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# Managing and Monitoring the Menopausal Body

Naomi R. Cahn,<sup>†</sup> Bridget J. Crawford<sup>††</sup>  
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## ABSTRACT

*This Essay explores how menopausal bodies are managed and monitored in contemporary U.S. culture. The focus is on two distinct aspects of that management and monitoring: menopausal hormone therapy (MHT) and the burgeoning market for technology-driven menopause products and services. While each of these allegedly improves the menopause experience, a closer investigation reveals a more complex interaction of profit motives and traditional notions of gender identity. The Essay identifies problems with current medical and business practices and suggests a role for law in destigmatizing menopause, ensuring availability and safety of MHT, and enhancing privacy for users of menopause-oriented apps and digital services.*

*Careful consideration of menopause brings this Essay into ongoing conversations about theorizing beyond the gender binary and stereotypical notions of femininity. Purveyors of both MHT and menopause-related digital products and services appeal to mostly cisgender women by emphasizing ideas of youthfulness, attractiveness, and sexual desirability. We locate these profit seekers within “menopause capitalism,” the marketing and selling of menopause-related products through*

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The co-authors have written three articles exploring different aspects of menopause and the law. To reflect the collaborative effort, each article adopts a different position for the three co-authors' names. The other two articles are Bridget J. Crawford, Emily Gold Waldman & Naomi R. Cahn, *Working Through Menopause*, 99 WASH. U. L. REV. 1531 (2022) and Emily Gold Waldman, Naomi R. Cahn & Bridget J. Crawford, *Contextualizing Menopause in the Law*, 45 HARV. J. L. & GENDER (2022).

*messages that celebrate autonomy, community, or femininity from entities that are, at their core, commercial enterprises.*

## I. INTRODUCTION

Menopause is both an ending and a beginning. Medically speaking, menopause is the cessation of menstruation for at least twelve months in a person who previously menstruated.<sup>1</sup> Both during perimenopause (the transition to menopause)<sup>2</sup> and after menopause, law and the body intersect in complex and under-studied ways. This Essay explores how the medical profession and various for-profit business entities seek to manage and monitor individuals' experiences of menopause. In treating and tracking menopause, both the medical profession and menopause-oriented businesses respond to genuine need but also contribute to negative stigmas at the intersection of aging and gender. The Essay's exploration proceeds through the lenses of two distinct but related mechanisms: menopausal hormone therapy (MHT) and the burgeoning market for technology-driven menopause products and services such as symptom trackers and peer-support platforms.<sup>3</sup> In their current forms, both MHT and menopause-related digital products and services appear, at least at first glance, to be striving for the long-term health and well-being of menopausal individuals. But a closer investigation reveals a more complex interaction of profit motives and traditional notions of gender identity. The Essay identifies problems with—and suggests some solutions for reforming—current practices of monitoring and managing the menopausal body. In doing so, it engages with scholarship on how to improve the way the law provides, or fails to provide, remedies for gender discrimination as adequate responses to privacy issues that arise in the digital world.<sup>4</sup>

Part I of this Essay provides a brief history and overview of MHT.<sup>5</sup> Part II surveys the market for technology-driven menopause products and services, with an emphasis on sales of “smart” consumer products

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<sup>1</sup> See *Menopause Basics*, U.S. DEP'T OF HEALTH & HUM. SERVS., OFF. ON WOMEN'S HEALTH, <https://www.womenshealth.gov/menopause/menopause-basics> [https://perma.cc/P9W6-V4MA] (“The menopause is the permanent cessation of menstruation due to loss of ovarian follicular function. Clinically, menopause is not diagnosed after 12 months of amenorrhea, so the time of the final menses is determined retrospectively.”).

<sup>2</sup> See *id.*

<sup>3</sup> Menopausal (or menopause) hormone therapy may be more commonly known as hormone replacement therapy (HRT), but the latter “name falsely implies that estrogen or other hormones are missing because of a medical problem, and the low levels of estrogen after menopause are biologically abnormal.” JEN GUNTER, *THE MENOPAUSE MANIFESTO: OWN YOUR HEALTH WITH FACTS AND FEMINISM* 213 (2021). This Essay therefore uses the term “MHT” over “HRT.”

<sup>4</sup> See *infra* Part IV.

<sup>5</sup> See *infra* Part I.

that purport to address the symptoms of menopause;<sup>6</sup> digital platforms that provide access to healthcare professionals with specialized menopause knowledge;<sup>7</sup> and digital menopause symptom-trackers or coaching platforms that rely on users to enter their own data.<sup>8</sup> Part III then identifies areas of concern that can and should be addressed through legal reform or regulation. Far from a comprehensive evaluation of legal solutions, however, this discussion is mostly suggestive. It points to areas ripe for further research and inquiry in service of developing policies that lead to better health outcomes and improved privacy protection.

