The Need for Sex and Gender Education Reform

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ADVANCES IN OUR UNDERSTANDING of the very specific and unique medical needs of women have sparked a paradigm shift in the education of healthcare professionals—a shift in perspective that has been clarified around health care providers' acceptance that patient's sex and gender have an unavoidable influence on the prevention, diagnosis and treatment of disease. In 1991, the Office of Women's Health in the United States Department of Health and Human Services was established to improve the health of American women.¹ One of the first initiatives of that office was the launching of specialized elective postgraduate level training as a resource for medical students to build their understanding and experience in women's health from the earliest days of their education. In 2005, the Directory of Residency and Fellowship Programs in Women's Health listed 10 residency programs and 16 fellowships in the United States with women's health tracks.² Sadly, this number has not changed significantly in the last decade; only eight residency programs and 26 fellowships offered women's health tracks in 2015.³

The Office of Women's Health has relied on individual institutions to initiate and sustain postgraduate educational tracks focusing on women's health; this approach has faced many challenges and has not been particularly successful in increasing health care providers understanding and knowledge about the unique needs of female patients. While several fellowship programs in women's health have been established since 1990 and descriptions of the programs have been circulated in a directory, there is limited general knowledge about their existence.⁴ Residents enrolled in these programs represent a small fraction of the total number of graduates per year and are drawn from a limited number of medical specialties. The medical specialties that have successfully endorsed women's health tracks are all primary care or primary care oriented, and include internal medicine, family medicine, emergency medicine, psychiatry, and obstetrics and gynecology. Surgery, radiology, neurology, allergy and immune, pediatrics, and many others have never endorsed a focus on education directed specifically at women's health. Women's health, once huddled under the umbrella of reproductive health, now is defined by conditions specific to women and conditions in which the risk, presentation, and/or response to treatment for women differs from that of men.⁵ Furthermore, the larger perspective in this field now encompasses sex- and gender-based medicine, acknowledging that both biological and sociocultural aspects of women's and

men's health need to be incorporated into management of health and disease.

A great deal of the postgraduate training designed to advance the care of women has worked to establish an interdisciplinary model; however, the traditional women's health frame centering on obstetrics and gynecologic issues still lingers in many centers. In 2015, a focus on gender differences was included as a significant goal for 25% of reporting residency programs and 23% of fellowships in 2015, which hardly represents progress when compared to 40% of the residency programs and 19% of the fellowships reporting this goal in 2005. Many physicians are either unaware of the existence of differences between men and women that surpass the production of different hormone profiles and are unable to recognize that sex and gender differences have an impact on their patients' health.⁶ Relying solely on a limited number of post-graduate programs to educate our future physicians and health care educators about the importance and impact of sex and gender on our patients' health and health care is grossly inadequate.

Over the past two decades, a considerable amount of evidence has come to light on important differences between women and men. It is very likely that our understanding of differences in the incidence and progression of disease between the sexes will continue to increase as funding agencies are insisting that investigators incorporate sex and gender into their research designs. The National Institute of Health released a notice on June 9, 2015 entitled, "Consideration of Sex as a Biological Variable in NIH-funded Biomedical Research" that focuses on the "expectation that scientists will account for the possible role of sex as a biological variable in vertebrate animal and human studies."⁷

In order to reach health care providers effectively in the future, teaching them to apply their new understanding of differences between women and men across all disciplines in medicine, this sex and gender focused education must be incorporated from the beginning into undergraduate medical education. According to recent surveys, published data from research on sex and gender medicine are not being incorporated into medical school curricula. A national survey conducted in 2015 revealed that 95.6% of 1191 U.S. medical students agreed that understanding the medical implications of sex and gender would improve their ability to manage patients, and 94% agreed that medical education should include the teaching of sex and gender differences (J.M. Rokas,

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unpublished data). Awareness of the need to incorporate sex and gender evidence into medical school education is growing. The first U.S. summit on sex and gender in medical education will be taking place in October 2015 (<http://sgbmeducationsummit.com/>).

For physicians, medical school creates the foundation for their future medical knowledge and professional development. The rapid expansion of worldwide research supporting the crucial role of sex and gender differences in health and illness, demands that this knowledge be integrated into medical education and training. Ludwig et al. created a very viable blueprint for medical school facilities to incorporate sex and gender medicine aspects into the curriculum.⁸ The authors suggest that only a fundamental curricular change would facilitate the integration of sex and gender content into current curricula; they strongly suggested that this process be assigned a “change agent,” a recruited research officer, to establish a supporting organizational framework for successful integration and sustainability. This change agent role facilitated the integration of the curriculum into their institution; however, the creation of this position requires specialized training, education and funding and may be difficult for other institutions to duplicate.

Ludwig et al. outlined three pillars necessary to create a project management team that would support an organizational framework dedicated to these changes. The first pillar was “faculty”—a network of faculty members who advocate for the integration of sex and gender medicine and would contribute to periodic modular review cycles to maintain and improve the quality of programs. The second pillar was “governance”—several members from the curricular academic board, including the Dean of Faculty and Dean of Student Affairs, would commit to governing and supporting the integration of sex and gender medicine into the curriculum. The third pillar was “society”—the external stimulus for these initiatives represented by the popular community wide growth in interest within our civil society and grounded in our political initiatives supporting equal inclusion of men and women in clinical research and medical treatment. Ludwig et al. suggested the need for, but did not generate, a future tool created specifically to systematically measure and analyze medical student’s sex and gender medicine learning outcomes, competencies, and awareness.

Our training of future physicians and medical educators must evolve, supporting the promulgation of the most current evidence based understanding of the role of sex and gender in

the diagnosis, treatment, and preventive care of our patients. This evolution must lead to incorporation of sex and gender into the earliest stages of medical education as the critical piece to providing personalized healthcare for all. Existing curricula can utilize some of the strategies highlighted in this paper to develop and integrate sex and gender content, relying upon a supporting organizational framework, the three pillars described by Ludwig et al. and a systematic approach to integration. Medical education and clinical care must always reflect the advancing scientific evidence. Our patients’ health and their very lives depend on it.

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