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No Need to Bleed:
Technologies and Practices of Menstrual Suppression

by

Katie Ann Hasson

A dissertation submitted in partial satisfaction of the

requirements for the degree of

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in

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in

Women, Gender, and Sexuality

in the

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of the

University of California, Berkeley

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Professor Raka Ray, Co-Chair

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Professor Kristin Luker

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Fall 2012

Abstract

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Doctor of Philosophy in Sociology

University of California, Berkeley

Professor Raka Ray, Co-Chair

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In 2003, the FDA approved Seasonale, the first of a new generation of birth control pills designed to reduce the number of menstrual periods a woman has in a year, or to eliminate them entirely. These “new” pills are actually made from the same synthetic hormones as previously-available birth control pills, but are designed and packaged to be taken in an extended regimen. Neither the pills, nor the practice of using extended regimens of birth control pills to suppress menstruation, were new. How, then, did Seasonale (and other menstrual suppression pills) emerge as a “new” medical technology? In this dissertation, I examine the social shifts that shaped the emergence and acceptance of menstrual suppression pills and practices at this particular time, as well as the work that was required to produce menstrual suppression as a “new” technology.

Taking menstrual suppression birth control pills as a case, my dissertation examines how this reproductive technology is co-constituted with gendered bodies and selves in line with shifting configurations of medicine, markets, and the state. I follow technologies of menstrual suppression across multiple arenas: scientific knowledge production, medical practice, markets, state regulation, and everyday life. Drawing on medical literature, product websites and FDA documents, as well as interviews with women and medical professionals, I ask three questions: 1) What shifting understandings of menstruation, the body, and medicine underlie the emergence of menstrual suppression? 2) How do medical, advertising and regulatory discourses produce expectations for women to use technology to manage menstruation? 3) How do women enact gendered selves through their engagement with discourses, practices, and technologies of menstrual suppression?

I argue that menstrual suppression reconfigures menstruation to produce gendered bodies and selves that dovetail with prevailing biomedical and neoliberal ideals. I make this argument in three parts, knitting together textual, institutional, and experiential perspectives on menstrual suppression. First, menstrual suppression technologies emerge amid shifting medical conceptions

of disease and health. These technologies reflect the history of medicalization of women's health and pathologization of menstruation, while simultaneously participating in a project of biomedicalization, which emphasizes transformation and optimization of the body. Second, medical research, marketing, and regulatory discourses alike address women as neoliberal subjects: consumers of health products and services who are free to transform their bodies but individually responsible for acquiring the knowledge necessary to navigate the medical marketplace. They construct this neoliberal subject as the ideal user of menstrual suppression technology, in turn constructing menstrual suppression as a new biomedical technology. Third, these discourses and institutions shape – but do not determine – the varied ways women engage with these medical technologies. Physicians divide their understandings of extended regimen birth control pills into, on the one hand, a treatment they prescribe to assist patients experiencing menstrual symptoms and, on the other, a convenience for savvy patients who are eager to exercise control over their periods. Race and class shape these constructions of patients and ultimately structure women's access to menstrual suppression technologies. Women, especially those who have experienced problematic periods, renegotiate notions of what a normal, natural, or acceptable period is through their engagements with menstrual suppression pills and practices. Throughout, I argue that menstrual suppression technologies show how neoliberalism as a raced and gendered project plays out on women's bodies, shaping subjects (differently) according to norms of gender, race, and class through technologies that reconfigure bodies and selves from the inside out.

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Chapter 1 | Introduction: Making Sense of Menstrual Suppression

On September 5, 2003, the US FDA approved Seasonale, a new oral contraceptive designed to reduce the number of periods a woman has in a year to four by having women take active pills for 84 days, followed by a “hormone-free” week. Barr Laboratories, Inc., the pharmaceutical company that produced Seasonale, heralded its development as “the single most significant advance in oral contraception in the past 40 years” (Barr Laboratories 2003: 4). Four months prior, in a *Washington Post* article reporting Seasonale’s impending approval, one physician was quoted as saying:

We’re talking about giving a woman the ability to exert even greater control than she ever has before, freeing her up from the nuisance, uncomfortable, messy business of menstruating... We’re talking about a major quality of life improvement if we can suppress her menstrual cycles. (Stein 2003)

Media interest renewed four years later, when the FDA approved Lybrel, an oral contraceptive that is taken continuously – 365 days per year – in order to completely suppress menstruation. Headlines announced the “end” of periods, and authors speculated about the impact of making menstruation optional, as in this article in *US News and World Report*:

With the Food and Drug Administration's approval today of the first birth control pill to stop menstruation, women may soon come to view their period as just another lifestyle choice. Drug manufacturers have already tinkered with the monthly flow... But Lybrel, made by Wyeth, would stop [periods] altogether. (Kotz 2007)

At the end of 2007, TIME Magazine even included Lybrel as #6 on its list of the top 10 medical breakthroughs of the year, alongside the development of a bird flu vaccine and the discovery of new sources of stem cells (Guthrie 2007). News coverage, whether supportive or critical, presented menstrual suppression birth control pills as a controversial new technology, highlighting the potential of menstrual suppression to radically change women’s lives.

Yet for many women who were already taking their birth control pills in a way that allowed them to experience no monthly bleeding, Seasonale, Seasonique,¹ and Lybrel were not news at all. Reyna², a 27-year-old, white woman from San Francisco, was already using her birth control pills to manipulate her cycle, deciding for herself when and how often she would have a period. She told me when I interviewed her, “When I saw those commercials, I was like, ‘Duh.’ And I thought, ‘You know that all they did is advertise it, right? It’s just marketing, because you can do that with the other pills.’ Obviously, I had been doing it.”

Reyna was right. There was nothing new about the chemical formula of Seasonale. It contained the same hormones, ethinyl estradiol and levonorgestrel, in the same dose, as one of Barr Laboratories’ already existing birth control pills, Nordette. Further, as even the news articles admitted, using hormonal birth control to suppress menstruation was not new. It had been possible to use oral contraceptives to skip periods since their invention, and for decades many

¹ Seasonique is a sister product to Seasonale. FDA approved and launched in 2006, it maintains the same 84/7 pill regimen, but includes 7 pills with a small amount of estrogen (ethinyl estradiol) rather than 7 placebo pills.

² All interviewees’ names are pseudonyms.

women had used them in this way to prevent painful cramps or headaches, or to keep their period from conflicting with travel or special events (what one TV report referred to as the “honeymoon trick”).

In fact, *all* hormonal contraceptives suppress ovulation and prevent the uterine lining from thickening during the menstrual cycle as it would if the woman were not taking synthetic hormones; technically, then, all hormonal contraceptives suppress menstruation. The bleeding that women experience during the hormone-free or placebo week in a traditional 28-day pill regimen (usually 21 days of active hormones and 7 days of placebo pills) is physiologically different from a woman’s normal menstrual period. Called “withdrawal bleeding,” what many women who are taking hormonal contraceptives understand to be their period is actually bleeding caused by the reaction of the uterine lining to the sudden drop in hormones when women switch from active to placebo pills.³ Menstrual suppression has thus been a possibility of oral contraceptives since their invention in the 1950s.

When Gregory Pincus and John Rock were testing the hormonal compounds that would become the first birth control pill, they purposely built monthly withdrawal bleeds into the dosing regimen. They thought this would make the new pills more acceptable to the women who would take them, to religious leaders, and even to its manufacturer (which feared boycotts and financial ruin, and therefore wanted “nothing to do with a product that might tamper with menstruation and thereby interfere with nature” (Marks 2001:94)). Although Enovid, the first birth control pill, included several pill-free days that produced withdrawal bleeding, the ability to alter – and even suppress – menstruation was known from the beginning. In fact, in 1957 (three years before it was approved as a contraceptive), Enovid was first FDA approved as a treatment for menstrual irregularities, such as lack of menstrual bleeding, painful periods, or heavy periods, as well as endometriosis and infertility. It is estimated that as many as 500,000 women were prescribed Enovid between 1957 and its approval as a contraceptive in 1960 (Junod and Marks 2002; Winter 1970).⁴ In 1964, an advertisement for Enovid even highlighted that the pill could regulate the menstrual cycle or even suspend it:

Unfettered. From the beginning woman has been a vassal to the temporal demands – and frequently the aberrations – of the cyclic mechanism of her reproductive system. Now to a degree heretofore unknown, she is permitted normalization, enhancement or suspension of cyclic function and procreative potential. (quoted in Marks 2001:132; Watkins 1998)

As early as 1977, researchers called for establishing extended regimens for oral contraceptives. Loudon et al. published findings that a tri-cycling regimen⁵ effectively prevented pregnancy and that most women in the study found the regimen acceptable or even preferred it (Loudon et al. 1977). In the late 1980s and early 1990s, a handful of additional studies supported the use of extended regimens, with most focusing on whether women found extended regimens

³ Menstruation (when not taking hormonal contraceptives) is caused by gradual drop in progesterone and estrogen in the second half of a woman’s cycle which causes the menstrual lining to be shed.

⁴ While it was FDA-approved only to treat menstrual disorders, physicians had (and continue to have) full authority to prescribe drugs for “off-label” uses.

⁵ 84 days of active pills followed by 7 days of placebo – the same regimen now used in Seasonale and Seasonique

“acceptable.”⁶ By the late 1990s, extended regimens were commonly proposed as either a treatment for menstrual symptoms or irregular menstruation, as well as a way to avoid some of the side effects associated with the pill-free week (headaches and migraines in particular). For example, beginning with the 17th Edition in 1998, the authors of the widely used clinical reference manual *Contraceptive Technology* (Hatcher et al.) recommended the practice of “tri-cycling” contraceptives, especially for women who experienced headaches during the pill-free week.

F.D. “Andy” Anderson, MD, a clinical researcher at the Eastern Virginia Medical School is credited with developing Seasonale. He conducted clinical trials for Seasonale through a deal with Barr Pharmaceuticals and its subsidiary division DuraMed (acquired in 2001). Reportedly inspired by an aunt with endometriosis, Anderson had approached several pharmaceutical companies with his idea for an extended regimen contraceptive, but was “laughed out of the room” (Gettelman 2003). Anderson led the clinical trials for Seasonale, which were completed in spring 2002. In September 2002, the FDA accepted for review Barr’s New Drug Approval Application for Seasonale. In anticipation of the FDA’s approval and the launch of Seasonale, in 2003 Barr Pharmaceuticals more than doubled their team of sales representatives (Barr Laboratories 2003). The FDA granted approval on September 5, 2003. In early 2004, Barr initiated a direct-to-consumer marketing campaign in print, online, and in television ads. Following that campaign, prescription rates for Seasonale increased by 700%, from 1,736 new prescriptions per week in December 2003 to 12,731 per week at the end of July 2004. In the 7 months following the launch, there were 170,000 new prescriptions generating overall sales of \$25 million (Barr Laboratories 2004). The number of total Seasonale prescriptions increased to 800,000 in fiscal year 2005 and 1,100,000 in fiscal year 2006, generating \$100 million in sales (Barr Laboratories 2005; Barr Laboratories 2006). This figure made Seasonale Barr’s top-selling product and in 2007, Barr ranked #41 in pharmaceutical sales, according to the industry magazine *Pharmaceutical Executive* (“The Pharm Exec Top 50” 2008).

However, even at the height of its sales (prior to approval of a generic version of Seasonale and the release of sister product Seasonique in 2006), this made up only a “‘small segment’ of the \$1.2 billion U.S. market for oral contraceptives” (Saul 2007). According to a 2006 *New York Times* article, Barr felt that they could still find a larger market for their extended regimen products. In advance of the release of their new product Seasonique, they announced plans to launch a new website, fewerperiods.com, which would inform women that it was possible to use hormonal contraception to reduce the number of periods they had in a year. They also provided funding to the Association of Reproductive Health Professionals to produce educational materials on menstrual suppression⁷ (Gunson 2010; Saul 2007). In 2006, six months before Wyeth received FDA approval for Lybrel, a director in the women’s health division

⁶ See Sulak et al. (1997:180) for a table summarizing 6 previous studies on extended regimens. The Loudon et al. article was cited infrequently ($\leq 3/\text{yr}$) until 1999, when the citations effectively doubled and continued at that rate for several years. Web of Science citation report.

⁷ Both Barr and Wyeth provided unrestricted grants to ARHP to produce educational materials about menstrual suppression. These resulted in a survey on women’s and medical professionals’ attitudes toward menstrual suppression, as well as the fact sheet/FAQ and the interactive tool “Menstrual Suppression: What it is, and how to do it,” discussed in Chapter 4. See: www.arhp.org/Publications-and-Resources/Patient-Resources/Interactive-Tools/menstrual-suppression; www.arhp.org/Publications-and-Resources/Studies-and-Surveys/Menstruation-and-Menstrual-Suppression-Survey/Full-Report; and FAQ. See Chapter 4 for further discussion of these websites and other online promotion of menstrual suppression.

predicted to investors that Lybrel could reach sales as high as \$40 million in 2007 and \$250 million by 2010 (“First Birth Control Pill”)(“First Birth Control Pill Meant to End Periods Poised for Approval”). However, sales fell far short of that. In April 2011, just before Watson introduced a generic version of Lybrel onto the market, sales for Lybrel in the previous 12 months had totaled only \$12 million. Over roughly the same time period, Seasonique, a variation on Seasonale FDA-approved in 2006, had steady sales of \$110 million (Saul 2007).⁸

The fact that very little about these pills was new explains, in part, the lackluster sales figures. On the one hand, women could achieve the same effects using any birth control pill. Even if advertising campaigns aimed at acquainting women with the idea of having fewer periods were successful, they could not guarantee that women would use Seasonale or Lybrel to do so. On the other hand, competing generic formulations of Seasonale, Seasonique and Lybrel were approved and introduced on the market very quickly (and legal challenges from the patent holders were unsuccessful). Pharmaceutical representatives tasked with selling Seasonique and Lybrel have acknowledged these challenges.⁹

Neither the pill itself, nor the practice of using extended regimens of birth control pills to suppress menstruation, was new. How, then, did Seasonale (and other menstrual suppression pills) emerge as a “new” medical technology? In this dissertation, I examine the social shifts that shaped conditions for the emergence and acceptance of menstrual suppression pills and practices at this particular time, as well as the work that was required to produce menstrual suppression as a “new” technology.

Taking menstrual suppression birth control pills as a case, my dissertation examines how this reproductive technology is co-constituted with gendered bodies and selves in line with shifting configurations of medicine, markets, and the state. I follow technologies of menstrual suppression across multiple arenas: scientific knowledge production, medical practice, markets, state regulation, and everyday life. Drawing on medical literature, product websites and FDA documents, as well as interviews with women and medical professionals, I ask three questions: 1) What shifting understandings of menstruation, the body, and medicine underlie the emergence of menstrual suppression? 2) How do medical, advertising and regulatory discourses produce expectations for women to use technology to manage menstruation? 3) How do women enact gendered selves through their engagement with discourses, practices, and technologies of menstrual suppression?

I argue that menstrual suppression reconfigures menstruation to produce gendered bodies and selves that dovetail with prevailing biomedical and neoliberal ideals. I make this argument in three parts, knitting together textual, institutional, and experiential perspectives on menstrual suppression. First, menstrual suppression technologies emerge amid shifting medical conceptions of disease and health. These technologies reflect the history of medicalization of women’s health

⁸ In 2008, Barr Pharmaceuticals was acquired by Teva Pharmaceuticals, a pharmaceutical company based in Israel that was and continues to be one of the world’s largest generic drug producers.

⁹ In the 2010 “State of Seasonique” video report to the Seasonique sales force, the Associate Product Manager for Seasonique names off-label prescriptions and competition from generics as two of the top three challenges to improving Seasonique’s sales figures. On an online discussion forum for pharmaceutical sales representatives, one person said of the launch of Lybrel: “Read the Barr board and see what their reps thought of this. They could not move it at all. Didn’t you know that women already knew they could do [this] with any brand of cheap birth control pills they were already using? ... no one needs to pay premium prices for something they can do with the cheapest OC’s they can find. Plus the bigger the publicity, the more the highly vocal feminist backlash. This drug is a no win.”

and pathologization of menstruation, while simultaneously participating in a project of biomedicalization, which emphasizes transformation and optimization of the body. Second, medical research, marketing, and regulatory discourses alike address women as neoliberal subjects: consumers of health products and services who are free to transform their bodies but individually responsible for acquiring the knowledge necessary to navigate the medical marketplace. They construct this neoliberal subject as the ideal user of menstrual suppression technology, in turn constructing menstrual suppression as a new biomedical technology. Third, these discourses and institutions shape – but do not determine – the varied ways women engage with these medical technologies. Physicians divide their understandings of extended regimen birth control pills into, on the one hand, a treatment they prescribe to assist patients experiencing menstrual symptoms and, on the other, a convenience for savvy patients who are eager to exercise control over their periods. Race and class shape these constructions of patients and ultimately structure women's access to menstrual suppression technologies. Women, especially those who have experienced problematic periods, renegotiate notions of what a normal, natural, or acceptable period is through their active, creative engagements with menstrual suppression pills and practices. Throughout, I argue that menstrual suppression technologies show how neoliberalism as a raced and gendered project plays out on women's bodies, shaping subjects (differently) according to norms of gender, race, and class through technologies that reconfigure bodies and selves from the inside out.

Making Sense of Menstrual Suppression

Menstrual suppression pills and practices provide an ideal case for studying the social construction of gendered bodies. The hormones in the pill have biological effects on the body, but the forms that the pills take and the ways they are accessed and used are socially and culturally shaped (Roberts 2007). The Pill is inscribed with expectations of what a healthy, normal, and “natural” menstrual cycle looks like and actually produces this idealized cycle in the body of the woman taking it. For example, while the length of women's menstrual cycles varies, (one figure for the average duration is 29.5 days (Jones 2006: 74)), the 28-day Pill cycle, established mainly for ease of use, is accepted as the standard cycle length and actually enforces this standardized cycle for women taking the Pill (Oudshoorn 1994). In this sense, the emergence of menstrual suppression birth control signals changes in underlying ideas about the necessity and importance of menstruation and the willingness and capacity to use technology to intervene in the body. It also illuminates the roles that everyday medical technologies play in the construction and performance of gendered bodies. Menstrual suppression birth control pills provide an excellent case for the analysis of the interplay of the social, technological, and biological that produces gendered bodies and selves.

By altering menstruation, these pills affect a particularly meaningful site in women's bodies. Menstruation has long served as a central aspect of essentialized, biological understanding of sex difference (at least since the 19th Century) (Laqueur 1992; Martin 1992), serving as a marker of biological sex and thus a site for the production of gender in the body. Feminist Science and Technology Studies (STS) scholars theorize the body as neither purely biological/natural nor purely cultural/social, but rather as disrupting these boundaries (Fausto-Sterling 2005; Grosz 1994; Grosz 2005; Haraway 1991; Haraway 1997; Mol 2002; Roberts 2007). Technologies, especially those (like medications) that are absorbed invisibly and change the body from the inside out, make the porous nature/culture boundary clear. This is one reason

why menstrual suppression pills have attracted attention. As Mamo and Fosket argue, “In the case of Seasonale, synthetic chemicals not only alter bodies and their menstrual flows; these bodily changes are also given social and cultural meaning. As they reconfigure the natural body, these drugs reveal the significance of its cultural makeup” (2009:932).

Previous studies of menstruation have focused mainly on its cultural meanings, its devaluation in patriarchal western culture, and women’s experiences of menstruation within this context (Bobel 2010; Buckley and Gottlieb 1988; Delaney et al. 1988; Fingerson 2006; Lee and Sasser-Coen 1996). Emily Martin’s (1991; 1992) foundational study of menstruation and reproduction focuses attention on scientific accounts of the body as influenced by culture. Martin highlights the gendered cultural and economic metaphors scientists use to describe and investigate menstruation, juxtaposing these accounts with women’s own descriptions and experiences of menstruation. By doing so, she demonstrates how both scientists’ and women’s own understandings of menstruation are shaped by the metaphors they use. Only a few of these studies of the cultural importance and individual experience of menstruation have devoted attention to the ways technologies, menstrual products in particular, have shaped the experience and cultural importance of menstruation (Freidenfelds 2009; Kissling 2006; Vostral 2008).

Lara Freidenfelds’ (2009) history of the “modern period” describes how popular understandings of menstruation, behaviors associated with menstruation, and menstrual management technologies changed tremendously over the course of the 20th century. These shifts resulted in a new “modern period,” a form of modern bodily self-presentation tied to class, race, and newly-available consumer goods and forms of service work. The envisioned aim of this “modernity project” was:

A well-controlled body that would not leak, smell, hurt, cause anxiety, appear unfashionable, or lose efficiency (productive or reproductive) at inopportune moments. It would integrate specialized technologies seamlessly, so that the signs of menstruation and the technologies themselves would be invisible and undetectable to everyone, not least the woman using the technologies.
(Freidenfelds 2009:2)

The introduction of mass-produced, store-bought, disposable menstrual pads – and, soon after, tampons – meant that women no longer had to make and wash their own menstrual pads. These products brought menstruation into the public space of stores and, as one of the first widely available mass-manufactured, disposable goods, they played an important role in initiating women into consumer culture in the United States (Freidenfelds 2009). They also played an important role in young, white, urban women’s entry into the service industry, by allowing for a modern mode of bodily self-presentation that was necessary for the emerging “pink collar” professional identity. Vostral (2008) also tracks the introduction of mass-produced menstrual products, including tampons, new types of menstrual pads, and alternative products, and their use as “technologies of passing” that promised to allow menstruating women to cover up all evidence of bleeding and thus “pass” as non-menstruating women. Access to these technologies was stratified and they were taken up differently by women in different race and class groups (Freidenfelds 2009; Vostral 2008).

Freidenfelds highlights the introduction of over-the counter pain medications, such as Tylenol and Advil, as important to furthering the project of the modern period, by invisibly changing women’s experience of menstruation. She presents menstrual suppression as perhaps

completing the project of “modernizing” menstruation – advertisements claim that these pills make menstruation more predictable,¹⁰ less visible, and less painful, decreasing the impact of menstruation and increasing women’s abilities to work or play at the same intensity all month long. However, these pills alter the body physiologically to *suppress* menstruation, rather than simply managing its effects. They take the “modern period” for granted and offer the new possibility that the body could be altered to eliminate menstruation entirely.

The birth control pill, as initially conceived, fits squarely in a modernist mode of reproductive science and technology, marked by an emphasis on control over reproduction and the mass production and distribution of technologies to achieve this (Clarke 1998). However, developers of successive generations of pills have emphasized individualization, choice, and market niches, what Nelly Oudshoorn calls the “cafeteria model” (1996). This approach to hormonal birth control is more in line with what Clarke calls a “postmodern” approach to reproductive science, represented most often by the “new” or assisted reproductive technologies, in that they emphasize the “manipulation of” reproductive processes and seek to “flexibly redesign... bodies and processes to achieve a variety of goals” (Clarke 1998:10).

The development and introduction of these new menstrual suppression birth control pills occurred during a time in which contemporary biomedicine itself was shifting from a focus on the body as a whole to a focus on harnessing or intervening in the body’s fundamental processes. Adele Clarke and colleagues have coined the term “biomedicalization” to capture these shifts in the aims and organization of medicine in the United States. They state:

biomedicine broadly conceived is today being transformed from the inside out through old and new social arrangements that implement biomedical, computer, and information sciences and technologies to intervene in health, illness, healing, the organization of medical care, and how we think about and live ‘life itself.’ Medicalization practices typically emphasize exercising *control over* medical phenomena – diseases, illnesses, injuries, bodily malfunctions. In contrast, biomedicalization practices emphasize *transformations of* such medical phenomena and of bodies, largely through sooner-rather-than-later technoscientific interventions not only for treatment but also increasingly for enhancement. (Clarke et al. 2010a)

If medicalization is the expansion of medicine to encompass more and more of the problems of daily life (Conrad 2007; Zola 1983), biomedicalization indicates the intensification of this process as medicine is increasingly intertwined with bioscience, biotechnology, and information technology, producing wide-ranging implications for the organization of medicine and its role in society, as well as for individuals (Clarke et al. 2010b; Clarke et al. 2003; Klawiter 2008). Biomedicalization proceeds unevenly and co-exists with many elements of medicalization (including, in some cases, an intensified focus on repair and normalization of bodies). Analyses of biomedicalization draw attention to areas in which processes and technologies of “enhancement” and “optimization” are favored and encouraged (Clarke et al. 2003; Rose 2007). Developed and promoted in this context of biomedicalization, menstrual suppression birth control pills move away from a central focus on control or normalization and toward harnessing

¹⁰ In theory, although the frequent breakthrough bleeding that accompanies use of these pills means that they are not entirely able to fulfill this promise.

basic biological processes to enhance bodies and lives. Seasonique's tagline "Birth control *plus* fewer periods" exemplifies this shift, presenting the elimination of periods as adding to or enhancing, rather than controlling or eliminating. While conventional birth control pills mimic the body's "natural" cycle, continuous or extended cycle pills (and their proponents) upend this relationship, questioning the "naturalness" of the body and the menstrual cycle, positing menstrual suppression technologies as "more natural than natural" (Balsamo 1995; Mamo and Fishman 2001).

The shift from a regime of medicalization to one of biomedicalization makes new individual and social identities possible and/or achievable through biomedical technologies (Mamo 2007; Thompson 2005); produce a focus on risk, responsibility, and self-surveillance through the deployment of increasingly sophisticated risk calculations (Adams et al. 2009; Klawiter 2008); and make bodily transformations and enhancement both widely available and acceptable, shifting experiences of and desires related to "normal" bodies (Boero 2010; Mamo and Fishman 2001; Mamo and Fosket 2009). Biomedicalization thus produces new ways of thinking and talking about individual illness experience and health risks, collective identities and social activism centered around disease or other biological factors; and new spaces for action and forms of participation allowed or claimed by patients within the medical system (Epstein 1996; Epstein 2007; Klawiter 2008; Thompson 2005).

Biomedicalization also shifts the relationship between patients and physicians and, more generally, between lay people and scientific experts. The blurring boundary between health and disease, exemplified by the proliferation of "lifestyle" drugs intended to address issues of individual preference or convenience, shifts the grounds on which physicians assign and administer diagnosis and treatment. Newly accessible health and medical information shifts the balance of authority between doctor and patient, offering to patients (or requiring of them) a level of expertise and the sense of a decreased knowledge imbalance between doctor and patient (Nettleton 2004). (Some) Patients demand an increasingly active role in medical diagnosis and treatment, based on the development of extensive lay expertise, enabled and promoted by the production and accessibility of vast amounts of medical information from widely varying sources (Clarke et al. 2010a; Clarke et al. 2003). In the U.S., this information increasingly comes from direct-to-consumer advertising, whether in the form of marketing for specific drugs or unbranded disease education campaigns (Ebeling 2011). As patients are increasingly addressed as consumers of medical information, products, and technologies, the ideal patient of biomedicalization becomes:

an informed 'consumer' who can sit on an equal platform with the doctor as a result of now-open access to information previously restricted to doctors. The idealised clinical encounter is a co-operative interaction which brings patient and doctor together in a kind of hand-shake agreement about what ails the former and what the latter can do in response. (Jutel 2009:294)

Clarke et al. (2010a) name this shift from passive patient to informed consumer of medical services as a central feature of the shift from medicalization to biomedicalization, while other scholars see this shift as indicative of an increasing neoliberalization of health care in the United States (Roberts 2009).

Importantly, while the shift toward increased patient participation in medical decision-making arose as part of health social movements, they have been incorporated into mainstream

medicine only at the individual level. Patient empowerment is reframed as providing information and providing choices among medical products, but occurred without structural changes that would create space for patients to exercise autonomy. This has the effect of reinforcing (rather than challenging) the idea that patients should be included in medical encounters only as consumers of biomedical products and services (Roberts 2006).

The construction of menstrual suppression as a “new” technology shares elements with the introduction of other “lifestyle drugs,” drugs that are designed to increase convenience, address issues of personal preference, or improve individuals’ quality of life, thus expanding the range of issues understood to be “treatable” by pharmaceuticals. The increasing number of lifestyle drugs has led some scholars to examine the “pharmaceuticalization of society” (Abraham 2010; Fox and Ward 2008; Williams et al. 2011; Williams et al. 2008). As defined by Williams et al. (2008:851), pharmaceuticalization:

refers to the transformation of human conditions, capacities or capabilities into pharmaceutical matters of treatment or enhancement. As such it overlaps with but extends far beyond the realms of the medical or the medicalised, and serves further to blur the boundaries between treatment and enhancement.

Abraham (2010) argued that pharmaceuticalization should be considered as distinct from medicalization because the use of pharmaceuticals may increase even in the absence of medicalization (as with lifestyle drugs) or can decrease even in areas that are fully medicalized. However, rather than contradicting theories of biomedicalization (as Abraham contends), pharmaceuticalization might be considered an element of biomedicalization, in which individuals are encouraged to transform and improve their bodies through the use of biomedical technologies – including pharmaceuticals – while the distinction between treatment of medical(ized) disorders and the enhancement of bodies and health is blurred.

The introduction of some new pharmaceuticals requires the simultaneous development of new drug compounds, new disease categories, and new disease-sufferers who will be consumers of the new drug. Medical researchers, particularly those who conduct clinical trials, are key actors in this process. Fishman (2004) shows how clinical trial researchers form a link between producers of drugs (pharmaceutical companies) and consumers (clinicians who prescribe the drugs and patients who take them). Researchers thus participate in the commodification of both disease categories and the patient populations described/produced by those categories (Fishman 2004:192). Even lifestyle drugs must be indicated for treatment of a disease in order to be granted FDA approval, since lifestyle concerns have not yet been accepted as a treatment indication by the FDA. Researchers produce necessary scientific knowledge that can establish new disease categories and they mediate the relationship between the pharmaceutical companies and the FDA.

Fishman refers to this as a form of co-constitution of technologies and users, highlighting the “creation and configuration of a ‘market’ of potential users rather than individual users in the production of a technology... [as well as] processes through which individuals are transformed into *consumers*, in addition to users, of new drugs and in new markets” (Fishman 2004:193). This knowledge is produced within the dense and multiple ties among academic researchers, pharmaceutical companies, FDA regulators, clinicians, and patients. This has been the case for menstrual suppression birth control pills. Barr Pharmaceuticals boasted in their 2004 annual report that Seasonale “not only offered American women a new contraceptive option, it also

created an entirely new category in the global oral contraceptive marketplace” (2004: 2). One way that clinical trials contributed to the creation of this new market was through constructing new users for extended regimen birth control pills: women who did not need treatment for menstrual symptoms (an existing use of extended regimens) but rather desired menstrual suppression for their own convenience. I argue that the co-construction of these new users/consumers and of menstrual suppression pills as a “new” technology occurred within medicalization’s blurring of treatment and enhancement. Marketing, clinicians’ prescribing decisions, and women’s own engagements with menstrual suppression shaped how and whether these new users and uses for birth control pills would come to be – and what kinds of gendered bodies and selves they would produce.

Technologies of Gendered Bodies and Selves

In this dissertation, I explore the re-invention of a common medical technology in the context of biomedicalization. I use a feminist lens to bring together theoretical frameworks developed in science and technology studies (STS) with Foucauldian scholarship on governmentality and political subjectivities, in order to examine how the emergence of menstrual suppression pills encapsulates reconfigurations of science, medicine, market, and political subjectivities – providing a point of connection as these shifts act on women’s bodies. Through intervening in the menstrual cycle, the birth control pill works as a technology for the social construction of sexed/gendered bodies. Examining menstrual suppression as a “technology of the gendered body” (a term that Anne Balsamo (1995) builds from de Lauretis’ (1987) “technologies of gender”) allows me to draw out the dual meaning of the word “technology,” connecting an STS approach to the construction of technological artifacts and Foucault’s notion of technology as a configuration of discourses and institutional power that produces and naturalizes bodies. This approach provides a point of entry into the discussion of the relationships among gender, bodies, and technology in which I highlight gender as both a social construction built into new technologies and an embodied, enacted, effect of the deployment of technologies.

One element of an STS approach to examining technology focuses on how actors imbue technologies with meaning and politics in the specific contexts in which they are developed and used (Akrich 1992; Bijker et al. 1987). This can occur through the physical shaping of the artifact or through discursive practices. The co-construction of technologies and users occurs both as developers design (and market, regulate, and distribute, as I will show in subsequent chapters) new products with particular uses and users in mind and as they build these expectations into the products, producing those users as they interact with the technology in prescribed ways.

My argument draws on and extends recent work in the social construction of technologies literature that theorizes the ways developers of technologies “configure” or “script” users as they anticipate the actions and identities their ideal user will bring to interactions with the product (Akrich 1992; Oudshoorn 2003a; Oudshoorn 2003b; Oudshoorn and Pinch 2003; Woolgar 1991). Configuration is a process in which developers define future users’ identities and actions. Through the process of configuration, the interpretive flexibility of a technology, or its ability to be understood and used in many different ways, is stabilized, leaving “a machine that encourages only specific forms of access and use” (Woolgar 1991 cited in Oudshoorn and Pinch 2003:8). Later work on users expanded this concept to include users’ agency in taking up, resisting, or transforming the behaviors and knowledges required by the scripts built into technologies

(Eglash et al. 2004). Oudshoorn critiques the literature on configuration for focusing mainly on users' actions and competencies, while neglecting to fully explore how technologies also script users' identities, particularly gender. Oudshoorn argues that representations of masculinity and femininity are inscribed in technologies in ways that "invite or inhibit specific performances of gender identities and relations" (Oudshoorn and Pinch 2003:10).

Further, bringing to this literature the insights of Butler's performative theories of gender, Oudshoorn argues that while gender identities are inscribed in technologies, they must also be taken up and performed by users as they interact with the technology. She argues that "the articulation and performance of gender identities of users is an important aspect of the development of technological artifacts" (2003a:210). One implication of this argument is that for a new technology to be widely adopted, the gender scripts built into the product must either match existing normative gender identities, or else there must be a way to discipline users to take up and perform new, non-normative gender identities in their use of the product. Further, Oudshoorn's analysis highlights that configuration cannot determine in advance how or whether individuals will use a technology. Potential users can resist a technology altogether or can discontinue use, with different implications (Wyatt 2003). Intended users can challenge scripts or resist configuration and appropriate technologies for use in unexpected ways, as can unintended users (Eglash et al. 2004). While technologies may "have politics" to the extent that their use assumes or requires particular power relations or they are designed to solve particular social problems (Winner 1980), these politics must be enacted through use and are thus open to users' creative engagements, reinterpretation, and challenge.

A focus on users' active participation in and shaping of technological artifacts reflect the influence of poststructural theories in rejecting conceptions of power and politics as imposed from above. Returning to Balsamo's "technologies of the gendered body" makes clear the influence of poststructural theories of politics and subjectivity in this approach to understanding the role of technologies in the production of gendered bodies and selves. Politics built into medical technologies (may) become embodied through the use of those technologies as they facilitate the performance of certain gender identities, shape the understandings of bodies and selves that encourage individuals to seek out or avoid engagement with technologies, or structure access to or the moral acceptability of certain technologies.

Configuration of users – one way that the politics and meanings built into technologies can be transferred to users – is not limited to scientists in the lab. Advertising, in particular, plays a key role in disseminating gendered scripts for users, through introducing potential users to the new, desirable identities they can enact through the purchase and use of consumer products (Bray 2007; Oost 2003; Oudshoorn 2003a). Further, the practices through which new technologies are introduced and distributed to the public continue to shape users' relationships to these technologies. As Rose and Blume (2003) note, "the configuration of the user of a technology often begins in the laboratory, but it does not end there. The mechanisms, rules and conventions governing the technology's use in practice extend and perhaps modify the work of configuring started in the laboratory" (127). Both the market and the state can and do shape these "mechanisms, rules and conventions." User studies have, so far, paid scant attention to market-based processes of configuration – and even less to the role of the state in configuring users.

When the state governs the use of biomedical technologies, the configuration of users overlaps with the production of political subjects with particular relationships to their bodies and particular rights and responsibilities related to health and other aspects of biology. Therefore, in order to explore how both users of menstrual suppression and neoliberal subjects are configured

in this case, it is helpful to include a discussion of both biological citizenship, as a historically specific formation of links between the state and the biology, bodies, and health of citizens, and neoliberalism, as a political rationality that “prescribes citizen-subject conduct in a neo-liberal order” (Brown 2003). The concept of biological citizenship highlights the beliefs about biology that underpin citizenship projects and conceptions of citizens (Rose and Novas 2005:440; Rose 2007). The specific forms and logics of biological citizenship change over time and in different places. Processes of “making up” biological citizens can come “from above” or “from below,” “reshaping the way in which persons are understood by authorities” (140) and delineating citizens’ biological responsibilities and rights. In advanced liberal democracies, these rights and responsibilities are represented in the terms of an “ethic of active citizenship” in which “maximization of lifestyle, potential, health, and quality of life has become almost obligatory, and ... negative judgments are directed toward those who will not, for whatever reason, adopt an active, informed, positive, and prudent relation to the future” (Rose 2007:25).

Biological citizenship, broadly understood, has also made possible new forms of collective identity and politics, as shared biology, health risks, or disease form the grounds for social membership and political claims (Epstein 2007; Petryna 2002; Rabinow 1996; Rose and Novas 2005). Epstein (2007), in particular, has used “biopolitical citizenship” as an umbrella term for the many ways scholars have described political claims made to the state on the basis of biology. His research examines how, in the U.S. in the 1990s, marginalized groups made claims for representation and inclusion in medical research that were also claims for *political* representation and inclusion more broadly. However, while contemporary forms of biological citizenship have made possible new forms of collective identity and political claims, it also has significant individualizing effects. Rose notes that biological citizenship also reshapes the relationships of individuals to themselves, such that:

biological images, explanations, values, and judgments... get entangled with other languages of self-description and other criteria of self-judgment within a more general contemporary ‘regime of the self’ as a prudent yet enterprising individual, actively shaping his or her life course through acts of choice. (2007:154)

Contemporary forms of biological or biopolitical citizenship are thus shaped in important ways by the prevalence of neoliberalism as guiding economic theory and as political rationality and governmentality.

In recent years, numerous scholars have examined the neoliberalization of health and healthcare in the U.S. and elsewhere, both in terms of structural transformation of the healthcare system through privatization and dismantling of the welfare state, as well as the proliferation of neoliberal models of selfhood through discourses of health and health promotion (Ebeling 2011; Fisher 2007; Galvin 2002; Mamo 2007; Pitts-Taylor 2010; Roberts 2009; Rose 2007). Under neoliberal logics, health shifts from a right guaranteed by the welfare state through access to healthcare to an individual responsibility pursued in the marketplace. As Victoria Pitts-Taylor notes:

Health maintenance becomes a responsibility or a duty rather than a right, and bodies and selves are targeted for intense personal care and enhancement (Crawford, 1977, 2006). One result is that we are encouraged to see ourselves as biomedical subjects (Rabinow, 1999). In addition, we have seen the extension of

biomedical investment beyond disease and illness, toward enhancement and healthicization (2010:639).

Neoliberal values, such as responsibility, autonomy, consumerism, and an “entrepreneurial spirit,” are increasingly attached to the ideal, healthy citizen, who not only fulfills the duty of avoiding illness, but actively pursues health and even enhancement – actively seeking health information from experts and managing risk through recourse to commodified health services and products (Galvin 2002; Pitts-Taylor 2010). In this context, notions of neoliberal subjecthood are produced through and alongside discourses of health and the medical products and technologies through which subjects are encouraged to pursue and enhance their health. As many of these scholars note, the ability to change the body soon becomes an obligation to enhance the body as part of a personal responsibility to avoid even the risk of ill health (Galvin 2002; Pitts-Taylor 2010; Roberts 2009) and as an individualized response to widespread economic insecurity (Essig 2010; Fisher 2007). In these ways, neoliberalism overlaps with the shift to a regime of biomedicalization. As marketing and regulatory discourses configure women as users of menstrual suppression technologies, they simultaneously configure women as neoliberal subjects. These twin processes of biomedicalization and neoliberalization dovetail in the reconfigurations of science/medicine, markets, and state. Menstrual suppression birth control focuses these shifts on women’s bodies in ways that are differentiated by race and class.

Birth control technologies act as a contact point between the biopolitics of population and the disciplinary power exercised on individual bodies. Foucault argued that interest in birth control and women’s bodies made up a central component in the emergence of “sexuality” as discourse and field of knowledge in the 19th century. Adele Clarke notes that “because reproduction is socially, culturally, and economically central to the very shape of individual lives, as well as a serious focus of national, corporate, and other global interests, it is a particular site where the desire to control life is vividly manifest” (Clarke 1998:25). As the “desire to control life” morphs into a desire to harness and optimize “life itself,” birth control pills again manifest this shift, as a technology of control and normalization is recast as one of choice and enhancement.

Technologies are an important but understudied element in the performance of (gendered) identities (Oudshoorn 2003a; Oudshoorn 2003b). Even within Science and Technology Studies, as Charis Thompson points out, scholars have paid more attention to the ways that technologies depend on various personal, social, and cultural factors than to how individual identities and subjectivities depend upon technologies (Thompson 2005). Medical technologies, in particular, because they intervene in and alter the body, often bearing both the legitimacy of scientific “truth” and the social/moral authority to repair or cure, inscribe gender in and on the body (Balsamo 1995; Foucault 1990). Reproductive technologies, for example, in producing or preventing reproduction, also produce gendered bodies and identities (Mamo 2007; Takeshita 2011; Thompson 2005).

In examining the case of menstrual suppression birth control, there is a tension between the overdetermined gender specificity menstruation and birth control and the decontextualized hyper-individualism characteristic of neoliberalism. The question of how subjects are gendered in this case is overdetermined, given the centrality of menstruation to essentialist and biologically determinist understandings of gender. In this view, suppressing menstruation must necessarily mean suppressing femininity and bringing women’s bodies in line with a universal (unacknowledged as male) standard – in other words, making women “like men.” However, I

argue that constructions of users of menstrual suppression birth control pills do not target menstruation as representative of or essential to femininity, but rather as part of an overall project to see the body as a flexible, individual resource that can (and should) be constantly improved. Emily Martin has argued that “flexibility,” particularly in relation to health and the body, has become “one of our new taken-for-granted virtues for persons and their bodies” (1994:xvii).

Writing in the early 1990s, Martin found it likely that the emerging value of ‘flexible bodies’ could reinforce existing hierarchies and inequalities, such that “certain categories of people (women, people of color)... may be seen as having rigid or unresponsive selves and bodies, making them relatively unfit for the kind of society we now seems to desire” (1994:xvii). Alternatively, “the old categories of hierarchical discrimination [may] be reshuffled in fundamental ways,” such that we see “the desirable qualities of flexibility and adaptability to change in certain superior individuals of *any* ethnic, racial, gender, sexual identity, or age group” (xvii). Neoliberal logic champions the second view – “entrepreneurial” individuals are called to make the most of what they have, using the body’s flexibility as a resource – while, at the same time, the utopian tone of these calls is undercut by the assumption that those with “rigid or unresponsive selves or bodies” have individually failed to be flexible or to capitalize on flexibility; they are thus individually responsible for the consequences of their (what Brown (2003) calls) “mismanaged lives” and bodies. The tension between these two views of flexibility continues to play out in the configuration of users/subjects described here, particularly with regards to gender and race (Roberts 2006).