The Essay's focus on menopause brings it into ongoing conversations about theorizing beyond the gender binary and stereotypical notions of femininity. While both MHT and menopause-related digital products and services respond to some people's actual needs, they also tend to emphasize core ideas (and ideals) of youthfulness, attractiveness, and sexual desirability of cisgender women. These profit-seeking enterprises fall within what we call "menopause capitalism," the marketing and selling of menopause-related products through messages that celebrate autonomy, community, or femininity.<sup>9</sup> The Essay explores the significant personal data privacy issues that arise in connection with menopause capitalism.<sup>10</sup>

## II. MEDICALIZING THE MENOPAUSAL BODY

The history of hormonal treatment for menopause is riddled with questions and controversies that continue to dominate contemporary scientific and popular discourse.<sup>11</sup> Is menopause a "problem" or "illness" to be treated under a doctor's supervision, or is it an inevitable process

<sup>6</sup> See *infra* Parts II A–B.

<sup>7</sup> See *infra* Part II.

<sup>8</sup> See *infra* Part II.

<sup>9</sup> The term "menopause capitalism" is adapted from Bridget Crawford's concept of "menstrual capitalism." See Bridget Crawford, *Against Menstrual Capitalism*, FEMINIST L. PROFESSORS (June 25, 2018), <http://www.feministlawprofessors.com/2018/06/against-menstrual-capitalism> [<https://perma.cc/6895-GXJK>] (defining menstrual capitalism as "the marketing and selling of menstrual hygiene products by means of feminist messages that attempt to create a public-relations 'halo effect' for companies that are, at their core, commercial enterprises that seek to profit from women's bodies").

<sup>10</sup> Cf. Danielle Keats Citron, *A New Compact for Sexual Privacy*, 62 WM. & MARY L. REV. 1763, 1767 (2021) ("The surveillance of intimate life garners significant returns with little risk for businesses. The opposite is true for individuals."); Danielle Keats Citron, *Sexual Privacy*, 128 YALE L.J. 1870, 1890 (2019) (noting the importance of privacy outside of intimate relationships, including with respect to gender identity).

<sup>11</sup> One early mention of menopause can be found in the work of Aristotle, who observed that "fifty marks the limit of capacity of reproduction in women." ARISTOTLE'S POLITICS VIII 14 1335a (Carnes Lord tr., 2d ed. 2013). Sixteenth-century Italian physician Giovanni Marinello observed that "as soon as the period stop, pains arise." See Michael Stolberg, *A Woman's Hell? Medical Perceptions of Menopause in Preindustrial Europe*, 73 BULL. HIST. MED. 404, 406 (1999) (quoting 1563 publication by Giovanni Marinello).

that requires little or no intervention? In any case, are menopause's symptoms mainly psychological or physical? What personal, cultural, or even legal significance does menopause have? Does it represent a new, liberated stage of life to be celebrated, or a loss of traditional "femininity" that should be mourned? Might menopause be understood as something else entirely?

The answers to these questions have real-world consequences. For the most part, "medicalizing" the menopausal body—i.e., defining the inevitable, age-related cessation of menstruation as a problem or illness that typically requires health care interventions—appears to be the dominant approach.<sup>12</sup> The medicalization of menopause, in turn, reflects and shapes cultural attitudes, as does any pushback against that approach.<sup>13</sup> Those who resist narratives about menopause as a condition that necessarily needs treatment instead emphasize the diversity of the experience of menopause and the potential richness of a post-menopausal existence.<sup>14</sup> They also stress the importance of individual agency, multiple perspectives, and self-determination.<sup>15</sup> This Part explores the development and marketing of modern MHT in the 1940s and '50s, the explosion in use of MHT in the late 1960s through appeals to feminine stereotypes, and the current state of scientific knowledge about hormonal treatment for menopause.<sup>16</sup>

## A. Marketing Menopause

The modern era of hormonal treatment for menopause in the United States began when the Food and Drug Administration (FDA) first approved the use of synthetic estrogen in 1941.<sup>17</sup> A year later, the

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<sup>12</sup> Medicalization—meaning making a person, condition, or process subject to professional medical treatment—may entrench a power relationship between doctor and patient. Although medicalization is not itself necessarily destructive of health, it does implicate power. See, e.g., Jill Wieber Lens, *Medical Paternalism, Stillbirth, & Blindsided Mothers*, 106 IOWA L. REV. 665, 701 (2021) (noting that "medicalization" of childbirth may have helped reduce the stillbirth rate).

