

Reproductive Psychiatry Fellowship Training: Identification and Characterization of Current Programs

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While effects of female reproductive transitions on mental health have long been observed, the past three decades have seen a dramatic increase in focused research and clinical programming related to reproductive mental health. Stemming from a 1985 US Public Health Service task force report that described a dearth of knowledge regarding women's health more broadly, US federal research policies have since encouraged or mandated the inclusion of women in clinical research [1]. As a result, knowledge regarding the identification, diagnosis, and treatment of women experiencing mental illness during the premenstrual, perinatal, and perimenopausal periods has increased substantially.

Reproductive psychiatry, a specialized field of medicine that seeks to understand and treat mental health disorders related to female reproductive stages, has emerged in parallel with this expanded knowledge. The past three decades have seen a growth of professional societies such as the Marcé International Society for Perinatal Mental Health and the North American Society for Psychosocial Obstetrics and Gynecology. The Academy of Psychosomatic Medicine has consistently included reproductive psychiatry as a subspecialty track of their annual meetings since 2013 [2–5].

Concomitantly, there has been a growth of specialized clinical programs, including integrated outpatient services, perinatal psychiatric day hospitals, and inpatient units [6–8].

Despite these advances, educational opportunities in reproductive psychiatry remain limited and have not yet been systematically integrated into psychiatric residency training. Individual residency training programs vary widely in their training opportunities in this field [9]. Furthermore, as reproductive psychiatry is not a recognized subspecialty of the American Board of Psychiatry and Neurology, no accredited fellowships, consensual training objectives, standardized curricula, or subspecialty exams exist. While graduates of Psychosomatic Medicine fellowships are required by the Accreditation Council for Graduate Medical Education (ACGME) to demonstrate proficiency in the appropriate use of psychoactive medication in obstetrical conditions [10], the amount of focused clinical and didactic time offered in these fellowships to reproductive psychiatry is constrained by other training requirements. There are a growing number of non-accredited post-graduate fellowships that offer in-depth training in Women's Mental Health, a broader field that encompasses reproductive psychiatry as well as subjects such as gender-linked trauma, gender roles, pharmacokinetic sex differences, and brain sexual dimorphism. These non-accredited opportunities can, however, be difficult to identify and compare with one another as they have not yet been cataloged by any specific organization. An unpublished survey of 55 self-identified reproductive psychiatrists done by our group at a 2015 national perinatal mental health conference revealed that only 23% ($n=13$) of participants had any formal fellowship training in the field (16% ($n=9$) completed women's mental health fellowships and 7% ($n=4$) completed Psychosomatic Medicine fellowships), while 25% ($n=14$) of participants indicated they had completed a specialized residency experience and over 50% ($n=28$) indicated that they had been either self-

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educated at specialty conferences, had acquired “on the job” training, or had exposure to the field via a research focus.

The National Task Force on Women’s Reproductive Mental Health was founded in 2013 to address gaps in reproductive psychiatry education. To this end, this paper presents the results of a study aiming to identify and characterize existing reproductive psychiatry fellowships in the USA. Specifically, we sought to characterize organizational structure, scope, clinical training sites, emphasis, and curricular content. We hope that systematically characterizing these aspects of pioneering “grassroots” programs will inform efforts toward national guidelines for reproductive psychiatry training more broadly. While the non-accreditation status of these training programs means that they do not meet the ACGME definition of a “fellowship,” we will refer to these programs as fellowships in order to indicate that they are post-residency, subspecialty training programs.

Methods

We identified current programs offering subspecialty training in women’s mental health via a few different methods. We conducted two Google searches using the keywords “women’s mental health fellowship” and “reproductive psychiatry fellowship.” We also made an inquiry on the listserv of the Marcé International Society for Perinatal Mental Health and made an announcement at the annual meeting of the North American Society of Psychosocial Obstetrics and Gynecology. Programs outside the USA were excluded.