Technology promises neoliberal subjects a market-mediated way to opt in or out of categories such as gender as race. It promises that it is possible, through savvy entrepreneurial action, that one can become one of the “new elites,” as Martin puts it, who are best able to capitalize on their bodies’ abilities to be flexible. While Martin worried that certain groups might be, in a sense, left behind because they were viewed as too tied to rigid, inflexible bodies and selves, this does not quite seem to be the case. Rather, women and people of color, those who are marked by difference are, on the one hand, more intensely called to take up the radically, hyper-individualized neoliberal subject positions as a route to empowerment and liberation, and on the other hand, more intensely (harmed) by being saddled with individual responsibility and blame for health and other consequences when faced with social and structural constraints on their abilities to succeed as savvy, entrepreneurial selves in the market. To the extent that this de-essentializing project fits menstrual suppression to neoliberal governmentality (allowing women to opt out of biologically determined constraints through pursuing health and information in the market), it can easily co-opt feminist narratives that reject biological determinism in favor of empowerment and autonomy, particularly those narratives that focus on *individual* empowerment and autonomy (Fraser 2009; Roberts 2006).

Research Methods

Menstruation is mainly a private, individual occurrence, with public discourses and representations of menstruation mainly reinforcing the need to maintain secrecy and invisibility (Fingerson 2006; Freidenfelds 2009; Kissling 2006; Lee and Sasser-Coen 1996; Vostral 2008). Menstrual suppression proposes to make this already private, hidden event even more invisible. And yet, menstruation is no less socially and culturally shaped than other, more public, phenomena. Individual experiences of menstruation are shaped by social and cultural attitudes

about menstruation, women's bodies, and sexuality; by scientific understandings of menstruation as a physiological event, a health liability, an evolutionary adaptation; by vast capitalist machinery developing, producing, and promoting products for controlling, managing, hiding, and suppressing menstruation; and by menstruation's entanglement in a myriad of other social institutions and arenas. In this dissertation, I trace one technology designed to suppress menstruation through a few of these entanglements with science, medicine, the market, and the state.

To do so I follow menstrual suppression as a technology and a practice across a number of different social arenas: medical understandings in research and clinical practice, state regulation and pharmaceutical marketing, and women's everyday lives. I have collected data in each of these areas, including medical literature, FDA meeting transcripts, web-based marketing for menstrual suppression pills, and interviews with women and clinicians. Two samples of medical journal articles were collected from top-ranking (as measured by impact factor) general medical journals *Journal of the American Medical Association* and *New England Journal of Medicine* and the specialty journal *Obstetrics and Gynecology* published between 1980 and 2009.¹¹ These medical journal articles allowed me to trace shifts in medical understandings of menstruation as an object of medical concern and hormonal birth control as a method for intervening in the menstrual cycle.

In addition to the medical literature, I also included marketing materials promoting menstrual suppression in the form of websites used to advertise the specific brands of pills Seasonale, Seasonique, and Lybrel. In addition to these branded websites, I also included websites that promoted the practice of menstrual suppression in general, including www.fewerperiods.com, which was funded and designed by Duramed/Barr (the makers of Seasonale and Seasonique) but did not promote any particular pill or method of menstrual suppression, and the website of the Association of Reproductive Health Professionals, which produced fact sheets and an interactive web tool on menstrual suppression (which was funded by unrestricted grants from Barr and Wyeth). I pair my analysis of these websites with analysis of transcripts from a 2007 meeting of the FDA's Reproductive Health Drugs Advisory Committee. This committee, made up mainly of scientists and physicians, met to advise the FDA on questions relating to the testing and approval of new forms of hormonal birth control, including issues specific to extended regimen birth control pills.

Finally, in order to gain a better sense of how menstrual suppression technologies were being engaged on the ground and incorporated into everyday life, I conducted interviews with a small sample of clinicians and women in the San Francisco Bay Area. I interviewed five physicians and nurse practitioners who worked in the area of women's health in a variety of settings, from private practice to public health clinics to a large health maintenance organization (HMO). In addition, I interviewed eight women, who ranged in age from 20-32. I included in my sample women who were currently using extended regimen/menstrual suppression birth control, women who had stopped suppressing menstruation, and women who had never used pills in this way. Doing so allowed me to explore how women understood and articulated their use of these pills and their resistance to it.

This study takes a novel approach in tracing the construction of menstrual suppression and the use of menstrual suppression technologies and practices across multiple arenas.

¹¹ Additional details on the specifics of the search terms and sample selection can be found in the chapters and the methodological appendix.

Interviewing women about how they actually used (or refused) menstrual suppression also allowed me to move beyond previous studies of the discursive construction of menstrual suppression in advertising, media, and public discussion and provided the insight that menstrual suppression is a *practice* rather than simply a product. I have followed methodological approaches that emphasize the re-examination of scientific findings in order to recover the process through which scientific facts are constructed (Fujimura 2006), trace scientific objects as they cross boundaries between social worlds and take on new meanings as they are shared among varied actors (Star and Griesemer 1989), and stress the importance of context while examining the importance of both discourses and human/institutional actors that make up the situation in which menstrual suppression emerges (Clarke 2005). The result is a narrative which examines the emergence of menstrual suppression from multiple angles, overlapping at many points and moving apart at others. In this sense, it provides a “diffracted” view of menstrual suppression, as advocated by Takeshita (2011) (building upon the metaphor introduced by Donna Haraway (1997).

* * *

In this dissertation, I examine the conditions for the emergence of menstrual suppression birth control as a distinct, “new” technology. I argue that menstrual suppression birth control required the construction of new users, and I trace the construction of these new users across several different arenas. Further, prescribing clinicians and women were active participants in this process. Women, as users or potential users, actively and creatively engaged menstrual suppression by incorporating or rejecting them as technologies and/or practices, in the process re-forming notions of a “normal” or “natural” period.

In the next two chapters, I trace shifts in medicine toward increasing intervention into lifestyle, with the result that patients are produced as consumers. Importantly, this occurs *through the production of medical knowledge*, not as an incursion of market factors into medicine. In Chapter 2, I show how measurement practices related to the diagnosis and treatment of menorrhagia, or heavy menstrual bleeding, allow physicians and researchers to reshape the process of diagnosis in order to assess and treat patients’ “quality of life,” in the process creating space for patients to be seen and responded to as consumers.

In Chapter 3, I turn specifically to medical discussions of hormonal contraceptives and their construction with respect to bleeding. I show that, on the one hand, the use of hormonal contraceptives to treat and regulate bleeding problems and menstrual symptoms has been widespread and well accepted, while on the other hand, hormonal contraceptives were well known to cause bleeding problems and users were previously considered to be intolerant of any changes in bleeding caused by OCs (including amenorrhea). Menstrual suppression was co-constituted in the literature along with a new kind of patient who actively desired suppressing menstruation for reasons of convenience or personal preference. The expansion of menstrual “symptoms” to include more and more features of menstruation, along with the discursive construction of the patient who actively desires menstrual suppression provided space for a slippage between extended regimens as necessary treatment and consumer choice.

In Chapter 4, I shift to looking at how the new, ideal user of menstrual suppression is configured through online marketing and regulation, exploring how users are configured in line with neoliberal ideals of health. Marketing offers menstrual suppression birth control pills to consumers as a tool for embodying neoliberal ideals of health, self-transformation, and personal responsibility. Regulatory discussions about the introduction of new birth control pills show how

neoliberal ideals of consumer-citizens are built into the state's regulation of new technologies, and further, how the scientists called to advise the state on this topic have also fully absorbed a neoliberal model of patients as self-responsible, active consumers.

In Chapter 5, I turn to clinicians and women users (and non-users) themselves, looking at how they negotiated the overlapping and competing constructions of menstrual suppression technologies and users. I begin the chapter by introducing the voices of doctors and their participation in the construction of new users. Because they see patients and write prescriptions, the way they take up the constructions of menstrual suppression technologies and users affects who the users of menstrual suppression end up being. Clinicians stress their use of extended regimens for treatment, even as they report that certain “savvy” patients request and use menstrual suppression pills for their own convenience. Including women's own discussions of their engagements with menstrual suppression allows me to show that menstrual suppression is a *practice*, not just a *product*. Doing so foregrounds the active and creative ways that women use birth control pills to reshape menstruation and negotiate their understandings of natural, normal, and acceptable periods. While menstrual suppression pills are inscribed with and promote certain relationships to medicine, the market, and the body, there is no one way in which women respond to the scripts in these pills.

Chapter 2 | From Bodies to Lives, Complainers to Consumers: Measuring Menstrual Excess

“New” menstrual suppression birth control pills, like Seasonale and Lybrel, do not differ significantly from existing cyclic oral contraceptives. In fact, using birth control pills to reduce or eliminate monthly bleeding has been both possible and informally practiced since their introduction in 1960. The developers of the first birth control pill knew that the hormones in the pill would stop ovulation and menstruation, and purposely built into the pill regimen a hormone-free break, during which women would experience withdrawal bleeding (Gladwell 2000; Marks 2001; Watkins 1998). Given that the pills themselves have not changed significantly, it is important to ask what has changed about the ways medical professionals think and talk about menstruation and hormonal contraception in the decades leading up to and including the introduction of menstrual suppression birth control pills. I begin by exploring how medical researchers understand menstruation as pathology – how do they distinguish normal menstruation from bleeding that merits medical attention? In this chapter I examine changing ways of assessing normal and pathological menstruation and the effects of these shifts on the construction of menstruation as a medical object and women patients as medical subjects. This argument lays the foundation for the following chapter, in which I show how, with respect to menstrual bleeding, hormonal contraception has been constructed as both a treatment for menstrual symptoms and a lifestyle drug that provides women with the convenience of fewer periods.

Feminist research has shown repeatedly the extent to which medical accounts pathologize menstruation (Martin 1991; Martin 1992). Yet despite this attention to representations of pathological menstruation, there has been remarkably little investigation into how clinicians and medical researchers actually study and assess menstruation (but see Fausto-Sterling 1992). While medical texts generally have portrayed menstruation negatively, this does not necessarily mean that medical researchers or clinicians define all menstruation as pathological, in the sense that it would qualify for a medical diagnosis or treatment. In fact, many women find that when they want medical treatment for painful, heavy, or irregular periods, they are told that it is not a medical problem that requires treatment (O’Flynn and Britten 2000). For this reason, it is important to separate an analysis of how menstruation is represented in medical texts as essentially abnormal or pathological (when compared against the “universal” male body) from medical classifications and practices of diagnosis that seek to distinguish “normal” from “pathological” menstruation.

In this chapter, I look beyond the ways that medical texts portray menstruation in pathologized or devalued terms to examine how medical researchers work to distinguish a specific menstrual disorder – menorrhagia, or excessive bleeding – from normal menstruation. I argue that measurement is one tool that physicians use to translate women’s complaints of heavy bleeding into medical evidence that aligns with diagnostic categories and criteria. In this way, measurement practices construct women’s bodies as appropriate objects of medical attention in ways that also shape women’s positions as participants in knowledge production. I analyze different methods of measurement and show how each differently constructs what is understood as the proper focus of medicine and draws women as subjects into different forms of participation in knowledge production. I situate the emergence of new modes of measurement in the context of broader shifts in the aims and organization of medicine, with particular attention to

processes of biomedicalization, characterized by patients' roles as active consumers of medical services and information, an emphasis on enhancement, and the popularity of "lifestyle drugs."

The Problem of Measuring Menstrual Excess

Menorrhagia refers to excessive menstrual bleeding, which researchers have defined by the amount of blood lost during menstruation. Importantly, the definition relies on the whole blood component of menstruation and not the other fluids and tissue which make up the rest of the volume of menstrual fluid; the proportion of blood in menstrual fluid can vary from woman to woman and possibly even from cycle to cycle. As one researcher notes:

It is not widely known that menstrual flow contains a relatively small proportion of blood compared with the total volume. Whole blood accounts for 30-50% of the total flow in most women, although considerable variations are sometimes seen. The extra fluid is likely an endometrial transudate. The menstrual flow also contains tissue fragments and debris from the breakdown of superficial endometrium. (Fraser et al. 2001: 806)

The widely accepted standard for diagnosing menorrhagia was set in a 1966 population study of 458 German women meant to establish the average amount of blood lost per menstrual period (Hallberg et al. 1966). The upper limit of 80mL marked the 95th percentile for healthy women in the study, and women with blood loss greater than 80mL were more likely to have decreased hemoglobin concentrations in the blood, which could result in anemia if untreated. Menorrhagia can be a symptom of disease (such as blood clotting disorders or underactive thyroid), growths in the uterus (polyps, adenomyosis, fibroids), or anovulatory cycles. Effects of excessive bleeding can include anemia (not enough iron in the blood) and, in extreme cases, blood loss might require hospitalization or transfusion (Borgelt et al. 2010; Ehrenthal et al. 2006). Women list discomfort, inconvenience, or embarrassment related to heavy bleeding and the failure of menstrual products (which may lead them to restrict their activities, including work and sex, during menstruation); concern that heavy bleeding indicates other health problems; and the physical effects of heavy blood loss as main reasons for seeking medical assistance for heavy periods (Matteson and Clark 2010; O'Flynn 2006).

The biological causes, effects, and precise amount of blood lost – in other words, what physicians consider to be the medically relevant aspects of menorrhagia – do not necessarily match women's concerns related to heavy periods. Previous research on menorrhagia has demonstrated that this mismatch often leads women to feel that doctors don't understand or are dismissive of their concerns (O'Flynn and Britten). Physicians, too, express frustration that women's frequent and persistent complaints of heavy bleeding often do not match up with objective measurements of blood loss. One textbook states, "Abnormal uterine bleeding is responsible for 20% of gynecologic visits. It is estimated that 30% of women will report heavy menses or menorrhagia each year" (Borgelt et al. 2010:161), while Ehrenthal et al. note that women's assessments of their own bleeding is inconsistent, with some women reporting heavy bleeding when objective measurement shows that their blood loss is quite light, and vice versa (2006). In order to situate these tensions around diagnosis and measurement, I begin below with a review of the sociological literature on diagnosis.

Measurement and Diagnosis

Research in the area of sociology of diagnosis (Brown 1995; Jutel 2009; Jutel 2011) draws together insights from Science and Technology Studies (STS) on classification systems, the sociological literature on medicalization, and sociological and anthropological examinations of illness experience, doctor-patient relationships, and everyday medical interactions. Work in these fields illuminates the central role that diagnosis plays in staking out and defining medical problems, organizing medical practice, and ordering bodily experiences of illness. Diagnosis encompasses “both the pre-existing set of categories agreed upon by the medical profession to designate a specific condition it considers pathological, and the process, or deliberate judgment, by which such a label is applied” (Jutel 2009:278), and measurement is a key feature that bridges these aspects of diagnosis.

The study of diagnosis as a system of scientific classification highlights the invisible “work” that routinized classifications do by naturalizing a particular way of seeing and ordering the world (Bowker and Star 2000). Diagnosis does the “work” of “segmenting and ordering corporeal states, valorising some, disregarding others” (Jutel 2009:278), while Brown highlights how diagnosis “locates the parameters of normality and abnormality, demarcates the professional and institutional boundaries of the social control and treatment system, and authorizes medicine to label and deal with people on behalf of the society at large” (1995:39). Through establishing the contours of disease and health, diagnosis serves as the source of significant authority for those who devise and apply the classifications. At the same time, diagnosis introduces grounds for conflict between doctors and patients, as patients seek medical legitimation of their suffering in the form of a concrete medical diagnosis and the access it provides to resources and privileges.

The study of diagnosis as a process highlights how physicians perform the work of translating patients’ complaints, their narratives relating the experience of illness, into scientific narratives of symptoms and a diagnosis of disease (Kleinman et al. 1978). As described by Kleinman et al., this distinction between illness, the personal or cultural meaning and experience of physical discomfort, and disease, defined as biological dysfunction that can be diagnosed, illuminates one source of tension in the diagnostic encounter. The physician’s focus on symptoms and biological markers of disease can be at odds with the aspects of illness experience that the patient finds most salient – and can lead to conflict when the physician does not provide a diagnosis that legitimizes the patient’s experience of illness or when the disease category itself is contested (Brown 1995; Dumit 2006). Thus, while patients may actively seek recognition of their experience as disease, physicians exercise the authority to define the pathological and to determine what evidence is medically relevant. Physicians manage these elements simultaneously, working to diagnose disease and to address the patient’s complaint (although the biomedical model clearly privileges the former).

Diagnoses reflect the values and beliefs of a particular time period, as well as the professional and social conflicts that surround and shape them; they “bind the biological, the technological, the social, the political and the lived” in ways that are particular to their time and place (Jutel 2009:294). Important to this binding process are the technologies –the tools and the concepts – that allow medical professionals to conceive of, visualize, access, measure, and ultimately treat disease. Such technologies vary historically (Bowker and Star 2000; Duden 1998; Klawiter 2008) and in their local, everyday use (Dumit 2004; Mol 2002; Rapp 1999), leading to different constructions and classifications of disease across time and space.

Further, diagnostic categories and practices shape individuals’ experiences and understandings of illness, which can then shift along with shifting diagnoses. For example, Klawiter’s work on breast cancer directs us to look at how technologies of diagnosis and

treatment play a central role in the experience of disease and patient subjectivities, and how, “as technologies change, so do the inscribed bodies and subjectivities” (2008:30) resulting in “different subjects and social relations of disease” (2008:33). Because diagnoses are socially and historically specific, it is important to understand broader changes in the aims and organization of medicine over the time period examined here. Prominent among these changes are what Adele Clarke and colleagues have termed “biomedicalization” (Clarke et al. 2010b; Clarke et al. 2003).

If medicalization is the expansion of medicine to encompass more of the problems of daily life (Conrad 2007; Zola 1983), *biomedicalization* indicates the intensification of this process as medicine becomes increasingly intertwined with bioscience, biotechnology, and information technology, producing wide-ranging implications for the organization of medicine and its role in society, as well as for individuals (Clarke et al. 2010b; Clarke et al. 2003). Biomedicalization thus produces new ways of thinking and talking about individual illness experience and health risks, new collective identities and social activism centered on disease, and new spaces for action and forms of participation allowed for or claimed by patients.

Within this shift to biomedicalization, patients’ roles have also changed, with the ideal patient becoming one who is a consumer of both medical information and medical services. Patients take (and are expected to take) an increasingly active role in diagnosis and treatment, and to develop extensive lay expertise, enabled by the production and accessibility of vast amounts of medical information (Clarke et al. 2010b; Nettleton 2004). In the U.S., this information increasingly comes from direct-to-consumer advertising, whether in the form of marketing for specific drugs or unbranded disease education campaigns. As patients are increasingly addressed as consumers of medical information, products, and technologies, the ideal patient of biomedicalization becomes:

an informed ‘consumer’ who can sit on an equal platform with the doctor as a result of now-open access to information previously restricted to doctors. The idealised clinical encounter is a co-operative interaction which brings patient and doctor together in a kind of hand-shake agreement about what ails the former and what the latter can do in response. (Jutel 2009:294)

It is also important to consider the effects of feminist health activism on medical approaches to menstruation, particularly in light of research documenting how medicine has historically pathologized and controlled women’s bodies and reproduction (Ehrenreich and English 1973; Morgan 1998). In the U.S., women’s health movements of the 1970s challenged the authority of physicians over women’s bodies and health in ways that brought about significant changes (Morgen 2002). However, mainstream medicine has largely absorbed the more radical challenges of the women’s health movements. In particular, the call for women to empower themselves through knowledge of their own bodies and for patient autonomy in treatment decisions, has been reframed – women are now expected to seek out *medical* information and to choose among treatment options – with the result that women are encouraged to participate in the increased medicalization of their bodies and lives (Ebeling 2011; Watkins 2007). In many ways, feminist calls for women’s empowerment have been absorbed into the ideal of the “handshake agreement” described above by Jutel.

Less attention has been given to physicians’ responses to shifting expectations of and from patients in the process of diagnosis. Physicians no longer have a monopoly on medical knowledge and, in a context of increasingly commercialized medicine, are faced with *consumer*

demands from patients, who have been urged by direct-to-consumer advertising to “talk to your doctor about” a particular brand-name drug. Especially with the rise of so-called “lifestyle drugs” – those that don’t necessarily treat disease, but rather address personal preference, convenience, or enhancement, physicians may seek ways to preserve their diagnostic authority. Sociological literature on diagnosis offers and analysis of how the context in which medical knowledge, and the measurement practices through which it is produced, are always socially situated and relationally deployed. In particular, an understanding of diagnosis highlights how measurement mediates between categories of scientific classification and the process of translating patient experiences into medical terms.

Methods

In practice, considering measurement in this way means attending to the details of measurement that researchers record in their studies. Scientific researchers must account for the methods they use to measure and evaluate menstruation and its effects. As Annemarie Mol points out, scientists build their recognition of this point into the very structure of their articles: “the *materials and methods* section of scientific articles... specify as much as possible about the practices of investigation. They instantiate the recognition that the practices forcing an object to speak are crucial to what may be said about it” (2002:158). Looking at researchers’ descriptions of their methods for measuring menstruation and their accounts of carrying them out, I analyze how researchers enact menstruation and the menstruating body. My approach aligns with Joan Fujimura’s (2006) call for a “critical sociomaterial approach” to scientific studies of sex and the body, which re-opens the conclusions of scientific research and highlights the contingent construction of scientific knowledge by re-reading scientific experiments, data, and publications from multiple perspectives. By examining researchers’ descriptions of their methods for measuring menstruation and their accounts of carrying them out, I analyzed the role of measurement in diagnosis and how it constructs both the legitimate object of medical concern and the role of patients as participants in knowledge production and diagnosis.

In order to gauge medical understandings and discourses of menstruation, I searched within three journals, *Obstetrics and Gynecology*, the *Journal of the American Medical Association* (JAMA), and the *New England Journal of Medicine*, between 1980 and 2009. I limited the search to these three high-impact and highly-respected journals, which could be considered “thought leaders” in the United States.¹² The time period of the sample, 1980 to 2009, was chosen because 1) it covers a time period leading up to and including the introduction of menstrual suppression birth control pills – allowing me to capture the medical understandings of menstruation that preceded this major change in the design of birth control pills and 2) it has been identified as the time period which corresponds with the shift to a regime of biomedicalization discussed above (Clarke et al. 2010b). Using the online index PubMed, I searched within the three journals using the keyword “menstrual bleeding” and “menstrual blood loss.” I chose to focus my analysis in this paper on the cluster of articles on menorrhagia, because they dealt directly with menstrual bleeding *per se* and allowed an examination of how physicians and researchers distinguish pathological from normal menstruation, while keeping constant the particular type of menstrual pathology. In total, 30 articles on menorrhagia were analyzed, out of a total of 61 articles generated by the search terms.

¹² For complete details of sample selection and analysis, please see the Methodological Appendix.

While there are good reasons to expect that the construction of women's bodies and subjectivities in medical research would occur through differentiation by race, in fact, very few of the studies on menorrhagia discuss or report on race at all. This is especially surprising given the widely-cited statistics showing higher rates and severity of menorrhagia in African-American women. While we might expect that, as in other cases of racial health disparities, these established racial differences would prompt a search for a biologically-based explanations (Epstein 2007; Fausto-Sterling 2008; Fullwiley 2008), this does not seem to be the case in these particular studies. In fact, of the 30 studies on menorrhagia included in this sample, only 12 include any data on the racial composition of the study population, and only a handful meaningfully include race in their analysis. This stands in contrast to recent research that finds a strong connection between race and sex difference in medical research, including studies of menopause (Roberts 2007) and osteoporosis (Fausto-Sterling 2008). This general finding encourages attention to the contours of when and where race is biologized (Thompson 2006).

From Bodies to Lives, Complainers to Consumers

In the following sections, I explore two main themes that emerged from the data: *measurement* as a key practice in diagnosing menorrhagia and *management* of women's claims about excessive bleeding. In the articles examined here, physicians echoed the sense that patients' complaints of heavy bleeding, in particular, pose a problem for physicians:

Problems of menstrual bleeding are often encountered by general practitioners and gynecologists. The *most annoying* complaints of women are irregular, unpredictable, prolonged, and heavy bleeding. The first three problems can be detected easily when the patient indicates her bleeding and spotting days on a menstrual diary card. The diagnosis of heavy bleeding is much more difficult... only 40-50% of the women complaining of heavy bleeding suffer from menorrhagia. For this reason, clinicians and research workers have used and developed several methods to determine the volume of menstrual blood loss. (Janssen et al. 1995:977, emphasis added)

Janssen and her colleagues describe how women's unreliable reports of bleeding make menorrhagia a particularly challenging diagnosis and point to the need for new forms of measurement, in particular, that can resolve these difficulties.

In the sections below, I analyze three different approaches to measuring menorrhagia, beginning with the "gold standard" Alkaline Hematin method, moving to the Pictorial Assessment Chart, and concluding with the development and use of aggregated symptom and Quality of Life scales. While the alkaline hematin method is used throughout the time period covered by my sample, the pictorial assessment and subjective scales are introduced in the latter half of the time period (1995 and 1997, respectively). Each of these methods differently constructs menstruation as an appropriate site of medical attention and intervention and differently draws women in as medical subjects and participants in the construction of medical knowledge. Starting from the alkaline hematin method's narrow focus on physical proof of bleeding that must prove or disprove women's complaints, new methods of measurement emerge that include women's own assessments of bleeding. These changing methods of measurement point to shifts in understandings of the body as the object of medical treatment and of patients as medical subjects, demonstrating how trends toward optimizing bodies and treating patients as

consumers, highlighted in theories of biomedicalization (Clarke et al. 2010b; Clarke et al. 2003), reshape medical knowledge production by redefining pathology and the relationship between diagnosis and treatment.

The Gold Standard: Alkaline Hematin Analysis

Alkaline hematin analysis is a method for measuring menstrual blood volume in which researchers seek to collect and directly measure menstrual discharge in order to determine the precise volume of menstrual blood lost. Hallberg and Nilsson developed this method in the early 1960s for a series of studies on menstrual blood volume, including the population study mentioned above (Hallberg et al. 1966; Hallberg and Nilsson 1964). The first method for quantitative measurement of menstrual blood loss volume was developed in 1904. By the early 1970s, there were several methods in use, all of which focused on identifying the quantity of blood, particularly red blood cells, lost during the menstrual cycle, using either colorimetric or photometric analysis or radio-isotope labeling of red blood cells (Shaw Jr et al. 1972). Measurement of menstrual blood loss seemed to be a significant issue during this time period for those concerned with the development and distribution of intrauterine devices. (Hefnawi et al. 1970; Pedrón et al. 1982; Shaw Jr et al. 1972). Heavy menstrual bleeding was a common IUD side effect, which led many women to request removal of the device or could cause or exacerbate anemia. IUD developers and population control researchers saw this as a barrier to achieving widespread use of IUDs in many developing countries and looked for accurate, reliable methods of measuring menstruation in order to determine whether different IUD designs had different effects on menstrual bleeding (Shaw Jr et al. 1972). Over the course of the 1970s, after repeated validations and modifications of the Hallberg and Nilsson's original methodology, researchers increasingly agreed that the alkaline hematin method was the "right tool for the job" (Clarke and Fujimura 1992) of measuring menstrual blood loss and diagnosing menorrhagia (Haynes et al. 1977; Shaw Jr 1977; Shaw Jr et al. 1972).

By the 1980s, articles in the sample I examined referred to the alkaline hematin method as the "only objective method" for measuring menstrual blood loss and the "gold standard" for diagnosis. Eleven of the thirty articles in the sample use this method, and several others explicitly justify their decision not to use it, arguing for the accuracy of their method with respect to this "gold standard." Researchers stress the importance of having an objective standard and method of measurement for diagnosing menorrhagia because, as Fraser et al. state:

Menorrhagia is a subjective complaint, which is rarely verified in clinical reports [...] measurement of menstrual blood loss in women complaining of menorrhagia has demonstrated that many do not have a monthly loss in excess of 80 mL.
(Fraser et al. 1986:630)

Emphasizing blood content as the definitive marker of menorrhagia, Fraser et al. call for objective measurement of menstrual blood volume and establish the alkaline hematin method as uniquely able to access this marker.

In alkaline hematin analysis, researchers ask women to collect every menstrual pad or tampon that they use during the menstrual period(s) studied and give them to researchers, who process them in the lab to determine how much blood they contain and then calculate the volume of blood lost by the woman during her period. Davies et al. describe the procedure in detail:

The tampons and sanitary pads were treated with sodium hydroxide (1250 mmoles/liter) for 48 hours to convert the menstrual blood Hb [hemoglobin] to alkaline hematin. The optical density of the alkaline hematin solution was measured spectrophotometrically. Similarly, the optical density of alkaline hematin prepared from the patient's venous blood was measured. The ratio of the Hb concentration in the total menstrual discharge to that in peripheral blood represents the volume of menstrual blood loss. (1981:75)

The alkaline hematin method requires researchers to physically handle used menstrual products and aims to measure blood directly. Through a series of physical, chemical, and mathematical manipulations, the used menstrual products yield a number that indexes the amount of blood lost, though the results are presented as if they are a direct measurement of blood volume. Because of its origin in Hallberg and Nilssen's population study, the alkaline hematin method comes paired with a built-in standard for diagnosing menorrhagia. By directly accessing blood as the evidence of menstrual disorder and testing this evidence against an objective, numeric standard for disease, the alkaline hematin method establishes itself as the gold standard for diagnosing menorrhagia. However, because it requires measurement of blood content, rather than total menstrual volume, this method is predicated on the *inability* of women to differentiate between menorrhagia and normal blood loss based on their experiences of bleeding.

Women's statements about their bodies and bodily experiences, then, are regarded as unreliable and 'disproved' by the material evidence produced by the body itself, as in this quote: "Menorrhagia is a clinical diagnosis based almost entirely on the patient's own subjective assessment. It has now been shown clearly that this assessment is often misleading, and the most accurate approach is to attempt objective measurement" (Fraser et al. 1986:632). Furthermore, even "a high proportion of those women with a *clinically convincing complaint* do not have excessive blood loss as defined in research studies, but the majority are nevertheless treated for menorrhagia without specific attempt to quantify the blood loss" (Fraser et al 2001: 806, emphasis added). Here, Fraser highlights that even women's "clinically convincing complaint[s]" cannot be considered reliable, but rather must be confirmed by objective measurement.

Researchers also express anxieties about patients as unreliable research *subjects*, who must nonetheless be depended upon to carefully collect research materials. Researchers repeatedly note the careful instruction they provide to participants to ensure the "meticulous collection" of menstrual products and blood. Fraser et al. simply cite earlier articles that describe the details of the alkaline hematin method, but they do add one note of additional description: "Women were to carefully collect all sanitary pads and tampons, taking care to ensure minimal loss of menstrual flow in the toilet. Care in instruction is required" (1986:630). While several of the articles included this caveat about carefully instructing patients, none discussed the instructions given. Janssen et al. also mention that "to ensure that as little blood as possible was lost, all subjects received verbal and written instructions" (1995:978). They reference an earlier article that explicitly described the instructions given to participants:

The instructions were: (i) not to be economical with tampons or towels and try to collect all menstrual blood in towels and/or tampons; (ii) to use towels and tampons during the night; (iii) to introduce a tampon into the vagina before micturition, defecation or taking a shower or a bath; (iv) to use only newly opened

packages; (v) to mop up spilled menstrual blood with a clean towel. (van Eijkeren et al. 1986)

Interestingly, the researchers juxtapose their interest in measuring blood “lost” by the woman to their anxieties about blood that is “lost” to the researcher, reinforcing the sense that women’s unreliability as reporters extends to their participation in producing evidence.

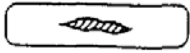
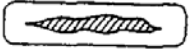
Researchers using this method repeatedly state that most women who complain of heavy bleeding do not meet the standard for menorrhagia. However, the focus on blood content as defining menorrhagia actually produces this mismatch. Because the definition of menorrhagia is based only on the blood content of menstruation, which cannot be distinguished from overall menstrual fluid without laboratory analysis, there is no way that a woman’s *experience* of heavy bleeding could be expected to match the objective standard. By privileging physical (but abstractly analyzed) evidence over women’s experience, researchers produce women’s unreliability as reporters, which must then be managed by carefully disciplining women into practices of scientific measurement. Overall, this leads to the focus on direct, bodily proof objectively measured and held to a universal standard, as well as the management of women as unreliable subjects whose experiential knowledge is discounted.

The Pictorial Assessment Chart

The pictorial assessment chart makes its first appearance in this sample in a 1995 article by Janssen et al., who report the results of their study intended “to validate a simple, highly predictive test to discriminate between menorrhagia and normal menstrual blood loss” (977). In order to motivate their research into new methods of measuring menstrual blood loss, Janssen et al. provide an overview of the measurement methods currently in use and their main drawbacks. While they recognize alkaline hematin analysis as the gold standard, the authors note that this method is labor intensive and inconvenient. Several other methods of measurement fall short because they do not provide an accurate indication of menorrhagia: number of days of menstruation is a poor proxy because, “90% of menstrual blood is lost in the first 3 days, whether or not this bleeding is heavy,” total number of pads or tampons used is unreliable because, “this number appears to be dependent on the personal hygiene of the woman,” and weighing used pads or tampons “appears to be of very little value because the proportion of fluid that is lost with menstruation varies greatly between individuals.” Overall, “all these methods appear to be unreliable or too labor-intensive,” and a new method for measuring menorrhagia is needed (Janssen et al. 1995:977-8).

In place of these inadequate methods, Janssen et al. propose the use of the pictorial assessment chart, initially developed by Higham et al. (1990). They describe the pictorial assessment method as follows:

The pictorial chart consists of a series of diagrams (Figure 1 [below]) representing lightly, moderately, and heavily soiled pads and tampons. The degree to which the sanitary wear is soiled (according to the subject) determines the result. A score can be calculated by multiplying the number of slightly, moderately, and heavily soiled pads and tampons by different fixed factors... an ideal cutoff point for the score was determined, above which the diagnosis of menorrhagia was accepted and below which it was rejected. (Janssen et al. 1995:978)

TOWEL	1	2	3	4	5	6	7	8
								
								
								
CLOTS								

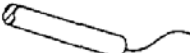
TAMPON	1	2	3	4	5	6	7	8
								
								
								
CLOTS								

Figure 1. The pictorial chart form. The numbers 1–8 represent the consecutive days of a bleeding episode.

Figure 1: The pictorial assessment chart. (Janssen et al. 1995:978)

To complete the chart, women observe their own used menstrual pads and tampons and record the degree of saturation. By multiplying the sum of each row by a fixed number then adding these values, researchers produce an overall score for each cycle. The score yielded by the chart can be translated (through more sophisticated mathematical manipulation) into mL of blood loss in order to compare against the 80mL standard. While women's representations of their own blood loss provide the evidence for diagnosis, it is the chart and the conversion factor determined by the researchers that translate women's observations into numeric results intelligible as scientific evidence.

Researchers propose the pictorial chart as a tool that enables women to be competent knowers – to observe their own menstrual bleeding and to translate it into scientific data. In order to establish this they must verify that the chart and the women using it can produce reliable evidence: can women fill out the chart correctly and consistently? Does the chart accurately reproduce the results of the “gold standard” method? The Janssen et al. study demonstrates this clearly and it is worth examining in detail the several steps they pursue to validate the chart: 1) they verify women's ability to fill out the chart correctly by scoring women's collected pads and tampons themselves and comparing their results to women's, 2) they use the alkaline hematin and pictorial chart methods simultaneously, establishing the two as commensurable and

calculating the correct conversion factors, and 3) they show that it is possible to manipulate the conversion factor to allow the physician to maintain flexibility in interpreting the results of the chart to diagnose menorrhagia.

In order to validate women's ability to correctly fill out the chart, researchers independently scored the collected pads and tampons of one-fifth of the women and compared their own assessments to the participants' (Janssen et al. 1995). Second, Janssen et al. employ both the pictorial assessment chart and the alkaline hematin method in order to compare how closely the results generated using the chart match the objectively measured blood volume. By keying the output of the chart to that of the alkaline hematin method—in other words, by having the chart produce scores that correlate to the milliliters of blood loss yielded by the alkaline hematin method—researchers make the two measurements comparable. The authors provide a detailed discussion of how they determined which scores on the chart provide the most accurate cutoff point for predicting blood loss above 80mL, thus revealing the work that must be done to make the two kinds of measurement equivalent and to translate women's observations of menstruation into medical evidence for diagnosing menorrhagia. Summarizing their results, Janssen et al. conclude: "We demonstrated that women are well able to discriminate between menorrhagia and normal menstrual blood loss by themselves, *using a pictorial chart*" (1995:981, emphasis added). In this way they reveal that it is the chart itself that makes it possible for women to reliably report on their own bleeding. In this case, validating the chart, while a common practice in testing a new instrument, also establishes that women's observations can produce valid evidence because they can be made comparable to the results of the "gold standard" method.

While the chart does introduce a limited space for women as valid knowers, researchers also reveal their interest in closely managing this role. In a lengthy section of the article, Janssen et al. present the advantages of manipulating the cutoff point in order to push women toward or away from a diagnosis of menorrhagia. This flexibility allows physicians to incorporate women's demonstrated ability "to discriminate between menorrhagia and normal menstrual blood loss by themselves," while still maintaining control over the diagnosis and treatment process. Too objective a standard limits the physician's discretion, highlighting how objective standards can both increase the legitimacy of diagnosis and decrease individual physicians' autonomy (Timmermans and Berg 2003).

The pictorial assessment chart stands at a hybrid midpoint between the gold standard and the use of aggregate subjective scales. Researchers still seek access to the material proof of blood loss in the form of women's observations of used menstrual products, and they still test this proof against the objective numeric standard established by the alkaline hematin method. However, instead of seeking direct access to blood and menstrual products, they provide a technology that allows women to observe, assess, and represent the evidence of their own bleeding. Researchers use the chart to manage women's participation through practices of validation and commensuration, rather than assuming that objective measurement will disprove most women's claims.

Subjective Self-assessments: Symptom Scales, Quality of Life, and Patient Satisfaction

Studies in this sample used subjective self-assessments more frequently than any other measurement method, whether they were combined with another type of measurement or were used on their own. These self-assessments range from simple questions asking participants to rate the intensity of bleeding from light to heavy or report the number of pads or tampons used,

to complex scales that create indexed scores from multiple symptoms or calculate overall health-related “quality of life.” I refer to these more complex self-assessments as aggregated subjective scales. While various forms of the simpler self-assessments are used throughout the time period covered by my sample, studies begin to make use of aggregated symptom and quality of life scales and patient satisfaction questions beginning in the late 1990s. Eight of the studies use aggregated scales, beginning with Crosignani et al. in 1997, who ambivalently note: “We decided to assess the degree of satisfaction with therapy and perception of health-related quality of life because the traditional way of defining treatment benefits (only in terms of biomedical results) *probably should be modified* to include recognition of the patient’s point of view” (262, emphasis added). The researchers state, if reluctantly, that something important falls outside the “strictly biomedical results” that merits assessing the patients’ subjective account. In addition, five studies in the sample use patient satisfaction questions.

The two main types of aggregate scales used are multi-symptom scales and quality of life scales. Multi-symptom scales combine patients’ ratings of a range of symptoms into an overall score representing the overall severity of symptoms. Quality of life scales ask a broad range of questions that produce a score representing patients’ perceptions of overall health. The two scales used most commonly in these studies are the “International Quality of Life Assessment Short Form 36” and the “Uterine Fibroid Symptom and Quality of Life Scale” (UFS). The UFS asks questions such as “During the past 3 months, how distressed were you by heavy bleeding during your menstrual period?” and whether patients felt “concerned about soiling underclothes,” or “as if you are not in control of your life.” What distinguishes these scales from the ubiquitous simpler forms of subjective assessment is an attempt to provide a quantitative, composite measurement of women’s subjective complaints. The use of aggregated scales and patient satisfaction questions is notable because they represent a move away from material evidence of bleeding and toward measurement of and intervention into the subjective experience of bleeding.

Unlike the alkaline hematin and pictorial assessment methods, aggregated scales do not come paired with a set standard for diagnosis. Scales do not produce meaningful individual values, but rather a composite score that often can only be meaningfully interpreted in statistical comparison to the overall sample or to repeated measures of the same individual. For example, reporting results using the UFS scale, Spies et al. state:

At baseline, the mean symptom score ($\pm$ standard deviation) was 56.81 ($\pm$ 20.82). The mean symptom score at 6 months was 19.87 ($\pm$ 18.61) and the median was 15.63 (interquartile range [IQR] 6.25-28.13)... There was greater than a 10-point improvement in symptom score in 85% of patients at 6 months and 86.8% at 12 months. (2005:1312-3)

These abstract scores stand in contrast to the alkaline hematin and pictorial assessment methods, which present results concretely in the form of mL of blood lost and clearly distinguish disease from normal menstruation. Moving away from evaluation based on a single, objective standard shifts the purpose of the scale from diagnosing objective disease to setting a benchmark for future improvement. The lack of a clear cutoff point delineating health and disease suggests that one’s body can always be improved or enhanced and that this optimization may be an appropriate aim of medical intervention.

Further, given that symptom and quality of life scales are used mainly in studies that compare bleeding before and after treatment, they suggest the possibility that women’s

complaints themselves may be the focus of treatment. By measuring these complaints as systematically as possible, aggregated symptom and Quality of Life scales recognize them as a legitimate focus of medical attention. In contrast to the alkaline hematin method, in which measurement proves or disproves women's claims, subjective scales acknowledge that it is women's *experiences* of heavy bleeding that drive their "complaints." One study states this explicitly: "Because most of the clinical impact of leiomyomata [fibroids] is based on subjective symptoms, it was important to try to provide the most reliable and repeatable measure of that status for evaluation of patient outcome over time" (Myers et al. 2005:50). Reversing Janssen's claim about what makes women's complaints about heavy bleeding the "most annoying," these researchers explain that because the subjective experience of bleeding drives women to seek medical care, measuring those complaints as rigorously as possible will allow physicians to best assess and treat patients.

The significance of the aggregated scales is twofold. First, they shift the target of measurement: what is given attention as being *medically* important is not women's bodies but their *lives* – their subjective experiences of bleeding and its impact on their *quality of life*. These measurements quantify subjective experience of symptoms, but they don't compare them against a standard in order to diagnose menorrhagia as disease. Rather, they set these results on a continuum leaving space for endless improvement. Second, the data they produce supports medical intervention in response to women's complaints. They can be used to set benchmarks for improvement, as well as for evaluating patient satisfaction with treatment. Thus while these scales do more fully include women's experiences of bleeding, they translate these experiences in a way that constructs women *as consumers*. Scales like these may provide one way for physicians to maintain the medical authority to diagnose while still responding to patients' consumer demands for treatment, by using subjective scales to translate women's complaints into scientific data.

Conclusion

The way researchers measure menorrhagia matters because it constructs both menstruation and women's bodies as proper objects for medical attention and intervention. In this progression of measurement methods, the medical object constructed through measurement shifts from diseased bodies to a conception of "life" that can be quantified and constantly improved. Consequently, new space opens up for recognizing women's subjective experience, enabling certain kinds of participation in medical knowledge production. The "gold standard" alkaline hematin method examines material evidence of bleeding that disproves women's unreliable complaints; researchers force the body to speak for itself and fret over women's necessary participation in research. The development of the pictorial chart, a technology that enables women's observations and translates them into the terms of objective evidence, allows women's participation in knowledge production but maintains physicians' authority over interpretation and diagnosis. Subjective scales incorporate women's own assessments, making them a focus of measurement and a legitimate object for medical treatment. These shifts do lead to increased space for women as active participants in the diagnostic relationship, in ways that reflect the demands made in the women's health movement for women's knowledge of their bodies and health to drive medical encounters. However, the tools used to translate women's complaints into medically relevant data, draw women into the process of diagnosis as consumers of medical services. Women's experiences are not valued as revealing something scientifically

“true” about the body or disease; rather, they are seen simply as the source of women’s complaints.