<sup>13</sup> See, e.g., Craig Konnoth, *Medical Civil Rights As a Site of Activism: A Reply to Critics*, 73 STAN. L. REV. ONLINE 104, 107 (2020) ("medicine is a social discourse"). Konnoth argues that medicine may be useful as a framing device in many cases. See Craig Konnoth, *Medicalization and the New Civil Rights*, 72 STAN. L. REV. 1165, 1173 (2020). Feminists, in particular, have been critical of the medical approach to menopause. See, e.g., Linda C. Andrist, *Conceptual Models for Women's Health Research: Reclaiming Menopause as an Exemplar of Nursing's Contributions to Feminist Scholarship*, 19 ANN. REV. OF NURSING RES. 29, 29 (2001) (explaining how "feminist and nurse scholars have contributed to dismantling the "predominant biomedical model [that] perpetuates the idea that menopause is a deficiency disease"").

<sup>14</sup> GUNTER, *supra* note 3, at 336 (referring to "value, agency, and voice").

<sup>15</sup> GUNTER, *supra* note 3, at 336.

<sup>16</sup> MHT refers to a range of treatments that include estrogen alone or estrogen and progesterone. See, e.g., Jill Jim, *Treatment of Menopause Symptoms With Hormone Therapy*, 327 J. AM. MED. ASS'N. 1716 (2022), <https://jamanetwork.com/journals/jama/fullarticle/2791692> (explaining that MHT can be estrogen alone or estrogen and progesterone); GUNTER, *supra* note 3.

<sup>17</sup> See, e.g., JUDITH A. HOUCK, HOT AND BOTHERED: WOMEN, MEDICINE, AND MENOPAUSE IN

FDA approved Premarin, an estrogen developed by the Wyeth company from the urine of pregnant mares.<sup>18</sup> These drugs were intended to treat hot flashes, mood swings, insomnia, and other common symptoms of menopause.<sup>19</sup> At that time, the medical establishment was largely ambivalent about hormonal treatment for menopause. One prominent physician opined in the *American Journal of Obstetrics and Gynecology* that some women might need such treatments, but most would not.<sup>20</sup> Still others advised that hormone therapy should be used only for those patients with the most serious and severe symptoms of menopause.<sup>21</sup>

Notwithstanding the lukewarm reception from parts of the medical establishment, drug companies marketed these hormones directly to physicians.<sup>22</sup> Popular magazines soon were full of stories of how much better menopausal-aged women felt after taking medication.<sup>23</sup> Those with the means and access to health care began to seek out these drugs in droves, so much so that an estimated one-third of middle class women experiencing menopause took hormones or sedatives—or both—during the 1950s.<sup>24</sup> These usage rates reflect just how successful drug companies were in getting doctors (and their patients) to medicalize the menopausal body. By positioning menopause as a disease that needed pharmaceutical intervention, the drug companies were also developing for

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MODERN AMERICA 59 (2008) (describing FDA's 1941 approval of diethylstilbestrol, also known as DES, the first synthetic estrogen). Congress established the FDA in 1938; the agency was charged with evaluating drugs for premarket approval to establish safety. See Federal Food, Drug, and Cosmetic Act, ch. 675, 52 Stat. 1040 (1938) (codified as amended at 21 U.S.C. §§ 301–99 (2012 & Supp. 2017)). See also PAUL ENRIQUEZ, *REWRITING NATURE* 294–95 (2021) (discussing development of FDA regulations generally).

<sup>18</sup> Premarin was a product of the Wyeth corporation. A later congressional investigation targeted Wyeth for allegedly ghostwriting third-party statements of support for the use of Premarin. See, e.g., MINORITY STAFF RPT. OF SEN. COMM. ON FIN., 111TH CONG., *GHOSTWRITING IN MEDICAL LITERATURE* 4 (Comm. Print June 24, 2010). See also Shea Shaver & Bryan Aylstock, *Lurking Beneath the Printed Page*, TRIAL, 20, 25 (Sept. 2013) (discussing investigations into Wyeth's practices).

<sup>19</sup> See, e.g., Robert Bazell, *The Cruel Irony of Trying to be "Feminine Forever"*, NBC NEWS (Jan. 2, 2007), <https://www.nbcnews.com/id/wbna16397237> [<https://perma.cc/69BM-Z27C>] (describing the FDA's early approval of estrogen treatments for menopause).

<sup>20</sup> See Emil Novak, *The Management of the Menopause*, 40 AM. J. OBSTETRICS & GYNECOLOGY 589 (1940), [https://www.ajog.org/article/S0002-9378\(40\)91244-3/fulltext](https://www.ajog.org/article/S0002-9378(40)91244-3/fulltext) [<https://perma.cc/T5KK-L9UX>] (“[I]t must be remembered that many symptoms frequently observed in menopausal women not directly due to the endocrine readjustments of this period, but that they are more logically explained as due to environmental and psychogenic factors of one sort or another.”).