Once programs were identified as potentially offering subspecialty training in reproductive psychiatry, we sent fellowship directors an email invitation with a link to a survey inquiring about the specifics of their program. We developed the 28-item survey using SurveyMonkey online software. Items included questions about departmental affiliations, content focus within women’s mental health, clinical or research focus, funded full time equivalents, duration, year founded, didactic scope and content, clinical settings, and educational objectives. When necessary, we utilized collateral sources for historical information (i.e., contacting a prior director about the year of establishment). We notified invitees that the information provided would be organized into a resource for trainees that would be published on the website for the North American Society for Psychosocial Obstetrics and Gynecology and would also be used toward an eventual publication addressing the current state of fellowship training in women’s mental health. This study was granted exemption by the Institutional Review Board of Case Western Reserve University.

Results

Program Identification and Response Rate

Twelve Women’s Mental Health fellowships were identified nationally (Table 1) and were included in this study. The response rate from these programs was 100% ($n = 12$).

We compiled the program names, contact information and details of all 12 programs into a comprehensive list meant to be a resource for trainees. This list is posted on the website of the North American Society for Obstetrics and Gynecology.

The 12 Women’s Mental Health fellowships represented a diverse geographical distribution, including 5 programs (42%) in the Northeast, 4 programs (33%) in the Midwest, 2 programs (17%) in the South, and 1 program (8%) in the West. All programs were based in academic medical centers.

Fellowship Departmental Affiliations

Nearly all programs ($n = 11$, 91%) were affiliated with a Department of Psychiatry, including 2 (17%) that reported a dual affiliation with a Department of Obstetrics and Gynecology and 1 (8%) that reported a dual affiliation with a Department of Internal Medicine. One program (8%) reported an affiliation solely with a Department of Obstetrics and Gynecology.

While the survey did not directly inquire about eligibility requirements for each fellowship, one fellowship program did independently report that trainees can enter the fellowship from a residency in either psychiatry or a non-psychiatry field (obstetrics-gynecology, family medicine or other primary care field). Another fellowship program reported that the fellowship was open to both psychiatric physicians and nurse practitioners.

Fellowship Scope

The majority ($n = 8$, 67%) of programs identified as clinical fellowships, while 2 programs (17%) indicated that they were predominantly research fellowships that included clinical training, and 2 programs (17%) indicated they were flexible according to trainee interest. Clinical fellowships reported universally that they are 1-year programs, while research programs reported a 2-year length of training. One program (8%) reported that it was a combined fellowship that also included a Public and Community Psychiatry curriculum. While this program offers a combined didactic experience, 100% of the clinical rotations are focused on Women’s Mental Health.

The majority of programs ($n = 7$, 58%) offer 1 full-time fellowship position per year, while 2 programs (17%) offer 2 positions, 1 (8%) program offers 3 positions, 1 program (8%) has a fluctuating number of positions, and 1 (8%) program did not specify.

Table 1 Twelve Identified Women's Mental Health Fellowship Programs

Program affiliation	City, State	Year established
University of Illinois at Chicago	Chicago, IL	1998
Brigham and Women's Hospital	Boston, MA	2008
Columbia University; New York Presbyterian Hospital	New York, NY	2008
New York University Medical Center, Bellevue Hospital Center	New York, NY	2012
University of North Carolina Chapel Hill	Chapel Hill, NC	2012
Brown University Alpert Medical School; Women' and Infant's Hospital	Providence RI	2013
Loyola University Stritch School of Medicine; Edward Hines Jr. VA Hospital	Chicago, IL	2014
Keck School of Medicine University of Southern California Los Angeles County and University of Southern California Medical Center	Los Angeles, CA	2016
Northwestern University	Chicago, IL	2016
Johns Hopkins University School of Medicine	Baltimore, MD	2016
Case Western Reserve University School of Medicine; University Hospitals Cleveland Medical Center	Cleveland, OH	2016
Medical University of South Carolina	Charleston, SC	2016

Most of the Women's Mental Health fellowships ($n = 9$, 75%) reported a primary focus on reproductive psychiatry, while 2 programs (17%) indicated a broad focus on women's mental health and 1 program (8%) did not answer. Three programs (25%) who identified themselves as focused on reproductive psychiatry also indicated a second sub-focus, including public sector psychiatry ($n = 2$, 17%) and trauma ($n = 1$, 8%).