Further, none of the methods of measurement highlight or attend to bodily difference in relation to women’s experiences of heavy bleeding. Objective and subjective methods alike work toward abstraction and standardization. For example, a discussion of the use of pads vs. tampons focuses on different rates of vaginal fluid absorption and how this affects measurement of blood volume. However, there is no discussion in the articles about how pads or tampons affect women’s assessment of how heavy their menstrual flow is, whether women find that one method works better than managing heavy flow than another, or practical concerns such as how pads could be used to catch the most menstrual blood. Differences were significant to researchers to the extent that they could control for them or alter the research methods to standardize results. One study, by Wegienka and colleagues (2003), was exceptional for its explicit focus on women’s physical experiences and sensations of heavy bleeding as useful diagnostic information. These researchers argued that women’s descriptions of certain sensations of bleeding, for example, the experience of sudden “flooding,” were associated with the presence of uterine fibroids and could be a useful diagnostic tool. This represented a rare instance in which women’s experiences and representations of bleeding were regarded as useful scientific evidence.

The increasing prevalence of measuring and treating patient complaints and satisfaction does not occur without some pushback. Fraser and his colleagues, in particular, point to overtreatment, and especially surgical interventions like hysterectomy, as significant reasons why clinicians should pursue objective measurement before embarking on treatment. Further, while there is a general progression from a method that discounts women’s experiences of bleeding to one that seeks to include them by quantifying them, I do not mean to imply that the older method reflects sexism that has been corrected over time as more enlightened views prevailed. For one, the alkaline hematin method is used across the time period and remains associated with the same view of women’s claims as unreliable. Further, none of these three methods takes women’s subjective experiences or observations on their own terms as relevant medical evidence. While gendered understandings of objectivity and histories of pathologization of women’s bodies are certainly implicated in diagnostic approaches to menstruation, the progression of measurement methods here seems to more clearly illustrate a shift in thinking about how to incorporate patients’ knowledge, participation, and active consumer demands into the process of diagnosis.

The shifts I describe in the construction of both medical objects and patient subjectivities align with recent theories of biomedicalization (Clarke et al. 2010b; Clarke et al. 2003). Biomedicine increasingly takes as its object “life itself,” often understood as genetic and biochemical processes that occur at the molecular level (Rose 2007). However, there has been a simultaneous redefinition of life in consumer terms as “lifestyle,” which, combined with the framing of patients as consumers, contributes to the development of “lifestyle drugs” that promise pharmaceutical solutions to individual inconvenience and preference. The coincidence of trends toward optimization, transformation of the body, and consumerism produces a (bio)medicalization of lifestyle. Considering the case of menstruation, we can see this quite clearly in the case of “lifestyle drugs,” like menstrual suppression birth control pills that promise to enhance women’s lives by reducing the frequency of menstruation or eliminating it entirely. My research shows how lifestyle is also medicalized in the production of medical knowledge about menstruation in ways that reshape the relationship between diagnosis and treatment. The

shift toward measurement of subjective experiences and “quality of life” as initial benchmarks in a process of constant improvement coincides neatly with the emergence of pharmaceuticals that no longer require pathology.

In the next chapter, I examine how hormonal contraceptives are constructed in the medical literature with respect to menstrual bleeding. The construction of patients as consumers in the case of menorrhagia is paralleled in these articles as researchers construct a new group of users who want to use extended regimens of birth control in order to suppress menstruation for convenience. This representation of birth control users breaks with previous discussions of oral contraceptives and extended regimens, which presented users as troubled by and resistant to any bleeding changes related to hormonal contraceptives. The construction of this new group of users paved the way for the emergence of menstrual suppression birth control pills as a “new” technology that responded to consumer demands for the convenience of fewer periods.

Chapter 3 | Emergence of Menstrual Suppression Birth Control

Unlike the lifestyle drugs that have provided canonical cases for the science and technology studies and medical sociology literature, “menstrual suppression” birth control was not established by creating a new disease that “required” the drug for its treatment. This makes Seasonale and other menstrual suppression birth control pills unique among recent lifestyle drugs, and some have suggested that this shift provides evidence of one difference between biomedicalization and medicalization: the process of defining new disorders that is characteristic of processes of medicalization can now be skipped (Mamo and Fosket 2009). Menstruation, however, had been thoroughly medicalized long before Seasonale’s introduction. Further, as I demonstrated in Chapter 1, medicine is finding ways to incorporate quality of life and lifestyle as objects of appropriate medical intervention, without defining new disease categories or diagnoses. Mamo and Fosket build their analysis on an examination of the advertising campaigns that accompanied the introduction of Seasonale. However, in my interviews with physicians and nurse practitioners, they report that extended regimens of oral contraceptives were widely used as a treatment for problematic menstrual bleeding and symptoms long before the introduction of pills designed specifically to delay menstruation for convenience or personal preference – and medical literature and clinical handbooks confirm this (Hatcher et al. 1998).

Given that both the technology that makes menstrual suppression possible and its use to suppress menstruation already existed, I argue that it was the construction of new *users* of these technologies – savvy, knowledgeable medical consumers who desired the suppression of menstruation for personal convenience – that allowed Seasonale to emerge as a “new” technology of menstrual suppression. In this chapter, I examine the medical literature discussing oral contraceptives and menstrual bleeding in the years just before and after Seasonale’s approval? How do researchers construct hormonal contraception and its users with respect to bleeding? Is the idea of menstrual suppression for convenience visible in the literature prior to Seasonale’s approval? What claims about treatment and convenience are made concerning hormonal birth control’s intervention into the menstrual cycle? I show how menstrual suppression birth control emerged in the medical literature as a lifestyle drug that promises a pharmaceutical solution to the “inconvenience” of menstruation and an option for women who prefer not to bleed. My data consists of a sample of 41 medical articles drawn from three journals (*JAMA*, *NEJM*, and *Obstetrics and Gynecology*) from 1980 to 2009 (see methodological appendix for sample search and selection details). I focus my analysis on the emergence of extended-regimen and continuous-use hormonal contraception in the literature through the construction of oral (and other hormonal) contraceptives as: 1) a treatment for problematic menstrual bleeding and other menstrual symptoms; 2) a cause of “unacceptable” bleeding; and 3) as an option for women who want to delay or suppress menstruation for reasons of personal preference or convenience. I contextualize the discussion of extended-regimen contraception by examining it in light of discussions of cyclic oral contraceptives and other available hormonal contraceptives.

Hormonal contraceptives have been used to treat irregular bleeding since before they were FDA approved as birth control. In fact, Enovid, the first birth control pill, was initially FDA approved to treat menstrual irregularities in 1957 – 3 years before it was approved for use as birth control (Junod and Marks 2002; Marks 2001). The use of hormonal contraceptives as a treatment for problematic bleeding and other menstrual symptoms laid the foundation for the emergence of extended regimens of birth control (those that extend the number of “active” pills

that women take beyond the 21 active/7 placebo pills that make up a standard, cyclic 28-day birth control regimen) – however, the idea of using extended regimens primarily to delay menstruation did not gain traction until much later, and seemed to follow, rather than precede, introduction of Seasonale and similar menstrual suppression brands. The construction of new users for birth control pills with new preferences regarding bleeding paved the way for a shift in the construction of hormonal contraceptives with respect to bleeding.

I argue that menstrual suppression birth control (here I am referring to extended regimen hormonal birth control used primarily to delay or suppress menstruation) emerges in the medical literature at roughly the same time that the FDA approved Seasonale for sale in the U.S. Further, the way that the medical literature constructs both extended regimens and women as users shifts significantly to support the emergence of menstrual suppression: up to that point, discussions of extended regimens focused mainly on the regimens' therapeutic benefits and whether or not women would be willing to accept the side effect of changes in bleeding, which included amenorrhea, or lack of bleeding. As Seasonale was being introduced as a new product, articles increasingly promoted extended regimens as a widely used and accepted "off label" use of hormonal contraceptives, which provided superior contraceptive efficacy and responded to women's desires to delay or suppress menstruation for convenience or personal preference. This chapter shows how medical discourses constructed a new kind of user/consumer for menstrual suppression birth control.

Literature

A Science and Technology studies approach to examining technology focuses on how social actors – both developers and users – imbue technologies with meaning and politics in the specific contexts in which they are used (Akrich 1992; Bijker et al. 1987). The co-construction of technologies and users occurs both as developers design (and market, regulate, and distribute, as I will show in subsequent chapters) new products with particular uses and users in mind and as they build these expectations into the products, producing those users as they interact with the technology in prescribed ways, or even creating new categories of people or identity through their use.

In her history of the development and global career of the intrauterine device (IUD), Takeshita (2011) calls the IUD a "politically versatile technology," that is able to take on multiple meanings, uses, and users as it adapts to shifting politics and social interests. For example, the IUD has been both a neo-Malthusian tool of population control in the global south in the 1960s and a luxury contraceptive that provides the added benefit of amenorrhea for wealthy women in the global north in the 2000s. Takeshita shows how the construction of new users can be an important aspect of the construction (or re-construction) of a particular technology. The construction of a new ideal user for the IUD, the "safe" mother (who was monogamous, healthy, and already had children), was a key step in rehabilitating the IUD after the Dalkon Shield scandal of the 1970s. The Dalkon Shield IUD's faulty design caused infection and even death for many women who used it; following the highly publicized and lengthy litigation, IUDs in general were almost completely rejected as safe and effective contraceptives. Constructing married mothers as the new "safe" users for the IUD allowed a reconstruction of the IUD itself that reaffirmed it as a safe and effective contraceptive option. In a second example, developers of a new IUD that released low levels of levonorgestrel into the uterus shifted the construction of the IUD user yet again. One side effect of the levonorgestrel-releasing IUD is that, over time, women who use it often stop menstruating. While developers initially presented

amenorrhea as a health benefit to women in developing countries, the women who used it found it to be an unacceptable side effect and rejected this version of the IUD. However, developers realized that they could market this to women in the global north as an added benefit to the contraception provided by the IUD. In this sense, the reshaping of IUD users parallels the construction of new users making menstrual suppression a “new” technology, as well as the broader case of the construction of new diseases in the advance of the introduction of new pharmaceuticals, so-called “lifestyle drugs” in particular.

If the introduction of new pharmaceuticals involves both the creation of a new drug compound and the simultaneous construction of disease categories and sufferers (the new patients are also the new consumers for the drug), then medical researchers, in particular those who conduct clinical trials, are key actors in this process. Fishman (2004) shows how they form a link between producers of drugs (pharmaceutical companies) and consumers (clinicians who prescribe the drugs and patients who take them). Researchers thus participate in the commodification of both disease categories and the patient populations described/produced by those categories (Fishman 2004:192). They play a particularly important role in cases where new disease categories are created alongside new drugs, as they produce the scientific knowledge that supports the creation of disease categories and establish the efficacy of the drug in treating the new disease. Clinical trial researchers thus play an important role as mediators between the pharmaceutical companies and the FDA.

The forms of knowledge production involved in bringing a new drug to the market are increasingly commercialized. This knowledge is produced within dense and multiple ties among academic researchers, pharmaceutical companies, FDA regulators, clinicians, and patients. Rather than the corruption of “pure” scientific research, multiple forms of commercialization occurring in different directions (Fishman 2004). Researchers not only commodify disease categories and patients (by, in essence, “making up kinds” (Hacking 1999) of diseases and disease-sufferers that a new pharmaceutical can treat, and thus that a pharmaceutical company can turn into a market), but also commodify their own expertise, as they accept funding from pharmaceutical companies to run clinical trials or serve as consultants or on speakers’ bureaus, presenting new pharmaceuticals (or new “off label” uses for existing products) to fellow physicians and again expanding the market.

In some cases, pharmaceutical companies are even more directly involved, as they increasingly plan out the research presentations and publications which are considered an integral aspect of their marketing plans (Sismondo 2009). While the publication of clinical trials does legitimize and distribute new medical knowledge, in the case of published reports on clinical trials, it also serves as a form of marketing to other physicians – informing them about new disorders, diagnostic criteria, treatments techniques, and new “off-label” uses for existing products. This is true whether or not they are a part of planned marketing by pharmaceutical companies. By examining the construction of hormonal contraceptives, their uses, and their users in the medical literature, I show how new users for extended hormonal birth control regimens are constructed in the medical literature, in a way that makes possible the emergence of menstrual suppression birth control as a “new” technology.

Hormonal Contraceptives as Treatment for Bleeding Problems

Cyclic OCs as an established treatment for bleeding and other menstrual problems

Given the history of the birth control pill discussed earlier, it is not surprising to find that oral contraceptives are presented in these articles as an established treatment for irregular

menstrual bleeding. Even in the earliest articles in the sample, researchers referred to the use of oral contraceptives to treat menstrual disorders including menorrhagia, infrequent or too frequent periods, or amenorrhea as common and widely accepted. One 1983 study that investigated a link between the use of birth control pills and a type of pituitary gland tumor (prolactinoma) reported that the association between the two was much higher for women who had been prescribed birth control pills for the purpose of menstrual suppression. Further, “of the patients who used OCs for menstrual regulation, 48% (10/21) were amenorrheic at the onset of therapy. Often, these women stated that the OCs were used to ‘start their periods.’” (Shy et al. 1983: 2206). A 1991 review of the literature on hormonal contraception noted that, “In adolescents and young women birth-control pills containing estrogen are commonly used to stop dysfunctional uterine bleeding and promote orderly endometrial maturation” (Cowan and Morrison 1991: 1713). The accepted use of birth control pills, in particular, and hormonal contraceptives more generally, to treat menstrual bleeding carried throughout the sample. By 2000, one study reported that “Combination OCs are frequently prescribed to improve cycle control and to treat DUB [dysfunctional uterine bleeding]” (Davis et al. 2000: 919). These same authors point out that oral contraceptives are an established and often used treatment for problematic bleeding, noting that, “Medical opinion and experience indicate that combination OCs are effective treatments for DUB” even though “well-controlled trials designed to study their efficacy... have not been reported” (Davis et al. 2000: 913-4).

The articles discussed oral contraceptives as treatments for several other menstrual symptoms in addition to treating problematic bleeding, including premenstrual syndrome, dysmenorrhea (painful periods), or menstrual migraines, as well as other hormonal conditions that affect menstruation, such as hyperandrogenism.¹³ In 1997, the authors of one study of women who experienced menstrual symptoms wrote that nearly half of the women in the study were already taking oral contraceptives “solely for their noncontraceptive benefits, primarily as therapy for dysmenorrhea, menorrhagia, and irregular menses” and that “use of OCs for noncontraceptive reasons related to menstrual complaints is first-line therapy in our practice” (Sulak et al. 1997: 181). The use of cyclic oral contraceptives to regulate or normalize a range of bleeding issues and other symptoms related to menstruation was presented as established, well-accepted, and widespread throughout the time period covered by the sample. As new hormonal forms of contraception were introduced – including progestin-only methods, such as Depo Provera injections or Norplant implants, and new forms of delivery for combined hormonal contraception, such as the transdermal patch and vaginal ring – these were also proposed for use as treatments in this way. Several articles evaluated the effectiveness of these new methods as treatments for bleeding problems and other menstrual symptoms.

Another group of articles, however, focused on the inability of hormonal contraceptives to solve some menstrual problems – or to even introduce new ones. One article on a rare cause of painful menstruation pointed out that “despite the claim that the new combined pills offer excellent cycle stability and have a very favorable effect on dysmenorrhea, the latter may still occur while a patient is taking these pills” (Rabinerson et al. 1995: 892). Further, some physicians argued that even when birth control pills did succeed in reducing or eliminating women’s menstrual symptoms, the 7-day hormone-free interval prevented cyclic OC regimens from completely eliminating menstrual symptoms. As one group of researchers noted, while birth control pills were regularly prescribed to treat common menstrual complaints,

¹³ A hormonal imbalance in which women have an excess of androgens, which can have symptoms such as acne, hirsutism, menstrual irregularities and infertility.

“unfortunately, some patients taking OCs continue to have problems during the pill-free interval, including dysmenorrhea, menorrhagia, and migraine headaches... During the interval of consecutive days taking active pills, patients usually do not encounter these symptoms” (Sulak et al. 1997: 179). In this quote, Sulak (an early proponent of menstrual suppression) and colleagues point out that while oral contraceptives effectively treat menstrual symptoms, the withdrawal of active hormones during the pill-free interval ends the treatment benefit, allowing the underlying symptoms to re-emerge.

While cyclic OCs were widely accepted treatments for abnormal bleeding and other menstrual symptoms, researchers presented two challenges to their effectiveness. The first was that women’s menstrual symptoms were often not entirely resolved by taking the pill on a monthly regimen, since symptoms could return during the pill-free interval. Second, oral contraceptives could sometimes introduce their own problems. In addition to commonly reported side effects of birth control pills, the withdrawal of hormones at the end of the month (which produces withdrawal bleeding similar to monthly menstruation) was also associated with symptoms similar to those many women took the pill to relieve, including headaches, cramps, heavy bleeding, bloating, and mood changes.

For these reasons, some researchers suggested that women could extend the treatment benefits of oral contraceptives by extending the pill regimen. The first article to suggest this in the sample I considered here, was a 1997 article by Sulak and colleagues noted above. The authors referred to studies of extended regimens conducted as early as 1977 (Loudon et al. 1977), but note that most of these investigated whether women found extended regimens acceptable, and few had examined the effectiveness of extended regimens for treating menstrual symptoms. They note that “although extending the number of active pills from 21 days to 6 or more weeks has been suggested for treatment of menstrual-related problems, we found no reports on the efficacy of this management in patients with dysmenorrhea, menorrhagia, premenstrual-type symptoms, or menstrual migraines” (Sulak et al. 1997: 179). They also hypothesized that “the postponement of menses by extension of the duration of active pills” would not only be acceptable to women, but that they would also “experience a decrease in the frequency of their symptoms” (Sulak et al. 1997: 182). Indeed, the researchers found that “all 37 patients [who used an extended regimen] reported that extending the active OCs delayed the onset and decreased the severity of their reported complaints” (181).

Debunking the 28-day cycle

When extended regimens were not yet widely accepted and menstrual suppression birth control pills were not yet available, articles stressed the therapeutic benefits of extended regimens and also worked to debunk the cyclic, 28-day pill regimen – especially the pill-free week – on the grounds that it is unnecessary and was instituted for social, rather than scientific, reasons. Both Sulak and Miller (and their coauthors) use the language of mimicry to highlight that the pill-free week and withdrawal bleeding were instituted to make women’s cycles on the pill seem like their usual menstrual cycles. Sulak et al. stated, “The standard 28-day regimen (21 days with active pills and 7 with inactive pills) was not based on scientific principle but was established to mimic the natural menstrual cycle length to make it acceptable to women” (1997: 179).

Dr. Leslie Miller (a major proponent of menstrual suppression¹⁴) echoes this language. In one article, she and her coauthor pointed out that the withdrawal bleeding that occurs during the pill-free week simply “mimics monthly menstruation.” This article also provides the one instance (in this sample of articles) of the use of evolutionary arguments against monthly menstruation or withdrawal bleeding (Ellison 2001; Gladwell 2000). Miller and Notter write, “Historically, women without access to contraception could have had as few as 50 menstrual cycles in a life time, whereas the modern woman with reduced fecundity could have up to 450 cycles” (2001: 771). In response to what Miller and Hughes call the “medical requirement to menstruate while on the pill” (2003: 653) they argue that women are having far more periods across their lifetime than they have in the past and, therefore, extended regimens that suppress menstruation may be a more appropriate regimen. This is particularly true, according to the authors, when women experience symptoms related to menstruation that are reduced when they are taking the active OC pills. In this case, eliminating the pill-free week would improve cyclic symptoms that arise due to the withdrawal of birth control hormones each month.

Miller and Hughes (2003) draw on social science and historical research to argue that the pill-free interval and resulting withdrawal bleeding were introduced for reasons of social acceptability and are not based on scientific reasoning. Miller and Hughes state:

In spite of early research with continuous OC administration [(Kistner 1958)], the original marketed OC was designed to appear ‘natural’ in the hopes it would be viewed by the Catholic Church as a ‘morally permissible variant of the rhythm method,’ and this required a lunar or monthly cycle” [(Marks 2001)]. Twenty-six years ago, Loudon et al. demonstrated that a withdrawal bleed every 3 months was acceptable and effective, but still no change in the OC schedule was introduced. (2003: 653)

In this quote, Miller and Hughes level several arguments against cyclic OCs and the pill-free week in particular. They juxtapose early, pre-Enovid research on continuous use of hormones to regulate menstruation with a quote from the work of historian of science Lara Marks, who indicates that the cyclic pill regimen was designed to “appear ‘natural’” in order to appease Catholic Church officials.¹⁵ By putting these two references together, the authors not only highlight the social/cultural origins of the hormone-free week and the cyclic regimen, but they also make it seem as if it was instituted in contradiction to the direction of scientific research at the time. Their language in the rest of the quote points to the “medical requirement to menstruate while on the pill” that has persisted and is only now beginning to change, despite decades of research showing that extended regimens are “acceptable and effective.”

Compared to claims about the use of cyclic oral contraceptives to treat menstrual symptoms and abnormal bleeding, discussions of extended regimens to treat the same symptoms indicate that their use was not yet widely accepted or established. As late as 2001, extended regimen birth control for treatment, let alone menstrual suppression, was still controversial. Drawing on historians to support this argument that developers included the pill-free week for

¹⁴ Dr. Miller runs a website called noperiod.com. When Seasonale and Lybrel were released, she was interviewed and quoted extensively in the media. Her website explains to women how they can skip or eliminate periods/withdrawal bleeding with any type of hormonal birth control.

¹⁵ On this point, the Seasonale clinical trial (Anderson and Hait 2003) cites Malcolm Gladwell’s 2000 *New Yorker* article, “John Rock’s Mistake.”

cultural reasons makes this even clearer. Indirect evidence from the articles also shows that there was some disagreement among physicians about the acceptability of extended regimens. In Sulak et al.'s 1997 study, one participant's reason for discontinuing the extended regimen and leaving the study was that she received advice from another physician that she should not take her birth control pills in an extended regimen (181). The medical legitimacy of extended regimens was not yet established; researchers pursued a dual strategy in which they focused on therapeutic claims for extended regimens (supported by other studies) and drew on research from other fields to debunk the standard/cyclic regimen.

While researchers were beginning to make arguments for the usefulness of extended regimens in treating menstrual problems, even by 2001 they were not arguing that they be used to delay or suppress menstrual bleeding for convenience. Rather, the prevalent competing construction of extended regimens (and of cyclic OCs in general) held that they *caused* bleeding problems, rather than solving them. One reason for this was that the extant methods designed with an extended regimen (Norplant, Depo) and a new generation of OCs popular in the 1990s actually did produce a number of bleeding problems. In the next section, I examine a second construction of hormonal contraceptives with respect to bleeding: hormonal contraceptives not as *treatments* for bleeding issues, but rather as their source.

Cycle Control: The problem of breakthrough bleeding

Despite presenting cyclic hormonal contraceptives as an established treatment for bleeding problems, the articles also devoted significant attention to problematic bleeding produced as a side effect of various hormonal contraceptives. In fact, in the 1990s – the decade preceding the introduction of Seasonale and other menstrual suppression birth control pills – “cycle control” and the “bleeding profile” of hormonal contraceptives became a particular concern in the literature. Hormonal contraception stands in the literature in a paradoxical position as both a cure and cause of problematic bleeding. The articles in this sample presented three ways that hormonal contraceptives caused, rather than solved, bleeding problems: 1) changes to the chemical formula of birth control pills, including reduced doses of estrogen and progestin and the introduction of new progestins, increased the likelihood of breakthrough bleeding and spotting; 2) progestin-only methods intended for long term use (such as Norplant and DepoProvera) caused heavy and irregular bleeding for some women and amenorrhea for others (and these were seen as equally problematic outcomes); 3) extended regimens also produced of unscheduled/irregular bleeding.

For much of the time period covered by this sample of articles, researchers claimed that women did not “tolerate” bleeding caused by their birth control: side effects related to bleeding reduced the “acceptability” of the particular method and increased rates of discontinuation. Interestingly, lack of bleeding was included among the types of irregular bleeding that researchers said women found unacceptable. To solve the “problem” of breakthrough bleeding, researchers proposed both technical changes to the contraceptives and changes to the users. Technical solutions included manipulating the dosing regimen and the hormonal components of the contraceptives in order to improve their “bleeding profile” or “cycle control.” However, because bleeding was defined as a problem when it affected women’s decisions to use or continue using a hormonal birth control method, researchers also proposed counseling as a solution to bleeding problems. If women could be informed and counseled to expect bleeding changes, unexpected bleeding could be made expected and acceptable.

Low-dose pills and breakthrough bleeding

During the 1990s, articles about combined hormonal contraceptives began to regularly include discussion of the products' "bleeding profile" or "cycle control," that is, the extent to which the pills (on a cyclic regimen) produced withdrawal bleeding at the scheduled time without bleeding or spotting at other times during the month. Authors of several articles highlighted changes in the hormonal makeup and dose of oral contraceptives as one reason for the increased attention to issues of cycle control. In particular, OCs introduced and increasingly popular in the 1990s, favored for their lower doses of estrogen and a new "generation" of progestins, were more likely to produce breakthrough bleeding and spotting. These trends in development of birth control pills toward lower doses were one reason given for increasing problems with and attention to the issue of cycle control. As one author summarized it:

Combined oral contraceptives have been available for four decades. Their development has focused on lowering the dosage of ethinylestradiol [the estrogen component of OCs] and progestogens and using newer, more selective progestogens. However, reducing the dose of estrogen below 20 [micrograms]/day of ethinylestradiol adversely affects cycle control; cycle control is a key factor affecting contraceptive compliance. (Dieben et al. 2002: 585)

The first birth control pills contained high doses of estrogen, which prevented breakthrough bleeding.¹⁶ However, since estrogen is responsible for many of the side effects associated with hormonal birth control, including breast tenderness, headache, and bloating – as well as some of the more serious side effects, such as increased risk of breast cancer – lowering the amount of estrogen in the pills was one of the first changes made to the pill. The estrogen component of the pill has been reduced significantly over time. Pills are now available with amounts of estrogen as low as 20 micrograms, which is less than half the dose of the first generation of pills, which contained over 50 micrograms of estrogen. Estrogen levels are even lower in non-oral methods of delivery, such as the vaginal ring, which has only 15 micrograms. One author notes that, "although [contraceptive] efficacy is comparable with higher-dose formulations, the use of OCPs containing only 20 micrograms ethinyl E2 has been associated with less favorable bleeding patterns, which may include intermenstrual bleeding or spotting or both, particularly during the first several months of use" (Kaunitz et al. 2009: 1205). Researchers highlighted reduced estrogen as one reason why the design of the pill itself might cause problematic bleeding.

Researchers pointed to a second issue that could cause problematic bleeding: changes in the progestin component of OCs as. The progestin component of the combined oral/hormonal contraceptives had also changed over time, with the introduction of new forms of the synthetic progestogens used in contraceptives. The synthesis of the progestins norethindrone and norethynodrel from wild yams in the 1940s made the birth control pill possible.¹⁷ Since that time, there have been two additional "generations" of progestins used in OCs. The course of development of new progestins has worked toward what Dieben refers to as "more selective progestogens." In general, synthetic hormones that act like progesterone

¹⁶ Estrogen was first added to the hormonal contraceptives unintentionally. In the trial stage, it was found that the progestin was contaminated with mestranol. When removing it led to increased breakthrough bleeding, they intentionally added it to the formulation of Enovid.

¹⁷ Synthetic versions of the hormone progesterone, known as progestins, make up the active contraceptive component of birth control pills, responsible for preventing ovulation, preventing the growth of the uterine lining, and thickening cervical mucus. Hormonal contraceptives can thus include progestin-only or a combination of progestin and estrogen.

(progestogens/progestins) should bind to the same receptors that the body's natural progesterone would. A "more selective" progestin would only bind to specific receptors necessary to block ovulation and produce other contraceptive effects, but would be less likely to bind to receptors for other androgenic hormones, in theory reducing some categories of side effects, such as weight gain or metabolic effects that could increase the risk of heart disease (Shoupe 1994). Some researchers hypothesize that the different types of progestins produce different bleeding patterns, although there is disagreement over whether pill formulations – and the progestin component in particular – have any consistent effect on side effects or bleeding profile. For example, one study, a large-scale, multi-year survey of birth control users in France, found that there was no difference in rates of side effects, including irregular bleeding, among users of different pill formulations (Moreau et al. 2007). The prevalence of low-dose pills and proliferation of newer progestins, and thus of increased breakthrough bleeding and spotting, made cycle control a key issue discussed in the decade preceding the introduction of extended regimen birth control.

Long-acting progestin-only methods (DepoProvera and Norplant)

Before the introduction of extended regimen birth control pills, the only hormonal methods of birth control that did not follow the standard 28-day regimen were long-acting, progestin-only contraceptives, such as Depo Provera¹⁸ and Norplant¹⁹. However, researchers discussed the advantages of these new forms of birth control – which could also accurately be called "extended regimen" – in a very different way. Rather than highlighting their advantages in treating bleeding problems or menstrual symptoms, researchers were more likely to discuss how these methods caused bleeding problems and menstrual symptoms. Even when authors presented the extended regimens of these methods as an advantage, they more often discussed this advantage in terms of improved "compliance" than in terms of convenience to the woman using the method.

These methods, introduced in the late 1980s and early 1990s, were not proposed as a solution to irregular bleeding. Rather, articles identified them as a significant source of problematic bleeding. Audet and colleagues reported in 2001 that, "the only available hormonal methods that require less frequent dosing than OCs contain only progestin, and progestin-only methods are associated with frequent episodes of unexpected bleeding when compared with combination estrogen-progestin methods" (2353). The fact that methods like Depo Provera and Norplant did not need to be taken every day, but rather lasted for several months or years, was offset by "frequent episodes of unexpected bleeding." One physician, writing to the editor of *JAMA* in the late 1990s, noted the frequency of bleeding problems that accompanied the use of Depo Provera among his patients: "In my practice of family medicine, I have seen many young women who have experienced dramatic changes in their menstrual pattern with depomedroxyprogesterone [Depo Provera], often after receiving but a single injection" (Littell 1997). One study of Norplant conducted in China detailed the many bleeding issues that women experienced while using this method:

¹⁸ An injection of depot-medroxyprogesterone acetate that provides contraception effective for 3 months

¹⁹ Norplant is made up of several levonorgestrel-releasing silicone tubes surgically implanted in the upper arm providing up to 5 years of contraception. Implanon, a newer form of implantable contraception, consists of only one rod which releases etonorgestrel and provides 3 years of contraception.

Disruption of menstrual function was prevalent; this was the principal side effect and the leading reason women sought implant removal. Menstrual disturbances included frequent bleeding onsets, prolonged menstrual bleeding or spotting, irregular timing of onsets, and infrequent bleeding and amenorrhea. (Gu et al. 1994: 675)

Gu and colleagues detailed the many bleeding changes associated with Norplant use and state that bleeding-related side effects were the most common reason women asked to have Norplant removed. Infrequent bleeding and amenorrhea are listed among the “menstrual disturbances” caused by Norplant that led women to stop using this method. Amenorrhea, discussed as a negative side effect, was present in many discussions of extended regimens. Amenorrhea as an advantage of extended-regimen methods was not taken for granted by researchers and in fact it was not until extended regimen methods become commercially available that researchers began to discuss it in this way.²⁰

In general, articles discussing Norplant tended to focus on the difficulty of taking daily oral contraceptives as directed, and the risk of method failure that accompanied this difficulty. For example, Audet et al. state, “Compliance problems with OCs have been well documented...” while “long acting hormonal contraceptives that require infrequent patient activity toward compliance (e.g., progestin implants, 3-month progestin injectables) have reduced contraceptive failures associated with non-compliance” (2001: 2352). The focus on reducing women’s daily control over their contraceptive as a way to increase compliance reflects Norplant’s development as a tool for population control, which configures users as in need of control, rather than in search of convenience or choice. Norplant carries with it a construction of users that does not value, or even allow, their active participation, but rather highlights their unreliability and emphasizes compliance over convenience. Before menstrual suppression pills were introduced, this was the prevalent frame for understanding extended hormonal contraception with respect to bleeding. Researchers highlighted that these long-acting methods caused bleeding problems, which in turn caused women to discontinue their use of these contraceptives. Further, when these methods *stopped* menstrual bleeding completely, it was not considered a benefit. Contextualizing the emergence of menstrual suppression birth control within the range of hormonal contraceptives available at the time of their introduction demonstrates that the desirability of reduced menstruation was not taken for granted as desirable in the medical literature. It also highlights the important effects of how contraceptive technologies and users are constructed in the medical literature.

Cycle control and extended regimens of combined hormonal contraception

With cyclic OCs by then a widely accepted and established treatment for irregular bleeding and menstrual symptoms, in the late 1990s researchers began to propose extended regimens to extend the amount of time that women would be relieved of menstrual symptoms, as mentioned above. However, many of the researchers acknowledged that women taking OCs or other hormonal birth control in an extended regimen were also more likely to experience irregular bleeding, such as breakthrough bleeding and spotting. This concern with irregular

²⁰ See Takeshita 2011 for a discussion of the hormone-releasing IUD, initially developed within a population control framework for use in the global south. Amenorrhea, which caused many of the women targeted to use this method to reject it, was later reconceived as an “added benefit” when the method was repackaged and promoted for middle-class users in the US and Europe.

bleeding continued through to the more recent articles in the sample. For example, a study comparing pills with a 21/7 regimen to a 24/4 regimen concluded that, “Although shortening the pill-free week to 4 days with 24 days of active pill use produced greater ovarian suppression, it did not eliminate irregular bleeding, and often bleeding occurred beyond the pill-free interval” (Miller and Hughes 2003: 659). A more recent study of continuous use of the vaginal ring, stated that from the outset of the study, “It was anticipated that the majority of participants would have breakthrough bleeding/spotting episodes at some time during the continuous use phase” (Sulak et al. 2008: 564). Prior to the introduction of menstrual suppression pills, extended regimen contraceptives were understood to be associated with poor “cycle control” and high rates of breakthrough bleeding and spotting. Because extended regimens were initially discussed in this sample as a treatment for menstrual symptoms, breakthrough bleeding and spotting could be framed as a minor side effect balanced by the relief of other menstrual symptoms. For example, as Sulak et al. wrote in the first article in this sample to propose an extended OC regimen:

These minor side effects were usually tolerated because of the relief obtained by extending the number of active weeks and delaying the onset of their complaints during the pill-free interval. For example, one patient reported experiencing many days of breakthrough spotting on her extended regimen. She did not consider this a problem because she obtained more benefit by delaying the onset of migraine headaches that occurred during the pill-free interval. (1997: 182)

Given that the few previous studies of extended regimens found that “the majority of patients were pleased with the postponement of menses,” Sulak et al. stated it was likely that “women with clinically significant symptomatology during the pill-free interval would find the postponement of menses more acceptable than those using it only for convenience” (1997: 179). In this timeframe, extended regimens were still proposed mainly as a treatment for menstrual disorders; the drawback of unscheduled bleeding could be balanced with claims about its benefits for women with menstrual symptoms.

Bleeding and Acceptability

When irregular bleeding was caused by hormonal birth control, rather than solved by it, researchers’ discussions of this problem focused on how it affected women’s decisions to discontinue a hormonal method. Irregular bleeding as a side effect of oral or other hormonal contraceptives, whether taken in a cyclic or extended regimen, was discussed as problematic because women did not find it acceptable and would stop using hormonal contraceptives or switch to another method. One study of women’s experiences using Depo Provera concluded that: “Like other hormonal contraceptives, DMPA [Depo Provera] has been associated with several side effects, a major one being the disruption of the menses. Change in menstrual pattern is not acceptable to many users and has been reported to be the main reason for discontinuation of DMPA” (Sangi-Haghpeykar et al. 1996: 227). The focus on changes in bleeding patterns as a main reason for discontinuing hormonal methods of birth control carried across discussions of all hormonal methods represented in these articles.

In many articles, *any* deviation from the “normal” menstrual schedule of bleeding for roughly one week each month was defined as problematic. This included not only unexpected breakthrough bleeding or spotting while taking the active hormone pills, but also amenorrhea, or

lack of bleeding. Here, for example, Dieben and colleagues explicitly explain why regular monthly bleeding is an advantage of a cyclic regimen (discussing the vaginal ring):

Contraceptive acceptability and compliance are influenced by many factors, key among which is cycle control; our findings demonstrate that the ring has good cycle control. Almost all women experienced withdrawal bleeding, which did not generally extend outside the ring-free week; when it did so, it was mainly restricted to spotting. Regular, monthly withdrawal bleeding is considered a positive attribute as it reassures the user of the continued absence of pregnancy. In contrast, irregular bleeding during the treatment cycle is recognized as a risk factor for poor compliance, as well as being inconvenient for the user. (2002: 585)

After echoing the same prevalent statement that cycle control is a key factor in “acceptability and compliance” of a hormonal birth control method, the authors go on to praise the ring’s cycle control for both producing withdrawal bleeding at the expected time and not producing (much) bleeding outside of the expected times. Here, monthly bleeding is seen as positive because it “reassures the user of the continued absence of pregnancy.” Irregular or unexpected bleeding is problematic both because it is “inconvenient” to the user and because it is “a risk factor for poor compliance.” Again, both good and bad bleeding are evaluated in terms of their acceptability to women. “Good” bleeding reassures women that they are not pregnant, while “bad” bleeding causes them to discontinue hormonal methods. In contrast to later discussions of extended regimens, here neither the presence nor absence of bleeding is depicted as a medical problem or health risk, rather it is a social or personal problem. A few of the articles emphasize this framing by referring to it as “nuisance” bleeding.

Solving the Problem of Unacceptable Bleeding: Technical Innovation and User Configuration

How did the articles propose to solve the problem of bleeding caused by hormonal contraceptives? One solution was to change the contraceptives themselves by changing the hormones that make them up, the method of delivery, or the dosing regimen. For example, one study compared two oral contraceptives to see which provided better cycle control. The two OCs used different progestins (desogestrel, a third generation progestin vs. norethindrone, a widely used second generation progestin), and the authors attempted to theorize how these different versions of the hormone might affect bleeding patterns:

The lower incidence of intermenstrual bleeding with triphasic DSG/EE [desogestrel and ethinyl estradiol] as compared with triphasic NE/EE [norethindrone and ethinyl estradiol] may be attributed to the stronger progestational activity of desogestrel relative to norethindrone and to the well-balanced composition of the triphasic DSG/EE regimen. In addition, the longer elimination half-life may also explain the pattern of withdrawal bleeding seen with the triphasic DSG/EE OC. (Shoupe 1994: 684).

Here, the researchers offer one possible explanation of how desogestrel, a newer progestin formulation, would affect bleeding patterns. Research seeking to improve the cycle control of various contraceptives proceeded in many, sometimes contradictory, directions: including changes to the hormones in the pill, changes to the pill regimen, and changes to the method of

delivery. While researchers pursued various changes to hormonal contraceptives in order to resolve cycle control issues, as Miller and Notter concluded in their 2001 article, “the formulation and regimen that will be most effective for extended OC cycles is not known” (2001: 776).

As work continued toward finding a technical solution to the problem of cycle control, a more frequently discussed solution was to change women’s *expectations* of bleeding through counseling. Unscheduled or irregular bleeding as a “problem” caused by the pills was mainly constructed as deriving from its “tolerability” or “acceptability” to users and its effects on “compliance” or “continuation” of hormonal birth control methods. Thus the “problem” was seen to lie mainly with the users, not necessarily with the pill itself. Given this, if the pill could not achieve perfect “cycle control,” women’s attitudes or expectations could be changed instead. One researcher stated the general issue in this way, “Because noncompliance is a problem observed with all contraceptive methods, a greater emphasis on user education, contraceptive counseling, and product labeling is needed” (Shoupe 1994: 684).

With respect to bleeding issues, researchers repeatedly argued that changing women’s *expectations* of bleeding while on hormonal birth control would improve the acceptability of these methods, even if the bleeding itself could not be resolved. An early study of bleeding patterns among Norplant users concluded that, “the results of this and other studies indicate that the clinician should adequately counsel potential implant users so that they can expect alterations in their bleeding patterns after insertion, especially during the first year of use” (Shoupe et al. 1991: 258). In one study comparing bleeding patterns of one pill with a 21/7 regimen and one with a 24/4 regimen, the authors stated:

Women do not expect to bleed while taking active hormones; however, those taking cyclical regimens do expect to experience bleeding when active hormones are withdrawn. Although many women can adjust easily to expect bleeding during the first days of their next pill pack, these differences should be addressed, particularly when counseling fresh-start patients. (Kaunitz et al. 2009: 1210)

Here, the argument is that the definition of expected vs. unexpected bleeding, and thus the “acceptability” of a particular bleeding pattern can be changed by redefining what bleeding pattern the user expects – in other words, by reconfiguring users to expect something other than “normal” menstruation. Thus, to the extent that bleeding patterns caused by the pills move away from the generally expected pattern based on a “normal” menstrual period, physicians can redefine expectations in advance, and thus partially resolve the problem of “unexpected” bleeding, simply by redefining what constitutes “expected” bleeding. A 2005 study comparing cyclic and extended regimens of varying durations using the vaginal ring made a similar case. Women using a longer extended regimen were much more likely to both experience irregular bleeding and to name irregular bleeding as their reason for discontinuing an extended regimen. The authors speculate that, “perhaps, if these women had been given a more realistic expectation of the amount of irregular bleeding or spotting, it may have been more acceptable. Expectation of irregular bleeding is likely to lead to better acceptance of the bleeding when it does occur” (Miller et al. 2005: 480-81).

In this sample of articles, hormonal birth control in general – and extended regimens in particular – are (paradoxically) seen as both a *cure* for menstrual bleeding disorders and other menstrual symptoms and a *cause* of problematic bleeding that is irregular, unexpected, or even absent. To the extent that hormonal contraceptives are seen as causing problematic bleeding,

they defined the problem as the methods' acceptability to users and the likelihood that women would discontinue hormonal birth control because of unacceptable bleeding. To address this problem, they pursued two strategies: changing birth control technology to improve cycle control and reconfiguring users to expect and accept altered bleeding patterns. Judging from discussions in the medical literature prior to the approval of Seasonale and other menstrual suppression birth control – and even during the years they are being introduced – one would not necessarily draw the conclusion that extended regimens indicated specifically for delaying or suppressing menstruation for convenience would be effective, desired by users, or accepted by prescribers. Research published after 2000 – much of it funded by pharmaceutical companies – shifted the construction of extended regimen contraceptive technology and its users in order to establish menstrual suppression as a beneficial and convenient choice that women would not only accept, but actively desire.

Establishing Menstrual Suppression: Shifting Constructions of Hormonal Contraception and Users

...perhaps in time it may seem odd to cycle women on the OC, and “the difficulty is not so much in developing new ideas as in escaping from old ones” (John Maynard Keynes).

Miller and Hughes 2003: 660

Prior to FDA approval of menstrual suppression birth control pills and their introduction on the market in the U.S., discussions of extended regimen hormonal contraceptives in the medical literature were mainly confined to their use to treat menstrual symptoms and bleeding disorders. Beyond that, articles discussed extended regimens as a cause of problematic irregular bleeding; amenorrhea was considered one of these forms of problematic bleeding. Articles that promoted the use of extended regimens to delay or suppress menstruation for personal preference or convenience appeared in this sample around the same time that Seasonale was being developed and approved. With respect to menstrual suppression, proponents had to put forth new constructions of extended regimen hormonal contraceptives, and especially of the women who would be ideal users, in order for menstrual suppression birth control to make sense.