<sup>21</sup> See HOUCK, *supra* note 17, at 285.

<sup>22</sup> See, e.g., SUSAN P. MATTERN, *THE SLOW MOON CLIMBS: THE SCIENCE, HISTORY, AND MEANING OF MENOPAUSE* 286–88 (2019) (discussing pharmaceutical claims and marketing).

<sup>23</sup> See *id.*

<sup>24</sup> See *id.*

themselves a potentially lucrative and long-term profit center in the bodies of approximately half the population.<sup>25</sup>

## B. Marketing Femininity

Menopausal hormone therapy<sup>26</sup> usage exploded during the 1960s, with physician-backed promises of “femininity forever.”<sup>27</sup> The expansion dates to an article published in a relatively obscure medical journal by Robert Wilson, a physician, and Thelma Wilson, his wife and a nurse.<sup>28</sup> In the first paragraph, they asserted: “a man remains a man until the end. The situation with a woman is very different. Her ovaries become *inadequate* relatively early in life.”<sup>29</sup> The solution, the Wilsons proclaimed, was estrogen therapy to cure estrogen deficiency.<sup>30</sup>

<sup>25</sup> In 1929, two researchers (working independently) were the first to successfully isolate estrone. See MATTERN, *supra* note 22, at 284. Estrone is one of three different forms of estrogen: estradiol (the most potent), estriol (a primary form present during pregnancy); and estrone (the only type of estrogen made by post-menopausal bodies). See *What is Estrogen?*, HORMONE HEALTH NETWORK (Aug. 2018), <https://www.hormone.org/your-health-and-hormones/glands-and-hormones-a-to-z/hormones/estrogen> [<https://perma.cc/4SKX-SD4G>]. The discovery of estrone represented a foundational step in the development of a view of menopause as an endocrinal condition, or “deficiency,” for which additional estrogen could serve as a cure. See MATTERN, *supra* note 22, at 284. Edward Doisy, one of the scientists credited with first isolating estrone in 1929, applied for and secured two patents in 1934; these protected the process of obtaining crystallized hormones from pregnant women’s urine in 1930. See *Edward Doisy Sr.: Won Nobel Prize*, N.Y. TIMES (Oct. 25, 1986), <https://www.nytimes.com/1986/10/25/obituaries/edward-doisy-sr-won-nobel-prize.html> [<https://perma.cc/EAY7-GGH9>] (calling Dr. Doisy’s isolation of estrone “the first great accomplishment in a long-term research project” on ovarian function that lasted for twelve years) and ELIZABETH SIEGEL WATKINS, *THE ESTROGEN ELIXIR* 11–12 (2007) (discussing Doisy’s experiments and the patents he received in 1934). Dr. Doisy licensed those patents first to Parke Davis and then to Abbott Labs and Eli Lilly. See *id.* at 11–12.

<sup>26</sup> The terms “hormone replacement therapy” and “menopausal hormone therapy” refer to the same treatment; in this Essay, we use the latter, because the former “suggests an abnormality where none exists.” See Jen Gunter, *Women Can Have a Better Menopause: Here’s How*, N.Y. TIMES (May 25, 2021), <https://www.nytimes.com/2021/05/25/opinion/feminist-menopause.html> [<https://perma.cc/TL99-2PQ4>].

<sup>27</sup> See, e.g., Angelo Cagnacci & Martina Venier, *The Controversial History of Hormone Replacement Therapy*, 55 *MEDICINA* 602 (2019).

<sup>28</sup> Robert A. Wilson & Thelma A. Wilson, *The Fate of the Nontreated Postmenopausal Woman: A Plea for the Maintenance of Adequate Estrogen from Puberty to the Grave*, 11 *J. AM. GERIATRICS SOC.* 347 (1963). Referring to Wilson’s subsequent “blockbuster book,” national newspaper columnist Ellen Goodman has written: “[w]hen they write the history of hormone therapy, you can bet they’ll begin with Robert Wilson.” Ellen Goodman, *So Much for Hormone “Salvation”*, WASH. POST. (July 13, 2002), <https://www.washingtonpost.com/archive/opinions/2002/07/13/so-much-for-hormone-salvation/a80ec9ec-6219-4008-9f8f-90384af2f672/> [<https://perma.cc/EK3D-5EJY>]; see also MATTERN, *supra* note 22, at 289 (“popularity of estrogen replacement therapy exploded in 1963” with the Wilsons’s article).

<sup>29</sup> Wilson & Wilson, *supra* note 28, at 347 (emphasis added).