Six programs submitted their educational objectives. Five of these programs (83%) indicated that the foundational topics of reproductive psychiatry were goals of their program. Additionally, 3 programs (50%) included an inter-professional relationships or team-based care goal and 3 programs (50%), included a leadership skill goal. One program (17%) included knowledge of social determinants of health as a goal, and one program (17%) included goals encompassing the broader field of Women's Mental Health (gender-linked trauma and gender differences in psychiatric disorders). One (17%) program indicated goals that were limited to a research focus.

Year of Fellowship Establishment

All of the included fellowship programs were established during the years 1998 to 2016, with a high proportion of programs ($n = 9$, 75%) established during the years 2012–2016. Five out of the 12 programs (41%) were established in the year 2016. The total number of current graduates from all programs in Women's Mental Health since 1998 is estimated as 40.

Fellowship Clinical Experience

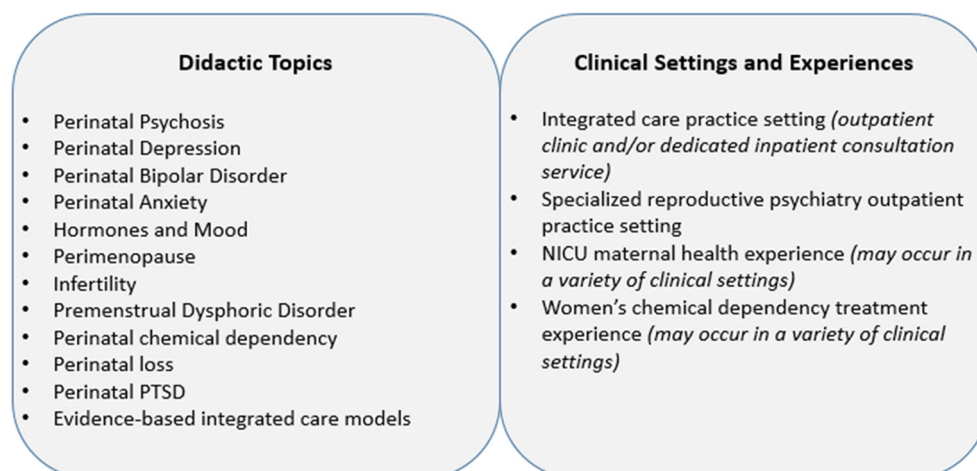
All programs indicated that their fellowship included a clinical experience on a specialized Obstetrics/Gynecology inpatient consultation service. Many programs also reported clinical

experiences in a specialized women's mental health outpatient clinic ($n = 11$, 92%), reproductive psychiatry services integrated into primary care or OB/GYN clinic settings, ($n = 10$, 83%), a women's chemical dependency clinic ($n = 7$, 58%), an infertility clinic ($n = 6$, 50%), and a women's mental health program in a neonatal intensive care unit ($n = 6$, 50%). Fewer programs reported a specialized Partial Hospital Program or Intensive Outpatient Program ($n = 4$, 33%), a women's oncology clinic ($n = 4$, 33%), a specialized women's psychiatry inpatient service ($n = 2$, 17%), a women's forensic consultation service ($n = 1$, 8%), a domestic violence clinic ($n = 1$, 8%), and a dyadic mother-child therapy program ($n = 1$, 8%) (Fig. 1).

Fellowship Didactic Curriculum

Half of the fellowship programs ($n = 6$) provided their full didactic curriculum for review. Topics within the realm of reproductive psychiatry were well-represented in these curricula with all reporting programs offering didactic sessions on perinatal depression, anxiety, bipolar disorder and psychosis. Nearly all programs offered didactic sessions on psychiatric aspects of perimenopause ($n = 5$, 83%), infertility ($n = 5$, 83%), perinatal chemical dependency ($n = 5$, 83%), influence of sex hormones on mood ($n = 5$, 83%), eating disorders ($n = 4$, 67%), perinatal loss ($n = 4$, 67%), premenstrual dysphoric disorder ($n = 4$, 67%), and perinatal post-traumatic stress disorder ($n = 4$, 67%). Fewer programs offered didactic sessions on psychotherapy modalities focused on perinatal women ($n = 3$, 50%), women and trauma ($n = 3$, 50%), complementary and alternative medicine interventions in perinatal mental health ($n = 3$, 50%), understanding peripartum research ($n = 3$, 50%), family planning ($n = 2$, 33%), and dyadic mother-child treatment ($n = 2$, 33%). Each of the following topics were covered in didactic teaching by only one program (17%): ADHD in pregnancy, perinatal ethics, polycystic ovarian