In this section, I analyze these shifts in the construction of extended regimen pills and users, in order to understand how extended regimens changed from treatments that might cause unacceptable bleeding changes to menstrual suppression pills desired by users for the convenience of not bleeding. Researchers shifted the construction of extended regimens by delegitimizing the standard cyclic regimen as less effective than extended or continuous regimens and broadened their claims about the therapeutic benefits of extended regimens in a way that blurred the distinction between the treatment of severe menstrual symptoms and the convenience of no menstrual symptoms. Previously, as researchers had argued for extended regimens as *treatment*, they could point out that the established cyclic regimen was medically unnecessary and thus there was no reason not to try a different regimen if it offered benefits. However, in order to establish menstrual suppression as something women ought to be able to choose for *convenience* or preference, they moved to delegitimize the cyclic regimen as reducing the effectiveness of contraception and producing negative physiological effects. Researchers increasingly incorporated arguments that women wanted to use extended regimens to suppress menstruation for convenience, not just to solve menstrual problems. Further, the line between

treatment and convenience was blurred, as bleeding was discussed as a menstrual “symptom” treated by extended regimens.

While previous discussions had portrayed users as unwilling to tolerate any changes in bleeding patterns (unless offset by treatment benefits), articles began to reference studies showing that off-label use of extended regimens was widespread and well accepted. Through these articles, researchers constructed new users for menstrual suppression – women who would not only accept extended regimens in exchange for treatment of symptoms, but who preferred and actively desired the opportunity to bleed less frequently. In fact, some claimed that menstrual suppression birth control was being developed in response to women’s desires to be able to manipulate their cycles for convenience or relief from symptoms. The ideal users of menstrual suppression were increasingly described as individuals with varying preferences, who appreciated the flexibility that extended regimens could provide.

Escaping old ideas: the pill-free week as medically problematic

One significant shift researchers made in constructing menstrual suppression birth control was to begin presenting evidence of medical drawbacks to the pill-free week, rather than just critiquing the pill-free week as medically unnecessary. In other words, their argument was no longer just that the pill-free week was medically unnecessary, and that there was therefore no reason to continue using it, but rather that the pill-free week actually had negative physiological effects that undermined the effectiveness of hormonal contraception. An early example of this type of argument was based on indirect links between withdrawal bleeding that occurs during the pill-free week and associated symptoms or health risks, as in this statement by Miller and Notter:

The pill-free week perpetuates conditions, such as anemia and dysmenorrhea, and those associated with feminine hygiene product use, such as vulvar inflammation and toxic shock syndrome. Most hormonal contraceptive methods alter menstrual bleeding, and women might choose a contraceptive method for the possible benefit of reduced bleeding. (2001: 777)

The authors point out that while OCs could be used to treat anemia or dysmenorrhea, the pill-free week, by preserving withdrawal bleeding, allows these problems to persist or even worsen. They also tie withdrawal bleeding to the use of menstrual products and argue that the pill-free week also contributes to toxic shock syndrome and other conditions “associated with feminine hygiene product use.” In a gesture toward the idea that women find irregular bleeding associated with extended regimens unacceptable (or even that the idea of altering menstrual patterns is unnatural), they also point out that all hormonal contraceptives change menstrual bleeding in some way, and so women might choose one that reduces their bleeding.

In a later article, Miller and Hughes work to defuse the fear that less frequent bleeding would have negative health effects. Directly addressing the common belief that women need to bleed periodically to avoid “build up,” or the continued thickening of the uterine lining, Miller and Hughes conducted ultrasounds to examine the uterine linings of women who used extended and cyclic regimens. They stated that their research results “provide reassurance that there does not appear to be a ‘build up’ within the uterus with continuous OC use. Instead, it appears the cyclic subjects with the scheduled withdrawal bleeding are the ones who experience a proliferation of the endometrium” (2003: 660). They point to the pill-free week as the possible cause of endometrial proliferation (continued growth/thickening of the uterine lining), saying

that “scheduled hormone withdrawal and bleeding may destabilize the endometrium, induce proliferation, and promote the persistence of irregular bleeding” (654).

Beyond offering physiological evidence that the withdrawal bleed is not necessary, Miller and Hughes also claimed that the pill-free week has a number of negative effects. Withdrawal bleeding during the pill-free week:

is not essential to the contraceptive mechanism of the OC. In fact, stopping the progestin for 7 days allows ovarian follicular development and can contribute to method failure. Under the influence of the OC, the endometrium is typically thin, atrophic, protected against future endometrial cancer, and not in need of monthly shedding. (653)

Miller and Hughes state that the withdrawal bleed is not only medically unnecessary, but also undermines the pill’s contraceptive effectiveness. This goes beyond saying that the pill-free week is not medically justified and is there only for (outdated) social reasons. Rather they claim that allowing a progestin-free week makes it more likely that OCs will fail to prevent pregnancy. Further, by extension, they may fail to provide the other listed benefits to the endometrium, such as protection from uterine cancer.

Researchers made several other claims about the damaging effects of the pill-free week. As summarized by Sulak et al.:

Numerous studies have confirmed drawbacks to the institution of a 7-day hormone-free interval with today’s low-dose contraception regimens, including increased symptomatology (mood changes, headaches, and pelvic pain) and lack of pituitary-ovarian suppression resulting in follicular development, endogenous estradiol production, ovarian cyst formation, and possible ovulation” (2008: 563).

Compared to her 1997 article promoting extended regimens for treatment of menstrual symptoms, in this statement, Sulak and her coauthor more aggressively target the pill-free week. In 1997, they focused on women’s pre-existing menstrual symptoms that would return during the pill-free week. In 2008, women’s persistent menstrual symptoms were presented as “increased symptomatology” caused by cyclic OCs. In addition to these symptoms, they say that the pill-free week leads to a “lack of pituitary-ovarian suppression” (one of the contraceptive mechanisms of hormonal birth control) which could lead to ovulation and possible pregnancy.

New users of menstrual suppression: from accepting side effects to manipulating cycles for convenience

Along with shifts in the construction of extended regimen hormonal contraceptives as medically superior to cyclic regimens, researchers also shifted the construction of users. In fact, I argue that this construction of new users was essential to establishing menstrual suppression birth control pills as a “new” technology. The beginnings of this shift can be seen in 2001. One key article illustrates the beginnings of this shift. The article begins with claims that justify the use of extended regimens through reference to treatment of menstrual symptoms: “Birth control pill use can markedly reduce the morbidity [i.e. symptoms] of menstruation, yet current OC packaging and labeling does not allow women to choose an extended cycle to reduce hormonal withdrawal symptoms such as bleeding, dysmenorrhea, or headaches” (Miller and Notter 2001:

771). However, note that they shift bleeding itself into the list as one of the “symptom[s] of hormone withdrawal” that women are not currently able to choose to reduce. By the end of the article, the authors shift to a discussion that more directly places monthly bleeding in a framework of individual choice. They do so by discussing the possible financial benefits of extended regimens. In a passage that is worth quoting at length, the authors argue:

To date there are no products approved or packaged for extended OC use available in the United States. Yet, as quoted in a recent article, ‘long cycle regimens with infrequent bleeds are an option and should be offered’ (3). We believe that this recommendation might be difficult to follow because women will need to purchase additional OC packages, and insurance coverage might be limited. In our study, extended OC use reduced annual hygiene-product expenditures from roughly \$40 for subjects on the 28-day cycle to \$20 for subjects on the 49-day cycle. However, the cost of hygiene product is small compared with the OC prescription cost. The cost of an 84-day OC regimen was calculated to not be cost-effective unless the woman requires 48 tampons per month, with an OC package cost of less than \$25.20 per cycle. But perhaps ‘Not everything that can be counted counts, and not everything that counts can be counted’ (Albert Einstein). Counting hygiene product use might not be as important as an increase in workdays, quality of life, or other productivity measures. (776-7)

The authors refer back to the same article as they did at the beginning to back up their claim that extended regimens are useful for hormone withdrawal symptoms. However, they shift emphasis from treatment of symptoms to the costs of menstruation that women must manage. The authors agree that women should be offered the option of OCs packaged in an extended regimen, but contend that widespread adoption of extended regimens would be unlikely because women would not be able to afford extra packages of pills if they were not covered by insurance (this line of argument is very likely meant to highlight one advantage of an OC packaged in an extended regimen, like Seasonale).²¹ While they attempt to make a case that savings from buying fewer menstrual products might balance the cost of additional pill packages, they find that it does not come close. However, drawing on Albert Einstein’s quip that “not everything that can be counted counts,” they shift their argument about the advantages of extended regimens toward unspecified benefits of “an increase in workdays, quality of life, or other productivity measures.” Although their study does not collect any information on the relationship between menstruation and workdays, quality of life, or productivity, they point to these as areas that mark the value of menstrual suppression to women. Here ideal users are constructed as seeking to maximize benefits and reduce costs; researchers make an argument for these factors to be considered as relevant to the design and availability of hormonal contraception.

In April 2003 (just before Seasonale’s approval in September), *Obstetrics and Gynecology* published a clinical trial by Miller and Hughes that evaluated continuous use of oral

²¹ Seasonale and other branded, extended-regimen pills, when covered by insurance plans, have an advantage over extended regimens using cyclic OCs, in that insurance would cover the entire cost of OCs for the year. A woman taking OCs in a cyclic (21/7) regimen would use 13 packs of pills in one year (which is the maximum that many insurance plans would cover). However, a woman skipping her sugar pills to informally suppress bleeding could use as many as 18 packs (taking only 21 of the 28 pills) over the course of a year.

contraceptives for the specific purpose of “eliminating withdrawal bleeding.”²² Their article puts forth several new arguments concerning women’s interest in menstrual suppression. They begin by reversing some of the critiques that have been leveled against extended regimens in the past:

Irregular bleeding can trigger pill discontinuation and dissatisfaction, and fears of an increase in unexpected bleeding have been used to justify the promotion of regular monthly withdrawal bleeding as the optimal profile. But for many cyclic pill users, irregular bleeding events are quite common, and a continuous schedule with expected initial breakthrough bleeding might be tolerated to attain the goals of improved contraception and no bleeding. (Miller and Hughes 2003: 654)

In this quote, the authors reiterate the earlier arguments that present bleeding as problematic because it leads to “pill discontinuation and dissatisfaction” and claim that this is why many have rejected extended regimens in favor of the “the optimal [bleeding] profile” provided by cyclic regimens. However, they note that many women experience irregular bleeding even when taking cyclic pills, and that they might accept “initial breakthrough bleeding” in order to “attain the goals of improved contraception and no bleeding.” In this last part of the statement, they argue for extended regimens based on a claim that extended regimens provide more effective contraception than cyclic regimen. They also argued that women’s goals in taking OCs might include both contraception and “no bleeding.” These two claims simultaneously construct menstrual suppression pills as a flexible lifestyle drug that provides superior contraceptive effectiveness and users as individuals who want to reduce menstrual bleeding to better fit their active lifestyle. These paired claims form the backbone of arguments for extended regimens from here forward.

As menstrual suppression pills were introduced on the market, their proponents moved from providing evidence that women have found extended regimens acceptable or can be counseled to accept them to claiming that extended regimens are already widely used and accepted and that women would like to use them for menstrual suppression. In 2001, Miller and Hughes had claimed that, “A recent survey of OC user attitude toward menstruation indicates an increasing trend toward the acceptance of menstrual reduction and even suppression. In Australia and Europe many women already manipulate their active OC use to postpone withdrawal bleeding when desired” (Miller and Notter 2001: 777). The authors point to surveys to show that OC users are ready to accept menstrual suppression, and that some women ‘elsewhere’ already “manipulate” their cycles using OCs. By 2005, Miller and colleagues claim that:

the dogma that women using contraception must menstruate is changing, and reversible amenorrhea is becoming more acceptable to women. Many women using the OC manipulate their withdrawal bleeding, and women are interested in reducing this bleeding. By decreasing the number of hormone-free weeks, cycle-related symptoms such as dysmenorrhea and headaches can be reduced (Miller et al. 2005: 473).

Perhaps playing off the claims that the pill-free week was originally instituted to appease the Catholic church, the authors claim that the “dogma” that forces women to bleed unnecessarily

²² The researchers used Wyeth Laboratories’ Alesse in continuous regimen. This was a slightly different formulation than what Wyeth ultimately used in Lybrel.

while taking OCs is finally changing. Further, women increasingly accept “reversible amenorrhea” and many users either already suppress menstruation or would like to. Stewart says, even more directly, “Many women prefer extended hormonal contraceptive regimens over traditional cyclic regimens...” (Stewart et al. 2005: 1389-90). Finally, in 2008 Sulak et al. point out that all of the new hormonal contraceptives that had received FDA approval since 2003 used an extended method. They argue that even prior to their availability on the market, physicians were commonly prescribing “off-label extended use,” not only for treatment but also for convenience:

Combination (estrogen + progestin) contraception has undergone major changes in the past 5 years, with all regimens newly approved by the U.S. Food and Drug Administration deviating from the standard 21/7 design... Although extended and continuous OC regimens have become available only recently, off-label extended use of the 21/7 regimen has been commonplace in clinical practice for treatment of endometriosis, prevention of hormone-withdrawal symptoms, and convenience. (Sulak et al. 2008: 570)

Sulak et al. point to extended regimens as the new norm for oral contraceptives and imply that the availability of new extended regimen products is a response to their already widespread use for treatment, prevention, and convenience.

Alongside claims that women already found extended regimens acceptable, several articles presented ideal users who desired menstrual suppression primarily for personal preference or convenience, rather than for treatment of symptoms. Given that Seasonale received FDA approval specifically as a contraceptive that would reduce the number of withdrawal bleeds/periods women have in a year, and not as a treatment for menstrual symptoms, the user who desires less bleeding was built into this technology. This construction of the user who *desires* rather than accepts or tolerates less bleeding does not appear in the research on menstrual suppression until after Seasonale’s development.

While research still emphasized extended regimens’ use to treat menstrual symptoms, they also refer to women’s desire to delay or suppress menstruation – and some emphasize this as a primary use for extended regimens, with reduction of menstrual symptoms providing an added benefit for some women. For example, Stewart, author of a clinical trial investigating the use of the transdermal patch [OrthoEvra] in an extended regimen, takes for granted women’s interest in and extensive use of menstrual suppression for convenience:

Use of extended regimens (i.e., administration of active hormones for an interval >21 days) of combined oral contraceptives is common among women wishing to delay or prevent withdrawal bleeding for reasons such as athletic participation or vacation. In addition to the convenience of reducing the frequency of withdrawal bleeds, elimination of the hormone-free interval reportedly reduces many menstrual-related symptoms (e.g., headaches, dysmenorrhea) that occur at greater frequency during the hormone-free interval than during the rest of the cycle. (Stewart et al. 2005: 1389)

Stewart states that not only do women wish to “delay or prevent withdrawal bleeding,” but that they are doing so for reasons of convenience, such as “athletic participation or vacation,” rather

than because of their menstrual symptoms. In fact, the relationship has been almost completely reversed: the therapeutic benefits appear as an “additional benefit” of suppressing menstruation for reasons of convenience or personal preference. On the other hand, in the same year Miller et al., publishing results of a trial on continuous use of the vaginal ring, were more tentative in their claims that women wanted extended regimens primarily to suppress menstruation. In their article, they referred explicitly to the recent approval of Seasonale and the problems users experienced with breakthrough bleeding, and used this to make an argument for their proposed continuous regimen, saying, “An increase in irregular bleeding is commonly reported with extended use of OCs... Paradoxically... rates of amenorrhea appear to increase with continuous OC use, and amenorrhea *may be desirable* by some women” (Miller et al. 2005: 473, emphasis added).

Proponents of extended regimens drew upon discourses of individuality and flexibility in support of menstrual suppression. One researcher said of using the patch in an extended regimen, that “it should also be possible to apply this contraceptive system in a flexible manner to accommodate changes in a woman’s social or personal activities... This ability to accommodate variable regimens provides a flexible approach to extended contraception” (Stewart et al. 2005: 1395). Here, women are characterized as having constantly changing lives for which they need to remain flexible; flexibility thus becomes a valuable element of a contraceptive and hormonal regimen. Another article stated that “many women may be willing to trade regularity for a reduction in the scheduled menstrual period. Women are individuals, and the selection of the most appropriate regimen will depend upon each woman’s wishes and expectations” (Miller et al. 2005: 481). There is a clear shift marked by these statements from the construction of users as unable to tolerate any alteration in bleeding patterns unless counseled adequately or provided with treatment for symptoms to an image of women as individuals who have varying preferences about bleeding, with some women actively seeking flexible tools that they can use to shape their cycles to meet the demands of their lifestyles. By doing so, these articles construct a new, flexible user who makes the emergence of menstrual suppression pills as a new technology possible.

Pharmaceutical Companies

It is likely not a coincidence that all of the articles that promote menstrual suppression by choice report research funded by pharmaceutical companies. All but one (Sulak et al. 1997) of the studies on extended regimens discloses that the study or the investigators involved received funding from a pharmaceutical company. The researchers whose names appear repeatedly in this sample – Leslie Miller²³, Andrew Kaunitz, Patricia Sulak – disclosed in one or more of their articles receiving salary from, consulting for, or serving on the speakers’ bureau of pharmaceutical companies. Some of the articles list pharmaceutical company employees as study authors. Sergio Sismondo’s recent work has shown not only that pharmaceutical funding does have an effect on the results of clinical trials and research studies (Sismondo 2008), but also that pharmaceutical companies are increasingly developing extensive “publication plans” that

²³ While Leslie Miller does disclose funding from pharmaceutical companies, her own website (noperiod.com) promotes continuous use of hormonal contraception in order to suppress menstruation. Rather than promoting any particular brand or product, she instructs women on how they can do this with any kind of hormonal birth control. She is quoted extensively in the popular media articles surrounding the introduction of Seasonale and Lybrel, always pointing out that women don’t need a “special pill” to suppress menstruation. See Fishman 2008 on how clinical trial researchers can commercialize their own expertise through savvy use of media.

coordinate everything from initial research design the subsequent conference presentations and scientific publications (Sismondo 2009). According to Sismondo, pharmaceutical companies “have increased efforts to systematically treat research as a resource that needs to be carefully developed and deployed to affect the opinions of researchers and practitioners” (2009: 171), resulting in a form of “corporate science” that is intended to be used as marketing and to primarily serve the expansion of the market for a particular product. Even where there is no such direct involvement of pharmaceutical companies, clinical trial researchers are deeply enmeshed among pharmaceutical companies, clinicians, and FDA regulators, which means that their research and the ways they present it do crucial work of translation and exchange among these arenas (Fishman 2004).

Whether or not these articles represent part of a coordinated publication plan to create or build a market for menstrual suppression birth control, the articles focused specifically on menstrual suppression for convenience or by choice construct menstrual suppression birth control in a particular way: as a flexible technology of convenience, with superior effectiveness at preventing pregnancy and an added benefit of symptom relief for women with difficult periods. Ideal users of menstrual suppression are assumed to want a tool that allows them to bleed less, be willing to manipulate their cycles to suit busy or shifting schedules, and perhaps to already be doing so.

Conclusion

In this chapter, I have focused on how medicine co-constitutes menstrual suppression as a technology and women as users of menstrual suppression. In discussing the medical research and literature, I demonstrated that cyclic oral contraceptives have long been used as a treatment for menstrual disorders and irregularity. However, as the formulations of OCs changed over time, they were as likely to be seen as *causing* bleeding problems for women as *treating* these problems. Thus, the idea of using hormonal contraceptives for menstrual suppression did not emerge naturally or smoothly. Shifting the construction of OC *users* from women who were not able to tolerate any changes in bleeding to women who not only accepted but desired less bleeding was one way to simultaneously shift the construction of oral contraceptives to allow for the emergence of a specific “new” technology – menstrual suppression birth control pills. Clinical trial researchers, in bridging the production of scientific knowledge and the creation of new markets for pharmaceutical products (Fishman 2004), were important actors in this process. In the next chapter I examine how marketing and regulatory discourses configure users of menstrual suppression. I argue that advertising offers women a way to perform neoliberal subjectivities through their use of menstrual suppression pills, while neoliberal modes of state regulation required that women enact these subjectivities in order to have access to safe and effective birth control.

Chapter 4 | Flexible Bodies of Knowledge: Marketing, Regulation, and Configuring Neoliberal Subjects

There are sort of the political implications, just how much do we demand that the government do to ensure the safety and efficacy of a drug versus how much is the individual prescriber and patient's responsibility to obtain information and make educated, intelligent decisions, the *caveat emptor*, the libertarian argument.

- Charles Lockwood, Chairman of FDA Reproductive Health
Drugs Advisory Committee

In this chapter I shift from a focus on medical knowledge to take up the question of how menstrual suppression technologies configure users in ways that are structured by both market and state actors. My data for this chapter is drawn from websites promoting menstrual suppression and transcripts from a 2007 FDA Reproductive Drugs Advisory Committee meeting convened to discuss new hormonal contraceptives. When Seasonale was first introduced, direct-to-consumer advertising in print, on television, and online played an important role in orienting women to a new understanding of menstruation and the practice of using birth control pills to suppress it. In their analysis of Seasonale, Laura Mamo and Jennifer Fosket argue that early marketing campaigns “trouble[d] biological facts and cultural meanings of femininity, reshaping cultural assumptions about menstruating (and non-menstruating bodies) and, by extension, reshaping women’s experiences of lived embodiment” (2009:926). In this chapter, I go beyond their analysis by examining how potential users of menstrual suppression technologies are configured as ideal neoliberal subjects through both market- and state-based practices and discourses. That is, as marketing and government regulation structure the rules and conventions that make menstrual suppression technologies available and that define how they should be used, they promote certain knowledge, practices, and understandings of self that produce bodies and lives in line with neoliberal ideals.

Configuring Users of Menstrual Technologies

The work done by advertisers to introduce new menstrual products and encourage their incorporation into new ways of thinking, talking about, and managing menstruation can be understood as a way of “configuring” users. Developers configure users as they anticipate the knowledge, behaviors, and identities their ideal user will bring to interactions with the product and build these imagined features into the products (Oudshoorn 2003a; Oudshoorn 2003b; Oudshoorn and Pinch 2003; Woolgar 1991). While configuration builds constraints on users into the technologies, users are also able to take up, resist, or transform the behaviors and knowledge “scripted” in technologies (Oudshoorn and Pinch 2003; Saetnan et al. 2000).

The practices through which new technologies are introduced and distributed to the public, including advertising and regulation, continue to shape users’ relationships to these technologies. As Rose and Blume (2003) note, “the configuration of the user of a technology often begins in the laboratory, but it does not end there. The mechanisms, rules and conventions governing the technology’s use in practice extend and perhaps modify the work of configuring started in the laboratory” (127). Both the market and the state can and do shape these

“mechanisms, rules and conventions.” User studies have, so far, paid scant attention to market-based processes of configuration – and even less to the role of the state in configuring users.

Neoliberal values, such as responsibility, autonomy, consumerism, and an “entrepreneurial spirit,” are increasingly attached to the ideal, healthy citizen, who not only fulfills the duty of avoiding illness, but actively pursues health and even enhancement – actively seeking health information from experts and managing risk through recourse to commodified health services and products (Galvin 2002; Pitts-Taylor 2010; Rose 2007). In this context, notions of neoliberal subjecthood are produced through and alongside discourses of health and the medical products and technologies through which subjects are encouraged to pursue and enhance their health. Users of menstrual suppression pills are configured through both the market and the state, and these parallel processes are linked by a shared market logic of neoliberalism. Further, to the extent that the FDA mediates state and market, the interplay between the two discourses is intensified. The users configured by the FDA are imagined to be ideal consumers *and* ideal citizens.

I show how, as marketing and regulatory discourses configure women as users of menstrual suppression technologies, they simultaneously configure women as neoliberal subjects. Marketing discourses promote menstrual suppression to women in ways that encourage particular ways of knowing their bodies and enacting selves through their use of these technologies. In parallel with market-based processes of configuration, the state also participates in configuring users through their regulatory decisions surrounding approval of new hormonal contraceptives; the construction of ideal users takes place through these discussions. In their regulatory role, the FDA mediates state and market; thus the users of menstrual suppression technologies that they configure can be considered both ideal consumers and ideal citizens. Both processes of configuration promote selves in line with neoliberal ideals of subjecthood.

In the following sections, I describe the marketing websites I examined and then analyze how they configure knowledge, practices, and identities in line with neoliberal ideals. I then turn to an analysis of transcripts from a 2007 FDA advisory committee meeting convened to discuss new forms of hormonal contraceptives, to show how state actors also configure users of menstrual suppression as neoliberal subjects. They do so by imagining ideal users as consumer-citizens who make informed, savvy decisions in a medical marketplace and proposing regulation with these users in mind according to the market logic of “caveat emptor,” or “let the buyer beware.”

Marketing by Giving the Information: Selling Menstrual Suppression and Configuring Neoliberal Subjects

This chapter draws on analysis of five websites accessed in January and February of 2009. Three websites are the branded websites for the three extended-cycle and continuous-use oral contraceptives available at that time, Seasonique, Seasonale, and Lybrel. The fourth website is fewerperiods.com, an unbranded promotional website for the use of hormonal contraceptives (of all kinds) to suppress menstruation. Although it does not promote any particular brand or product, it is produced by DuraMed/Barr Laboratories, Inc., makers of Seasonale and Seasonique.²⁴ Finally, I include the menstrual suppression fact sheet, “Health Matters:

²⁴ The fewerperiods.com website is no longer available and now redirects to seasonique.com. Also, DuraMed Pharmaceuticals and its parent company, Barr Laboratories, have been acquired by Teva Women’s Health, Inc., a pharmaceutical company based in Israel that specializes in producing generic drugs.

Understanding Menstrual Suppression,” and the interactive tool, “Menstrual Suppression: What it is, and how to do it,” offered on the website of the Association of Reproductive Health Professionals.²⁵ These sites were chosen because they represent the web-based marketing for all of the available brands of menstrual suppression pills, as well as those promoting the practice of menstrual suppression. The last two sites are high-ranking results for Google searches for information about menstrual suppression, which present themselves as offering authoritative, independent, medically-sanctioned information on the practice of menstrual suppression. As people increasingly turn to the internet for health information, pharmaceutical companies feature websites as a central component of their direct-to-consumer marketing campaigns.

Research on the initial 2003 advertising campaign for Seasonale, the first of the menstrual suppression pills to be introduced, argues that it constructs a particular form of embodied feminine subjectivity in the form of the “non-monthly-menstruating woman” as an image of “flexibility, femininity, happiness, and self-confidence,” characterized by “cleanliness and purity” (Mamo and Fosket 2009:934). Mamo and Fosket state that their primary concern in analyzing Seasonale’s advertising “lies in the ways in which Seasonale produces femininity itself and in how this construction of femininity signals to girls that menstruation needs to be controlled” (Mamo and Fosket 2009:941). In doing so, they position themselves in line with a long tradition of feminist scholarship that highlights menstruation as essential to social and cultural conceptions of femininity (whether positively or negatively). These scholars have been able to take for granted the direct connection between menstruation and femininity in their analysis, whether they critiqued an understanding of menstruation as the essential sign of biological difference between the sexes or analyzed how medical representations of menstruation reproduced norms of femininity. However, in my analysis of these websites, I find that women are not encouraged to understand menstruation/menstrual suppression in relation to femininity or womanhood, but (somewhat surprisingly) in relation to ideals of scientific knowledge, individual responsibility, activity/productivity, health/risk, and flexibility/optimization.

I will focus my analysis less on how the femininity produced “signals to girls that menstruation needs to be controlled” but rather on how this gendered embodied subjectivity produced by these websites signals that one is not only able to control menstruation, but responsible for the know-how and flexibility required to do so. This is represented as a requirement for individuals to participate as good subjects under neoliberalism, rather than a response to the cultural and social devaluation of femininity or womanhood. Thus it is a gendered project in that the requirements of flexible embodiment and orientation to risk will make different demands on women’s and men’s bodies (and bodies marked by other forms of difference), but the driving force is not a rejection of menstruation as a sign of womanhood or femininity.

I argue that this characterization reflects neoliberal conceptions of responsibility, risk, and flexibility that are folded in as central features of embodied subjectivity. In the view presented in these websites, menstrual suppression is not about hiding or controlling menstruation in order to preserve feminine purity, but rather about women’s individual responsibilities to understand their bodies scientifically, identify and manage sources of risk, and to consider the body as a flexible resource for constant improvement – in short, menstrual suppression is presented to women as ideal embodied neoliberal subjectivity. Below, I discuss the three main aspects of this embodied neoliberal subjectivity – individualized responsibilities

²⁵ ARHP was founded as “the education arm of Planned Parenthood Federation of America (PPFA) and incorporated as an independent organization in 1972” (<http://www.arhp.org/about-us/about-arhp>).

for scientific understanding of the body, identifying and managing risk, and optimizing the body – and show how each is presented on the websites.

Denaturalizing Monthly Menstruation: Knowing your Body and the “Pill Period”

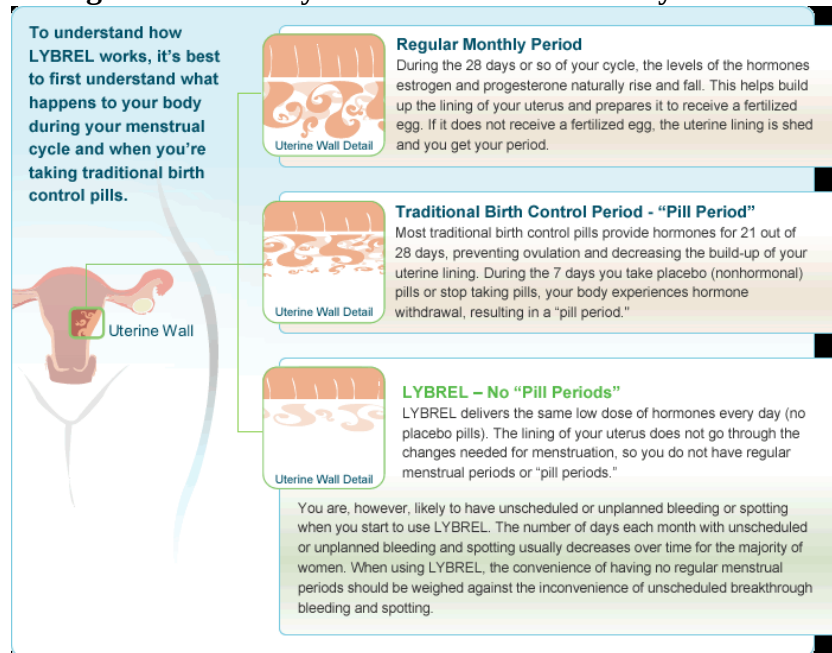
The five websites promoting menstrual suppression all share a common format. Each one has a section that justifies menstrual suppression by educating women about how the menstrual cycle works with and without hormonal birth control, which leads up to the introduction of the “pill period,” a new term for the withdrawal bleeding that takes place monthly when women switch from taking active to inactive birth control pills. I analyze this educational format of the sites in light of the “disease education campaigns” that often precede the introduction of new pharmaceuticals. Over the past 20 years, it has become common for new drugs to be preceded by a direct-to-consumer disease education advertising campaign. These campaigns introduce or popularize a disease category that the new drug is sold to treat. The intent of these campaigns is to “brand” the disease, tying the disease to the brand name of the drug being developed to treat it (Greenslit 2002). Often, though, the disease category has been developed in order to provide a diagnosis necessary for a drug that is being developed or rebranded. Some examples of this kind of campaign include Erectile Dysfunction (Viagra), Social Anxiety Disorder and Premenstrual Dysphoric Disorder (Prozac/Sarafem), Fibromyalgia (Cymbalta), and even the campaign naming HPV as the cause of cervical cancer (preceding the introduction of Gardasil, a vaccine against some forms of HPV).²⁶

The “educational” and FAQ aspects of the website, while not as extensive as most disease education campaigns, serve a similar purpose – they create a new understanding of the menstrual cycle focused around the “Pill period,” defining monthly bleeding as a side effect of birth control pills that can be corrected with menstrual suppression. In other words, these websites construct a new kind of menstrual period, “the pill period,” for which (they say) there is no medical need. Menstrual suppression pills provide a solution by eliminating the unnecessary “pill period.” In this section, I break down the information the websites present about the menstrual cycle to show how they build the association between a certain scientific understanding of the menstrual cycle and the practices and technologies of menstrual suppression. Giving this particular information, and tying it to practices and technologies of menstrual suppression, produces a gendered neoliberal subject. The strategy of “giving the information” (represented by the website itself) and the information-seeking, healthcare-consuming subject the sites configure are products of neoliberal understandings of health, responsibility, and flexible bodies.

Each website’s depiction of how menstruation works depicts three different “types” of menstrual cycle: the “regular” or “basic” menstrual cycle, the cycle when on hormonal contraceptives, and the cycle when using hormones to suppress menstruation. An example from the Lybrel website is included below.

²⁶ In this case, HPV was not invented as disease category, but rather the educational campaign worked to consolidate HPV as “the virus that causes cervical cancer” and tie it to the Gardasil brand.

Figure 1: “How Lybrel Works” from www.lybrel.com



Source: <http://www.lybrel.com/works/>

In Lybrel’s depiction, the “types” of menstrual cycle depend on whether the body’s hormones are left to “naturally rise and fall” or are replaced by the hormones in birth control pills. The “regular” menstrual cycle, or monthly period, results from changes in the uterine lining in preparation “to receive a fertilized egg” and in response to the rise and fall in natural hormones. When birth control pills prevent ovulation, they also prevent the changes in the uterine lining that lead to menstruation – however, the absence of hormones during the placebo days on a monthly regimen results in “hormone withdrawal, resulting in a ‘pill period.’” Because Lybrel has no such drop-off, it suppresses both “regular menstrual periods” and “pill periods.”

In contrast, websites for traditional, cyclic birth control pills (for example, Ortho TriCyclen Lo, Yaz, and LoEstrin) do not present the same detailed information about the menstrual cycle as do the sites promoting menstrual suppression. Where they do provide information on the menstrual cycle, there are brief mentions, such as “if the egg is not fertilized, then it disintegrates and the uterine lining is shed.” These sites do not make the distinction between the “pill period” and a “regular” period. Loestrin, which is designed with 24 active pills (vs. 21) in order to give women shorter and lighter periods, does not make claims about “real” vs. “pill” periods, despite the similarity of the language and claims made in the rest of the website’s content. The promotion of the practice of menstrual suppression in particular requires that users be configured to think of their bodies and menstrual cycles in terms of the “pill period,” but for pills that maintain the traditional monthly cycle, there is no benefit to introducing this knowledge.

The difference between the discussions on the two sites highlights the work that the menstrual suppression sites are doing to redefine menstruation for the purpose of promoting its suppression. In their definition and illustration of the “basic” or “normal” menstrual cycle, the websites draw on dominant, popular understandings of menstruation that frame the goal of the menstrual cycle as preparing for and achieving pregnancy, with menstruation representing the failure of this process (Martin 1992). However, because women taking birth control pills are

actively trying to prevent pregnancy, it doesn't make sense to orient the explanation of the menstrual cycle while taking hormonal contraceptives around preparing the uterus for a fertilized egg. The menstrual suppression sites work around this conundrum by re-orienting their definition of the menstrual cycle around *ovulation* and de-emphasizing menstruation as a key aspect of the menstrual cycle.

This shift in the explanation of the menstrual cycle is a key step in the creation of the “pill period.” By de-emphasizing menstruation as the central feature of the menstrual cycle and replacing it with ovulation, these sites simultaneously make the point that birth control pills already intervene in the fundamental feature of the menstrual cycle (ovulation), in the process redefining monthly bleeding as neither natural nor necessary, as in this quote from Seasonique.com:

When you're on a birth control pill, the period you get every month isn't a real period. It's what's called a “Pill” period. When you take a birth control pill, you don't have a menstrual cycle—your body doesn't prepare for pregnancy because you don't ovulate. As a result, your uterine lining doesn't build up, so there's no need to shed it. This is the reason you don't need to bleed every month when you take the Pill. Make sense?²⁷

The website states that, when taking birth control pills, women “don't have a menstrual cycle” because birth control pills prevent ovulation. Even though women experience monthly bleeding when they switch from taking active pills to placebo pills, the sites claim that this is not a “real period” but rather a “Pill” period.²⁸ Seasonique defines the “Pill period” this way: “the light, short bleeding that does occur is due to the withdrawal of hormones when you stop taking active pills” and explains, “That's why it's called a “Pill” period.”²⁹ This bleeding, which women see, feel, and *experience* as menstruation, is effaced when framed by the statement that “the period you have is not a “real period.” The sites re-define the menstrual cycle around ovulation, something that (most) women do not directly experience, and de-legitimize women's experience of bleeding, by telling them it is not “really” a period and that they do not really have a menstrual cycle at all, when on the pill.

The introduction of the “Pill” period not only contradicts women's experience of monthly bleeding as menstruation, but it also reframes this bleeding as an artificially-produced side effect of the birth control pill. By establishing that there are different menstrual cycles – “regular” ones and those altered by birth control hormones – they also establish the “pill period” as a ‘side effect’ of birth control. However, the purpose of creating the pill period is to promote its suppression. It is a temporary construction that is created only to be eliminated.

The menstrual suppression websites use the constructed “pill period” to assure women that menstrual suppression pills do not suppress “real” or “natural” periods, but rather get rid of the unnecessary side effect, the “pill period,” that is artificially induced by withdrawal of the hormones and for which there is “no medical need.” For example, fewerperiods.com states:

²⁷ <http://seasonique.com/Consumer/BodyAndPeriod/FewerPeriodsPossible.aspx>

²⁸ The small amount of estrogen in the pills does not promote the thickening of the uterine lining (as women's estrogen levels would if they were not taking the pill), but keeps the lining stable; when the hormone levels drop during the placebo week, the uterine lining becomes unstable and some bleeding occurs.

²⁹ <http://seasonique.com/Consumer/BodyAndPeriod/PeriodBasics.aspx>

As a result, your uterine lining doesn't build up much, and there's no medical need to shed it every month. The light, short bleeding that you experience on the Pill isn't a real menstrual period—it's actually a "Pill period," which is due to the withdrawal of hormones in your active pills. And it's the reason having fewer periods is possible when you use hormonal birth control.³⁰

Framing menstrual suppression in this way assumes that potential users are already savvy traditional pill-users, who will accept that they should suppress menstruation once they learn that they are not actually having menstrual cycles or "real" periods. Constructing the "pill period" as an intermediary between the "natural" menstrual cycle and menstrual suppression normalizes menstrual suppression and de-naturalizes monthly bleeding, while also promoting a scientific view of menstruation and de-legitimizing women's experiences of menstruation and the menstrual cycle.

The descriptions of how the menstrual cycle works, described above, serve to build into this knowledge an expectation that women should already have detailed scientific knowledge of their bodies and recognize that this knowledge is an important part of choosing the right birth control product for them. The quotes below present a compulsion to "already know" or "remind yourself" about how menstruation and birth control pills work:

SEASONIQUE® works with your body like a traditional monthly birth control pill. If you already know about birth control pills and how they work, you know that the Pill prevents you from ovulating, so your uterine lining does not need to build up and shed. SEASONIQUE® works the same way.³¹ [emphasis added]

One of the biggest questions women have about SEASONALE® is "what is it doing to my body?" ... Take a quick refresher course — remind yourself what happens to the body during its basic menstrual cycle, during a typical monthly "Pill period," and compare it with a SEASONALE® extended-regimen period.³² [emphasis added]

While the three types of menstrual cycles presented on the "refresher course" on the websites are probably not the ones that women "already know," given that the "pill period" is something being created and disseminated mainly on these sites, women are urged to call this information to mind as something they are already familiar with. That women are already expected to be familiar with this knowledge and will also be held responsible for it is highlighted by a button on Seasonale.com asking "Think you know your body? Test your knowledge with the Myths vs. Truths interactive quiz." The push for women to understand menstruation scientifically and to separate the "pill period" from "real" periods way carries with it an implication that smart women, who understand the science of menstruation, and who can separate "myths" from "truths," will not hold on to "superstitious" beliefs about the necessity of monthly bleeding (Coutinho 2007; Coutinho and Segal 1999) and will choose not to have a period. While women are expected to already have this detailed, scientific knowledge about the menstrual cycle, the language used in the descriptions is informal and friendly. The exaggerated

³⁰ <http://fewerperiods.com/FewerPeriodsPossible/Default.aspx>

³¹ <http://seasonique.com/Consumer/BodyAndPeriod/FewerPeriodsPossible.aspx>

³² <http://seasonale.com>

“girlfriend-speak” encourages women to domesticate the scientific knowledge and presents it as common knowledge circulated among friends rather than expert knowledge dispensed from above.³³

Risk and Risk-Management

A second way that the websites present an ideal neoliberal subject position for women is through a focus on risk. Below I analyze how the sites encourage an individualized responsibility for identifying and managing risk as a central aspect of subjectivity, as well as how they define risk in relation to menstrual suppression and the actions they outline for women to take to fulfill their risk-related responsibilities. The individual duty to seek out information on risk and take steps to rationally manage risk is a hallmark of neoliberal government(ality), particularly in the area of health (Barry et al. 1996; Burchell 1996; Lupton 1999; O'Malley 1996). Under neoliberal regimes, market models are extended to nearly all areas of life and individuals are encouraged to cultivate an “entrepreneurial” relationship to the self (Burchell 1996). With respect to health, then, individuals must identify and avoid health risks (both by identifying risky behaviors, products, or environments and by monitoring their own predispositions and susceptibilities to disease) and actively pursue or produce “health.”

This occurs in the context of the decline or retraction of the welfare state and its responsibility for providing healthcare and collectively managing risks (O'Malley 1996; Rose 2007). The state's responsibility is redefined as “empowering” individuals to pursue their own health through making available expert knowledge and advice that individuals can apply to themselves (Burchell 1996; O'Malley 1996; Roberts 2006; Rose 1999). Disease awareness campaigns, whether state-sponsored or put forth by nonprofits or pharmaceutical companies, are prime examples of this model. Once the information on disease risk factors has been spread to the public, it is up to individuals to recognize themselves as “at-risk” and seek screening or preventive care. In a neoliberalized health regime, individual self-interest and a “moral duty to ‘be well’” (Greco 1993) are tied together through everyday practices of “prudential” risk-management (O'Malley 1996:200). The market is the preferred place for pursuing health and the knowledge, practices, and technologies that allow the individual to best manage health risks.

On the menstrual suppression websites, the responsibility to seek out and act on information about risks is presented particularly clearly through the Frequently Asked Questions (FAQ) sections of the sites. The FAQs are made up of many questions about the risks associated with (or remedied by) menstrual suppression and the user's role in managing those risks. Through these questions, FAQs construct a position from which potential users can express appropriate concerns. They both construct an ideal user whose main concerns relate to risk, for example, through questions such as “Is not having my period every month safe?” and they build in (i.e. configure) expectations for the actions these users will take to manage risk, as in questions such as “what do I do if I miss a pill?” What kinds of risks are women expected to look out for and manage? While the FAQs include the expected information about the safety of the pills themselves, there is also information about the health risks of *not* suppressing menstruation, as well as “risks” that are not health risks, but rather lifestyle risks or risks to women's productivity.

³³ Another example of this would be television ads in which girlfriends discuss birth control pills' effectiveness and side effects during a night out at the club.

Questions about the safety of menstrual suppression focus on two kinds of risks. First, questions and answers highlight the adverse effects and side effects of taking hormonal birth control.

What are the risks associated with using hormonal birth control?

Today's hormonal birth control products, whether taken in a standard monthly fashion or in a fashion where you decrease the number of periods per year, have serious risks, which can be life threatening. They include blood clots, stroke, and heart attack. Smoking increases these risks, especially if you are over 35. So if you're over 35 years of age and smoking and on hormonal birth control, you should quit smoking or use some other method of contraception. Some women should not take hormonal birth control, including women who have blood clots, certain cancers, a history of heart attack or stroke, as well as those who could be pregnant.

After defining the pills as having "serious risks," the explanation of those risks quickly shifts to individual risk factors, such as age, smoking, and health history that would increase those risks. The presentation of risks shifts quickly to an injunction to know your risk factors – and think of yourself in terms of this bundle of "risk factors" – and then take the appropriate action to manage that risk, such as quitting smoking or using another method of contraception.