<sup>30</sup> Prescriptions have ebbed and flowed; in 1975, there were thirty million prescriptions, a “peak” that then dropped, climbing back up to thirty-six million prescriptions in 1992 (six million women or 17 percent of those older than fifty), and climbing to perhaps 38 to 40 percent of women between the ages of fifty to seventy-four in 1995. See Adam L. Hersh et al., *National Use of Postmenopausal Hormone Therapy*, 291 *JAMA* 47, 47–48 (2004), <https://jamanetwork.com/journals/jama/fullarticle/197940> [<https://perma.cc/KR97-9L5S>].

Three years later, Robert Wilson published *Feminine Forever*.<sup>31</sup> The book sold over 140,000 copies during its first year, and Wilson's message appeared in magazines ranging from *Science Digest* to *Good Housekeeping*.<sup>32</sup> He proclaimed that menopause was a "tragedy" and a "living decay" that undermined a woman's attractiveness,<sup>33</sup> "destroy[ing a woman's] womanhood during her prime."<sup>34</sup> He pronounced that "a woman's awareness of her own femininity completely suffuses her character and [ ] the tragedy of menopause often destroys her character along with her health."<sup>35</sup> As Wilson further touted estrogen therapy, he even claimed that it would prevent cancer.<sup>36</sup> In many ways, Wilson positioned himself as a friend of women, suggesting that menopause was not only a treatable chemical deficiency, but that through hormone treatment, "women may share the promise of tomorrow as biological equals of men."<sup>37</sup> At the same time, though, he played into negative stereotypes, calling older women "castrates" who could (and should) be cured.<sup>38</sup> Wilson's message was simultaneously empowering and degrading.

That message was not universally acclaimed by Wilson's medical peers. A review in the *Journal of the American Medical Association* said that Wilson promised "unattainable benefits from a form of therapy that has been in use a long time," and that in doing so, he was "taking advantage of a most susceptible group of women."<sup>39</sup> Reaction among

<sup>31</sup> ROBERT WILSON, *FEMININE FOREVER: A REVOLUTIONARY BREAKTHROUGH FOR WOMEN* (1966). It turns out the book was supported by a drug company that wanted to market MHT. See, e.g., HEATHER CORINNA, *WHAT FRESH HELL IS THIS? PERIMENOPAUSE, MENOPAUSE, OTHER INDIGNITIES, AND YOU* 34 (2021); Liza Mundy, *The Secret Power of Menopause*, ATLANTIC (Oct. 2019), <https://www.theatlantic.com/magazine/archive/2019/10/the-secret-power-of-menopause/596662/> [<https://perma.cc/DZ6A-3YMS>].

<sup>32</sup> See, e.g., WATKINS, *supra* note 25, at 49; Francis B. McCrea, *The Politics of Menopause: The "Discovery" of a Deficiency Disease*, 31 SOC. PROBLEMS 111, 113–14 (1983) (discussing a variety of "crusaders" for estrogen replacement theory, including the author of EVERYTHING YOU WANTED TO KNOW ABOUT SEX).

<sup>33</sup> Tobias Millrood, *The Rise and Fall of Hormone Therapy*, TRIAL, 42, 43 (Aug. 2003) (quoting Wilson).

<sup>34</sup> WILSON, *supra* note 31, at 25, 43, 51.

<sup>35</sup> WILSON, *supra* note 31, at 20.

<sup>36</sup> *Id.* at 67 (stating that a "misconception concerning hormone therapy is the notion that estrogen predisposes toward cancer. The truth is exactly the opposite."); see HOUCK, *supra* note 17, at 159 (discussing Wilson's claims); see also Wilson & Wilson, *supra* note 28, at 358 (suggesting that "estrogen and progesterone may be prophylactic in relation to breast and genetical cancer," although noting that this needed further "clarification"). In their article, Wilson & Wilson reasoned that cancer increased as women aged, while estrogen production declined, so estrogen could not be a direct cause of cancer. Wilson & Wilson, *supra* note 28, at 358. They were not alone in this claim. Millrood, *supra* note 33, at 43 (citing a 1959 JAMA article reporting on a quarter century study of 292 women, and claiming that fears about cancer "appear[ ] to be unfounded.").

<sup>37</sup> See TARA PARKER-POPE, *THE HORMONE DECISION* 27 (2007) (quoting *FEMININE FOREVER*).

<sup>38</sup> See *id.* at 26.

