, & Hudmon, 2004; Onyoni & Ives, 2007). In a 2004 survey of 87 committee

chairs and 54 student leaders at schools of pharmacy, cultural competency was mentioned in the mission statements of more than half of the respondents, and 94 percent of respondents advocated including cultural competency in the curriculum (Onyoni & Ives, 2007).

E. UPDATE TO THE 2005 HHS BEYOND WOMEN’S HEALTH: INCORPORATING SEX AND GENDER DIFFERENCES INTO GRADUATE PUBLIC HEALTH CURRICULA REPORT

The 2005 HHS report entitled “Beyond Women’s Health: Incorporating Sex and Gender Differences into Graduate Public Health Curricula” (*referred hereafter as the “2005 Public Health School Report”*) used focus groups with faculty to identify key issues and major gaps. Approximately 30 percent of faculty believed that women’s health was adequately incorporated into the curriculum, and 90 percent of Masters of Public Health (MPH) programs offer women’s health courses. However, these courses were often limited to the areas of maternal/child health, reproductive health, and nutrition. These courses were usually taught to students using lecture format with required reading. Unfortunately, there is little subsequent research evaluating women’s health content in MPH programs. These programs generally concern themselves with eliminating health disparities, which would include gender inequalities, but programs rarely target women in particular as an area of specialty (HHS, 2005b).

Current curricular initiatives at schools of public health also include a broader concern with public health across the lifespan and identifying the social determinants of health using an ecological approach (Shortell, Weist, Sow, Foster, & Tahir, 2004). In a 2003 survey of public health program curricular content, more than 90 percent of schools surveyed used an ecological approach, which embraces individual-level factors as well as larger family, institutional, and cultural experiences that may affect health and well-being. Fifty-eight percent of schools offered elective courses on cultural competence, which would potentially include racial/ethnic and gender-specific topics (Shortell et al., 2004). Other respondents suggested that schools of public health should include additional courses on health disparities, service learning (community-participatory research), and cultural competence (Shortell et al., 2004).

In 2006, the Association of Schools of Public Health (ASPH) identified new core competencies for the MPH programs using a rigorous process to determine the essential disciplines for new graduates (Calhoun, Ramiah, Weist, & Shortell, 2008). The key competencies identified include biostatistics, environmental health sciences, epidemiology, health policy and management, social and behavioral sciences, communication and informatics, diversity and culture, leadership, and public health biology (Calhoun et al., 2008). A focus on diversity and culture includes attention to health across diverse populations and the role of power, privilege, and cultural values (Calhoun et al., 2008). Some administrators might interpret this sub-discipline in the MPH core competencies to include women’s health.

1. RECOMMENDED CURRICULAR CONTENT

As in the other original reports, the authors of the report on graduate schools of public health provided recommended curricular content. The 2005 recommendations urged the incorporation of additional content on sex and gender differences, with a particular focus on experiences across the lifespan. Additionally, it was recommended that curricula address gender

differences because of social roles and their influence on communication with the health system. Focus-group participants and authors also suggested that the thoughts and opinions of recent graduates collected through exit surveys would aid in monitoring the extent to which curricular changes led to improved student outcomes.

There is relatively little research indicating the extent to which graduate schools of public health have responded to the call for more attention to women's health. In a recent survey of 48 CoEs in women's health, the majority of administrators cited patient and community health education as central objectives in their programs, with community-based partnerships as a key means to promote health (Garcia et al., 2010). Several women's public health initiatives aimed at improving the health and lifestyle of women and girls have been implemented. These initiatives provide evidence-based research for curricular content. Examples of current initiatives include adolescent girls' health (Begoray & Banister, 2005); healthy eating for maternal and child health (Kannan, Sparks, Webster, Krishnakumar, & Lumeng, 2010); cardiovascular disease; and breast cancer (Nguyen, Tran, Kagawa-Singer, & Foo, 2011). Harvard University School of Public Health created the Women and Health Flagship Initiative (W&HI) in 2010. The initiative takes a holistic perspective, focusing on women throughout the life course as well as the nature of the health care system in which they participate (Harvard School of Public Health, 2011). The Dean of the School of Public Health, Julio Frenk, also outlined an agenda for women's global public health (Frenk, 2010).

2. SUGGESTIONS FOR IMPLEMENTATION

The 2005 Public Health School Report, which included a recommendation for an Association of Schools of Public Health statement on the importance of women's health, is posted on the ASPH Web site under curriculum resources. ASPH also provides substantial advocacy in the form of coalitions and policy papers for the eradication of racial and ethnic disparities in health. Additional 2005 recommendations for implementation included a proposal to integrate women's health content into the core curriculum through existing required courses rather than electives, as well as suggestions to increase the number of faculty with women's health expertise and to establish an ad hoc advisory group.

Current literature notes efforts underway to better address the lesbian, gay, bisexual, and transgender (LGBT) community's health needs. A recent IOM report, "The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding," noted the dearth of literature around this topic and how several schools have risen to the challenge (IOM, 2011; Scout & Fields, 2001). For example, the Mautner Project for Lesbians offers a new program, "Removing the Barriers," which gives instruction on LGBT issues to practitioners at various health care sites (Scout & Fields, 2001). The program taught new cultural competencies using interactive learning and a "replication kit" of resources to leave at the site (Scout & Fields, 2001).

APPENDIX D: SUGGESTED HEALTH PROFESSIONAL ORGANIZATIONS FOR DISSEMINATION

- Academy of Managed Care Pharmacy
- Accreditation Council for Pharmacy Education
- American Association of Colleges of Nursing
- American Association of Colleges of Pharmacy
- American Board of Internal Medicine
- American College of Clinical Pharmacology
- American College of Physicians
- American College of Nurse-Midwives
- American Congress of Obstetricians and Gynecologists
- American Dental Association
- American Dental Education Association
- American Medical Student Association
- American Pharmacists Association
- American Psychological Association
- American Society of Consultant Pharmacists
- American Society of Health System Pharmacists
- Association of American Medical Colleges
- Association of Black Psychologists
- Association of Schools of Public Health
- Association of Women's Health, Obstetric, and Neonatal Nurses
- Black Psychiatrists of America
- Mayo Clinic
- National Black Nurses Association
- National Association of Black Social Workers
- National Association of Boards of Pharmacy
- National League for Nursing
- National Association of Nurse Practitioners in Women's Health
- Organization for the Study of Sex Differences
- Women's Health Practice and Research Network
- Sex and Gender Women's Health Collaborative
- Society for Social Work Leadership in Health Care
- Society for Women's Health Research

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