Is not having a period every month safe?

Women may wonder, is it safe not to have a period every month? And the answer is yes, if you're on hormonal contraception. If you're on hormonal contraception, you're not ovulating every month, so having a monthly period is not necessary. Many studies have been done where women do reduce the number of periods per year by taking their pills 12 weeks in a row and then having a period. And studies have shown that this is just as safe as taking the pill in the standard way. We can now safely reduce the number of periods per year, and often by doing so reduce many of the monthly problems women experience.

The question of whether it is safe to not have a period every month again refocuses on women who are already taking birth control pills, pointing out that if they are not ovulating every month, "having a monthly period is not necessary." These women are directed to scientific information on the safety of menstrual suppression from "many studies" that "have shown that this is just as safe as taking the pill in the standard way." As in the explanations of menstrual suppression discussed above, this reference to women who are already taking hormonal contraceptives assumes that users of menstrual suppression pills will be "savvy" users who are already familiar with birth control pills and comfortable with using them. It focuses the discussion on the ways that hormonal contraceptives already intervene in the body (recalling the explanation above in which women on the pill have no menstrual cycle), and in particular, it refocuses the question on the safety and health risks of the birth control pill in general, which women already using birth control pills are assumed to already find acceptable. Thus, using extended regimen pills to suppress menstruation is declared to be "just as safe as taking the pill in the standard way." Not only is menstrual suppression declared to be safe, but any risks of taking the pill may be offset

by the health benefits offered by menstrual suppression, referred to here as reducing “many of the monthly problems women experience.”

The reference to “monthly problems” highlights another, less obvious category of risks introduced on these websites, which I refer to as “lifestyle risks.” These “lifestyle risks” are presented as the various ways that menstruation itself, and the practices of managing menstruation and its associated discomforts and anxieties, are presented as “risks” that interfere with women’s everyday lives – and especially their ability to work and play at full strength throughout the month. When “lifestyle risks” are discussed on the websites, menstrual suppression pills are presented not as introducing risks, but as protecting against them. These “lifestyle risks” or “monthly problems” can range from symptoms related to menstruation or PMS, to the risk of embarrassment from bleeding through a pad or tampon, to a woman’s worry that she would have her period during a vacation, on the day of a big test, while traveling for business, or even just on a day when she wants to exercise. While the exact problem with having your period during these events is not spelled out, the assumption is that a woman would not be able to perform as well, be as productive, or take as much enjoyment from these events if she had her period – or even was distracted by worrying about getting her period. In all of these cases, menstrual suppression is presented as a technological solution to these concerns. Below, I trace one particularly vivid example of these “lifestyle risks” that is representative of the many instances on the websites where these claims are made.

In the interactive feature on menstrual suppression found on the ARHP website there is another example of this form of “risk” represented as women’s “worries” related to menstruation and the ways they risk underperforming if menstruating. The ARHP website contains a mini-site devoted exclusively to discussing menstrual suppression. Its explanation of the three “types” of menstruation goes even more in-depth than the others, with animated depictions of the circulation of hormones (either “natural” or from the pill) that cause the ‘different’ menstrual cycles. In another section the site introduces the idea of menstrual suppression using a visual theme of calendars that represent the time between periods and how a woman could ideally fill this time (everything from going to the beach to yoga to business travel). This section ends with the question “Suppressing Your Menstrual Period: Why do it?” One answer to the question is provided by the animated image that fills the right half of the screen (while the left side is filled with small, grey text providing a more detailed set of reasons). In the animated sequence, the top half of a woman’s face appears at the bottom of the screen. Her eyes look up and to the viewer’s left as a thought bubble appears above her. Inside the thought bubble, a man and a woman in bathing suits sit alone in the white sand on a sunny beach. We see them from behind, her head leaning against his as they look out on a sail boat far offshore. Then the woman’s eyes move up and to the viewer’s right as a second thought bubble appears. In this bubble, a single tampon. The woman’s eyebrows pull down and together into an expression of concern as the two thoughts sit side by side.



The image is set up in a way that makes the opposition between the two images appear to be obvious. The desirable romantic beach scene would be disrupted if the woman were menstruating. The image highlights two of the activities that the marketing websites commonly reference as impaired by menstruation: romance and travel/leisure (two other common categories are sports and work/school). But how is this presented as risk? The text to the left highlights that it is not anything in particular about women's periods that prevent these activities, but rather it is the woman's "worries" or "concerns" that prevent these activities. The text notes that "many women decide to suppress their periods because they... don't have to worry about having sanitary products on hand or about potential leakage during their periods" or "...can participate in sports, travel, and go about daily activities without concerns about their period." It is presented as women's responsibility to manage both her productivity or participation in activities, as well as any worries she might have that would get in her way. Thus, even technologies of menstrual management, like tampons or painkillers that would allow women to swim or be free of cramps, are not enough, and women must turn to technologies of menstrual suppression that would eliminate not only the physical effects of menstruation, but also the worries about having to always have these items in their purse or on their mind.

Under neoliberalism, an "enterprise culture" extends to ever more areas of life – including those, such as health or personal and family relationships once seen as incompatible with market logics. In the area of health, the ideal neoliberal subject is encouraged to develop an "entrepreneurial" relationship to the self that both allows for slippage among multiple forms of "risk" described above, and promotes the conflation of health and enhancement. If individuals must be "health entrepreneurs," then they should not stop at simply preventing disease/producing health, but should produce as much health as possible. "Healthicization" (Pitts-Taylor 2010) also allows for a conflation of health and lifestyle (as seen in the previous chapters), allowing issues of convenience or personal preference to be treated or produced medically, but also meaning that any ways that health interferes with lifestyle must also be addressed. In other words, the varied ways that individuals must take entrepreneurial approaches to the self co-exist and overlap. In this case, then, menstruation must not interfere with productivity or leisure, and both symptoms related to menstruation and the general inconvenience of menstruation carry the same responsibility to act. In fact, the more diffuse "lifestyle risks" presented on the sites lead directly

to the related responsibility to manage and improve the body to guard against these risks and ensure optimal performance for any purpose at any time.

Duty to Improve the Body

In addition to understanding their bodies scientifically and their decisions about menstrual suppression in terms of risk, the websites also present the responsibility for altering or optimizing the body through technology. The websites address this responsibility when they respond to women's presumed concerns about whether menstrual suppression is natural. In one area of an FAQ in which a physician answers questions about menstrual suppression, the website provides the following response to the question, "Why is birth control changing to offer fewer periods?"

The concept of having fewer periods is the wave of the future. Pills today, which induce a monthly period, will be a thing of the past. More women are understanding that they don't need to have a period every month as long as they're on hormonal contraceptives, and that they can reduce the number of periods per year. We're evolving the Pill to really create a more natural state. We weren't meant to be having years and years and years of periods, whether they're spontaneous periods or fake Pill periods. So now the Pill is evolving to reduce a lot of these periods and create what I would think is a more natural state.

The response reiterates the focus on women who are already using birth control pills, refocuses the discussion on a scientific view of the body opposed to superstitious concern with what is natural, and presents a duty to use technology to improve or optimize the body.

This statement both denies that monthly periods are the "natural" baseline to which women should compare menstrual suppression, while it also recasts menstrual suppression pills as "more natural than natural" (Balsamo 1995; Mamo and Fishman 2001). The doctor's response informs women that monthly periods are not "natural," whether a woman is taking birth control pills or not. On the one hand, women taking birth control pills are not having a "natural" monthly period, because it is the pills that "induce" their "fake Pill periods." On the other hand, women ("we") "weren't meant to be having years and years and years of periods," a reference to the argument that menstrual suppression recreates earlier bleeding patterns in which women experienced fewer periods over a lifetime, because they reached menarche later, spent the majority of their reproductive years pregnant or breastfeeding, and died at younger ages. Therefore, women are mistaken if they think that monthly periods are natural and menstrual suppression is artificial. Here they shift the very meaning of "natural," as what women's bodies seem to "naturally" do is supplanted by an explanation of what Nature "intends" for women's bodies. In the name of this natural intention, the pill itself is said to be "evolving" to create a "more natural state." An intuitive understanding that associates "naturalness" with monthly periods is rejected, while at the same time, a new ideal is offered, which requires that women use menstrual suppression technologies to enhance their bodies and achieve this "more natural state."³⁴

This quote from the fewerperiods.com website provides another glimpse at who the ideal users of menstrual suppression are imagined to be:

³⁴ See Mamo and Fishman's discussion of Viagra for another example of the promotion of technology to return "the natural order" through a technology that is described as "more natural than natural."

Is the option of having fewer periods something new?

The concept of reducing the number of periods per year is not new. We've been doing this for many years in medicine: reducing the number of periods in women who have particular disorders with their periods, such as severe cramps and women who want to eliminate their period during a special occasion, such as a honeymoon, a vacation, or test week. In fact, many female healthcare professionals have been eliminating periods now for a long time, and we feel very comfortable with this.³⁵

This description suggests that women who would want to suppress menstruation are those with pain and pathology associated with their periods and those who need to be free of the inconvenience of menstruation because it interferes with their lives and plans. This quote perfectly melds together the responsibility to identify and manage risks and the responsibility to enhance the body to ensure that one can always perform at optimal levels. The text relies on the authority of the medical field ("we've been doing this for many years in medicine") to define the authoritative scientific understanding of periods and their suppression. Menstrual disorders, such as "severe cramps," are elided with the inconvenience of menstruation in general, such that the difficulty of dealing with severe cramps in everyday life is equated to the challenges that even a "normal" period might pose on "special occasions, such as a honeymoon, a vacation, or test week."

The implication is that women must manage their bodies, both to ensure that they are protected from any disability or incapacity associated with menstrual disorders and to ensure that they can work and play at the same intensity all month long, without being hampered by their bodies. All three characteristics of the neoliberal subject I've described here – the scientific understanding of the body, responsibility to identify and manage risks, and duty to improve/enhance the body – are joined together in the final statement, that "many female healthcare professionals have been eliminating periods now for a long time, and we feel very comfortable with this." Female healthcare professionals can represent ideal women who understand the body scientifically and are tasked with identifying and managing medical risks to the body. As female professionals, they stand in for those who have indeed maximized their own productivity and who must be counted on to perform at high levels at all times. The way the sentence is worded makes it unclear whether these female healthcare professionals have been eliminating their *own* or their patients' periods; either way, their comfort with the practice as ideal users and scientific authorities lays out the expectations for all users with respect to menstrual suppression.

The Menstrual Suppression Fact Sheet FAQ from the Association of Reproductive Health Professionals makes this blurring of medical and convenience reasons for using menstrual suppression even more clear:

Am I a good candidate for menstrual suppression?

Any woman who wants to bleed less frequently, or not at all, can try menstrual suppression, and it may be especially appealing to women who are already on hormonal contraception. Women who may be good candidates for menstrual suppression include: women who have serious symptoms around the time of

³⁵ <http://fewerperiods.com/WhatDoExpertsSay/default.aspx>

monthly withdrawal bleeding, like premenstrual syndrome (PMS); young women and adolescents; women who are perimenopausal; women in the military; athletes; or developmentally delayed women. Women who like getting monthly withdrawal bleeding for whatever reason, including to feel sure they are not pregnant, may not be interested in menstrual suppression.³⁶

Potential users are defined as women “who want to bleed less frequently” and characteristics for ideal users include severity of menstrual or premenstrual symptoms, age, occupation, and even developmental ability. No one is disqualified from use, except by their own preference. The phrasing of this caveat, that women who “like” bleeding “for whatever reason” are not good candidates, implies that this may not be considered a legitimate reason to reject menstrual suppression. The phrase “for whatever reason” reflects such incredulity that women would actually *like* bleeding that no relevant example can be provided. This statement echoes Coutinho’s (1999) claim that women who want to have their period every month hold onto dangerous “superstitions” that harm their health.

A similar framing of possible users of menstrual suppression is found on the fewerperiods.com site:

How do I know if fewer periods are for me?

Any woman who’s a candidate for hormonal contraceptives, such as the Pill, is a candidate for reducing the number of periods per year. Women who have problems with their periods, such as cramps and headaches, or PMS, may have added benefits, but a lot of women just have the benefit, the convenience, of not having a period every month.

Again, in this quote the benefit of correcting menstrual symptoms through suppression is equated with the benefit of “the convenience of not having a period every month.” In this way, the duty to optimize one’s body, to take advantage of every benefit or convenience available, is made to seem as automatically and naturally acceptable as treating an illness or correcting a problem.

The list is populated with a range of unexceptional women (young, old) set equally alongside with women with symptoms, women who place high demands on their bodies (military, athletes), and women with disabilities. Several proponents of menstrual suppression have named women in the military as ideal candidates. However, research conducted specifically on this group of women has found that, while they report experiencing menstruation as difficult to deal with and problematic when deployed for military service, very few (around 7%) have actually used hormonal birth control to skip periods (Trego 2007; Trego 2009). There does not seem to be an official U.S. Armed Forces stance on menstrual suppression for women on active duty, although Trego reports that there have been calls for increased pre-deployment education concerning menstrual suppression options.

Including women with developmental disabilities on this list calls to mind a range of interventions into the reproductive capacities and health of developmentally and physically disabled women. These include a history of (often forced) sterilization according to eugenic logics and more recent debates over the use of hysterectomy in combination with hormonal

³⁶ ARHP: “Health Matters: Understanding Menstrual Suppression.”
<http://www.arhp.org/uploadDocs/understandingmenstrualsuppression.pdf>

treatments to attenuate growth.³⁷ Caregivers and/or parents frequently request menstrual suppression for women with developmental disabilities, often before menarche and in anticipation of hygiene issues and an added burden of care (Albanese and Hopper 2007; Dizon et al. 2005; Quint 2008). Many parents/caregivers request menstrual suppression from physicians even before girls have reached menarche, due to concerns about hygiene and sexuality (Albanese and Hopper 2007). While some women with a range of developmental and physical disabilities independently manage menstruation, many are never offered the information and instruction that would allow them to do so (Rodgers and Lipscombe 2005). Although there is little data on rates or methods of menstrual suppression for developmentally disabled women, one study reported that DepoProvera was the most commonly used menstrual suppression method, although extended regimens of combined OCs were also used (Dizon et al. 2005). The menstrual suppression fact sheet here is unique in addressing developmentally disabled women (and/or their caregivers), and highlights the unique position of the ARHP as an organization with research, educational and policy aims, rather than simply a marketing entity (despite receiving a great deal of funding from pharmaceutical companies, including funding for developing the menstrual suppression fact sheets and interactive website).

Menstrual suppression pills are figured in this list as having multiple capabilities – to normalize bodies that lie outside a narrow range of acceptable patterns of menstruation (either because of age or because of menstrual symptoms) or to allow normal bodies to do extraordinary things. The list defines acceptable reasons why women might want to bleed less frequently – placing the desire for less bleeding as a result of the body’s irregularities and a woman’s desires to not be hampered by the limits menstruation (presumably) places on her body. With such a range of characteristics describing ideal users, in the end the defining factor comes down to individual choice. As in this quote from the Lybrel website – “Is LYBREL right for you? If you’re thinking about taking LYBREL, knowing yourself is the first step.”³⁸ – the women figured as ideal users of menstrual suppression pills know their bodies and know themselves, and ultimately they know how to (and that they are expected to) pursue through the market the pharmaceutical means of self-improvement.

By stressing risk, health, and pathology, through a language of choice and empowerment, while avoiding discussions of the meaning-laden aspects of menstruation that women may positively associate with femininity, these marketing websites draw on and enable an ideal of the neoliberal subject, characterized as autonomous, calculating, increasingly responsible for securing her own health and well-being, and free to choose how to do so through the market (Barnett et al. 2008; Bondi 2005; Gill 2008; Rose 1999). While Mamo and Fosket argue that Seasonale’s discourse of empowerment represents a co-optation of the language and practices of the feminist women’s health movement, empowerment has also been identified as a central discourse of neoliberal governmentality (Bondi 2005; Cruikshank 1999; Pitts-Taylor 2010; Rose 1990). These websites address subjects through consumer discourses that encourage them to exercise their freedom to reshape their bodies and selves through the market. The websites and the very form of the FAQ model the characteristics of the neoliberal subject. In the process of configuring the knowledge and practices of potential users of menstrual suppression birth control pills, these marketing websites also configure identities in ways that produce women as ideal

³⁷ The “Ashley Treatment” advocated for severely disabled women dubbed “pillow angels” includes hysterectomy, mastectomy, and high-dose estrogen treatments to stop growth that would normally accompany puberty (See Battles and Manderson 2008; Jordan 2009).

³⁸ lybrel.com/right/index.html [accessed 1/12/2010]

neoliberal subjects. We can see how these websites address subjects through consumer discourses that encourage them to exercise their freedom to reshape their bodies and selves through the market.

“They Just Need to Give the Information”: Regulating for the Ideal Neoliberal Subject

FDA regulation is another site where we can view the configuration of users of menstrual suppression as neoliberal subjects. Similar to the marketing websites’ focus on providing information as a way of configuring users, the FDA (here understood through a meeting of one of the science advisory committees) focuses on providing women with information about contraceptives, in place of regulatory oversight. It is not the products that need to be regulated, necessarily, but rather the information available about them. According to this logic, as long as the information is available, women – in consultation with their physicians – will be able to make the best decisions about which contraceptives are safe and effective. In this part of the chapter, I trace two implications of this approach: 1) the FDA’s focus on giving the information dovetails with the pharmaceutical companies’ strategy of giving information as advertising, in effect legitimating this strategy and facilitating advertisement of their products, 2) the committee advises regulation based on an ideal, neoliberal consumer-citizen, assumed to seek out scientific information about her body, use that information to identify and manage sources of risk, and accept the responsibility for her individual decisions about contraceptive safety and efficacy.

This neoliberal subject is the linchpin in the model in which giving information works as a form of regulation. When individuals are provided with good information, they make the appropriate decisions and self-manage effectively; the accumulation of these individual decisions, in turn, results in a self-regulating market. Products that are popular, that consumers choose to use, must be safe and effective enough (otherwise, consumers would not choose to use them); likewise, unsafe and ineffective products will not do well in the market and therefore don’t require regulation (because they will fail on their own). The difference between the two cases is that while marketing discourses pull women into thinking of themselves and interacting with medical technologies in certain ways, the FDA determines the ways in which women will be able to access these technologies and the types of limits that pharmaceutical companies must obey in marketing these new technologies. Thus, while advertisements offer an idealized version of what women could (or even should) be through the use of menstrual suppression, the imagined consumer-citizen that the FDA regulates for determines what women must be if they want to make sure their drugs are safe and effective.

In order to make this case, I look at the regulatory discourse surrounding new contraceptives, and extended regimen pills in particular. I draw my data from a January 2007 meeting of the FDA’s Reproductive Drug Advisory Committee. This meeting, called to address issues surrounding the process for approving new contraceptives, included several topics specific to extended regimen contraceptives and represents one of the only public discussions of menstrual suppression pills and their regulation by the FDA. I argue that, like the marketing websites, the FDA advisory committee uses a framework of “giving the information” to address women as consumers (characteristic of neoliberal modes of governmentality) in ways that invoke women’s responsibility to seek out information about medical products and to evaluate and use those products in ways that optimize or enhance their bodies and lives.

The Advisory Committee

FDA advisory committees arose in the 1960s, as the FDA was consolidating its regulatory powers in the wake of the Thalidomide scandal³⁹ (Carpenter 2010). They provide additional scientific expertise to the FDA's in-house experts, and have often served to provide additional scientific legitimacy to FDA decisions that are perceived to be "too political" to be decided internally (Carpenter 2010; Jasanoff 1994). There are currently 33 different advisory committees, which the FDA calls to meet periodically to provide an additional level of review for the approval of new products, to evaluate safety data and make decisions about whether to pull drugs that had previously been approved, or to address general questions about the process of approving new drugs (as in this case). Science advisory boards are one way that scientists are drawn directly into policy-making, becoming a "fifth branch" of government (Jasanoff 1994).

The advisory committees are made up of scientists, clinicians, and medical researchers, as well as representatives for consumers and the pharmaceutical industry. When selected committee members do report conflicts of interest, the fact that they have received a conflict of interest waiver is reported along with the meeting proceedings, but the details are not made public. Recent studies have shown that advisory committee members' ties to industry have influenced the committee's decisions, especially when committees are asked to make decisions on specific products (either to approve new products or revoke approval of products already on the market) (Rosen 2007; Steinbrook 2005; Lurie et al. 2006). Representatives from the FDA have claimed that it is difficult to find people to be on the advisory committees, and individual members are often pulled in for a single meeting rather than as permanent members of the advisory committee.

FDA advisory committees, in general, are tasked with providing technical and scientific advice on:

clinical policy issues [the FDA] confronts regarding product development and evaluation. The agency also uses these committees to legitimate the soundness of its analysis of a given product, as a public forum for discussion of controversial issues, and, on occasion, as an "appeals court" for disputed agency decisions. (Institute of Medicine et al. 1992:47)

They meet several times per year and are provided with an agenda and a specific set of questions to answer that are written by FDA staff (Institute of Medicine et al. 1992). The Reproductive Health Advisory Committee is tasked with reviewing safety and effectiveness data on drugs relating to obstetrics and gynecology. The committee's charter states that:

The Committee shall consist of a core of 13 voting members including the Chair. Members and the Chair are selected by the Commissioner or designee from among authorities knowledgeable in the fields of obstetrics, gynecology, endocrinology, pediatrics, epidemiology or statistics and related specialties. The core of voting members may include one technically qualified member, selected by the Commissioner or designee, who is identified with consumer interests and is

³⁹ Thalidomide was a tranquilizer/sleeping pill that was developed in the late 1950s. It was prescribed to many pregnant women in the UK and Europe as a treatment for morning sickness. However, thalidomide was soon found to disrupt fetal development, and thousands of children were born with missing or malformed limbs. The US FDA never approved Thalidomide for use in the US, although many doctors passed sample pills on to their patients (a common practice at the time). The scandal fueled a push for more thorough drug trials and regulation based on safety, in addition to effectiveness (Carpenter 2010).

recommended by either a consortium of consumer-oriented organizations or other interested persons. In addition to the voting members, the Committee may include one non-voting member who is identified with industry interests.⁴⁰

This two-day meeting of the Reproductive Health Drugs Advisory Committee in January 2007 was called to address issues regarding the testing, approval, and marketing of existing and new hormonal contraceptives (excluding injectables). The committee was composed of 9 regular members and 11 temporary voting members, mainly academic physicians and statisticians/epidemiologists, along with a consumer representative, a patient representative, and one pharmaceutical industry representative.⁴¹ Eight employees of the FDA Center for Drug Evaluation and Research also participated in the meetings (but did not vote). The topics on the meeting's agenda included clinical trial design issues, contraceptive efficacy and risk/benefit analysis, cycle control (scheduled vs. unscheduled bleeding), translation of clinical trial results into real-world safety and effectiveness, extended-dosing regimens, Phase 4 commitments,⁴² and product labeling to communicate the results of clinical trials.

"They Just Need to Give the Information"

My analysis here focuses on two themes/topics during the two-day meeting: standardizing the definitions and measurement of bleeding and determining the lower threshold of contraceptive effectiveness for new hormonal contraceptives seeking new drug approval. Across these two topics, the common theme was consensus around the idea that the FDA's place was not to set rigid standards for the approval of new drugs, but rather to make sure that women (and clinicians) knew what they were getting when they purchased a particular product. In other words, the advisory committee advocated that the agency primarily regulate the *information* available to consumers, rather than the products allowed into the market. I argue that the elision of the products and the information available about them provides conditions under which 1) the FDA both legitimates the pharmaceutical companies' attempts to mask advertising as neutral information or education about their products, facilitating the advertisement of new products rather than regulating them; and 2) relies on the construction of citizen-consumers as neoliberal subjects individually responsible for seeking out information about products, weighing and managing sources of risk, and fulfilling their responsibilities to use the medical market to enhance their bodies and futures.

The extent to which the advisory committee embraced the view that the FDA ought to regulate information about products, rather than the products themselves, is apparent in the following exchange. One of the pre-determined questions the committee was asked to address was how the FDA ought to weigh pharmaceutical companies' claims about the ability of extended regimen pills to suppress menstruation against the reality of an increase in unscheduled bleeding or spotting. Discussions earlier in the meeting had focused on recommendations that clinical trials and post-marketing studies standardize the definitions they used to track and report bleeding patterns (both scheduled and unscheduled) so that women and their doctors could be

⁴⁰ The Reproductive Health Advisory Committee charter is available here: <http://www.fda.gov/AdvisoryCommittees/CommitteesMeetingMaterials/Drugs/ReproductiveHealthDrugsAdvisoryCommittee/ucm107572.htm>

⁴¹ A list of participants at the January 23-24, 2007, meeting can be found in the Methodological Appendix.

⁴² Phase 4 clinical trials are conducted by companies after the approval of a new drug, often to monitor rare safety issues that would not surface in the clinical trials conducted to gain approval. Phase 4 trials can also be used to gain FDA approval for new uses of approved drugs.

adequately informed to judge these claims and the acceptability of bleeding patterns. Ultimately, though, the committee did not recommend requiring a true reduction in bleeding days in order for drug companies to make claims about menstrual suppression. In fact, the following quote represents the full extent of their discussion on this particular question:

DR. LOCKWOOD: The next question [on the agenda], in reviewing extended regimens how should the division [FDA Division of Reproductive and Urologic Drugs] balance a decrease in scheduled bleeding against an increase in unscheduled bleeding?

DR. ESPEY: Well, they don't need to. They just need to give the information.

DR. LOCKWOOD: Exactly. (United States Food And Drug Administration January 24, 2007: 41)

In the rest of this chapter, I use the transcripts from this 2007 meeting of the reproductive health drugs advisory committee to work through the stance of “giving the information” and “caveat emptor,” specifically in these two issues of defining bleeding and defining risk vs. (noncontraceptive) benefit. In these two examples, I highlight how the committee frames the FDA’s role as regulating the information provided about these products, rather than the products themselves, as well as how constructing women as decision-making consumers allows the committee to assume a self-regulating market.

FDA officials themselves recognize this shift in the form of regulation of drugs, from one where the FDA makes the ultimate decisions on the safety and efficacy of drugs to one where regulating the information given to the public takes the place of regulating the products themselves. For example, Dan Shames, an FDA official, gave the following defense of a recent decision by the FDA to place a black box warning on the contraceptive patch:

I think what is happening, which it appears the general public wants, is more transparency, in a sense putting some of the burden, in terms of risk management, more perhaps on the physicians and the patients than, you know, just being more paternalistic and having it all within the FDA and we finally decide, well, this drug is no good, or something like that, which may be too late in the view of some people and if we had published the information sooner and they had known about it, that would be better. (Shames, US FDA, January 24, 2007: 211)

Here, Shames presents a tradeoff for the public: faster, expanded access to information in the name of transparency, which comes along with an increased individual responsibility for both the use of that information to manage risk and make decisions, and the consequences of those decisions. Shames’ statement demonstrates the central framing of a neoliberal mode of regulation, which shifts “the regulatory competence of the state onto ‘responsible,’ ‘rational’ individuals [with the aim of] encourag[ing] individuals to give their lives a specific entrepreneurial form” (Lemke 2001:202, quoted in Brown 2003).

Re-Defining Menstruation

In this section, I analyze the advisory committee’s conclusion that “giving the information” is the answer to the question of regulating menstrual suppression. In the meeting, this issue is addressed as one of “cycle control,” or hormonal contraceptives’ effects on

menstrual bleeding patterns. Throughout the committee's discussion of cycle control, the main focus was on ensuring the quality of the information available about hormonal contraceptives' effects on bleeding patterns. The advisory committee focused their discussion on: standardizing definitions and measurement of bleeding; making the information "understandable" to women; and menstrual bleeding defined as a risk to be managed. Regulating the quality of the information ensures that women will make their own judgments about whether extended regimen pills are effective and acceptable. There is a slippage between the consumerist concept of "acceptability" and the FDA's mandate to make sure that drugs are "safe and effective."

For the advisory committee's discussion of cycle control, the issue of the quality of information took the form of efforts to standardize the definitions of bleeding used in clinical trials and other studies of contraceptives' effects on bleeding patterns. One of the pre-set topics on the meeting agenda addressed suggested changes to the requirements for data on cycle control and bleeding collected and reported in clinical trials. In contrast to their quick dismissal of the question of requiring reductions in bleeding for approval of extended regimen contraceptives, the committee conducted a lengthy discussion about the definition and measurement of bleeding. The discussion included a formal presentation by Dr. James Trussel, an economist and population researcher from Princeton University, who reported the findings of a separate committee convened to study the definition and measurement of bleeding patterns produced by combined hormonal contraceptives. The committee recommended not using terms such as "period" or "breakthrough bleeding" when referring to extended regimen pills, suggesting that these be replaced by "withdrawal bleeding," and "scheduled" vs. "unscheduled" bleeding. Trussel summarized the recommendations in this way:

We recommend abandonment of the use of "period" or "menses" with regard to combined hormonal contraceptive use and replace it with "scheduled" or "withdrawal" bleeding. ...The term "scheduled bleeding" emphasizes that withdrawal bleeding is not the same as menstruation at all. Abandon the use of "breakthrough" bleeding or spotting and replace with "unscheduled" bleeding or spotting. (United States Food And Drug Administration January 23, 2007:408-9)

As Trussel makes clear, the shift in language is intended to highlight that the bleeding women experience when taking hormonal contraceptives "is not the same as menstruation at all." While the committee makes a distinction similar to that on the websites distinguishing between bleeding while taking or not taking hormonal contraceptives, they do not support the introduction of the concept of a "pill period." Instead, they promote language that replaces the common sense or experiential language of "periods" with notions of "scheduled" or "unscheduled" bleeding. In this framework, bleeding that occurs when women are taking inactive or placebo pills is considered "scheduled" and all other bleeding is "unscheduled."

The committee chair praised the recommendations to change the language and measurements used to study bleeding patterns because the standardized language "moves away from mixing metaphors with both physiologic and pharmacological processes" (Lockwood, US FDA, January 24, 2007:5-6). Further, standard terms and measurement would make data on bleeding more useful and easier to understand:

I absolutely support the idea of having standards for reporting data, and especially analysis of bleeding. I agree that that has definitely been missing and both

physicians and patients need to know what we mean when we say bleeding and spotting. (Lockwood, US FDA, January 24, 2007: 14-15)

Physicians on the committee were concerned with improving the quality of the information about bleeding to make it clearer “what we mean when we say bleeding and spotting,” something that seemed to be unclear to both patients and physicians. The advisory committee then voted to advise the FDA to accept the proposed changes to the definitions of bleeding (which would then be recommended for use in new clinical trials).

However, following this presentation and decision, an FDA representative on the committee questioned whether the new language around bleeding would, in fact, be clear to women. In particular, for extended regimen pills, where one cycle would be 91 days (84 active pills and 7 inactive/placebo pills, rather than the usual pattern of 21 active/7 inactive), the FDA was concerned about whether women would understand data presented as number of days of scheduled or unscheduled bleeding in one cycle. Scott Monroe, the acting director of the Division of Reproductive and Urologic Drugs, clarified one of the questions on the agenda about how to report bleeding patterns for extended regimen OCs:

And, again, [we are asking this question] in an effort to be helpful to the prescriber and the consumer. So, I think, when we think in terms of a traditional monthly cycle, it is fairly easy to conceptualize things [bleeding patterns]... But then when you are talking about longer intervals... let's say it is an 84/7 [regimen] or a continuous [regimen]... then you have to start doing all this mental sort of arithmetic if you are trying to go back and relate it [number of bleeding days] to a more traditional pill. We wondered if you had any guidance or if everybody can instantly do the mental mathematics... I don't think your average person thinks in terms of numbers of anticipated bleeding days over a year, the numbers of withdrawals, and so on... Should one take a yearly product, for instance, and try to go back and normalize it for 28 days or 30...? That is really what we are asking of you. (Monroe, US FDA, January 24, 2007:42-3)

The question, as Monroe explained it, was whether women would be able to “do the mental mathematics” to translate the number of scheduled and unscheduled bleeding days in a year into terms that they could compare with the traditional monthly pill regimen or with their “normal” periods – and, given this, what form should information on bleeding patterns actually take? Would women actually be able to make this comparison and understand whether they would bleed less on an extended regimen? This question was key to answering whether women would make a good decision about whether the bleeding pattern produced by the extended regimen was acceptable to them. His question points out that moving bleeding definitions and measurements away from commonly understood terms like “period” and “spotting” might undermine the project of providing information that women would understand and use to make optimal decisions.

Committee members’ responses to this question mainly focused on their own role in explaining and interpreting the data for their patients. They concluded that the information should be available to women in the labeling of products, and that making it understandable to lay women was not such a concern, because physicians would counsel the patients about how to

compare the products, rather than expecting them to understand it on their own. For example, Dr. Johnson said:

I think when we communicate that [information about extended regimen pills] to our patients we already do communicate it [information about bleeding patterns]. Now, having effective labeling and information for patients so they can expect unpredictable bleeding, I think that is very important but I think the cycle length is somewhat of a misnomer. Yes, it is different from what you would expect with 21/7 [traditional 28-day regimen pills] but, just communicating what is expected of the bleeding...we can communicate that to our patients (Johnson, US FDA, January 24, 2007:45-6).

Further, another doctor stressed that, “I don't usually talk to patients in terms of number of days. It is sort of qualitative. So, the two important things are, you know, qualitatively how much bleeding can they expect and what happens over time. I think those are the two main issues for patient counseling” (Espey, US FDA, January 24, 2007:46). The physicians focused on their role in counseling patients, and in doing so, they construct women as information-seekers, who are not experts, but who will seek out expert opinions to help to help them interpret the information they are given.

In terms of cycle control and bleeding patterns, the committee expressed concern about the “acceptability” of bleeding patterns produced by hormonal contraceptives, and extended-regimen pills in general. Quality information that women and physicians could understand was useful because it allowed women to “know what they were getting” and therefore make good decisions in advance about whether the bleeding profile of a particular contraceptive would be acceptable to them. The risk of poor-quality or inadequate information was that women would stop taking a pill if the bleeding profile or side effects were not what they expected.

acceptability is, I think – If I heard you right – better if somebody is informed and then they make the decision to go ahead when they understand what is going to happen than when they are surprised. (Monroe, US FDA, January 24, 2007:43)

In this statement, Monroe echoed the comments of Paula Hillard, an OB/GYN who works primarily with adolescents:

We had many adolescents in my practice who, when given appropriate information about Norplant, for example, when they were told you *will* have unpredictable and unscheduled bleeding chose to use the product and were very satisfied with it. We had good continuation rates. We had very satisfied patients when they were given that information up front. If they were told, or had they been told that the bleeding *might* be unpredictable, that is a different statement from the statement that the bleeding *will* be unpredictable and unscheduled. So, if patients are given that information I think they will make the decisions. (Hillard, US FDA, January 24, 2007:19, emphasis added)

The question of what is at stake in these definitions became clear in a public comment made by Anita Nelson, speaking on behalf of the American College of Obstetricians and Gynecologists.

We know that lower-dose extended cycles are growing in popularity among American women and we need to know more about the risk of unscheduled bleeding and spotting with these regimens. In the traditional 21/7 packages unscheduled bleeding and spotting is the leading cause of discontinuation. So, it is important for us to understand this phenomenon well so we can counsel our patients appropriately. (Nelson, US FDA, January 24, 2007:68).

In short, the risk of unscheduled bleeding is not anything inherent in the bleeding itself, but rather that it makes a contraceptive less acceptable to women and increases the risk that they will stop using it. However, this does not lead to a conclusion that pharmaceutical companies should ensure that new contraceptives have bleeding profiles that are more acceptable to women; rather, the risks of unscheduled bleeding can be managed by providing women with information up front. If the likelihood of unscheduled bleeding can be adequately defined and measured, and then presented as standardized, understandable data, this “risk” can be individually managed. Women who adequately inform themselves by seeking information and expert advice can decide for themselves whether the unscheduled bleeding is acceptable to them or not. Risk should be managed not by bringing the body under complete control, but rather by providing full knowledge of the risks of unscheduled bleeding and then “responsibilizing” women *as consumers* to decide whether they want to take on this risk.

In the end, the committee members found consensus around the idea that responsibility for risk management should lie with the individual. More than once, committee members explicitly discussed this responsibility in market terms, using the model of “caveat emptor” or “let the buyer beware.” Speaking specifically to the question of whether the FDA should require makers of extended regimen pills to show that the pills actually reduce the number of days of bleeding in a year, the chair of the advisory committee stated:

I think I also agree absolutely – being a good libertarian – with Paula about “caveat emptor” and people ought to be made aware of the bleeding patterns, but it ought not to be considered strongly in the approval process.” (Lockwood, US FDA, January 24, 2007:22)

Women were left responsible for seeking out information, seeking advice from experts when necessary, and making their own individual decisions about whether particular contraceptives are right for them or not. While this approach may seem relatively innocuous when the decision concerns an “optional” or “extra benefit” of birth control, the committee took this same approach in their decisions about the required *contraceptive efficacy* of new hormonal contraceptives.

Risk vs. Benefits

The advisory committee took a similar approach to the issue of whether there ought to be a required minimum level of effectiveness for new hormonal contraceptives to receive approval. The FDA Division asked committee members repeatedly to supply a specific number for a pregnancy rate that represented the upper limit beyond which a hormonal contraceptive would be

too ineffective to be approved, but the committee members mostly refused. The consensus of the committee was: “it depends.” Members argued that any of a range of non-contraceptive benefits might make a contraceptive an attractive choice for some women, and therefore, low contraceptive efficacy should not keep any options off the market.

The committee concluded that, as long as the information on pregnancy rates and other proven benefits was made available to women and their physicians, women would be able to make informed decisions about less effective contraceptive products. Committee member Dr. Gibbs, an OB/GYN, stated that he had a “high tolerance” for effectiveness rates that were much lower than existing contraceptives because he did not want to keep new options from reaching the market:

After all, the patient and the provider would have a wide choice of contraceptives, weighing risks and benefits, some with very high efficacy and others with poor efficacy, and that decision ought to be tailored between the patient and her provider. (Gibbs, US FDA, January 23, 2007:327)

The committee chair expressed similar tolerance, saying, “So, if patients are given that information I think they will make the decisions. So, my bias would be not to cut off at any given cutoff up front, but to just present the information in a standardized form and allow clinicians and women to decide” (Lockwood, US FDA, January 24, 2007:19-20). Summarizing the committee’s stance at the end of the first day, Dr. Julia Johnson stated, “It seems to me there was somewhat of a consensus that as long as women are informed and providers are informed, that there isn’t really a lower limit of effectiveness as long as it is communicated to the patients within the realm of other contraceptive choices.” Dr. Lockwood, the committee chair, replied “Very good point. I think caveat emptor was the message that everybody wanted to convey” (US FDA, January 23, 2007:348).

The aims of the FDA in this model would be to increase the number of choices women had and to make sure that the high-quality information they need to make this choice is available:

So, we want to encourage the availability of the broadest possible array of contraceptive options to women, and that means that ultimately the final decision on the suitability of an agent ought to be left to the doctor and the woman on the basis of the available data. (Lockwood, US FDA, January 24, 2007:262)

The role of physicians in the decision-making process was to counsel their patients, by helping them interpret the data and place themselves within it. Counseling seemed a necessary step in “giving the information” as women would not necessarily be expected to understand the information on their own. In evaluating the question of whether the FDA ought to switch to clinical trials that tested the effectiveness of new contraceptives against existing ones (called active control trials), rather than evaluating effectiveness statistically (by comparing it to pregnancy rates when no contraception is used), Dr. Joanna Perlmutter (OB/GYN), expressed the sentiment that she was not as concerned with actual improvement in effectiveness that a new drug might provide, as long as that information was made available:

I do believe there is a role for active controls [vs. statistical controls in clinical trial design], and I think that it is important for us, as clinicians to know the pros

and cons. I don't think the numbers are as important as long as I know the numbers and I can give that to the patient when I am counseling them. (Perlmutter, US FDA, January 23, 2007: 324-5).

Here she referred to the “the numbers” regarding how much better a new contraceptive would have to be than an existing one in order to be approved. She argued that it wasn’t that important what “the numbers” showed, as long as she was able to access the data and advise her patients appropriately. In other words, the actual effectiveness is not important, as long “the numbers” are made available to physicians and patients to use in making an individual decision.

One reason that committee members so easily rejected a cutoff for efficacy in favor of information and counseling was that “the numbers” were not seen as the only important factor to be considered. One committee member posed a hypothetical case:

[Suppose] an application is made for a drug which really has few side effects, has a terrific safety profile from everything that we can determine, but happens to be relatively less effective than other drugs about which we know, that [would be] a counseling issue. (Blumenthal, US FDA, January 24, 2007: 162)

Blumenthal, an OB/Gyn at Stanford, makes the case that relatively low effectiveness should not keep new contraceptives off the market because other factors, such as fewer side effects, might outweigh the lack of effectiveness, and, in any case, this would be information that physicians could share with their patients as part of counseling them about the risks and benefits of different contraceptive options. To explain why he thinks it is physicians who should individually counsel their patients about less effective contraceptive options, rather than have the FDA refuse approval for contraceptives that are not more effective than what is already available, he explains, “We heard a comment before in the public session that we need more options, that you can't have really enough options.” In the name of providing the greatest number of options to consumers, the committee members stressed that the FDA should leave more choice open to consumers and be generous in approving new drugs. The possibility that less effective drugs would be introduced on the market would be balanced by making available high-quality information that could be used by patients and physicians in their decisions about acceptable levels of the risk of method failure (pregnancy). Concurring with the comments made on the issue, Dr. Gibbs stated, “In general, I am opposed to paternalism or, in this case, maternalism. I am also generally opposed to arbitrariness. What I am in favor of is disclosure and labeling” (Gibbs, US FDA, January 24, 2007: 164). Thus the responsibility to weigh the evidence and determine whether new drugs are safe and effective enough for use shifts downstream, where consumers’ individual choices are expected to replace the FDA’s regulatory oversight, here figured as paternalism.

Furthermore, the committee balanced risks (of side effects or pregnancy) against possible noncontraceptive benefits that new hormonal contraceptives might provide. In her presentation on ways clinical trials could more accurately collect information about real-world contraceptive effectiveness, Dr. Gilliam focused on how the trials could measure the acceptability of products to women, particularly in terms of side effects and noncontraceptive benefits. She said that researchers “typically think about things like bleeding or amenorrhea. But women also care about libido and other lifestyle factors” (US FDA, January 23, 2007: 359) and these things should also be taken into account. Women, as users of existing and possible future products, are

imagined as consumers motivated by personal preferences, who will then evaluate product information to determine which products best match their preferences. These preferences go beyond the physiological effects of pharmaceuticals (such as “bleeding and amenorrhea”) to include how these products match their desires and “lifestyle” (a quintessential consumer construct). While Gilliam and other committee members do present women as active, desiring subjects, as the following quotes will show, these desires are almost always channeled back through the concept of consumer desires.

Another committee member, Lorraine Tulman (the consumer representative on the committee, who has a doctoral degree in nursing), explicitly discussed what kinds of noncontraceptive benefits might outweigh decreased contraceptive effectiveness:

So, if we have a new drug coming to market, it would seem that, unless the new drug, in terms of theoretical effectiveness using the Pearl [Index, which reports pregnancy rates]... is at least around a 2 [2 pregnancies per 100-woman-years], it would seem that it wouldn't capture any market share unless it has some other handle such that it is better for acne or it is better for some other side effect, makes you look like Cindy Crawford or something, something that they could really market as a handle. (Tulman, US FDA, January 24, 2007: 174)

Tulman’s comment focused on contraceptive effectiveness as just one factor influencing a birth control pill’s ability to compete in the marketplace. In doing so, she shifted the emphasis away from a focus on what minimum contraceptive effectiveness would make a new pill “approvable” and towards consideration of whether a new product would compete successfully on the market once approved. Rather than address the FDA’s question of what minimum level of effectiveness ought to be required for approval, or even (as was also discussed in the meeting) whether new contraceptives even needed to be more effective than existing ones, Tulman argued that market competition obviated the need to regulate contraceptives based on effectiveness. In her formulation, if a new contraceptive was not at least as effective as existing products, it would simply not sell well – *unless* it offered noncontraceptive benefits that could offset its lesser effectiveness.