<sup>39</sup> Kathryn S. Huss, *Feminine Forever*, 197 J. AM. MED. ASS'N 156 (1966).

feminists, meanwhile, was mixed. Some challenged the very premise of MHT while others welcomed it as addressing symptoms that had long been dismissed or ignored.<sup>40</sup>

For many, the promise of “femininity forever” might have seemed too good to be true, but MHT was aggressively marketed by the drug companies that sought to benefit the most from it.<sup>41</sup> Representatives from the Wyeth company even distributed copies of Wilson’s book to doctors’ offices nation wide.<sup>42</sup> In fact, it was later revealed that Wyeth, the holder of the patent on the popular MHT drug Premarin, had financially sponsored Wilson’s research and book.<sup>43</sup> The marketing campaign had its intended effect; by the mid-1970s, Premarin was the fifth most prescribed drug in the United States, with approximately 28 million women taking some form of MHT.<sup>44</sup>

### C. Studying MHT

Scientists had been concerned about a potential link between estrogen and cancer since shortly after the isolation of estrone in the 1930s.<sup>45</sup> When two 1975 studies documented a connection between endometrial cancer and estrogen therapy, the FDA finally took action.<sup>46</sup> In response to the FDA’s 1976 request for comments on a proposed rule that would require a package insert for all estrogen products, the FDA

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<sup>40</sup> See Judith Houck, “What Do These Women Want?: Feminist Responses to Feminine Forever, 1963-1980,” 77 *BULL. HIST. MED.* 103, 109 (2003) (“Many scholars of menopause have rightly credited feminism with challenging both the disease model of menopause and the use of estrogen therapy to treat it. It would be a mistake to assume, however, that feminists immediately rejected the message of FEMININE FOREVER”).

<sup>41</sup> See Millrood, *supra* note 33 (discussing the marketing of MHT).

<sup>42</sup> See Millrood, *supra* note 33, at 42, n.9 and accompanying text.

<sup>43</sup> See Mundy, *supra* note 31 (“The influential book [FEMININE FOREVER], it later emerged, was backed by a pharmaceutical company eager to market hormone-replacement therapy.”); GUNTER, *supra* note 3, at 219–20 (identifying Wyeth, the holder of the patent on the prescription drug Premarin, as the sponsor of Dr. Wilson’s research).

<sup>44</sup> See Millrood, *supra* note 33, at 103 n.12 and accompanying text (on frequency with which Premarin was prescribed) and HOUCK, *supra* note 17, at 186 (on total number of MHT prescriptions).

<sup>45</sup> See HOUCK, *supra* note 17 and accompanying text. Estrone is “[t]he weakest type of estrogen, it’s typically higher after menopause. Like all estrogen, estrone supports female sexual development and function. Low or high estrone can cause symptoms such as irregular bleeding, fatigue or mood swings.” *Estrone*, CLEVELAND CLINIC (2022), <https://my.clevelandclinic.org/health/body/22398-estrone> [<https://perma.cc/N9Y2-KL7D>].

<sup>46</sup> HOUCK, *supra* note 17, at 182; see MATTERN, *supra* note 22, at 285 (noting physicians’ early concern about a relationship between estrogen therapy and cancer); WATKINS, *supra* note 25, at 35 (noting that even Doisy acknowledged a potential link), 109–10 (reporting that the findings, issued in December 1975, found that women on estrogen therapy had a five to fourteen times higher risk of endometrial cancer than women who did not use such therapy, with the New York Times pointing out that “millions of women, particularly those in the upper socioeconomic brackets” had been using the therapy).

received almost four-hundred responses.<sup>47</sup> The comments ranged from hostility to strong support.<sup>48</sup> The final FDA rule required manufacturers to supply, and pharmacists to deliver, information on the uses, risk, and side effects of estrogen.<sup>49</sup> Both the FDA warning labels and emerging new research on the link between MHT and cancer appear to have had some impact, as the number of prescriptions for replacement therapy declined from thirty million in 1975 to fifteen million in the early 1980s.<sup>50</sup>

Nevertheless, prescriptions for MHT rebounded over the following decade and a half, as some women continued to seek effective hormone treatments for menopausal symptoms.<sup>51</sup> As more researchers began studying MHT, they found potential benefits of MHT beyond the treatment of the symptoms of menopause.<sup>52</sup> Scientific studies suggested that hormone treatment played a positive role in the prevention and treatment of osteoporosis.<sup>53</sup> And in 1984, the FDA's advisory committee on fertility and maternal health drugs voted to recommend estrogen to prevent the development of osteoporosis as well as for its treatment.<sup>54</sup>

Research on the efficacy of MHT in treating heart disease was more mixed. A 1960s study of the use of estrogen to address heart disease in men actually showed negative effects; studies on women conducted twenty years later were primarily observational (and thus scientifically inconclusive).<sup>55</sup> A study funded by the National Institutes of Health (NIH) and released in 1995 suggested MHT's "beneficial or neutral effects on cholesterol levels, blood pressure, glucose metabolism, and clotting factors."<sup>56</sup> After the NIH declined to fund what came to be known

<sup>47</sup> WATKINS, *supra* note 25, at 137.