Fig. 1 Recommended core components of Reproductive Psychiatry Fellowship Training



syndrome and mental health, social determinants of women's mental health, public policy and women's mental health, and psychodynamics of pregnancy and attachment theory.

Discussion

The results from this survey study of Women's Mental Health fellowships show a pattern of growth that mirrors the emergence of reproductive psychiatry in the clinical and research settings. The majority ($n = 10$, 83%) of these programs indicated reproductive psychiatry as the primary focus of the fellowship, and all programs provided rich and diverse exposures to the field.

It is notable that nearly half ($n = 5$, 41%) of all identified programs were established in the year 2016, with 75% ($n = 9$) of programs established during or after the year 2012. The establishment of a fellowship program is a difficult task that requires at least one or more faculty member "content experts," clinical services with adequate volume and diversity of experience, and a significant amount of departmental and institutional support. While this study was not designed to capture the training programs that may have been started but not continued, we hypothesize that this growing field has reached a "tipping point" where these necessary components are available within an increasing number of medical centers. The growing number of specialists trained in these women's mental health fellowships could inform and implement instruction in reproductive psychiatry within general psychiatry residency training and participate in developing consensual educational objectives and standards for post-graduate training programs.

The study elucidated commonalities among fellowships that provide a framework for developing programs and future efforts toward standardization. Figure 1 provides recommendations for core components of any reproductive psychiatry fellowship training program, which were developed in accordance with these commonalities.

Interestingly, all 12 identified programs reported a specialized inpatient obstetrics and gynecology consultation service. While this commonality may likely reflect the practical need for such services in academic medical centers, it is also possible that an inpatient consultation service may contribute to the relationship-building necessary for the diverse reproductive psychiatry services illustrated in this study. Nearly all programs ($n = 10$) reported an integrated outpatient clinic in either obstetrics and gynecology or primary care. Similarly, half of programs that submitted educational objectives expressed inter-professional and team-based care as a stated goal of their program. As integrated care gains increasing attention in the healthcare policy arena, this study indicates that such models may be especially relevant for reproductive psychiatry. For this reason, while no fellowship programs reported existing didactic teaching on integrated care models, we did include this topic as a core didactic recommendation (Fig. 1). Purposeful instruction of evidence-based integrated care models is likely to augment the fellow's clinical experiences and to increase the ability of a fellow to practice most effectively in an integrated care setting.

While this study found much overlap among fellowship programs, it also revealed some unique components that illustrate the boundary-spanning role that Reproductive Psychiatrists often serve. The departmental affiliations of the training programs included not only Departments of Psychiatry but also Departments of Obstetrics and Gynecology and Internal Medicine. Furthermore, at least 2 programs reported eligibility criteria that were not limited to psychiatrists. Unique didactic topics included items such as perinatal ethics, public policy and women's mental health, and family planning.

This study is the first, to our knowledge, to systematically identify and characterize all available women's mental health fellowships in the USA. A notable limitation of the study is that it does not include training programs that provide education in reproductive psychiatry under the umbrella of a broader focus (i.e., Psychosomatic Medicine or Women's

Health). Our group made initial outreach attempts to these programs by conducting a website review of all programs listed on the Academy of Psychosomatic Medicine's Directory of Psychosomatic Medicine Fellowships and the Journal of Women's Health Directory of Residency and Fellowship Programs in Women's Health. We contacted those that indicated offering a subspecialty track or substantial clinical experience in a women's mental health setting. Only one of these programs responded to this outreach effort, suggesting that different outreach methods will be necessary to characterize the reproductive psychiatry education provided in these fellowship programs.

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Compliance with Ethical Standards

This study was granted exemption by the Institutional Review Board of Case Western Reserve University.

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