According to Tulman, if a new contraceptive worked as a beauty pill that prevents acne or “makes you look like Cindy Crawford,” it would obviously be acceptable to women and successful on the market, despite its lower rate of effectiveness. Noncontraceptive benefits constituted the “handle” that would match women’s existing consumer preferences, which here were assumed to be concerns about lifestyle and physical appearance, and thus would give that product a competitive edge in the market. However, note that while this model assumes that products that do not work well enough would not be attractive to women (unless they had some other benefit that made up for it), her statement also allows for the influence of marketing in shaping consumer choices (“something they could really market as a handle”).

The idea that consumers would rationally weigh what noncontraceptive benefits they were willing to “trade off” for reduced effectiveness was further exemplified in this statement:

For an example, I mean, suppose it [a hypothetical new contraceptive] doubled your fun and sex life. Well, we may be able to trade off a lot for that. But without knowing what that is, it is very difficult to say what you would trade off. If, in fact, you can demonstrate that the tradeoff is X in terms of efficacy, I guess Y in

terms of something else, you could put it on the product label and let people vote with their feet. (Trussell, US FDA, January 23, 2007:346)

In this view, even a much less effective contraceptive would be acceptable if it was offset by increased fun and an improved sex life. This committee member felt that the FDA ought to allow individual consumers to make these tradeoffs, as long as the benefit was proven and the lower effectiveness was clearly stated on the packaging. Using this framework, women are tasked with indicating which drugs are safe, effective, and otherwise acceptable by “voting with their feet,” or choosing to use or not use the products.

In discussing which contraceptives would work well as comparison products for clinical trials in which new contraceptives would be compared directly against already-approved ones, one doctor advocated using as the benchmark a product chosen for its success in the market. He proposed:

[a hypothetical] standard comparator, which is a drug--I am making this up now--but a drug that was approved within the last 10 years, that has a very high market penetration, not quite the gold standard, but it's a benchmark, it is something that is widely used, the customers have voted with their feet--they are buying it, whether the customer be the doctor or the patient (Lockwood, US FDA, January 23, 2007:262).

While this market-oriented model depends on individual consumer actions to regulate contraception through market mechanisms, there is an inherent tension or ambiguity in naming who, in fact, the consumer actually is. As Andrew Lakoff points out, this is often true for pharmaceuticals, where the role of consumer is divided among the patient who uses the drugs, the clinician who chooses and prescribes them, and even the insurer who pays for the drugs. This is further complicated in the case of drugs like birth control pills that are not prescribed to treat a particular illness, and therefore more open to consumer choice and influence from direct-to-consumer advertising. This is reflected in the committee's comments by the ambivalence shown about whether the information given to consumers ought to be directed at lay women or at physicians, with the fallback position that it was okay if women could not understand the information on their own, because they would be able to seek expert advice and counsel from their physicians.

However, not everyone agreed that simply providing the information to the patient and relying on physicians to help with interpretation would be sufficient. Elizabeth Shanklin-Selby, the patient representative on the committee, made the case that doctors are not necessarily providing their patients with extensive, individualized counseling:

I mean, you are talking about patient counseling--and that information doesn't always come through. I mean, I find it has been kind of hit or miss as far as different physicians how much information I am given. Then you read the product insert and, I mean, I understand it if I can see it. I mean, I have to use my glasses and a magnifying glass to read it. [Laughter.] But I am thinking of somebody who isn't familiar with a lot of the terminology. They are going to be looking at that [product information insert] and they are going to draw a blank. And, a lot of times doctors do not always tell you what you need to know. I mean, it is kind of

up to the patient to ask a lot of questions and that doesn't always happen... I have to go on line to get a lot of the information that I want. I don't necessarily get it from the doctor or even the pharmacist. (Shanklin-Selby, US FDA, January 24, 2007:218-19)

Shanklin-Selby reports that, even in her own experience, patients are often left to find and make sense of information on their own, and that the internet – rather than their physician or pharmacist – is often their first source of information. Given that much of the information available on the internet is provided by the pharmaceutical companies (such as the websites discussed above), who do provide patients with interpretations of “the information” about contraceptives aimed at counseling women in making their decisions, the focus on simply “giving the information” constitutes a tacit legitimization of the pharmaceutical companies’ efforts to advertise their products through the dissemination of seemingly disinterested educational and informational websites. Dr. Johnson responds to Shanklin-Selby by stating that, in fact, it is not immediately obvious to all physicians how to counsel their patients about “the information” and that the counseling that physicians provide often depends on providing patients with materials produced by the drug companies:

I think that Elizabeth made a good point that it would be nice to get information that the FDA put together for physicians for counseling, but also [to have information] that can be handed to patients that is readable and usable... most of what we get, unfortunately, comes from the company that produces this product so there is inherent concern on patients' part of bias. So, it would be nice to have a piece of information that we can actually hand to patients. Actually, most of the materials that come from pharmaceutical companies – I mean, they are done for marketing reasons... [It would be helpful] to be able to hand people a sheet that would be useful ... and that is not so difficult to read. Is it reasonable to ask the FDA to do that, as well as to help with physician counseling? (Johnson, US FDA, January 24, 2007: 221-2)

Here, Johnson argues that pharmaceutical companies are doing a much better job of “giving the information” than the FDA is, and requests that perhaps the FDA could provide information that is more similar to what the drug manufacturers are already doing. Given the consumer-oriented approach underpinning the model of giving the information, it is not surprising that the marketing materials were seen to do a better job of informing patients to make consumer decisions. However, it is surprising to see the discussion skim over patients’ concerns about bias in this information and neglect the fact that the “bias” introduced by marketing information is probably part of what makes it seem so clear and understandable.

A further example makes it clear that the information given to consumers should be in the form of “raw” or “neutral” data, rather than in the form of regulation or expert advice. The example concerns the use of “black box” warning labels to convey significant safety or effectiveness issues with a particular drug. A few of the committee members stated that, while they generally felt that women should be given the information about safety and effectiveness, so they could make their own, well-informed decisions, they did not want this information to appear in the form of a bolded or boxed off warning, which might discourage physicians from prescribing those contraceptives (from fear of malpractice liability).

I would like to speak against the idea of using a warning label.... Many physicians will no longer use a contraceptive that has a black box warning at all[,] more because of the legal climate of our society, and those that do use it feel often that the patient has to sign a separate consent form for it. So, to put a black box warning on things because the dosage is higher over a month, when it is not higher over a day and there is no proven adverse effect,⁴³ is probably way too cautious. (Berenson, US FDA, January 24, 2007:36-7)

According to Berenson's statement, information that specifically warns women or physicians is too directive and no longer counts as "giving the information." In particular, while physicians' input and counseling is important in helping women interpret data and supporting them in making their own choice about which contraceptive is best for them, physicians' gate-keeping role as prescriber means that anything that unduly constrains *physicians'* choices in prescribing (warnings from the FDA that may put physicians at legal risk) prevents women from making that choice. Compare this, however, with the idea presented above, that the "bias" found in informational materials produced by drug companies was only a drawback to the extent that it made women suspicious about the truth of the information. Further, the very ability of the bolded warning to affect decisions on a mass level, rather than individually, makes it a drawback:

I think it is one thing to be transparent for the public, but it is another, in a country where we have a 50 percent unintended pregnancy rate, to consider the huge public health impact that a black box warning will have. (Espey, US FDA, January 24, 2007:215).

According to Espey's claim, simply putting a black box warning on *some* contraceptives, to warn about dangerous side effects or reduced effectiveness, would reduce women's use of contraception *as a whole* – possibly even increasing the rate of unintended pregnancy in the US. The overarching theme is that the FDA should leave the evaluation of evidence, decision-making about acceptable safety and effectiveness, and responsibility for managing risk to the consumer in individual consultation with her physician.

In the end, the panel that was recruited to provide advice to the FDA because of their expert scientific knowledge seems to reject the necessity of their own expertise, deferring to women's rights to maximum choice and ability to regulate the safety and effectiveness of contraceptives on the market by 'voting with their feet.' Regulation of new products was left to the accumulation of individual consumer opinions. Physicians on the committee presented their role as that of individual expert advisors to their patients, who could help patients interpret safety and effectiveness data and counsel them on how to evaluate the data according to their personal concerns and preferences. Thus the committee valued the role of experts and expertise as providing individual, flexible counseling in support of individual decision-making and responsibility, rather than as an expertise of rule-making in a one-size-fits-all model.

⁴³ Berenson here is referring to the recent decision to put a black box warning on the label for Ortho Evra ("the patch"), after research showed that women using the patch had higher than expected levels of hormones in their bloodstream. While no studies had definitively shown health consequences from these increased hormone levels, there were concerns that it might increase the risk of blood clots.

Between Biopolitical Citizens and Marketplace Populations: Mediating State and Market

There are sort of the political implications, just how much do we demand that the government do to ensure the safety and efficacy of a drug versus how much is the individual prescriber and patient's responsibility to obtain information and make educated, intelligent decisions, the caveat emptor, the libertarian argument. (Lockwood, US FDA, January 23, 2007:44)

To return to the quote that opened this chapter, throughout the two-day meeting, advisory committee members emphasized that “the individual prescriber and patient” would indeed be expected to bear most of the responsibility for ensuring the safety and efficacy of contraceptives. The contention that providing information will lead to safe and effective contraception for women relies on an ideal neoliberal subject who fulfills her responsibility to “obtain information and make educated, intelligent decisions” and whose choices will accumulate with others’ to form a self-regulating market. Regulating by ‘giving the information’ only works as a strategy of neoliberal governmentality. It is in this sense that the Advisory Committee discussions configure neoliberal subjects, by making decisions that not only assume certain things about the knowledge, practices, and identities of users of birth control, but also by shaping availability and access to these technologies in ways that require those attributes.

Further, because the FDA is a government agency with a mandate to protect consumers, they act in the name of citizens *and* consumers, and thus configure ideal consumer-citizens. In doing so, they reproduce a neoliberal model in which the state itself operates according to a market logic and “prescribes citizen-subject conduct” according to that same logic, requiring individuals to be “entrepreneurial actors in every sphere of life” (Brown 2003). Within this logic, regulatory discourse built on the assumption that individuals are rational, savvy consumers – those who skillfully seek out information and expert advice, are individually responsible for deciding which products best balance risk and benefits, and are safe and effective enough for them – produces these ideal consumers as subjects.

One set of implications following from this model can be seen through analysis of a series of comments made by one of the advisory committee members, Bruce Stadel, a retired FDA medical officer now serving as a consultant to the FDA. In the context of a discussion on changing the design of clinical trials to better reflect real-world conditions, Stadel argues for allowing pharmaceutical companies to include in clinical trials only those groups they intend to market their drug to, calling this group the “marketplace population”:

I think that, in a [clinical] trial to license a drug... the entry criteria for [study participants in] a licensure trial should correspond to the intended marketplace population. There are actually ways using various kinds of data sets to actually examine who uses oral contraceptives, what is their mix by BMI, and so forth, and perhaps such data should be looked at by people who are planning studies, so that insofar as possible, they test [the drug that] they are proposing to market in the people they are proposing to market it to. (Stadel, US FDA, January 23, 2007:37)

Here, Stadel introduces into the discussion the idea that pharmaceutical companies can define in advance their “intended marketplace population” for a new drug, and that the study population

for the clinical trial should be drawn from this group. The “marketplace population” would be constructed from data – likely the companies’ own market research and tracking of physicians’ prescribing patterns. Not only would the relevant population for clinical trials be determined by the market, but (in Stadel’s view), the FDA would also take this “marketplace population” as their relevant population to regulate for. Thus, the collective of consumers constructed as a “market” and the collective of citizens/subjects constructed as the “population” would be one and the same – even in the eyes of this representative of the state.

Stadel argued that since “it’s a company that markets a drug, and it develops it, and it does have to deal with its liabilities” once it is on the market, he thinks there ought to be some allowance for or deference to “what a company chooses to define as its marketplace population” (Stadel, US FDA, January 23, 2007:47-8). In this conversation, the committee was discussing including additional subgroups, such as adolescents, women with high body mass index (BMI), and women with risk factors for blood clots. For Stadel, companies would only have to include these women in their research to the extent that they planned to market their new contraceptives to these women. Thus, pharmaceutical companies would be excused from testing their drugs for use by individuals or groups that would be unprofitable or have a higher risk of adverse effects. In this sense, the process of “niche standardization” theorized by Epstein (2007) is indeed driven by niche marketing – inclusion in the market would predetermine not only inclusion in research, but also inclusion in FDA regulation.

As Stadel goes on to say, the FDA’s regulatory task would not be to ensure that pharmaceutical companies determine whether new contraceptives are safe and effective for all possible users, but rather to make sure that companies provide clear information about who their intended “marketplace population” is:

I would very much encourage that concept that a company choose who [they are] intending to market [their new contraceptives] to and to come up with a realistic plan to test the drug for efficacy *in the intended marketplace population*, and there could be a little variation between companies and *who they say the drug wasn't studied in*, or something like that. (Stadel, US FDA, January 23, 2007:47-8, emphasis added)

Again, Stadel argues for allowing the pharmaceutical companies to define the population they will test new contraceptives on, based on who they plan to sell them to. This would allow for variation among companies in who would be included in the “marketplace population” and they would only have to state clearly who they did not study the drug in. Presumably, it would be the individual consumer’s responsibility to seek out the information on “who they say the drug wasn’t studied in” and decide whether they were truly meant to be included in the market for each drug.

The use of “marketplace population” in place of “study population,” which blurs and blends market-, state-, and science-defined groups, is fully consistent with the neoliberal mode of regulation employed by the advisory committee in its discussions. Stadel’s suggestion that the state (the FDA) ought to recognize “the market” and “the population” as identical and interchangeable – in the guise of the “marketplace population” – relies on and reinforces the idea that, rather than receding from the market, the neoliberal state actively builds the conditions for the market to operate more freely (Barry et al. 1996; Brown 2003; Burchell 1996). Here, as Wendy Brown argues, under a neoliberal political rationality, “the body politic ceases to be a

body but is, rather, a group of individual entrepreneurs and consumers” (2003). To the extent that there is any sense of a collectivity, it takes the form of a market.⁴⁴

Admittedly, Stadel was only one member of the committee, and none of the other members acknowledged or repeated his language or suggestions pertaining to the “marketplace population” (either to support or reject them). In fact, the general consensus in this discussion was that companies ought to be encouraged to include in clinical trials diverse groups, including those with higher risk, etc., in order to generate the best possible information on safety and effectiveness to pass on to women and physicians – and this is consistent with the “biopolitical paradigm of inclusion and difference” (Epstein 2007). However, the fact that this comment was made by a former FDA official, along with the fact that no one remarked on it, shows that there is space for this formulation in the neoliberal model of regulation.

This model, which is one logical end for the continuing neoliberalization of regulation, forestalls the possibility of politics through scientific research which is highlighted in concepts of biological or biopolitical citizenship. What do we do with this concept as the state evacuates the political and cedes to the market the ability to define and demarcate political subjects, in the process shrinking the possibility for political participation to “inclusion” in the marketplace? The social and political claims possible in present forms of biological citizenship seem to increasingly be limited to demands for inclusion and participation in the market, and in turn, active, savvy, entrepreneurial market participation becomes the full extent of the possibilities for political subjectivity. This marks an underexamined tension in research on biopolitical citizenship – how are biologically-based social and political claims changed as neoliberal political rationality reconfigures both the state and individual political subjects according to market logics? What space exists between “niche marketing” and practices of “niche standardization” in FDA-regulated research? The slippage between consumer, scientific, and political definitions of subjects makes it especially important to return to the role of marketing in configuring ideal neoliberal subjects – in “making up” (Rose 2007: 133) neoliberal biological citizens.

The Neoliberal Subject of Menstrual Suppression?

In this final section, I examine the interplay between market- and state-based practices of configuration surrounding menstrual suppression, particularly with respect to how the ideal neoliberal subjects configured at these sites are gendered and racialized. In order to do so, I examine two tensions in how neoliberal subjects are configured/ produced: 1) the fantasy of inclusion in marketing representations vs. individual responsibility to “opt in/out”; and 2) the promise of de-essentializing the body through technology as empowering vs. the duty to enhance the body as homogenization and the erasure of difference.

The promise that technology provides the ability to “escape” the constraints of the body is contrasted against a constitutive other who “chooses” to remain constrained, and is therefore personally responsible for any disadvantages she experiences. Recall that in the FAQ discussed earlier, “anyone who wants to bleed less” and who has the knowledge and understanding to take

⁴⁴ This stands in contrast to developing countries, such as Argentina, where neoliberalism (in the form of structural adjustment) has meant a true retreat of the state and market takeover of many of its former “social” functions. In this context, the territory can now be seen to contain a market, as defined by pharmaceutical marketing data, rather than a national population, as defined by state health statistics (Lakoff 2005). In the U.S./advanced liberal democracies, this form of neoliberal governmentality relies on the state can be counted on to facilitate the joining together of “market” and “population.”

advantage of menstrual suppression birth control is a good candidate for its use. The marketing websites present menstrual suppression pills as part of a broader neoliberal orientation toward the body as a flexible resource for health “entrepreneurs.” Further, women are not told that they *must* suppress menstruation; rather, menstruation is now presented as an option – but one that it is assumed women who are rational and responsible will choose to forego. Those women who do not take up technologies of menstrual suppression are understood as having actively chosen to menstruate because of personal preference (those women who “like getting monthly withdrawal bleeding for whatever reason”) or because they have superstitious beliefs about monthly menstruation as “natural.” These women are assumed to not share a rational, scientific understanding of menstruation, and have not made responsible choices to reduce risk or improve their bodies. It is clear that anyone making this choice would also be held individually responsible for whatever health and lifestyle risks she experienced along with monthly menstruation.

The websites configure users of menstrual suppression as neoliberal subjects who use this technology to increase health, avoid risk, and facilitate the pursuit of self-improvement defined in market terms. To the extent that the body is portrayed as fixed, an obstacle, or as a *source* of inequality, technologies – like menstrual suppression pills – that enhance the body, make it flexible, and allow the individual to leverage this flexibility in some way, are sold as a source of liberation and empowerment. Technology promises neoliberal subjects a market-mediated way to opt in or out of categories such as gender as race. It promises that it is possible, through savvy entrepreneurial action, that one can become one of the “new elites,” as Martin puts it, who are best able to capitalize on their bodies’ abilities to be flexible. While Martin worried that certain groups might be, in a sense, left behind because they were viewed as too tied to rigid, inflexible bodies and selves, this does not quite seem to be the case. Rather, women and people of color, those who are marked by difference are, on the one hand, more intensely called to take up the radically, hyper-individualized neoliberal subject positions as a route to empowerment and liberation, and on the other hand, more intensely harmed by social and structural constraints on their abilities to succeed as savvy, entrepreneurial selves in the market. This de-essentializing rhetoric can easily co-opt feminist narratives that reject biological determinism in favor of empowerment and autonomy, particularly by focusing solely on *individual* empowerment and autonomy (Fraser 2009; Roberts 2006).

The crucial question that I have not addressed here is how women respond to these attempts at configuration. The central thrust of user studies has been to show that configuration does not always succeed as intended, and users may respond in a variety of ways. I explore these questions in Chapter 5, in which I analyze data from interviews with women users and non-users about their engagement with these technologies and the meanings they attach to use of menstrual suppression birth control pills. In particular, the alignment of menstrual suppression discourses with those of neoliberal subjectivity shape and confine the terms in which women understand and explain their understandings of menstrual suppression and their decisions to use or not use these pills.

Chapter 5 | Prescribing and Practicing Menstrual Suppression: Achieving a Normal Period and Re-forming the Natural

Medical knowledge, marketing, and FDA regulation co-constructs menstrual suppression as a “new” technology and new savvy users for these pills. But, how do clinicians and women engage with menstrual suppression on an everyday basis? Who uses these pills and in what ways? Do women enact and embody the biomedical and neoliberal subjectivities they are called to take up through menstrual suppression birth control? Here, I turn to interview data from a small sample of clinicians and women users (and non-users) of menstrual suppression to answer these questions. Including the perspectives of medical practitioners who work in the area of reproductive health and regularly prescribe hormonal contraceptives for their patients helps to illuminate the distinctions between academic medical researchers and those working with patients on the ground, allowing me to examine how clinicians are directly involved in constructing menstrual suppression technologies and users. Prescribers’ dual constructions of extended regimen birth control – as treatment and as convenience – and of (potential) users of these pills affect who has access and who is excluded. Through interviews with women users and non-users of menstrual suppression, I explore the question of what forms of embodied subjectivities women enact through their engagements with menstrual suppression technologies.

In their article on Seasonale, Mamo and Fosket argue that “Seasonale produces the nonmenstrual woman as both embodiment and subjectivity” (2009:928). They find that the initial (2004) advertising campaign for Seasonale “is not only targeting ideal bodies but also targeting and producing everyday bodily behaviors and experiences of being in the body, including the regimen of taking the pill and doing so as prescribed” (935). However, while Seasonale is presented as a new technology with the potential to transform all women’s embodied experiences, one main argument of this dissertation has been that it has taken a great deal of work, in the form of constructing and configuring new users and producing new, commercialized scientific knowledge, to make menstrual suppression birth control pills seem “new.” In fact, many women already used extended regimen oral contraceptives to treat problematic periods. As I will show in this chapter, especially for women with problematic menstrual symptoms and irregular periods, menstrual suppression provided a way to achieve a “normal” period, rather than movement toward an ideal of “nonmenstrual embodiment and subjectivity.”

In what follows, I first examine clinicians’ constructions of menstrual suppression as both a treatment and a convenience, along with the co-constructions of patients/users. I pay particular attention to the construction of “savvy” patients, who are considered ideal users of menstrual suppression, and the group of “excluded” users they are defined against. Turning to women’s discussions of their own engagements with menstrual suppression, I show how women’s problematic periods and use of cyclic OCs to regulate menstruation preceded their use of extended regimens. Using OCs as a treatment for problematic periods facilitated their understanding of extended regimen pills as a tool that helped them achieve “normal” periods. I then explore menstrual suppression as not just a technology, but also a practice. Finally, I analyze how women use varying notions of what is “natural” and “normal” to support or resist the use of technologies of menstrual suppression.

This chapter draws on data from 13 interviews. I conducted 5 interviews with physicians or nurse practitioners and 8 with women users or non-users about their attitudes about and experiences with using/prescribing birth control to skip or delay periods. The 5 clinicians

included one physician and four nurse practitioners who worked in a variety of healthcare settings, from private medical practice to a large university health center to a public health clinic.⁴⁵ I interviewed women who had used menstrual suppression birth control pills, as well as women who used extended regimens of traditional birth control pills and women who had not used any form of extended regimen OCs. Doing so allowed me to capture varying forms of engagement with menstrual suppression, from active use to resistance. Given scholars' arguments that menstrual suppression birth control alters all women's embodied experiences of menstruation, whether they use these pills or not, it is especially useful to include women who have never used menstrual suppression/extended regimen hormonal contraceptives.

I conducted interviews in the San Francisco Bay Area. Women (users) ranged in age from 21 to 32. (For additional details about the interview methods and a table of interviewees' characteristics, please see the methodological appendix.) All eight of the women I interviewed had used hormonal birth control at some point. Seven of these women had at some point experienced periods that they considered problematic, with very heavy flow, painful cramps, or irregular cycles; they used oral contraceptives to regulate their period or treat their symptoms. Six had, at some point, either taken menstrual suppression birth control pills or altered their birth control regimen in order to suppress menstruation. One had tried to postpone her period only once, three had taken cyclic OCs or another hormonal method in an extended regimen by skipping the placebo week (what I call "informal suppression"), and three had taken Seasonale, Seasonique, or a generic equivalent.⁴⁶ One woman was currently using menstrual suppression birth control pills, all of the rest had discontinued their extended regimen OCs by the time of the interview. In addition, one woman was currently using a long-acting hormonal implant (Implanon) and had her period irregularly (I did not include her in the menstrual suppression group). Women who used menstrual suppression birth control or informally suppressed menstruation did so for varying lengths of time, ranging from trying it only once to informally suppressing for nearly 10 years. Women who practiced informal suppression reported that they started doing so either before Seasonale and similar products were available, or before they were aware of these products. Most did not switch to use the "new" menstrual suppression pills when they became available.

Prescribers' Perceptions of Menstrual Suppression and Construction of Users

Prescribers' discussions echoed the medical literature by dividing the use of extended regimens into two categories: treatment and convenience. All of the clinicians I interviewed said that they prescribed extended regimens for women who experienced difficult menstrual symptoms, especially headaches, heavy bleeding, or painful cramps. Clinicians said that, in these cases, they were more likely to be the ones who brought up the idea of using birth control to skip periods. Many of the clinicians distinguished this use of extended regimens as treatment from a woman's request or choice to skip periods for convenience. While clinicians insisted that they often prescribed extended regimens for treatment, they also confirmed that they saw many patients who chose to use extended regimens for menstrual suppression. In these cases, it was more likely that the patient already knew that she could do this and asked the clinician to prescribe menstrual suppression birth control.

⁴⁵ Additional details on the interviews can be found in the methodological appendix.

⁴⁶ One person who had previously practiced informal suppression with Ortho Evra was currently taking a generic version of Seasonique.

Similar to the medical literature, these different uses for extended regimens were co-constructed with different users. One group of users consisted of women with difficult menstrual symptoms, who skipped periods on their clinicians' advice and whose symptoms were relieved by extended regimens; another group consisted of "savvy" users who understood how hormonal birth control affected their menstrual cycle and were eager to manipulate their cycles to fit their busy schedules and active lifestyles. However, clinicians' constructions of extended regimen users revealed that there were multiple groups of women who were excluded from use of these technologies. Clinicians draw distinctions between "savvy" users who "get it" and are good candidates for menstrual suppression and women who – bound by outdated beliefs, lack of knowledge, or cultural tradition – prefer to menstruate, who lack knowledge about their bodies and contraceptive options, or who are unreliable pill-takers. Ideal users of menstrual suppression were seen as active consumers who understand they could and should see their body as a resource that they can manipulate and improve; clinicians offered these ideal users a range of contraceptive *choices* that allowed them to do this. Excluded users were seen as passive patients who were constrained by their lack of scientific understanding of the body, incorrect cultural beliefs, and an attachment to the idea that periods are "natural" and necessary. Clinicians might still offer menstrual suppression to these patients as an option, but felt that most didn't want it or wouldn't accept it. For these patients, contraceptive discourses emphasized fertility control and compliance: getting patients on a form of birth control to begin with and making sure they used it correctly and consistently.

From Treatment to Convenience

In my interviews with clinicians, most emphasized prescribing extended regimens to treat their patients' difficult menstrual symptoms. Some pointed to the medical research that guided this practice and highlighted that they began prescribing extended regimens for treatment long before the availability of menstrual suppression birth control. For example, Elizabeth, a nurse practitioner working in a large HMO, explained that her practice began prescribing extended regimens to treat menstrual migraines after reading a published study on using OCs this way. She said, "We've been doing this a long time before the packaged pills were out. We used regular birth control pills. We heard about it when the study was published... So we started using it with initially with patients with migraine headaches and we would give them continuous birth control pills." Highlighting migraines and painful periods as the two main reasons she would prescribe menstrual suppression, she said that, "it really is amazing how you can fix someone's migraines; they don't get that withdrawal trigger so that's really beneficial." Elizabeth stressed both the "amazing" treatment benefits of extended regimens and the scientific basis of prescribing OCs in this way.

Adam, an OB/GYN working in a private practice, said that he frequently prescribed hormonal contraceptives in an extended regimen. In our interview, he insisted that extended regimens were about more than just "I don't want to bleed." In his discussion, he drew the clearest distinction between using his expertise to prescribe extended regimens to correct a problem and providing access to menstrual suppression birth control for women who wanted it for convenience:

You know, so much of the time, you're using pills to correct. It's not just out of convenience, but to actually correct something that's a problem. So if somebody is having erratic periods – maybe it's every two weeks, maybe it's every six

weeks – or they have spotting or whatever and they are in a certain age range, then your simplest solution and the right solution, because it’s correcting the hormonal cycle irregularity, is to be on birth control. So then it’s usually me suggesting hormones. I’m really suggesting a fix for a problem.

For Adam, then, it was important to recognize the therapeutic benefits of extended regimens. He highlighted how he, like Elizabeth above, was diagnosing a medical problem and providing a cure – “a fix for a problem” – by prescribing extended regimens.

Adam and Elizabeth worked in healthcare settings with well-insured patients they were able to offer their patients the newest and best treatments. They both reported frequently prescribing extended regimens. However, practitioners in a variety of healthcare settings held a common view of extended regimens as a useful treatment for menstrual symptoms or irregular periods. Hana H. worked as a nurse practitioner in a public high school where the students were mainly low-income African-American teens. While very few of her patients used extended regimens, she said that she would recommend an extended regimen for “people who have really bad periods, so if they’re really heavy or really lots of side effects. There are girls who are throwing up during their period, or having to miss school, or just super uncomfortable.” Across the board, clinicians discussed prescribing extended regimens to treat symptoms as distinct from prescribing them to allow patients the convenience of fewer periods.

When they described prescribing menstrual suppression birth control –specifically to skip periods for reasons of personal preference or convenience – clinicians used a language of choice and flexibility to present this to their patients as an option. Adam, though he had stressed the importance of the therapeutic uses of extended regimens, was quite explicit in describing how patients could shape their periods according to their individual preferences. He said, “I tell my patients your period can be your puppet. You can have it when you want to. And, normally, they don’t.” Adam’s stories about times when patients had requested information or pills to help them skip their periods showed the importance of personal preference, flexibility and convenience in the construction of menstrual suppression:

And then you get people who are like, ‘I calculated my period out seven months and it’s gonna fall right on my honeymoon and we need to do something.’ You know, I’ll be like, ‘okay, okay. That’s perfect. We can work with that.’ Or there are people, who say, ‘I’m flying to Vegas tomorrow, what do I do?’ ‘Well, it might work, but it won’t necessarily work,’ you know, that kind of thing.

Clinicians’ focus on choice and flexibility echoed the medical literature’s construction of menstrual suppression. Adam described how women who used menstrual suppression actively sought a way to skip periods and took the initiative to contact him.

Adam’s story also includes the kind of lifestyle concerns that drove women’s interest in suppressing periods. Honeymoons and travel (which, as I discuss in Chapter 3, are central to the marketing narratives) were central to clinicians’ discussions of why women requested menstrual suppression birth control. Wendy T., a nurse practitioner at a university health center, told me she “had some women, even before this became so popular, who really loved the idea when they would be, say, camping or traveling or on a honeymoon ... and they were so excited that they could manipulate their period and not have it during that time.” Wendy reports that this kind of one-time, infrequent postponement of periods to avoid having them conflict with travel or special

events (what one news report called the “honeymoon trick”) was fairly common even before the introduction of Seasonale. Even Diane R., who worked in a city Department of Public Health clinic, said, “Some women come in and say, ‘I’m traveling,’ and we know that it’s not going to be real convenient [for them] to have a period. Traveling, I think, is one of the big ones for not getting your period... going to Mexico or going to Europe.” This common practice did not require a new prescription or product, as long as women were already taking birth control pills. Rather, women only needed the knowledge that this was possible.

In addition to instructing women in how to skip their periods for special events, clinicians also prescribed extended regimens to allow women to regularly skip their periods for convenience. While Elizabeth W., had begun prescribing extended regimens solely to treat menstrual migraines, she and other clinicians in her practice quickly began to prescribe extended regimens to more and more of their patients:

We started using it with initially with patients with migraine headaches... Then, more and more women came along that never wanted to have a menses for either reasons of convenience or painful periods (dysmenorrhea). We just started doing it more and more.

To Elizabeth, menstrual suppression for convenience seemed a logical extension of the use of extended regimens for treatment. While most of the clinicians stressed that extended regimens were treatments that they prescribed to help patients with difficult menstrual symptoms, at the same time they fit menstrual suppression for convenience into this framework with little adjustment. Prescribers’ descriptions of expanding the use of extended regimens, both for the treatment of additional symptoms and for their patients’ convenience, mirrors in two ways menstrual suppression’s emergence in the medical literature. First, as in both Adam’s and Elizabeth’s examples, women are described as active consumers desiring and requesting ways to bleed less frequently; physicians’ prescription of extended regimens simply responds to women’s desires to bleed less often. Second, in the same way that the journal articles shifted swiftly to include bleeding *per se* as a “symptom” of menstruation that extended regimens could treat, there was a slippage in the clinicians’ distinctions between treatment and convenience. Elizabeth equated painful periods and convenience as reasons women wanted to skip periods, saying that it was “more and more women... who never wanted to have a menses” that caused the clinicians in her practice to begin prescribing extended regimens.

Emphasizing the use of extended regimens for their therapeutic effects as distinct from their use for menstrual suppression and convenience allows clinicians a way to maintain medical authority in the face of increasing patient demands for lifestyle drugs, simply because it allows them to draw attention to cases where they make medical judgments and prescribe treatments based on the latest medical research. By emphasizing their clinical judgment and use of extended regimens to “fix problems” and “resolve complaints,” clinicians can maintain medical authority and autonomy through one use of extended regimens, while also “giving patients what they want” when patients ask for pills they’ve seen advertised on TV. However, as seen in Chapter 1, another way that medical practitioners can do this is by making lifestyle itself an area of medical concern. Doing so makes prescribing pharmaceuticals to improve a patient’s “quality of life” a valid medical exercise, rather than simply an act of acquiescing to consumer demands.

In the same way that medical researchers promoting menstrual suppression shifted several aspects of menstruation onto the list of “symptoms” that extended regimens could treat, physicians allowed some slippage between the headaches and heavy bleeding their patients

report and the everyday inconveniences of a “normal” period, in that they both impact quality of life. Wendy T. said:

I've had a few women say, "This changed my life," ...because they just dreaded their periods every month. They just felt they had to put their life on hold for a few days because of either really bad cramping or they were terrified they were going to be soaking through [their pad or tampon] and [were] always carrying extra clothes and pads and all that. So they were liberated, in a sense, by this. They could be more at ease. I've had women who were planning to travel somewhere in an area where the hygiene was going to be an issue and they were counting whether they were going to be bleeding with bears around, and said, "Oh, it was so great to go and I could just know I wasn't going to have my period," or women who are getting married [who said], "I didn't worry about staining my dress."

Wendy's discussion of women who feel “liberated” from painful cramps or heavy flow easily slides into the familiar list of situations in which women benefit from suppressing menstruation: travel, camping, and weddings. Importantly, it is the issue of quality of life that links the two. Heavy bleeding shifts from symptom to lifestyle issue through women's fear of bleeding through their clothes (as in the quality of life scales for menorrhagia discussed in Ch. 1), which is equated to concerns about hygiene while traveling, whether bleeding would attract bears on a camping trip, or staining a wedding dress.

The slippage between treating symptoms and quality of life concerns, in some cases, centered on mood changes associated with PMS. As Adam explained:

For the most part, it's, yeah, a matter of convenience. They hate their period. It hurts. It happens at the worst time, you know. Or there's other things, there's other aspects to skipping your period than just bleeding. I mean I'll use extended cycle if somebody comes in and says, 'I always just get in a really bad mood and want to kill my children the week before my period comes.' And so for them that sometimes stabilizes. People who are really moody throughout their cycle, and, again, it's them saying 'I'm moody throughout my cycle,' then for them extended cycle can be really good.

Even as he states that menstrual suppression is mostly used for convenience, Adam still refers back to the use of menstrual suppression to “fix problems” – in this case, moodiness or irritability. Adam insists, however, that the *patient's* claim of moodiness, not his own assessment, is what drives the prescription in this case, highlighting how easily diagnosis/treatment and consumer requests are elided when it comes to lifestyle concerns.

Savvy vs. Excluded Users: Women who “get it” and women who “want to see their period”

When clinicians discussed their patients who used menstrual suppression for convenience, they described women who were busy, actively desired bleeding less, and who quickly grasped how and why it was possible to skip periods. In this way, clinicians' shared with the medical literature the construction of menstrual suppression users as distinct from patients

who used extended regimens to treat menstrual symptoms. Further, because these clinicians interact directly with patients and act as gatekeepers who can either promote or discourage menstrual suppression, they play a direct role in constructing these users. For this reason, I examine how clinicians describe users of menstrual suppression (actual or imagined) in order to draw out how their construction of ideal users matches or moves away from those found in the medical literature, advertising, and regulatory discussions.

Ideal users of menstrual suppression, imagined as “savvy,” knowledgeable patients and active consumers, were constructed against a group of excluded users. These women were not described as knowledgeable, but rather as influenced by incorrect cultural beliefs or traditions, and as unreliable pill-takers. Clinicians said they would not encourage these women, who I call “excluded users” to use menstrual suppression birth control pills. This is not to say that clinicians would refuse to prescribe Seasonique or an extended regimen for these patients, but more subtly, that they would not suggest it or would try to steer these women toward other methods; often they stated that these women were not interested in menstrual suppression. Descriptions of “excluded users” often included references to race and/or class, whether explicit or coded.

While many of the prescribers stressed the therapeutic uses of extended regimens, when I asked them the most common reason they prescribed extended regimens, they replied that most of their patients used extended regimens to suppress menstruation for convenience. Elizabeth estimated that she now prescribed extended regimens primarily for convenience: “I’d say it’s 25 percent for migraines and 75 percent for convenience, absolutely.” Similarly, Adam G. stated, “I’d say it’s probably mostly people who are doing it not as a therapeutic, but rather as an advantage kind of thing, you know?” Wendy T. provided an example of the type of “advantage” that menstrual suppression provided to her patients, who were mainly university students:

I’d say I think because our patient population is generally so stressed and overwhelmed by their lives, that it’s like one less thing they have to worry about. [They’ll say] thank god, now I don’t feel like freaking out about my period coming when I’ve got my class presentation or my qualifying exam or my bar exam coming up. So I think that it’s more that it’s just freeing women up because anything they think that will make their lives a little bit easier for them is attractive.

Working in a university setting, Wendy described the benefits of menstrual suppression as allowing busy, overwhelmed students to focus on their school commitments. These busy and high-achieving students benefitted from menstrual suppression because they did not have to worry about getting their periods. (As I showed in the last chapter, offering menstrual suppression as a way to stop *worrying* about periods, as much as a way to stop having periods, is one way that menstrual suppression is marketed to women.)

Clinicians described ideal users of menstrual suppression as experienced pill users. Some even said that they would advise patients who were not currently taking OCs to start with a few months on a cyclic regimen before trying menstrual suppression. Adam G. said that most people he prescribed extended regimens for were “already on [an oral contraceptive] and getting more complicated – not complicated, but getting more advanced with their treatment.” He said this of the differences between women who were using extended regimens for the convenience of skipping their periods and those using them for treatment:

The people who are skipping their periods the most are probably – they’re 20 to 30 and deferring kids. So they’re the people who most are on top of their game. They don’t have time for having a period. They’re busy people. They’re career people or whatever. And they’re the ones who are most consciously skipping their period. “This is right. I’ve got this under control.”

According to Adam, the women who used extended regimens specifically to skip periods were busy “career people” in their 20s who value the control they can exercise over both childbearing and periods. He said that these were not the women who were doing it because of pain or other symptoms, but rather “the woman who is just like, ‘Hey, I can do this. This is great.’”

Further, users of menstrual suppression (for convenience) were seen to be extremely knowledgeable about their bodies, sex, and birth control:

Teenagers are the ones – they don’t want their periods at all. They are done and over. Teenagers right now are really interesting because they have a fair amount of knowledge, they’re fairly well versed and they’ve had such – they’ve grown up in HIV education and they’re really pretty together. It’s a very odd one that is like dopey... they’re really good. They know their stuff. They know safe sex. They know STD stuff. They know about birth control. (Elizabeth)

Teenagers who had been raised in an era of HIV and provided with sex education covering safe sex, STDs and a variety of birth control methods were seen as familiar with their bodies and sexuality and willing to take advantage of the non-contraceptive benefits of birth control, such as skipping periods. Elizabeth was quite explicit about which adult women were using menstrual suppression:

More educated people. Absolutely. It’s not the casual drift in that you counsel about contraception... I would say though the women who are requesting continuous birth control pills are people who are really well read, that can understand this. It’s not just somebody who is coming in and being fed something. The passive, kind of the passive consumer.

Elizabeth described her patients who used menstrual suppression birth control as “educated” and “well read.” She contrasted these women with women who do not seek out birth control, but rather “drift in” and are counseled by their healthcare provider that they ought to be using a form of birth control. Rather than “passive consumers,” ideal users of menstrual suppression took the initiative to read up on birth control options and ask their healthcare providers for extended regimen pills.

According to Adam G., some patients are so effective at seeking out and absorbing health knowledge, they often “get it” on their own, and don’t even have to request menstrual suppression pills from their doctor or ask how to do it:

Some people are just more savvy than others in terms of kind of getting it. So those people can kind of start. They just understand: “When I’m taking it, it’s gonna keep my period away. When I stop, I will get bleeding.” So for those people, they’re more likely to kind of jump forward to that anyway.

When discussing the use of extended regimens to treat menstrual symptoms, clinicians stressed their clinical judgment and the medical basis for their prescriptions; however, when discussing menstrual suppression for convenience, clinicians shifted into language reflecting patients as consumers who independently sought out knowledge, directly asked their healthcare provider to prescribe menstrual suppression birth control, or even altered their birth control regimen on their own.

Physicians' descriptions produced a very clear image of the ideal users of menstrual suppression: smart, savvy women and teens who are well-educated, seek out health information, and are active consumers of healthcare products and services. These women value the control they can exercise over their bodies and reproduction and are too busy with work or school to worry about having their period. These ideal users – racially unmarked (and therefore most likely white) and assumed to be middle class and well-educated – were imagined as naturally interested in bleeding less frequently and able to ask their doctors for the tools to do so. The ideal user was constructed against an image of women I call “excluded users.” The group of excluded users was imagined to be uninterested, unwilling, or unable to use menstrual suppression. I am not arguing that clinicians withheld, or said they would withhold, prescriptions for menstrual suppression from these patients. Rather, because clinicians saw these women as uninterested in or incapable of using menstrual suppression birth control, they were unlikely to offer it to them.

“Excluded users” have been discussed extensively by information technology scholars (Wyatt 2003). However exclusion has mainly been understood as a lack of access to technologies, for example, in the case of internet non-users as victims of the “digital divide.” As I will show below, it is not necessarily true that women in this group lack access to extended regimen birth control that could be used to suppress menstruation. Rather, they are not included in the definition of users because they are imagined to have certain characteristics that oppose those necessary for ideal users. Excluded users provide the outside against which clinicians define the ideal user.

Excluded Users

When I asked clinicians who they felt was an ideal candidate for menstrual suppression birth control, the most common answer I received was something similar to Diana's response: “Well, any young lady that wanted to do it. Anybody who wanted to do it. Anybody who comes in and asks, I certainly would prescribe it.” However, as I showed above, physicians and nurse practitioners had a particular kind of woman in mind as someone who “wanted to” or would “come in and ask” for menstrual suppression. Similarly, they had an equally vivid image of women who did not want to skip periods or would neither ask for, nor be able to use menstrual suppression birth control.