<sup>48</sup> WATKINS, *supra* note 25, at 137.

<sup>49</sup> 42 Fed. Reg. 37642 (1977) (to appear as 21 C.F.R § 310.515). The labelling was required to include the importance of minimizing the estrogen dose and length of time because of a risk of endometrial cancer, and other risks, such as gall bladder disease, abnormal blood clotting, and other potential side effects. *Id.*; see also Lewis A. Grossman, *FDA and the Rise of the Empowered Consumer*, 66 ADMIN. L. REV. 627, 653 (2014) (discussing unsuccessful court challenge).

<sup>50</sup> Hersh et al., *supra* note 30, at 47.

<sup>51</sup> See HOUCK, *supra* note 17, at 230 (noting that the number of prescriptions increased "from 13.6 million in 1982 to 31.7 million in 1992"); see, e.g., Cynthia A. Stuenkel, *Hormone Therapy for Postmenopausal Women: A Brief History of Time*, 23 HASTINGS WOMEN'S L.J. 45, 54 (2012) (noting that the ability of hormone therapy to reduce menopausal symptoms "had previously been unequivocally demonstrated").

<sup>52</sup> In addition, Wyeth "inundate[ed] doctors and patients with a sea of positive preventive health messages." Natasha Singer & Duff Wilson, *Menopause, as Brought to You by Big Pharma*, N.Y. TIMES (Dec. 12, 2009), <https://www.nytimes.com/2009/12/13/business/13drug.html> [<https://perma.cc/4F5M-9Z6L>].

<sup>53</sup> See WATKINS, *supra* note 25, at 149–50 (discussing studies on MHT and osteoporosis).

<sup>54</sup> See WATKINS, *supra* note 25, at 149–50.

<sup>55</sup> Stuenkel, *supra* note 51, at 50.

<sup>56</sup> See Stuenkel, *supra* note 51 at 53 (citing results from the Postmenopausal Estrogen and Progestin Interventions Trial, funded by the National Institutes of Health); Valery Miller et al.,

as the Heart and Estrogen/Progestin Replacement Study (HERS), the drug company Wyeth agreed to sponsor it.<sup>57</sup> In 1998, the findings of the HERS study were released, showing that not only did MHT fail to protect against heart disease, but women who had received the experimental drug had almost three times the risk of a blood clot as the placebo group.<sup>58</sup> The FDA has still never approved MHT for reducing the risk of heart disease.<sup>59</sup>

In response to mixed scientific reviews, companies critiqued any negative studies and capitalized on any positive ones to spread the message that MHT was effective as more than just a treatment for menopausal symptoms. They actively claimed broad benefits for women's postmenopausal health.<sup>60</sup> For example, Wyeth's "educational campaigns" claimed that Premarin could prevent osteoporosis and prevent heart disease without increasing the risk of stroke and cancer.<sup>61</sup> By 1992, Premarin was the most frequently prescribed drug in the United States.<sup>62</sup> Wyeth even began using supermodels in its campaigns to market its MHT medicines to physicians as well as members of the public.<sup>63</sup> The company actively courted women who were hesitant to use MHT and sought to increase the rate of uptake among Black women, a population that had lower rates of utilization of MHT than members of other racial groups.<sup>64</sup> It is difficult to know whether this aggressive marketing

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*Effects of Estrogen or Estrogen/Progestin Regimens on Heart Disease Risk Factors in Postmenopausal Women: The Postmenopausal Estrogen/Progestin Interventions (PEPI) Trial*, 273 J. AM. MED. ASS'N. 199 (1995) (describing study, noting health and cancer impacts); see also WATKINS, *supra* note 25, at 240–41 (discussing the American Family Physician's identification of MHT as an underused prescription to prevent heart disease and a 1994 study funded by the National Institutes for Health suggesting MHT's role in the reduction in risk factors for heart disease); Lisa Faigman, *The "M Word" Symposium: An Interdisciplinary Adventure*, 23 HASTINGS WOMEN'S L.J. 3, 18 (2012) (discussing results of first major randomized clinical trial on MHT that "offered some biological plausibility for a protective effect of MHT" on risk factors for cardiovascular disease). But see Elizabeth Barrett-Connor & Deborah Grady, *Hormone Replacement Therapy, Heart Disease, and Other Considerations*, 19 ANN. REV. PUB. HEALTH 55, 67 (1998) (suggesting caution in prescriptions until the release of results from randomized trials).

<sup>57</sup> WATKINS, *supra* note 25, at 265–66.