One group of women that was excluded from the category of good candidates/ideal users of menstrual suppression was women who “liked to see their period.” As Adam G. said, “the only people that really don't want to do it are the people who just want to see their period, but that's not even someone that I would recommend to do it. It's just that for them that's not the right thing to do.” Women who “really are attached to their periods” as Wendy T. put it, might say that having their periods was symbolic of femininity (whether positively or negatively, as for the woman who said it “is kind of the burden that I have to bear as a woman”) or was a marker of good reproductive health. Women might also say that monthly periods reassured them that they were not pregnant. However, clinicians interpreted even this line of reasoning as an illogical

attachment to having monthly periods. Wendy T. said that she often explained to women that bleeding was “not a guarantee you’re not pregnant.” She elaborated:

I have a number of women, when they told me that they have bad cramps or really heavy bleeding and I talk to them about the continuous cycling, I think that they're really kind of repelled by it. They'll say things like, "That just seems so unnatural," or, "I really like having my period every month because it reassures me that I'm not pregnant." So sometimes I try to talk to them a little bit about it, but often, they seem very clear that their period's important to them and they're not really interested.

While these patients might be able to give specific reasons why they wanted to have monthly bleeding, the clinicians considered it to be an ill-informed or emotional attachment to periods that ultimately came down to preference and not logic. While Wendy T. might try to talk her patients out of relying on their periods to know they aren't pregnant, she ultimately decided they were “not really interested.” In this case, because some women's resistance to menstrual suppression was understood to be illogical, even “giving the information” did not seem useful and, perhaps like Adam G., many of the clinicians ultimately decide that suppressing menstruation was just “not the right thing to do” for these women.

Some of the clinicians stated that women's attachment to having monthly bleeding was a cultural belief, and “culture” usually seemed to refer to race/ethnicity. For example, Latina women were said to be more attached to having a monthly period:

This is another thing why some women don't want to take these birth control pills, is because they don't think that it's natural not to get their period, and that's more common among the Mexican-American ladies that we have coming here rather than the general population. But yeah, they don't think it's natural not to get their period. Little do they know that's not really a period. It's just withdrawal bleeding from not taking the hormones, but for them, that's their period and they feel that's a natural process. (Diana R., NP)

Racialized references to culture, then, were used to account for non-white women's non-scientific beliefs about the body and menstruation, such as Diana's reference to “Mexican-American ladies” who don't know that withdrawal bleeding caused by the pill-free week is “not really a period.” Compare this to Adam G.'s discussion of “savvy” patients who figure out on their own how to use pills to skip their periods and, in his words, “jump ahead” or “get more advanced in their treatment.”

Latina women were also described by one clinician as more accepting than white women of the side effects of some contraceptives:

I think Depo is really cheap for a lot of people who have no insurance and I think you can go to Planned Parenthood and do Depo pretty inexpensively. And I think it's very accepted in Latina—I mean, culturally it is very Latina. You can have it because for a lot of Latinas it's okay to be a little zaftig and plump. Caucasian girls no way. I mean they will not take Depo. They get it, they understand it. It's interesting. (Elizabeth W-T, NP)

Here easier access to less expensive hormonal contraceptives at healthcare sites that primarily serve uninsured or underinsured women is conflated with a cultural acceptance of “plump” body types to make the weight gain associated with use of Depo Provera acceptable for Latina women in a way that it is not for white women. Further, what is understood by Elizabeth as culturally-conditioned acceptance of Depo is also interpreted as evidence that Latina women are not as knowledgeable as white women who, Elizabeth indicates, are right to reject Depo.

Hana, who worked in a school-based clinic with low-income, African-American teens, also described her patients as receiving cultural messages that discouraged them from using any kind of hormonal contraception, but especially menstrual suppression. Hana said:

The biggest challenge is not are they going to skip their period. It’s actually getting them to be on a method, because the[ir] fear is more with the birth control and not with skipping their periods. I have a really hard time getting girls on a birth control method here. I feel like there are a lot of messages they’re getting, about how it’s not natural for you, and it messes up your body, and you won’t be able to have kids later.

She elaborated on the messages they were getting, mainly from older women in their families:

That it’s natural for them to have their period and they feel like they should, and they might not be able to have babies, and they won’t know if they’re pregnant. [They get] lots of messages from their grandparents – because a lot of them live with their grandparents or grandmas, or older aunts – about, just in general, any birth control method, that they won’t be able to get pregnant later and that it messes up their periods. So to not have a period would be like, “What am I doing to myself?”

Hana reported that her “biggest challenge” in working with the teens in her school was overcoming the negative messages about hormonal birth control that they received from older women in their families and communities. The common thread running through many of these comments is that women of color have different ways of thinking about and relating to their bodies than whites do, in a way that directly maps onto and reinforces colonial tropes of race that oppose modernity to tradition and science to superstition (Harding 2008; Stoler 1995). Class, too, affects the types of contraceptives available to women in direct ways, as in Elizabeth’s example of Depo’s availability to uninsured Latinas, but also less directly in the ways clinicians folded these structural factors easily under “culture,” which, in turn, shaped who they considered to be good candidates for different methods of birth control (Roberts 1999).⁴⁷ Clinicians, in general, attributed to middle- and upper-class women, often assumed to be white, a scientific understanding of the body and an orientation toward controlling reproduction which made them ideal users for menstrual suppression; these ideal users were defined against those thought to

⁴⁷ Janet Shim’s work on epidemiologists’ accounts of the link between race and heart disease has shown how the language of “culture” has replaced genetic or biological explanations of disease risk. This account of culture reproduces a fixed, one-to-one relationship between race and disease risk, without taking into account the structural or experiential aspects of intersections of race, class, and gender (Shim 2005).

hold inaccurate culture-bound beliefs and practices, which were often attributed to women of color, especially those who were poor or working-class.

Hana contrasted her students to teens at a nearby high school whose parents, she said, actively encouraged their daughters to use menstrual suppression pills, rather than giving them biased or incorrect information about birth control:

But no one has come in and asked me for it, specifically. I'm sure they probably do at [City] High because there are all kinds of students [there]. I feel like there are more students there than here who would take the initiative to ask for something like that, because they heard about it, or their parents have said, "Why don't you ask for this?"

While the students at Hana's school were nearly all low-income and African-American, the nearby high school had "all kinds of students," including many whose parents encouraged them to take an active role in health care and in asking for specific products or services. Hana uses the same kind of language here as many of the clinicians above used to describe the kind of knowledgeable, active *consumer* who would be likely to ask for menstrual suppression – and thus would be an ideal user.

Knowledge of the body and birth control was often equated with consumer knowledge of birth control products. Women who were not knowledgeable about the latest products were often seen as lacking knowledge about birth control or sexuality in general, and were therefore assumed to have little interest in menstrual suppression. Nurse practitioners who worked in publicly funded clinics felt that their patients did not know much about different brands of menstrual suppression pills, and that this was primarily because they weren't aware of the advertising and didn't seek out information about these methods of birth control. Diana, who worked at a city public health clinic, said, "There's not a lot of knowledge about the ones that you're talking about, the Seasonale and Seasonique, where you only have your periods four times a year. Not a lot here." She later elaborated:

We haven't really pushed those pills a lot here, just because we haven't. Most of the ladies, when they come in, they have sort of an idea of what they want to take already. Most ladies know about the pills, but not the extended pills, like I said before. There's not a lot of advertising out there. I don't know if young ladies don't discuss among themselves. I mean, some do because they have the IUDs, the intrauterine devices. That seems to be more of a discussion, the IUDs, more than different kinds of pills. "What kind of pills are you on?" "I'm on extended." I don't really hear that as a conversation that somebody has had with some other young ladies.

Some women's lack of knowledge about birth control was understood as a result of not being targeted by advertising and of not taking initiative to find out about different kinds of birth control pills from other sources, such as friends. As Hana said:

No. They don't ask about it and most of them have never heard about it. Even though I know they've heard of the pills that they can skip, they don't ask me for

them. But I feel like, in the majority of cases, there is a lot of skepticism around those and around not having your periods. There's a lot of skepticism.

All of these factors add up to the construction of a group of women defined as uninterested in menstrual suppression pills. They are excluded as users to the extent that clinicians, and perhaps even women themselves, take for granted the idea that certain women simply are not interested in menstrual suppression and lack the knowledge or awareness to use these pills.

One final way that women were defined as excluded users was through their characterization as non-compliant. Being non-compliant, especially with pill-taking, meant that women were seen to lack the discipline or the proper relationship to the body that indicated they would be good candidates for menstrual suppression. Elizabeth told me that she would prescribe menstrual suppression birth control for anyone who wanted it, "Unless they just can't remember to take pills in general. If they're misers. If they chronically miss a pill or are chronically late I don't think they're good candidates. I don't think they're good candidates for any pill." In speaking about her students, Hana said, "I'm always testing them for everything. They have to come every three months for their refills. We don't give them more than that. So I'm testing them, because as far as I'm concerned, none of them are reliable users." Thus while some groups were excluded as users of menstrual suppression because they were defined from the start as not being interested, some women were also disqualified because they were seen to lack the discipline necessary to comply with a daily pill regimen. However, as Hana's quote demonstrates, whole groups of women could be disqualified in advance from the groups of "reliable users."

Women seen as unreliable pill users were often steered toward methods that did not require daily action, and sometimes toward methods that were much less under the woman's control, such as Depo injections or a long-acting implant. Diana said, "If somebody comes in to me and says, 'I'm a bad pill-taker,' I usually try not to get them going with pills, but get them to the patches or the rings or Depo." Wendy told me:

I would say probably I might worry about it if it's a woman who's just not very compliant with pill-taking in general, but I might be working more towards another method for her, maybe try to get her to use the NuvaRing or we're just starting to have Implanon available now. If a woman is coming in and she's having a lot of bleeding, breakthrough bleeding, because she's forgetting to take the pill and having to make it up or skipping a day and having bleeding, sometimes it's just easier to say let's just look at other options if they're going to work better for you.

Certain forms of extended regimens were sometimes be seen as a solution for non-compliance, because they made dosing regimens less complicated and easier to follow (this point was also made by articles discussed in Chapter 2). As Wendy said:

It's almost like I just want to keep it as simple as possible, so I think if I feel like they're going to get confused about what to do in that placebo week of pills, I might just say you're just taking the whichever color pills and then you can just go right away to the next one, just to kind of improve compliance would be my goal with that.

However, for these women, extended regimens were presented in terms of *compliance* rather than *choice*.

In opposition to the ideal users of menstrual suppression, excluded users are defined as not valuing the possibilities of control over reproduction and menstruation that menstrual suppression offers and lacking the discipline to put extended regimens of OCs into practice. These women, defined as unable to self-manage menstruation are offered – or even pushed toward – methods over which they have less control. Defining excluded users as both uninterested in and incapable of using menstrual suppression OCs that are constructed as technologies of choice and freedom, means that these excluded users – who are more likely to be low-income women of color – are steered toward methods that are constructed as technologies of population control. While menstrual suppression birth control has mainly been understood by scholars as a new technology created for, calling to, or even bringing into existence a new kind of modern woman – and indeed, the medical literature, marketing, and regulatory discourses surrounding menstrual suppression have put forth this construction of both the technology and users as new and breaking with the past – the construction of these new users and technologies relies upon and is imbricated with existing race- and class- differentiated constructions of birth control technologies and users.

The shifting designation of extended regimens as treatment for menstrual problems or as menstrual suppression pills that make women's lives more convenient carries over from the medical literature and marketing to clinicians' own discussions. Clinicians stressed the use of extended regimens to treat menstrual problems based on the results of medical research, but reported that, over time, they found themselves more frequently prescribing extended regimens for women's convenience. Women considered to be ideal users of menstrual suppression for convenience (as opposed to treatment) were scientifically knowledgeable, savvy, experienced users of birth control pills who expressed a desire to control both their reproduction and menstruation; they were active, empowered consumers. This image of the ideal user of menstrual suppression was defined in opposition to a group of "excluded users," often women of color seen as less educated and less knowledgeable about their bodies, menstruation, and birth control products. This group was defined from the start as uninterested in menstrual suppression, in large part because they were said to hold onto outdated or inaccurate cultural beliefs, and as incapable of taking a daily pill regimen correctly. Thus the ideal user co-constituted with menstrual suppression pills was defined against a group of excluded users (who were in turn the "ideal" or intended users of methods such as Depo Provera or implants) by constructing an opposition between knowledgeable, responsible, modern women offered attractive "choices" and excluded less knowledgeable, undisciplined, non-modern women steered towards technologies over which they had less control.

Using and Practicing Menstrual Suppression

So far in this chapter, my discussion of the co-constitution of users and technologies has moved mainly in one direction. I have focused on how clinicians are guided in their prescribing practices by certain constructions of menstrual suppression as a technology and women as users. Images of ideal users are matched with particular understandings or constructions of a technology. "New" technologies can emerge when new users are constructed for them. To the extent that a clinician's patients do or do not match the constructed image of an "ideal" user, they may decide that menstrual suppression would or would not "work" for that patient. However, we can also understand the co-constitution of users and technologies by thinking about how

technologies can construct their users as they are used – that is, through the *practices* by which women put these technologies into use. To illustrate one way healthcare practitioners understand menstrual suppression OCs in this way, I will briefly return to Hana H.’s discussion of menstrual suppression pills and her patients at the high school clinic.

Hana H., the nurse practitioner who worked in a school-based clinic with mainly low-income, African-American teens, was the only healthcare provider I spoke with who said that she did not have any patients using extended regimens for menstrual suppression. In part, she felt that it was already a challenge to convince her patients to use any kind of birth control. However, even Hana, who explained to me the many different ways her patients fell outside the construction of the ideal menstrual suppression user, offered all of her patients starting OCs the option to skip their periods. She said, “When I explain how to use the pill, I always say, ‘This is an option. You can do this once, once in a while, you can do this every month. You have a choice.’” Despite her feeling that the students she treated were not only uninterested, but even had “a lot of skepticism around those pills,” and her flat statement that “as far as I’m concerned, none of them are reliable users,” she still presented menstrual suppression as a choice, completely controlled by the individual:

“This is an option. You can get your period every month. If you have some special occasion, like prom, or your birthday, or if you’re on vacation and you want to skip it once in a while, it’s fine. Or you can skip it every month if you want to and that’s fine, too.” Most of them don’t have a lot of questions about it. They’re just like, “Oh, really?” and that’s it.

While some potential users may be excluded because they don’t match the description of a “good” user, practicing menstrual suppression could be one way to become that type of subject. By stressing this construction of OCs, as a flexible technology that offered the user multiple options, Hana seemed to introduce to her students the type of modern, savvy relationship to their bodies and technologies that the ideal menstrual suppression user is assumed to already have. This is one way that scholars who study the social construction of technology think about the “scripts” that are built into technologies and the ways that technologies (and the surrounding apparatus that facilitates their diffusion and uptake) “configure” users. In this argument, menstrual suppression is understood as a practice that develops or enacts a particular relationship to the body and self. Other science studies scholars have emphasized the active and creative ways that users bring new meanings and uses to technologies through the ways they use them. These tensions are prevalent in women’s engagements with menstrual suppression pills and practices.

“Regular Periods like Girls Are Supposed to Have”: Getting Started with Hormonal Contraceptives and Menstrual Suppression

While physicians’ constructions of menstrual suppression pills tended to focus on them as *either* treatment *or* convenience, the women I interviewed about their engagements with menstrual suppression tended to subsume both of these categories under an understanding of extended regimens as a normalizing technology. For these women, most of whom had problematic periods (heavy, painful, and/or irregular), both cyclic *and* extended regimen birth control pills were understood as a way to achieve a “normal” or “regular” period.

Getting it under control: Difficult periods and cyclic OCs for regulation

Most of the women I spoke with experienced some combination of menstrual symptoms they found unbearable – such as periods that were very heavy, lasted for more than a week, or were accompanied by painful cramps – or had irregular cycles that made their periods difficult to predict. Reyna, a 27-year-old white woman employed as an administrative assistant, gave a description common to many of the women. She said, “The periods would come whenever and they would last until whenever. It was completely random. And it was really hard and stressful because I would be out places and I would get it or I would be at home and I couldn’t leave. It was so bad.” Paige, a white, 21 year-old, recent college graduate working in an unpaid internship, told me “I would have really long periods, like 10 days long, and I couldn’t do anything. I would feel sick, like just completely debilitating cramps. I really couldn’t function very well. And also it was really, really heavy. That was the other thing. It was like, unmanageably heavy.” Similarly, Jessica, 27, an Asian-American woman with an MA degree who worked as a logistics manager, described her heavy periods and irregular cycle this way:

It was so unpleasant. Every time I would see a drop of blood I was like, “Crap, the wrong time of the month.” And then I would dread it, because it wouldn’t be like it is for an average girl: a few days, a week. I was like 10 or 11 days, and those 10 or 11 days were heavy. I would have to change my pad, my tampon, I don’t even know how many times a day. It’s embarrassing.

Reyna, Jessica, and Paige, as well as several other of my interviewees, reported that their menstrual symptoms were so severe that they often did not leave the house or had to alter their daily routines during their periods.

Paige and Jessica shared with many of my other interviewees the sense that their periods fell outside the range of other women’s experiences of “normal” periods. Paige explained how, as a teenager, she had felt unable to relate to other girls’ discussions of having their periods: “I’m hanging out with my friends and if someone is talking about how they are on their period, I’m thinking, ‘If I was on my period I would be at home with the lights off and a heating pad, like, wanting to die.’” These concerns about their own periods as not “normal” or “like it is for an average girl” led women to ask their doctors for help managing their problematic periods. Jessica explained:

I had to first approach my OBG doctor [Obstetrician/Gynecologist] about my menstrual cycle being very irregular. Some months I would have it, some months I wouldn’t, but every time I would have it would be longer than 10 days, and always be very, very heavy throughout the whole cycle, and to me that wasn’t normal. So I definitely had to get that checked out.

Jessica’s doctor prescribed oral contraceptives to regulate her period. All of my respondents who reported problematic periods (6 out of 8)⁴⁸ had taken cyclic OCs to regulate their periods.

Clinicians prescribed cyclic OCs to produce regular monthly cycles, as for Naomi, a 25-year-old Filipina stay-at-home mom and army veteran, who said, “I spoke to my doctor about it

⁴⁸ One additional woman reported that her periods were not initially difficult or painful, but became painful after the birth of her first child.

and she said that I should be on birth control for it if I wanted it regulated, so I [would] know when it comes.” Similarly, Vanessa, a 23-year-old, white and Latina woman who worked as a graphic designer, used OCs to regulate her period. She said:

I’ve been taking different pills since I was 18, maybe 19 – for four years. The whole reason why I got on them really was because of an irregular period. It was really sporadic, where I’d go a couple of months without having it and then all of a sudden I’d get it multiple times one month. So that’s why I decided to go onto the pill.

OCs were also prescribed to make periods lighter, shorter, or less painful. Many of the women started OCs to regulate their periods long before they were sexually active – some even started taking OCs within a few months or a year of first starting their period. This is not unusual. Research conducted by the Guttmacher Institute found that 82% of women aged 15-19 who used the birth control pill did so for non-contraceptive reasons. Further “among all 15-19-year-olds who have never had sex, 8% use the pill. Almost all of them do so for noncontraceptive reasons, most commonly menstrual pain (54%), menstrual regulation (33%) and acne (30%)” (Jones 2011).

For many of the women, cyclic OCs produced the desired effects. Jessica said that taking birth control made her period much lighter:

I used to have to use the overnight for everyday use, for all times of the day, not just overnight... Four to five months after using the birth control consecutively I was getting regular cycles. I knew when I was going to get them. I wasn’t concerned like, “Oh my God is it a heavy day, is it a light day one.” I’ve been using the light ones [pads] for I don’t know how long; I can use it for the duration of my cycle if I wanted to. I used to never have that...I hate to say luxury. I used to never have the luxury.

Jessica highlighted the control that taking OCs gave her over her period and menstrual cycle and expressed that this made a huge difference in her life. Jessica felt that her irregular, heavy periods were more of a problem for her now that she was an adult. She described how the “regular” period she achieved by taking OCs was more important to her than ever:

So it’s nice that I talked to my OBG doctor about it. I was thinking, God it’s not really a big deal, I’ve always been like this since high school; I’ve just dealt with it. But then I got busy with life, I got busy with work, and I can’t be going to the restroom all the time to be changing my tampon, my pad, because of what’s going to happen; this is not okay now.

Jessica’s story provides one example of the link between physical symptoms and the experience of menstruation that physicians increasingly attend to under the rubric of quality of life (as discussed in Chapter 1). Despite finding ways to deal with heavy bleeding up to that point, as her work schedule and life became busier and more demanding, Jessica felt she could not spare the time and attention necessary for monitoring and managing her period, nor risk the consequences of not doing so. She reported being very happy that she spoke with her doctor about her heavy

bleeding and that her doctor responded to her concerns and provided her with an effective solution.⁴⁹

Jessica was one of the few women who used cyclic OCs to regulate her period, but was not at all interested in delaying or suppressing monthly bleeding. While Jessica felt that cyclic OCs remedied the problems she had with her period, for many of the women in this sample, regulating their periods with OCs was a brief stop on the path to suppressing menstruation. With periods that they experienced as problematic and “not normal,” these women used OCs in order to achieve a “normal” period, but were simultaneously less tied to the experience of a regular, monthly period. Perhaps because they did not experience monthly cycles as their baseline, extending or suppressing their cycles did not seem disruptive to them.

“Let’s make it normal, at least”: Getting started with menstrual suppression birth control

Most of the women who used extended regimens to skip their periods shared physicians’ views of these pills as a treatment that could be used to fix problems with periods. Many of these women started out using cyclic OCs to regulate their periods and thought of the extended regimens as doing the same thing. Rather than distinguishing treatment from convenience, women used both cyclic and extended regimen OCs as a way to achieve periods that they thought were “normal.” Interestingly, because using extended regimen OCs made their periods more predictable, lighter, shorter, and/or less painful, women referred to their new periods as “normal,” even though they might have as few as one period per year. When I asked Naomi how she first learned about menstrual suppression pills, she said:

Out of the commercial. It was commercialized a lot. And, me, I’ve always had a very unique period cycle. It happens like I’m [either] gonna get it every two weeks or I’ll get it every three months. Oh, yeah! [sarcastic] And it’s very frustrating, because I don’t know when it’s gonna come. I was like, okay, let’s make it normal, at least – have it every three months instead of every two weeks.

Like Naomi, several of the women who had suppressed menstruation, and especially those who used a branded menstrual suppression pill (like Seasonique, etc.), viewed menstrual suppression not just as a way to skip periods, but as a way to achieve a “normal” period.

Physicians prescribed menstrual suppression pills to treat menorrhagia and anemia by making periods lighter and less frequent. Elsie, a 32-year-old white woman who was unemployed, on disability, and dealing with many health problems, was prescribed Seasonale by her doctor to treat periods that were so heavy, she was diagnosed with anemia. Lauren, a white, 27-year-old, stay-at-home mother, sought out menstrual suppression pills when looking for a new birth control method after giving birth to her first child. When her period returned after birth and breastfeeding, it was accompanied by painful headaches and cramps. Her desire to control these symptoms led her to rethink her rejection of Seasonique a few years earlier:

⁴⁹ As discussed in Chapter 1, the medical literature presented various ways for measuring bleeding in order to diagnose menorrhagia and identify it as a medical problem meriting treatment. However, as some of the researchers note, there is a mismatch between this mode of measuring and diagnosing and the day-to-day practice of general practitioners, who are likely to prescribe cyclic OCs as a first step in addressing all manner of menstrual problems. As a recent editorial in *Obstetrics and Gynecology* noted, this is a widespread practice for treating heavy bleeding in particular, despite a lack of evidence on its effectiveness. (Drife 2011)

I looked into it a few years ago, but the cost of it was just kind of, eh, wasn't really necessary. I started taking it after I had my daughter, because after I had her I started getting the cramps every time. And I started getting more backaches and headaches. That's when I went to the doctor and said, you know, I can't deal with this every month. It's just really uncomfortable and that's ultimately why I ended up going onto it.

Lauren had previously looked into Seasonale but found it unnecessary and too expensive. She told me that she "waited until [she] actually had an issue for it" and said she guessed that many other women probably would hesitate to skip their periods if they weren't having an issue. For Lauren, an extended regimen was useful to the extent that it helped with her new menstrual symptoms.

Some women stopped using extended regimens because of side effects, such as headaches or irregular bleeding, which counteracted any benefits of menstrual suppression. Naomi started having headaches when taking Seasonique and switched back to cyclic OCs to regulate her period. Elsie experienced a great deal of breakthrough bleeding as well as high blood pressure and stopped using Seasonique. Among the women I spoke with, those who saw menstrual suppression pills (Seasonique, etc.) as medical treatments with a specific purpose (alleviating specific symptoms) evaluated the pills by whether they did or did not fulfill their purpose; when the pills caused side effects or produced irregular bleeding, women stopped taking them. There was another group of women who used birth control pills to alter their bleeding in a very different way. While most of these women also started extended regimens in order to regulate menstrual symptoms, they did so without packaged menstrual suppression pills and took a much more flexible approach to how they skipped periods.

"They could come and go as I pleased": From regulation to informal suppression

Another group of women did not use birth control pills specifically designed for menstrual suppression, like Seasonique or a generic equivalent. Rather, they used their cyclic OCs in an extended regimen to delay or suppress their periods. I refer to this as "informal menstrual suppression." Reyna started taking cyclic OCs around the age of 17, both because she wanted to regulate her periods and because she was sexually active. As Reyna describes it, the pill made her feel more in control of her period, her body, and her emotions. Reyna not only enjoyed the newfound sense of control, but she also found ways to extend it by deciding whether and when to have her period:

I didn't get my period until really late. I think I was 16 or 17. I had really, really heavy periods. I couldn't even leave the house. It was horrible. So that, on top of being sexually active, was why I went on the pill. It was perfect. With the pill, I felt like I had so much more control of everything – my body and my emotions. Hormonally, I felt so much more balanced. But I also had control of my periods. My periods were lighter, they were almost non-existent. And when I wanted them to, they could come and go as I pleased. I could have them when I wanted. It was fantastic.

Reyna was unique among the women that I interviewed in that she figured out on her own that she could postpone or skip periods by changing how she took her birth control pills. She enjoyed

the control that she gained over her period by taking OCs, especially when she found that it allowed her to “have them when [she] wanted,” so that “they could come and go as [she] pleased.” Here, Reyna sounds very much like the “savvy” patients described by clinicians earlier in this chapter: she figured out the relationship between the placebos and withdrawal bleeding and was willing to “jump ahead” to extended regimens because she valued the control this gave her over bleeding.

When I asked Reyna to tell me more about how she figured out how to control her periods in this way, she described a process of trial and error that was triggered by the pill’s failure to produce the “normal” 28-day cycle she expected. Here is Reyna’s description of how she began informally suppressing her period:

Well, first of all, I remembered that when I did have my periods [before starting OCs], they were not monthly. So I thought to myself, “Why do I have to give myself a monthly period when I didn’t have monthly periods in the first place?” In the beginning I would go three months, sometimes, without having a period. And then [other times] it would be like I would go off the pill for that little break [placebo week], the break when you’re supposed to have your period, and I wouldn’t get my period. So, it was kind of like why am I doing that? And then sometimes they give you a five day thing [5 days of placebo pills] or whatever, when you’re supposed to have your period. And my period wouldn’t come until day four of that and then I’d be back on the pill. Then I could tell that they were forcing my body to stop the period even though I was supposed to still be on it... And I think that’s probably why I started. It was the time [when] you were supposed to start your period and you didn’t. It didn’t feel right. And then you would have it later on when you were on the regular pack. It would be weird. Nothing was aligned. It didn’t work right. And there was nobody there helping you, telling you, talking to you about any of it. You were just on your own to figure it out.

Further, Reyna’s irregular cycle, which she had hoped to regulate by taking cyclic OCs, actually undermined the idea that she needed to have a monthly period. As she asked, “Why do I have to give myself a monthly period when I didn’t have monthly periods in the first place?” Rather than using pills to return her body to the norm of 28-day cycles (or even an extended norm of regular periods every three months, like Naomi), Reyna used her experience of irregular periods to define how often she wanted or needed to bleed. She shifted the pill regimen in order to accommodate her body’s schedule, rather than the other way around. Further, when cyclic OCs failed to produce a period when expected, or seemed to be working against her period when she did get it, she concluded that the cyclic OCs “didn’t work right” and that she didn’t necessarily need to “give [her]self a monthly period.” The breakthrough bleeding that might have been understood as a side effect of the pills did not prompt Reyna to discontinue pill use, but rather to undergo a process of adjusting the pill regimen. The unexpected bleeding was not produced by the pill, but rather was something in her body that the pill was fighting (unsuccessfully) against.

Paige, who also began cyclic OCs in order to regulate her heavy, painful periods and irregular cycles, soon switched to informal menstrual suppression. In Paige’s case, her desire to start skipping her periods resulted from the failure of cyclic OCs to manage all of her symptoms. For Paige, while cyclic OCs made her period more regular, it was still heavy and painful. She

said that on cyclic OCs her period “was a little better, but there was still that week every month. Then I would take the pill, but my period would continue into the few days after I resumed the pill. So it was really not that much better. Like, yeah, it really wasn’t that much better... I was interested in staying on the pill, but I just – yeah it wasn’t much better.” Paige’s doctor was the one who suggested that she start an extended regimen using the generic OC she was already taking. It was the looming conflict of her period with that quintessential high school event – *prom* – that prompted her doctor to suggest she use her OCs to skip periods:

I just returned to the doctor saying like, I thought birth control was going to fix it and it hasn’t. Probably within six-ish months, maybe a little longer, of being on the pill, and I remember specifically mentioning to my doctor that prom was coming up and I was going to be on my period during prom. And I was like, “If I’m on my period, I can’t go.” I was trying to explain to her how debilitating [my period] was, that I wasn’t going to be able to go to prom. And she was like, “Well, you could just continue to the next pack and not, you know, take the sugar pills.” And I was like, “Okay, why not? Is that safe?” And she was like, “Sure. It’s fine.” I really didn’t get much information beyond that because it seemed - I mean she had no reservations about it. Like it was just the safest thing ever and there were no risks. So I was into it. I did it. And I probably spent the next three to - well, that was when I was like 14, so, okay, so probably like the next six years having like, maybe a period a year; maybe.

After successfully skipping her period for prom, and based on the doctor’s nonchalance in suggesting that course of action, Paige continued skipping her placebo pills for the next several years, choosing to have one period per year. She spoke of the way that her period changed over time as she continued:

For a while it [my period] was still pretty bad. ... And then it got significantly better. I would say it became normal, pretty much normal. And I started having regular periods like girls are supposed to have: five days, like light flow, no cramps, really. So that was really nice. But it probably took like three years or four years for me to get to that point.

After several years of using an informal extended regimen to have only one period per year, she felt that she finally had “regular periods like girls are supposed to have.” For Paige, this meant that the period was lighter, less painful, and shorter than what she had been experiencing. Paige’s definition of “regular periods” still encompassed having only one period per year. For both Reyna and Paige, the experience of having cycles that they felt were not regular or normal to begin with, along with the failure of cyclic OCs to fully regulate their periods and symptoms, meant they were open to the idea of extended regimens and informal menstrual suppression. While advertising for menstrual suppression pills focused on enhancing the body and removing all traces of the inconvenience of menstruation, most women in the group I spoke with understood their use of menstrual suppression as a treatment that regulated or normalized their periods (“let’s make it regular, even if it’s only every three months”). However, this definition of “regular periods like girls are supposed to have” easily extended to include having only a few periods per year, or even just one. While women using menstrual suppression birth control pills

and those informally extended their pill regimen to suppress menstruation thought of skipping periods primarily as a way to achieve normal periods, the differences in how they achieved this highlight an important and understudied aspect of menstrual suppression: that it is a *practice* as much as a technology.

Scripting Bleeding: Pills and Practices

As seen above, women used hormonal birth control to skip periods in two ways, by taking menstrual suppression pills specifically designed for this purpose, or by devising their own extended regimens using the “regular” cyclic OCs their doctors had prescribed for them (informal suppression). Surprisingly, there was almost no overlap between the groups of women who used menstrual suppression pills and those who practiced informal menstrual suppression. Women who had informally suppressed menstruation reported not being aware of Seasonale or other menstrual suppression pills when they started skipping periods (although for Paige, at least, Seasonale should have been on the market at the time she started). When they heard about menstrual suppression pills, they were not interested in trying them, seeing them as completely unnecessary and just a marketing gimmick. Women who took Seasonique did not see informal suppression as an option, even though they understood that it was possible. In this section, I use these differences to highlight the processes of configuration and scripting in these pills and how women respond to them, focusing on the difference between menstrual suppression pills and practices. To further explore this understanding of menstrual suppression as a practice, I look at the innovative practices of women informally suppressing menstruation. In particular, women practicing informal menstrual suppression were in the novel position of choosing to have periods, not just skipping them. In the second part of this section I examine how women decided when it was “time” to have periods.

Pills vs. Practices

Using OCs specifically designed for menstruation and using cyclic OCs to flexibly design one’s own bleeding schedule represent different responses to the scripts built into OCs and thus different responses to configuration (Akrich 1992; Oudshoorn and Pinch 2003; Woolgar 1991). Scripts define the knowledge, practices, and identities users will bring to their interactions with a technology (Akrich 1992). Scripts can be physically built into technologies in the process of configuration, as developers imagine the ideal uses and users of a technology and try to stabilize the “interpretive flexibility” of the technology, such that it is only “for” certain uses and users (Oudshoorn and Pinch 2003). For example, the seven placebo pills in a cyclic-regimen OC serve as physical “reminder” pills that script daily pill-taking and the expectation of a week-long period that occurs every 28 days, exactly. Varying designs of pill packaging further script users by specifying the day of the week each pill should be taken or by encouraging activities such as breast self-exam (Gossel 1999). Women trying to skip or suppress bleeding could either follow the script built into specifically-designated menstrual suppression pills or, if they were using cyclic OCs, reject the script built into these pills and devise their own extended regimen.

Naomi, who had taken Seasonale, stated strongly that she was not willing to “mess with [her] own period” without using a pill designed for that purpose. She said she enjoyed having her period once every three months, but stopped taking Seasonale because it caused headaches. When I asked her if she had ever thought about taking her current OC in an extended regimen to go back to having fewer periods, she said:

That's what I feel like Seasonique is for. If I really needed to manipulate it, I'll go back on Seasonique. But I'll just take Orthos [the brand of OCs she was currently taking] the way it's supposed to be taken. I think that if you know how to mess with your own period, kudos to you... It's not for me.

Even though it achieves the same effect in the same way, informal suppression would be “messaging with your period,” precisely because it requires going against script of her OC's 21/7 regimen, which provides a sanctioned definition of what a normal cycle looks like. By building an extended regimen into the packaging and the very definition of menstrual suppression pills, such as Seasonique, developers configure or script users into extending the time between periods. (The successful naturalization of the 21/7 regimen explains the intensive focus on debunking the 28-day pill cycle as arbitrary in both the medical literature (Ch. 3) and advertising (Ch. 4).) Seasonique and similar products physically build in an understanding of pill-taking and menstruation that defines skipping periods as safe and normal – when taking birth control pills specifically designed to do so. They replace monthly periods with the alternative of four periods per year in a regimen defined as safe and acceptable. While menstrual suppression pills may challenge users' ideas about what a “natural” period is, packaged and prescribed extended regimens script users as responsible, compliant pill-takers.

In contrast, users who informally suppressed menstruation by extending the dosing regimens of their cyclic/28-day pills (or other hormonal contraception) provided various reasons for going against the script of the 28-day regimen. Reyna and Paige, for example, pointed to the pill's failures to produce the normal period they expected. Neither saw a need for a “special” menstrual suppression pill. In fact, their experience suppressing monthly bleeding with their “regular” OCs allowed them to feel savvy in comparison to others who were taken in by the marketing hype about new menstrual suppression pills. In the following quote, Reyna's “Duh” gets across the clear scorn she feels towards the idea that marketing would convince her that she needed a new kind of pill to skip her periods: “When I saw those commercials, I was like, ‘Duh.’ And I thought, ‘You know that all they did is advertise it, right? It's just marketing, because you can do that with the other pills.’ Obviously, I had been doing it.” Paige said, about first hearing about menstrual suppression pills:

I was kind of indifferent. I was kind of amused really, because I had been doing it at that point for a few years. So I didn't have any, like, special kind of pill. I just had this low-hormone dose generic pill, and people seemed to think that it was this special pill that totally changes the way your body works and you only have a period so often. So I was kind of amused by the hype around it. I was also kind of reassured honestly, that things like that were being mass marketed and I didn't feel so weird about it.

Paige was “amused” because she knew, but no one else seemed to realize, that pills like Seasonale did not work differently than any other birth control pill.

At the same time, the existence of these pills did provide a certain sense of reassurance that what they were doing was okay. Paige “didn't feel so weird” skipping her periods once this became a widely available option and was no longer something she was doing on her own. The mass marketing of what, for her, was an improvised, informal practice meant to her that the practice must be medically acceptable. Her friends, who had previously disapproved of her

choice to skip her periods, became slightly more accepting when these pills were introduced – and some even decided to take Seasonale themselves:

I knew a couple of girls who got on the Seasonale or something. And I think they liked it, they kind of asked me about it... I think where they drew the line even then was that I was doing it all the time. I mean I would go a full year without a period. And somehow having a period every four months felt better for them. So yeah, they changed their tune but there was still an edge of like, “That’s totally unhealthy.”

The availability of Seasonale changed some of her friends’ attitudes toward what she was doing, and some of them even began to use Seasonale. Still, the distinction between taking menstrual suppression pills according to instructions and appropriating the pills by going ‘off-script’ still seemed meaningful to many of her friends, who “drew the line” at going as long as a year without having a period. Their distrust of Paige’s extended regimen echoes Naomi’s characterization of informal suppression as “messing with your period.” Paige felt that her friends saw what she was doing as fundamentally different from the newly-established “standard” regimen for menstrual suppression that was built into Seasonale.

One woman in the sample had practiced informal suppression and later taken menstrual suppression birth control pills, as well. Looking closely at Lauren’s different understandings of informal suppression and menstrual suppression pills provides a good illustration of the differences between the two approaches. Lauren used the Ortho Evra patch⁵⁰ as her birth control method for several years and found it to be a good alternative to the difficulty of remembering to take a pill every day. She learned from a friend who worked in an OB/GYN’s office, and who had told her about the patch in the first place, that it was possible to skip the patch-free week and not have a period:

We were just talking about it one day and she said, oh, you know, they came out with this patch. And I was like, oh, great. You just stick it on, because I was really bad about remembering my pill. I was awful at it. You know the whole take it at the same time every day? I was lucky if I remembered to take it, so I’d have to double up on them. So I loved it [the patch]. Put it on and don’t worry about it. I remember [my friend] was just saying something about it, like “You know, hey, you can just keep wearing it.” I was like, “You can? This is awesome.”

And then I found ORTHO EVRA, the patch, and I loved it. I loved it. And, actually, a friend of mine worked at an OB/GYN’s and she would tell me how so many people would just continue to take - like what is it, the fourth week, you take your patch off. Just put the next one on and you wouldn’t have to get your period. And I thought this was the greatest thing ever. So I would try to have my period like twice a year. I don’t know why. I just thought it was supposed to.

⁵⁰ An adhesive patch that women wear on certain areas of the torso, which delivers estrogen and progestin through the skin. Patches are worn for one week and then replaced. After doing this for three weeks, women are instructed to take one week off before applying the next patch. The standard regimen is therefore still 28 days. Instructions say to wear the patch for three weeks and then take one week off, before placing the next patch.

Lauren stopped using the patch in order to get pregnant. After her daughter's birth, when she was ready to go back on birth control again, she wanted a new method because she thought that the patch had been causing the intense mood swings she had previously experienced around the time of her period (but which subsided when she stopped using it). However, as mentioned earlier, when her period returned after giving birth and breastfeeding her daughter, there were a number of new physical symptoms, such as painful cramps, headaches, and backaches. Lauren decided to start taking a generic formulation of Seasonique (called Amethia) as a way to reduce her symptoms. While Lauren had previously characterized skipping the patch-free week as a way to make her life easier, because she did not have to worry about remembering to take a pill or about having a period, she understood taking menstrual suppression pills as a way to treat or relieve symptoms associated with her period.

Lauren described skipping periods informally with the patch as being different from doing so with cyclic OCs, in part because of the actions she would have to take to do so. To skip periods using the patch, she would simply apply a new patch immediately after removing the third (rather than waiting one week). However, when taking birth control pills, skipping periods would mean not taking – actively ignoring – a week's worth of pills that were included in the pack. She said:

I actually never heard of anyone doing it with the pills and I never did it with the pills. I don't know why. I just figured the pill was – I mean I used to think those last ones at the end had [hormones] – I think when I first got the pill, I wasn't 100 percent aware that those pills at the last week are just reminder pills.

Even now that she knew that the pills were not active and were there as a reminder, she said she still didn't feel comfortable not taking them:

I guess seeing that pack though. When you look at the pack and you see the ones at the bottom, you're like, well, I have to, so... Like, they're there. I would have to stop taking them. But if you don't see them and then you see a regular one, maybe, in your head, [you're thinking] you never know...

For Lauren, then, the fact that the placebo pills existed, were placed into the pill pack, and were given a specific place in the prescribed pill-taking order compelled her to take them in a certain way. Even though she knew that they were just sugar pills, the fact that they were set alongside the active pills and, seemingly, given equal importance, introduced a sliver of doubt that maybe there was an important reason to take them. She described this as a feeling that “you never know” whether it might be a mistake to skip those pills.

For women who took menstrual suppression pills, the fact that an extended regimen was built directly into the pills legitimized the practice of having only four periods a year. They were able to skip periods according to a script that configured its users as compliant, responsible pill-takers. For women who informally suppressed menstruation, skipping the placebo pills and going “off-script” allowed them to appropriate the pills and design their own desired bleeding schedule, but doing so also carried a sense of risk. Not following the cyclic OC regimen was technically a form of non-compliance (or, at least, it seemed this way to many of the women), and they reported feeling anxious that their doctor might discover what they were doing. Further, they worried that skipping periods might cause health problems later on and that they would be held responsible for making the choice to (mis-)use their OCs in this way. They managed these

anxieties by researching their pills and the practice of menstrual suppression on the internet and by seeking signs of approval or disapproval in interactions with clinicians that menstrual suppression was a legitimate or illegitimate practice.

Because extended regimens were not “built in” to cyclic OC packs as an available option, it did not seem to be a medically sanctioned use of OCs to the women who informally suppressed. Some of the women, especially those who were teens when they started informally skipping periods, felt like their doctors would disapprove of this practice and perhaps refuse to give them additional OCs (since they would end up needing more than the standard 13 packs per year). Reyna said:

I told a friend, or a friend of a friend, that I was doing that [using my OCs to skip periods] and she goes, “Well, eventually Kaiser will catch up to you because you’re skipping periods using your pills and over the course of years you’ll be using more pills. They’re going to stop you because they’re going to figure out what you’re doing.” And I was like, “That’s weird because I would think that they would have figured it out by now.” But they didn’t and they didn’t do anything about it.

Reyna, prompted by her friend, worried that Kaiser would “figure out” that she was altering her pill regimen on her own and refuse to give her additional pill packs. As she told me:

The doctor has so much control over your prescription. That’s how Kaiser works. If you need a prescription for whatever, they almost hold your birth control over your head. If you don’t do this I’m not going to renew your prescription. That’s what they would do. Birth control was everything to me, it made my life smooth so I would do whatever they said to get that pill.

Reyna had figured out on her own that she could extend the pill regimen, so she never knew whether her doctors would approve of that practice. Because doctors had seemed willing to threaten withholding a birth control prescription, she feared they would take away her birth control prescription if they felt she was non-compliant. However, after several years of informally suppressing her period, no doctor had ever questioned her about the additional pills she was using, and she finally decided to bring it up to her doctor:

My doctors didn’t say a word about it. They gave me the birth control practically no questions asked... I think at one point, in my early twenties, I mentioned it to a doctor that I was doing it, and they didn’t think anything of it. She completely didn’t flinch. And that was like, “Oh, I guess there’s nothing wrong with it.”

When her doctor didn’t flinch at her admission, Reyna concluded that menstrual suppression was an acceptable practice; up until that point she had lived with uncertainty.

Similarly, although Paige’s doctor had initially suggested that she skip her placebo pills to postpone her period until after prom, she wasn’t sure how her doctor(s) would feel about that the fact that she continued to do this:

Well, I had to explain it because obviously I was taking more pills, so I needed to reorder my prescription a lot sooner. And I changed GPs a couple of times and so

I had to explain that to them. And nobody ever – nobody ever said anything really. One of my doctors was like, “You should, you know, go to Walgreens and check your blood pressure every once in a while just to be sure.” But no one examined me, no one really questioned me about it. They all kind of fulfilled my prescription without any questions.

Paige did reveal to her doctors that she was informally suppressing menstruation to explain (what seemed to her) the “obvious” fact of her too-frequent prescription refills. She also worried about explaining this when she changed practitioners. She seemed surprised, and perhaps a bit troubled, that “Nobody ever said anything” or questioned her about it. Neither Reyna’s nor Paige’s doctors reprimanded them for altering their pill regimen, but none of them offered positive reassurance or advice, either. This combined with the lack of a clear script seemed to leave the women feeling uncertain about whether what they were doing was legitimate. Each new physician encounter seemed to provoke anxiety as they searched for signs that, at the very least, “there’s nothing wrong with it.”

Both Reyna and Paige felt that their doctors had not given them the information they needed to make a decision about menstrual suppression. Both said that they had researched online and not found any information about health risks or problems with menstrual suppression, but this did not completely reassure them. Paige said that while she ultimately felt good about her experience informally suppressing menstruation, it was because:

I know *now* that I didn’t incur any permanent weirdness from it. But I’m kind of uncomfortable with the fact that I was 14 years old and I was being told, “Oh yeah, this is fine. This has no risks at all.” And, you know, even though I was a minor, I feel like I really deserved the whole story, and I really didn’t get any information then. You know, even at that age I could have made a more informed decision if I was more informed, obviously. So it would really bother me if there had been some crazy risk that is just now coming to the light and I didn’t know about it. You know, that would really bother me. But it doesn’t seem like that is really the case, so yeah, I’m fine with it.

Paige felt that she had not been provided with the information she needed to make an informed decision about the risks of menstrual suppression. She indicates a sense that she felt she may have been exposing herself to health risks without knowing it. While she told me she periodically searched the web to make sure that there were no health problems associated with extended regimens, she still feared that new risks might come to light.

Reyna also wished that she had been given more information, but felt that just giving the information was not enough. She expressed that her doctors had not shown her much respect when she was a teenager. Both Paige and Reyna said they had difficulty getting information from their doctors as teenagers, but that, at the same time, they were also not necessarily paying much attention to the information they did receive. For example, Paige said, of being prescribed cyclic OCs for the first time, “they explained to me the risks and everything and I kind of didn’t care. It was supposed to like, clear up your skin and make your boobs get bigger, and I was a skinny kid so I was way good with it.” Reyna told me she thought there should be something like an online forum where teens could ask questions and get support in choosing and taking birth control. With something like this in place, doctors could give the information and teens would have a framework of support and be better able to process and make decisions based on that

information.

Lauren, who used the Ortho Evra patch to informally suppress menstruation, did not express these same anxieties. She learned she could skip her periods from a friend who worked in a doctor's office. Her friend provided her with free samples from the office to cover the additional patches Lauren needed, so Lauren didn't have to reveal her extended regimen to the doctor and also didn't have to worry that the doctor would find out due to the frequency of her refill requests. Further, her friend informed her from the start that not only did a lot of other women do this, but the doctors and nurses did it themselves:

My doctors never said that [told me that I could skip my periods]. And I don't think I've ever asked them. I just remember my friend saying, "Oh, yeah, the doctors do it, the nurses do it." And I'm like, "Why aren't they telling me?" She actually said, "One of the doctors does it. Yours does it." I'm like, "And they're not telling me this?!"

Even though Lauren had never talked to her doctors about using the patch to skip her period, she knew that they approved of the practice – and even used it themselves. Further, she did not need to ask her doctor for additional refills, since her friend passed free sample patches to her to cover the extra weeks.

While women using menstrual suppression pills, such as Seasonale, are configured as responsible, compliant pill users, women practicing informal suppression enjoyed increased flexibility, but felt anxious about resisting the scripts built into the pill packs themselves. By improvising their own pill regimens, they enacted the entrepreneurial selves discussed in the last chapter. However, they also felt anxiety about the responsibility they would bear for any repercussions of using their pills in this way, whether that meant being labeled "non-compliant" and losing access to their extended regimens (or birth control pills in general) or future health problems that they were unaware of. Another area in which these women's improvised regimens took them into uncertain territory was in deciding how and when to schedule their bleeding.

"No rhyme or reason": practices of informal menstrual suppression

Most of the attention paid to menstrual suppression has focused on the pills themselves and the absent periods that result from their use (Hitchcock 2008; Johnston-Robledo et al. 2003). However, examining women's appropriation of cyclic OCs to design their own extended regimen reveals that menstrual suppression can also be considered a *practice*. Women who informally suppress menstruation negotiate not only the possibility of not bleeding, but also the novel choice of whether and when to bleed. Without a scripted extended regimen, it is possible to skip bleeding indefinitely. Therefore, women made active choices to have periods, not just to skip them. In this section I discuss how they made these decisions and the embodied knowledges through which they knew it was "time" to have a period.

As seen in Chapter 4, menstrual suppression pills like Seasonique are marketed to women who are too busy, too active, or having too much fun to worry about the inconvenience of having their periods, which were presented as interfering with activities such as "sports, dates, and vacation" or business travel. Women I spoke to agreed that they found it inconvenient to have their periods when they were traveling (at their vacation destination, but also during air travel, for example), going swimming, or planning a date or special event. Women who practiced informal menstrual suppression reported that they enjoyed being able to schedule their periods

around these inconvenient times. Lauren, for example, referred to the discomfort of having her period during the hot summer when she lived on the East Coast, “I guess, sometimes, I would plan it around things that were going on. I wouldn’t want it in the summer. Back east is very humid. Let’s just keep it at that.” Reyna also reported that she generally skipped her periods over the summer.

Flipping the script that characterizes menstruation as thoroughly inconvenient, some women talked about times they did find it convenient to have a period. They described deciding to have a period during times that were relatively less busy, and in particular, when they were not dating anyone. Reyna said that this was one of the most important factors in planning when she would have a period:

I think it had a lot to do with dating. If I knew I wasn’t doing anything that week. If I knew I wasn’t seeing anybody. If I knew it was just an easy week I would just be like, “Okay, it’s been a while. I haven’t had one, I should have one.” That’s probably how. And then I would let it happen. Yeah. It’s weird. Nobody ever talks about this.

Reyna described how she would feel like she should have a period if it had “been a while” since her last period. She would be more likely to do so during a week when she wasn’t busy or seeing anyone. None of the women reported planning out in advance when they would have their next period but, like Reyna, would “let it happen” when it seemed like a good week or “felt like time.” Paige said:

There really was no rhyme or reason, it was kind of just like, “I’m going to be having a boring couple of weeks so I might as well, like why not.” ... Really there wasn’t a system, just if it’s convenient or not...

Paige also waited for a quiet time in her schedule; when there wasn’t much going on, she felt she “may as well.” In general, while women I spoke with agreed that having a period could be inconvenient, there were more or less convenient times to have it.

Although their informal extended regimens meant that it was possible to skip bleeding indefinitely, especially with no “built-in” extended regimen to schedule periods for them, all of the women using informal menstrual suppression did choose to have periods. They reported having periods as frequently as every other month and as infrequently as once per year; they often varied the amount of time between periods. Some of the women said that they would reach a point when they felt it was “time” to have a period, whether because a certain length of time had passed since their last period or because their body in some way indicated that they should have a period. Lauren, as quoted earlier, said that she would usually have about two periods each year, but that she “didn’t know why. I just thought I was supposed to.” She elaborated:

I guess, sometimes, if I just felt like it was time. When you just feel like, yeah, maybe it’s time to get my period. I haven’t had it in a while. But now there’s so many things you read now saying that when you’re on birth control, you don’t even need to have one, so why do we have them? I don’t know where I got it in my head. I just got it. I still had to have it.

For Lauren, like Reyna, when she “hadn’t had it in a while,” she would feel like she should. Lauren felt like she couldn’t really articulate why she felt like it was time, especially since she had read that women don’t need to have periods when taking birth control, but that it was a feeling she couldn’t shake.

Looking back at Reyna’s statement above about starting to skip her period, she says that one reason she did so was because the pill “didn’t work right,” because bleeding didn’t start when it should or extended past when she would start taking the active pills again. However, in a later statement, she shifted her interpretation. Rather than the pill’s failure to produce a regular cycle, it was her body’s active resistance to menstrual suppression that was responsible. The pill failed to work correctly when it fought against what she said her body “needed” to do. She said:

Oh yeah, definitely. Yeah. That was definitely I think a 21, 22 and under kind of thing where you would do bad things to your body [that were] detrimental to your body’s health, for someone else. Things like when you were in the middle of your period start taking the pill to cut that period short because you have a date. To me that was horrible. I did it. And then you would end up worried - without being too graphic - you would end up still having traces left of it. It was your body being like, “You need to get this out.” And then you being, “No, it’s not the time.”

On the one hand, Reyna’s description is a clear example of dualistic thinking about her body: a split and conflict between mind/will and body, with technology allowing her to exercise control over her body. However, rather than characterizing the body as out of control, she describes her body as taking willful, almost purposive action. Her body “reasons” back to her that “you need to get this out,” despite her protests of “No, it’s not the time.” Reyna felt that, over time, she was less likely to think about her body in this way:

There were times when I liked following it [the cyclic pill regimen] directly, where I was not skipping anymore because my life had steadied out and it didn’t matter when I had it or didn’t have it. My life was more consistent. But most of the time I would still do it every other month. Because I just didn’t feel like I needed it every month. My body wasn’t doing it. It didn’t need to be done, so why [would I]?

She interpreted this as her body having a period when it needed to – even if that meant fighting back against the pill. While initially she did try to use OCs to try to “force her body to stop” (as she said above), she eventually shifted her pill regimen to match her body’s schedule. While sometimes she enjoyed following the script and bleeding every month, in general she felt that if her “body wasn’t doing it, it didn’t need to be done.” She appropriated the pill and shifted the script to accommodate her body.

Re-forming the Natural Body

Recently documented feminist activism and cultural work, along with some feminist scholarship, has rejected menstrual suppression because it is said to degrade and pathologize women’s bodies and their natural functions (Bobel 2010; Chesler 2005; Gunson 2010; Mamo and Fosket 2009). This attitude toward menstrual suppression as natural and threatened by technologies that suppressed menstruation was evident in the responses of some of the women I

spoke with. But there was more than one understanding of the natural body at play in the women's discussions. In many feminist analyses of menstruation, medical diagnoses, technologies, and treatments intrude on a normal and natural aspect of being a woman, in the process pathologizing, objectifying, and subordinating women's bodies and femininity itself. However, as Gunson (2010) points out for the particular case of menstrual suppression, it is important not to use the concept of medicalization as a shorthand for critique or solely to connote a negative form of power; rather, we should examine how medicalization can be productive, both reproducing social conditions and providing the grounds for resistance. Gunson highlights how women exercise agency within a medicalized approach to menstruation, through expressing ambivalence and selectively resisting or accommodating medicalized narratives. More generally, as Charis Thompson (2005) argues, women *actively* engage with medical technologies in constructing and achieving identities, even where the medical techniques and technologies they encounter objectify their bodies in some way. A feminist STS approach highlights the simultaneous co-construction of the technology that intervenes in the body (to pathologize, objectify, suppress) and the "naturalness" of the body upon which it intervenes (Balsamo 1995; Haraway 1991; Roberts 2007).

Women I interviewed provided two accounts of menstruation and the body as natural. In one, what the body does without intervention is considered "natural" and is valued for its connection to womanhood and femininity. From this perspective, pathologization, medicalization, and suppression of menstruation represent the devaluation of this natural process and are resisted in the name of revaluing and protecting natural bodies and femininity (for example, see (Chesler 2005) and Bobel's (2005) discussion of feminist-spiritualist menstrual activists). Two of the women that I spoke with shared this view of the body as natural and requiring protection from technology. Vanessa and Jessica both rejected the idea of suppressing menstruation using birth control. Vanessa, as mentioned above, had tried it one time but stated that she would never do it again. Both women (had) used OCs to regulate their own irregular periods, but did not think it was a good idea to use hormonal birth control to delay or skip periods. Jessica used cyclic OCs to regulate her period, but rejected the idea of using an extended regimen, saying:

I don't think, "Oh my God, that sounds so good." I don't think that's healthy, I don't think that's normal. I do think that a woman should have her cycle monthly. I think she's supposed to. Something about the once a year thing just is very unsettling and almost, as good as it sounds, too good to be true. What else is wrong with it? I'm not okay with that. It's just very unsettling. I feel that we have it every month for a reason; we need to flush out the body fluids or whatever it is. ...I wouldn't trust it, I guess.

Jessica felt that it was important for women to have a period every month, especially because it provided a natural function of "flushing out" the uterus. She was skeptical and distrustful of the idea of using birth control pills to skip periods, finding it unhealthy and not normal, and wondered what other impacts it might have on the body. While Jessica did use cyclic OCs to alter her cycle, because the pills produced bleeding that conformed to what she felt was a "healthy," "normal," monthly cycle, she saw it as very different from extending her cycle.

Vanessa more specifically referenced the natural when explaining why she was not interested in suppressing menstruation:

I think, honestly, even taking the pill to try to make it [my period] be once a month, even that was hard for me just because, like I said, it just doesn't seem - it's not like it's a natural substance. I know I sound like a total hippie when I say that, which I don't mean to, but when it comes to certain medicines, putting it in your body, I just feel like there's certain things that are FDA approved and aren't [safe] —and even things that are, you never know. They say there's all these different side effects that could occur. It was the experience that I had with just the pills that keep you regular. I know it wasn't a bad experience, but it wasn't great. So, like, why would I want to push it even further and try to reduce it even more, when it's already kind of ups and downs?

Vanessa explicitly rejected birth control hormones, questioning the safety of medications that were not natural. Although she worried that this way of thinking would be seen as outdated or illogical, she distrusted even medications that were FDA-approved because of the harm she feared they might do to her body. Even though she had previously used birth control pills to regulate her period, they were not entirely successful in producing a “regular” 28-day cycle, and this made her suspicious that there might be other ways the pills were not working as they were supposed to. Extending her cycle, then, seemed like “push[ing] it even further,” and introducing additional risk. The combination of the pills themselves as not natural, and therefore risky, and their effects on the body – altering it in a way that was not natural – compounded the risk and caused her to completely reject menstrual suppression as unnatural and characterized by unknown risks.

However, women like Reyna and Paige also mobilized understandings of their bodies as natural *through* their use of menstrual suppression pills. Paradoxically, their successful entrepreneurial endeavors in altering their cycles in fact led them to a position similar to Jessica and Vanessa – the rejection of menstrual suppression and (re)valuing what they saw as natural for their body. Recall how Reyna had described settling on an extended regimen by shifting the script of OCs to accommodate what her body “needed”:

It just was not syncing up the way that my body was trying to tell it to do. The whole thing was a total mess. It was almost like having two on and off switches. You had your natural one and then you had your pills. They were never aligned. You knew that they weren't aligned but you wanted to do it anyway to deal with your life. It did feel weird though. It didn't feel right. And I think that's probably why I started [altering the pill regimen] – It was the time you were supposed to start your period and you didn't. It didn't feel right. ...It would be weird. Nothing was aligned. It didn't work right.

Rather than feeling like her body should be protected from the pills, Reyna saw her body as competing with the pills to control her period. Using the machine metaphor of different “on and off switches” that controlled her period, she viewed the pills as providing an artificial switch that competed with her body's “natural” switch. When the two were mis-aligned, it just “didn't feel right.” However, Reyna didn't talk about her body's natural switch as automatically overpowered by the pills, but rather as pushing back against it. She understood the mis-alignment

of the pill with what her body was telling her period to do as evidence that it “didn’t work right,” implying that the pill should align with nature in order to work correctly.

However, Reyna and Paige both reached a point where they felt that their hormonal birth control was interfering with their bodies and decided to stop, first moving away from extended regimens and then from hormonal birth control altogether. Paige told me:

I got to the point about six months ago where I was like, “I’m going to start having regular periods again.” So I did and they are totally normal, easy periods, which is nice. I noticed like this flush of hormones when I was on my period that made me feel really good. I had a lot of energy and I was like, “Let’s go do stuff.” And it got to a point where the only time I felt that way was when I was on my period. So I decided to get off the pill for a while and see what it was like, you know. I haven’t had normal cycles like, ever, so like I said, it’s been great. My cycle came back into a regular 28-day cycle immediately, which probably isn’t totally normal. But it was really nice. And I feel really good. And I feel like I’m motivated and I have more energy now.

When Paige decided to start having monthly periods again, rather than only one per year, she noticed a change in her mood and energy level that she connected to changes in her body’s own hormones that occurred during the hormone-free week. Encouraged by this feeling, she decided to stop taking hormonal birth control and “see what it was like” to have cycles unmediated by synthetic hormones. However, Paige did not describe this as a returning her body to a more “natural” state or valuing “natural” cycles. Rather, she described the benefits of her new “normal” cycles as the increased energy and motivation she feels, her feeling of wanting to “go do stuff.”

Reyna, too, re-worked her experiences of “natural” cycles:

There was so much stuff you didn’t experience [when taking OCs]. I’m finally getting to know my body and my emotions. And it’s really weird. I never had those feelings before. It’s so different. I know when I’m irritated and I’m PMSing and stuff now. And before I didn’t have any of that. It was like a straight line.

I have an [iPhone] app for it, [that] let[s] me keep track. And then I write it down and I calculate all of it. And I actually write down my feelings going through that time because you do get depression and you get really happy and you get irritable, all these things and I write them down. I’m fascinated by trying to find monthly patterns on that to try to explain why I’m feeling the way I’m feeling. I think it’s fun.

Reyna here describes experiencing her body and emotions in a different way now that she has stopped taking birth control pills. In particular, she has become very curious about the connections between her emotions and her menstrual cycle. Reyna began to see her body as a source of experiential, embodied knowledge. She became interested in how her menstrual cycle affected her mood and behavior, tracking her cycle with an iPhone app and taking pleasure in trying to predict future moods. While her language, on the one hand, reflects an earlier feminist model of “listening to” and “getting to know” her body, she also engages this particular body

project in the exact terms of neoliberalism: as a self-knowing, calculative subject who can predict risk and manage it flexibly.

Menstrual suppression has been critiqued as medicalizing and demeaning a “natural” aspect of women’s bodies that is essential to womanhood, and as “signal[ing] to girls that menstruation needs to be controlled” (Mamo and Fosket 2009). However, in their own use of and engagements with menstrual suppression technologies, women came to varying positions and attitudes about the “nature” of their bodies and periods. Women like Paige and Reyna moved through different views of their bodies as “natural.” As they improvised and innovated their own extended regimens, they incorporated their OCs into their view of their body as natural, using their pills to create a body that was “more natural than natural” (Balsamo 1995). Reyna, in particular, talked about how she altered her pill regimen when she felt the pill was “fighting” her body and was able to establish an extended regimen that she felt reflected what was “natural” for her body. In particular, she worked to find a regimen in which the pill aligned with her body’s “natural” switch for turning periods on and off; when it didn’t, she interpreted this as a failure of the pill to work correctly.

However, both Paige and Reyna also felt at certain points that the pills were having a negative effect on their mood and energy. Driven by a curiosity about how they would feel when not taking hormones, they discontinued all hormonal birth control. Even this action does not seem like a clear-cut case of rejecting technology in favor of, or as a way to protect and preserve, the natural body. Reyna’s iPhone app, for example, serves as a technology that helps her to process and understand her experiences of an unmediated cycle.

While menstrual suppression birth control pills may be inscribed with negative cultural views of menstruation, and in some ways reproduce and reinforce them as they are used (Oudshoorn 2003b), they cannot determine the gendered embodied subjectivities that women enact through their active and creative engagement with these pills. Through flexible, entrepreneurial, biomedicalized approaches that subject the body to control and improvement, Reyna and Paige arrived at a place that looks very much like many feminist activists’ rejection of medical technologies that interfere with and suppression of the natural. However, their description of the decision to stop using hormonal birth control, especially their focus on self-monitoring, maximizing energy, minimizing risk, and prediction, suggests a reformulation of the natural body as dynamic, able to incorporate (rather than be displaced by) technology, and valuable as a source of information (rather than a resource to be reshaped).

Conclusion

Clinicians’ and women’s engagements with menstrual suppression technologies and practices illuminate several themes that have cut across the preceding chapters. One is the question of whether extended regimen birth control pills are medications used to treat menstrual symptoms or a new lifestyle drug that offers women the desired convenience of fewer periods per year. Clinicians stress that they prescribe extended regimens for therapeutic reasons, in line with current medical evidence and the longstanding practice of prescribing cyclic oral contraceptives to treat menstrual symptoms. At the same time, clinicians state that most of their prescriptions for extended regimens are for the convenience of fewer periods. While clinicians are less likely than the researchers discussed in Chapter 1 to rely on measurement to distinguish between the two, they still draw attention to women’s quality of life concerns surrounding menstrual symptoms as a way to blur the lines between the benefits of treatment and the benefits of fewer periods. The women that I interviewed were much more likely to talk about menstrual

suppression as a treatment for menstrual symptoms. This is likely, in part, because women with serious menstrual problems make up the majority of the group of participants. However, these women did not distinguish so clearly between treatment and convenience. Rather, they saw both cyclic and extended regimen OCs as tools they could use to achieve a “normal” period. Their expanded definition of what a “normal” period was, though, allowed them to conflate treatment and convenience in much the same way as the physicians.

Clinicians’ descriptions of women who suppress menstruation specifically for convenience also reproduced the image of the “savvy” user prevalent in the marketing and regulatory discourses. They described users who were very knowledgeable about their bodies and birth control options, who valued the control over menstruation that extended regimens provided, and who would take the initiative in asking their doctor for preferred services and products. Their descriptions made more explicit (than either the marketing or FDA discussions) how this ‘savvy’ user was based on notions of class and racial difference, particularly in revealing the “excluded users” against which they defined the group of ideal users.

Among the women I interviewed, there were varied approaches to menstrual suppression. While marketing stressed fixed regimens for menstrual suppression (such as Seasonale/Seasonique’s 84/7 regimen), the women in this sample who took the most “entrepreneurial” approach to managing and suppressing menstruation valued the flexibility of being able to design their own regimen. Clinicians, in fact, had also hinted at the fact that the savviest users did not need branded menstrual suppression pills. However, even these users did not necessarily feel comfortable with the amount of information and, in particular, guidance they received before altering their pill regimen. They stressed, on the one hand, the need for more information about possible health risks that would allow them to make more informed decisions, but on the other hand, an attendant need for physicians (or others) to provide support and guidance in making these decisions. Celia Roberts has argued that political demands for patient access to information and autonomous decision-making is all too easily absorbed into biomedical and pharmaceutical discourses, in ways that:

rather than seriously challenging traditional configurations, enact new subjectifications that ultimately do little to challenge old hierarchies between patients and doctors. Instead of providing a wider range of options or establishing new practices of bodily self-management, discourses of individualised patient responsibilisation may, at least in some arenas, work to produce willing and compliant consumers for medical services and/or pharmaceutical products (Roberts 2006:69).

Roberts argues that, once demands for patient choice, autonomy, and access to information are severed from social movements’ radical politics and applied directly to individuals, the benefits of these forms of patient empowerment are unevenly available. In this context, they are more likely to create compliant consumers than to truly open up new options for patients. Reyna and Paige, who demonstrate exactly the savvy ways of finding information about and changing their bodies, still express a profound sense of disempowerment when it comes to accessing guidance and support from physicians.

Menstrual suppression pills emerge in women’s accounts as pills that are less innovative (Barry 2001) than they seem. Branded menstrual suppression birth control freezes extended

regimens in a configuration that offers less flexibility than (some) women are already making use of. As seen in this chapter, women can reshape these technologies through creative and flexible forms of use, resisting or reforming the construction of the technologies (and of their position as users). However, stressing only women's ability to shift the meanings and uses built into these pills risks reproducing the individualized narratives of choice and flexibility that characterize neoliberalism and produce women as unconstrained consumers (Fraser 2009; Roberts 2006), rather than challenging the terms and context within which women engage menstrual suppression. Doing so also reproduces the exclusion of women who are pre-defined as uninterested in or unable to embody neoliberal subjectivities through the use of menstrual suppression pills and whose resistance therefore goes unrecognized. While the language of nature can be problematic, it does allow some women to articulate resistance to (over)medicalization and the push to act as consumers in a biomedical marketplace.

Chapter 6 | Conclusion

Since the FDA approved Seasonale in 2003, a new generation of birth control pills has been available which is designed to reduce the number of menstrual periods a woman has in a year, or eliminate them entirely. However, there is very little that is “new” about these pills: they are made from the same synthetic hormones in the same doses as previously-available birth control pills, but are designed and packaged to be taken in an extended regimen. They reproduce physicians’ longstanding practice of prescribing cyclic OCs in an extended regimen to treat menstrual symptoms. Women, too, have informally suppressed menstruation using cyclic OCs either occasionally, to avoid having their periods conflict with an important trip or event, or long-term for the convenience of fewer periods. Thus, while Seasonale was the first FDA-approved birth control pill specifically designed to suppress menstruation, using birth control pills to reduce or eliminate monthly bleeding has been both possible and informally practiced since their introduction. In this dissertation, I’ve asked: Given that the pills themselves have not changed, what *social shifts* can account for the emergence and acceptance of menstrual suppression birth control pills at this particular time? What work was required to recreate extended regimens as “new” menstrual suppression birth control pills? How were women called to take up the use of these pills – and in what ways have they understood and used them?

To answer these questions, I examined medical constructions of menstruation, the production of subject positions for women as patients, and the development and deployment of technologies of menstrual suppression through medical journal articles published in the decades leading up to and including the introduction of menstrual suppression birth control pills. In the case of menorrhagia, standards of measurement shifted over time in ways that shape and are shaped by new subject positions for women as patients. Earlier forms of measurement emphasized a need for material proof of pathology and strictly objective markers of disease, while discounting women’s reports of their own symptoms; later forms of measurement emphasized sophisticated subjective measures which recruit women as active participants, but do so by framing them as consumers whose satisfaction with health services is important.

The emergence of menstrual suppression birth control in the medical literature followed was not an obvious endpoint of the constructions of hormonal birth control and menstrual bleeding that preceded it. Cyclic OCs have been prescribed for decades to treat menstrual symptoms such as heavy periods, irregular cycles, and painful cramps; more recently, changes in the chemical makeup of pills, along with the development of longer-acting hormonal contraceptives (such as Norplant and Depo Provera), which all result in increases in breakthrough bleeding. Because of these shifts, in the years immediately preceding the development and introduction of Seasonale (and other menstrual suppression birth control), hormonal contraceptives were as likely to be constructed as a source of bleeding problems as a cure for them. The construction of a group of new users, patients who desired fewer periods for reasons of convenience or personal preference and actively requested this from their doctors, allowed for menstrual suppression to be constructed as a new technology in the medical literature.

Menstrual suppression birth control emerged in the context of biomedicalization, a significant shift in the United States in the aims and organization of medicine and its place in society. The regime of biomedicalization is characterized by a blurring of the boundaries between treating disease and enhancing health, as well as by an emphasis on patients as active consumers. This research contributes to theories of biomedicalization an understanding of how

developments work through the production of medical knowledge itself. Patients are shifted into the category of consumer through medical attention to and intervention into “quality of life,” while new consumers/users of menstrual suppression pills are constructed through their inclusion as key participants in clinical trials.

In the second half of the dissertation, I turned to an examination of how processes of biomedicalization overlap with and intensify the effects of neoliberalism. I argue that advertising and regulatory discourses address women as savvy consumers and work to configure women as ideal users of birth control and, simultaneously, as neoliberal subjects. I extend the technology studies concept of “configuring users” by using it to understand market- and state-based practices, arguing that marketing websites and FDA regulations script the knowledge, practices, and identities that women – as ideal biomedical consumers and citizens – are expected to bring to their engagements with menstrual suppression. This chapter shows how advertising pulls women toward taking up and enacting neoliberal subjectivities – by framing health as lifestyle and women as ideal consumers in a biomedical marketplace – while the FDA’s framing of its own role as regulating the information offered to women, rather than the technologies themselves, further reinforces the constitution of women as consumer-subjects.

While medical institutions, advertisements, and government actions may construct subject positions for women, women also take up, resist, or transform the subject positions that are available to them through their engagements with menstrual suppression pills and practices. Physicians express tensions between prescribing menstrual suppression pills as treatment for menstrual symptoms and providing menstrual suppression pills in response to “savvy” patients’ demands as consumers. Women (in this sample, most of whom experienced periods they considered problematic) tended to view birth control pills, whether cyclic or extended regimens, as tools that helped them achieve a “normal” period. Several women reported designing their own extended regimen with their standard regimen OCs, highlighting that menstrual suppression is both a practice and a product. Users understood menstrual suppression birth control and the practice of informal menstrual suppression differently. Women practicing informal menstrual suppression faced the novel choice of deciding when *to* have periods and explained how they knew it when it was “time” to have a period. Women who resisted menstrual suppression did so in terms of health risks or in the name of “natural” bodies and femininity. Users and non-users of menstrual suppression (re)defined and mobilized understandings of what normal, natural, and acceptable periods were.

Women’s active and creative engagements with menstrual suppression challenge and reshape the expectations of ideal users built into the scripts of menstrual suppression pills. However, even in doing so, they participate in individualized, entrepreneurial approaches to health and reinforce the value of flexible bodies that are in line with neoliberal values. These women’s approaches exemplify the creative ways that discourses of the “natural” and “normal” can be claimed, reshaped, and redeployed by women through their appropriation of these technologies. However, it is important to recognize the uneven ability to access and exercise these options and work to increase real space in medical encounters for women to gain knowledge, options, and opportunities for autonomous decision-making, rather than being given information and choices that are easily absorbed into individualizing consumer rhetoric.

Methodological Appendix

Chapter 2

In order to gauge medical understandings and discourses of menstruation, I searched within three journals, Obstetrics and Gynecology, the Journal of the American Medical Association (JAMA), and the New England Journal of Medicine, between 1980 and 2009. I limited the search to these three high-impact and highly-respected journals, which could be considered “thought leaders” in the U.S. JAMA and New England Journal of Medicine are the two U.S.-based general medical journals with the highest impact factor (ISI Web of Knowledge). In addition to these general journals, I selected one specialty journal. Obstetrics and Gynecology was the second highest-ranked journal (by impact factor) in the specialty of obstetrics and gynecology both in 2009 and across the time period 1981-2006 (ISI Web of Knowledge; ScienceWatch.com, 2008). (The highest-ranked journal in this specialty, Human Reproduction Update, does not publish original research and was first published in 1995.)

Using the online index PubMed, I searched within the three journals using the keyword “menstrual bleeding.” This search yielded 32 articles. Guided by the question of whether and how menstruation was characterized as or determined to be pathological, I read and coded all 32 articles. Coding was inductive and recursive; I employed an open coding scheme that allowed salient categories and themes to emerge from the data. The 32 articles clustered around two topics: menorrhagia and menopause. Nineteen of the articles focused on menorrhagia, including those that primarily concerned the diagnosis and/or treatment of menorrhagia and those featuring a significant discussion of menorrhagia as a symptom or outcome measure. A second cluster of articles concerned menopause (11 articles, 3 of which overlapped with articles on menorrhagia) and the 5 remaining articles were on topics such as retrograde menstruation, menstrual changes following sterilization, or the effects of soy on the menstrual cycle. I chose to focus my analysis in this paper on the cluster of articles on menorrhagia, because they dealt directly with menstrual bleeding per se and allowed an examination of how physicians and researchers distinguish pathological from normal menstruation, while keeping constant the particular type of menstrual pathology. In assessing this subsample for completeness, I found that there were several articles discussing the measurement and diagnosis of menorrhagia not captured by the initial search because they used the key term “menstrual blood loss.” I repeated the search using this key term, which yielded 29 new articles (plus 2 already included in the sample). Of these 29, 11 were significantly concerned with menorrhagia and were coded and included in the analysis. In total, 30 articles on menorrhagia were analyzed, out of a total of 61 articles.

Medical Journal Article Sample for Chapter 2

ACOG committee opinion. No. 337: Noncontraceptive uses of the levonorgestrel intrauterine system. (2006). *Obstet Gynecol*, 107, 1479-1482.

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Chapter 3

Data for this chapter consisted of a sample of 40 articles drawn from the journals *JAMA*, *NEJM*, and *Obstetrics and Gynecology* in the time period 1980-2009. I used the online medical article index PubMed to search for articles using the terms “menstrual” or “menstruation” and “contraceptive.” Using “contraceptive” as a search term allowed me to capture the widest range of articles. The search yielded 126 articles. Out of these, 41 articles that included substantive discussion of both hormonal contraceptives and menstrual bleeding were included in the analysis for Chapter 3. Nine articles that had been previously analyzed and included in Chapter 2 were not included in the sample for Chapter 3. The remaining 76 articles were excluded because they did not substantively discuss both hormonal contraceptives and menstruation/uterine bleeding. For example, one excluded article discussed bleeding as a symptom of sexually transmitted diseases, but only included oral contraceptive use as a background variable for study participants. Articles were coded by the author in the manner described above for Chapter 2.

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Chapter 4

Websites

One important element of the data for this paper is the "Frequently Asked Questions" section on each of the websites. From the perspective of configuring and disciplining users, the FAQ is particularly important because of the way it explicitly calls users and prospective users into an active relationship with the information it is presenting. The FAQ formulates and enforces upon readers the kinds of questions they *should be* asking, the kinds of things they *should* want to know, because, after all, that is what everyone else is asking about. They frame the knowledge presented as knowledge that the user has already asked for (or at least should already be asking for) and therefore draw viewers into active knowledge-seeking and information about the technological product. In doing so, they configure both a particular identity for the user (as someone who is concerned with naturalness/normalness of her body or future fertility, for example) and the knowledge and practices that the technology requires (What do I do if I miss a pill? How will I know I'm not pregnant?). This paper draws from both explicit FAQ sections, alongside the other content presented on the websites. In some cases, these two aspects blend together, as at the fewerperiods.com website, which is formatted as one large FAQ,

with tabs that lead readers to different pages of content all phrased in the form of questions “why are fewer periods possible?,” “is it safe?,” “will it affect future fertility?,” “what do experts say?,” and “is it right for me?”

Website FAQs prove to be a particularly apt data source for analyzing user configuration for a new technology. First, the FAQ format has become a ubiquitous construct on the web. Nearly every website has one, and visitors are well-trained to seek them out and peruse them to find answers to “their own” questions. Second, the FAQ works in a slightly different way than other web content, namely by explicitly calling the viewer into an active relationship with the knowledge they are receiving, in which information is provided as a response to a question that the viewer has asked. In essence, FAQ info on these websites can be seen as participating in a double process of configuration – they configure users (of the site) into a particular relationship with the information being presented, and they configure potential users (of these pills) into a particular relationship with this new technology, as I discuss in the chapter. We can understand the connection between these two processes by viewing the websites as technologies of neoliberal subjectivity, producing and prescribing consumer-oriented health knowledge that also carries with it individualized responsibility for maximizing health and transforming the body.

FDA Meeting Transcripts

Official minutes and transcripts for the January 23-24, 2007, meeting of the Reproductive Health Drug Advisory Committee are available on the FDA website at this URL: <http://www.fda.gov/ohrms/dockets/ac/cder07.htm#rhdac>. I downloaded the transcripts as .pdf files and coded them using the qualitative data analysis software Atlas.ti. A list of the participants at this meeting follows.

Advisory Committee for Reproductive Health Drugs Committee Members (voting)

Charles Lockwood, M.D. (Acting Chair) The Anita O’Keefe Young Professor of Women’s Health and Chairman, Department of Obstetrics, Gynecology & Reproductive Sciences Yale University School of Medicine	James R. Scott, M.D. Professor, Department of Obstetrics and Gynecology University of Utah School of Medicine
Maria Bustillo, M.D. South Florida Institute for Reproductive Medicine	Jonathan Tobert –Industry Representative Tobert Medical Consulting
Ronald Gibbs, M.D. Professor and Chair Department of Obstetrics and Gynecology University of Colorado	Lorraine J. Tulman, DNSc, RN, FAAN – Consumer Representative Associate Professor University of Pennsylvania School of Nursing
Daniel Gillen, Ph.D. Assistant Professor, Department of Statistics University of California, Irvine	O. Lenaine Westney, M.D. Interim Division Director Department of Surgery, Division of Urology University of Texas Medical School at Houston
Julia V. Johnson, M.D. Vice Chair of Gynecology, Department of	

Obstetrics & Gynecology, Reproductive Endocrinology, and Infertility University of Vermont	
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Temporary Voting Members

Paula J. Adams Hillard, M.D. Children's Hospital, Pediatrics, Obstetrics and Gynecology University of Cincinnati, College of Medicine	Herbert Peterson, M.D. Department of Maternal and Child Health School of Public Health The University of North Carolina at Chapel Hill
Abbey Berenson, M.D. Departments of Obstetrics/Gynecology and Pediatrics UTMB Center for Interdisciplinary Research in Women's Health The University of Texas Medical Branch	Diana Petitti, Ph.D. Senior Advisor, Health Policy and Medicine Kaiser Permanente Southern California Pasadena, California
Paul Blumenthal, M.D. Dept of OB/GYN Stanford University	Bruce Stadel, M.D., MPH Retired FDA medical officer
Eve Espey, M.D., MPH Associate Professor, Obstetrics Gynecology University of New Mexico Health Sciences Center	James Trussell, M.D. John Foster Dulles Professor in International Affairs; Director, Office of Population Research; Director, Program in Population Studies; Professor of Economics and Public Affairs Woodrow Wilson School, Princeton University
Melissa Gilliam, M.D. Associate Professor, Obstetrics and Gynecology Department of Obstetrics and Gynecology University of Chicago	Elizabeth Shanklin-Selby – Patient Representative
Johanna Perlmutter, M.D. Department of Obstetrics and Gynecology Beth Israel Deaconess Medical Center	

FDA Center for Drug Evaluation and Research Participants (non-voting)

Julie Beitz, M.D. Director, Office of Drug Evaluation III	Lisa Soule, M.D. Team Leader, DRUDP
Daniel Shames, M.D. Acting Deputy Director, Office of Drug Evaluation III	Gerald Willett, M.D. Team Leader, DRUDP
Scott Monroe, M.D. Acting Director, FDA Division of Reproductive and Urologic Products (DRUDP)	Shelley Slaughter, M.D. Medical Officer, DRUDP
Lisa Kammerman, Ph.D. Statistician, DRUDP	Phill Price, M.D. Medical Officer, DRUDP

Chapter 5

Clinician interviews

In order to get a sense of how clinicians think about and prescribe extended regimens and menstrual suppression birth control for their patients, I interviewed 5 physicians and nurse practitioners working in a variety of healthcare settings in the San Francisco Bay Area. I conducted interviews between May 2011 and October 2011. I interviewed four nurse practitioners and one physician. Clinicians were recruited from contacts developed in a previous project, as well as through distribution of study announcements to clinics and doctors' offices by phone, fax, and email. Two of the clinicians worked for public health clinics, one on site at a high school. One nurse practitioner worked at the student health center at a large university and another nurse practitioner worked for a large HMO. The physician was an obstetrician/gynecologist in private practice. Reproductive health made up a significant or primary portion of all of the clinicians' practices and all regularly prescribed hormonal birth control for their patients. Collectively, they accepted a wide range of health insurance plans. The two NPs in public health clinics specifically served low-income and uninsured patients, with most or all of their patients enrolled in state sponsored health insurance programs such as MediCal or Family PACT.

Interviews were conducted by the author in the provider's office or at another convenient location. Interviews lasted between 30 and 60 minutes and covered topics such as knowledge about extended regimens/menstrual suppression, experiences prescribing extended-regimen contraceptives, and typical discussions with patients. The interviews were transcribed and the transcripts analyzed using the qualitative data analysis software Atlas.ti.

Interviewees: Clinicians (all names are pseudonyms)

Name	Degree	Healthcare Setting
Adam Green	MD	Private OB/GYN Practice
Hana Hendrick	NP (Nurse Practitioner)	Public Health Clinic located in a public high school
Diane Roberts	NP	City Public Health Clinic
Wendy Tullman	NP	University health center
Elizabeth Wilson-Thicke	NP	Health Maintenance Organization (HMO)

Interviews with women

The data for this chapter consists of interviews with eight women conducted in the San Francisco Bay Area between August 2011 and February 2012. I used a convenience/snowball sample, beginning with women who responded to flyers and emails seeking women between the ages of 18 and 40 who were willing to share their opinions on using birth control to skip periods. Because I found in my interviews with physicians and nurse practitioners that many health care providers were not prescribing the name brand menstrual suppression pills, such as Seasonique or Lybrel, I did not restrict my interviews to women who had taken or heard of these brands. In order to include both users and non-users of menstrual suppression, I asked women to share their

opinions on using birth control to skip periods, rather than just limiting the interviews to women who had experience using/practicing menstrual suppression. This was important because I wanted to explore how women explained their decisions to use or refuse menstrual suppression practices and technologies. Further, I wanted to investigate the possibility that the availability and popularization of menstrual suppression technologies changed how *all* women thought about and experienced menstruation. I posted flyers advertising the study in doctors' offices and clinic waiting rooms, as well as on public bulletin boards in Laundromats, coffee shops, and community centers. I also distributed an announcement of the study on internet bulletin boards, such as Craigslist.

Interviews were conducted in person and over the phone. They lasted between 35 and 95 minutes. Interviews covered topics such as knowledge about menstruation, women's experiences of their first period, prior birth control use, knowledge about menstrual suppression birth control, and interest in skipping periods or experiences using extended regimens of birth control. After transcription, the interviews were coded using the qualitative data analysis software Atlas.ti.

Interviewees: Women users/non-users (all names are pseudonyms)

Name	Age	Race (self-reported)	Occupation	Education	Menstrual Suppression
Debby	20	Latina	College student	Some college	Never (Uses Implanon)
Elsie	32	White	Unemployed, receiving disability	Some college	Yes, used Seasonale, stopped due to bleeding
Jessica	27	Asian-American	Logistics Manager	Graduate degree (MA)	Never (currently uses OCs for menstrual regulation)
Lauren	28	White	Stay-at-home mom	Some college	Yes, generic Seasonique; (Previously: Informal, Ortho Evra)
Naomi	25	Asian-American	Stay-at-home mom	High school	Yes, Seasonique
Paige	21	White	Intern/Research Assistant	College	Yes, Informal (generic OCs)
Reyna	27	White/25% Italian/25% Mexican Indian	Administrative Assistant, Nonprofit Executive Director	College	Yes, Informal (generic OCs)
Vanessa	23	Latina/White	Graphic designer	College	No, tried once (previously used OCs for menstrual regulation)

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