<sup>58</sup> WATKINS, *supra* note 25, at 265–66.

<sup>59</sup> See WATKINS, *supra* note 25, at 240–41. Estrogen replacement therapy, as a prescription to prevent heart disease, is an example of what two scholars of called "technology adoption catalyzed by industry promotional efforts, absent good scientific evidence." Neel U. Sukhatme & M. Gregg Bloche, *Health Care Costs and the Arc of Innovation*, 104 MINN. L. REV. 955, 1040 (2019).

<sup>60</sup> Sheldon Krinsky, *The Greatest Experiment Ever Performed on Women: Exploding the Estrogen Myth*, 24 J. PUB. HEALTH POL. 479, 482 (2003).

<sup>61</sup> Wyeth began massive marketing campaigns in the 1980s and 1990s and initiated "educational" campaigns. Katherine Drabiak, *The Impact of a Developing Regulatory Framework Governing LDTs in Precision Oncology: Re-Envisioning the Clinical Risk Assessment Paradigm*, 13 J. HEALTH & BIOMEDICAL L. 1, 72 (2017).

<sup>62</sup> See WATKINS, *supra* note 25, at 148 (citing prescription rates).

<sup>63</sup> See HOUCK, *supra* note 17, at 231.

<sup>64</sup> See HOUCK, *supra* note 17, at 231.

played any role in the FDA's 1995 approval of the Wyeth drug Prempro, a single pill that combined its popular Premarin drug with progesterone.<sup>65</sup> But by the late 1990s, a survey of gynecologists, family physicians, and internists found strongly favorable attitudes toward the use of long-term hormonal therapy for aging women.<sup>66</sup> By 2002, doctors were writing 90 million MHT prescriptions a year.<sup>67</sup>

#### D. Continued Concerns

Around the same time as the HERS study began, the National Heart, Lung, and Blood Institute initiated a long-term national study of postmenopausal women that was known as the Women's Health Initiative.<sup>68</sup> Investigators recruited more than 161,000 women for the study, with 68,000 in the clinical trial and more than 93,000 in the control group.<sup>69</sup> The clinical trial involved women who had received MHT, estrogen replacement therapy, or a placebo.<sup>70</sup> Begun in 1993, the MHT portion of the study was supposed to last for fifteen years<sup>71</sup> but was stopped prematurely because the risks to the women in the study exceeded the benefits.<sup>72</sup> Those taking a popular combination of estrogen

<sup>65</sup> WATKINS, *supra* note 25, at 246 (explaining that progesterone had been shown to play some role in reducing the risk for endometrial cancer).

<sup>66</sup> WATKINS, *supra* note 25, at 231.

<sup>67</sup> See MATTERN, *supra* note 22, at 298 (citing prescription statistics).

<sup>68</sup> See *Women's Health Initiative*, NAT'L HEART, LUNG, AND BLOOD INST., U.S. DEP'T OF HEALTH & HUM. SERVS. <https://www.nhlbi.nih.gov/science/womens-health-initiative-whi> [<https://perma.cc/G9BP-XX4N>] (providing an overview of the Women's Health Initiative and its focus on "strategies for preventing heart disease, breast and colorectal cancer, and osteoporosis in postmenopausal women. These chronic diseases are the major causes of death, disability, and frailty in older women of all races and socioeconomic backgrounds."); see also *Home Page*, WOMEN'S HEALTH INITIATIVE (last visited Feb. 6, 2022), <https://www.whi.org/> [<https://perma.cc/26FN-REXQ>]; Drabiak, *supra* note 6161, at 76 (discussing history leading up to the WHI).

<sup>69</sup> 2021 Annual Progress Report 1-1 (2021), Women's Health Initiative, <https://www.whi.org/doc/2021-Annual.pdf> [<https://perma.cc/PYQ7-KS5E>]. The Initiative has been extended until 2025, relying on both medical and self-reports. *Id.*

<sup>70</sup> The Women's Health Initiative Study Group, *Design of the Women's Health Initiative Clinical Trial and Observational Study*, 19 CONTROL CLINICAL TRIALS 61 (1998); see also HOUCK, *supra* note 17, at 229; MATTERN, *supra* note 22, at 298; JoAnn Manson et al., *Menopausal Hormone Therapy and Health Outcomes During the Intervention and Extended Poststopping Phases of the Women's Health Initiative Randomized Trials*, 310 J. AM. MED. ASS'N 1353 (2013). Manson was the lead investigator. See *id.*

<sup>71</sup> See MATTERN, *supra* note 22, at 298–99 (explaining that the combination estrogen and progestin hormone replacement trial was stopped prematurely in 2002 for multiple reasons and that the estrogen replacement trial was stopped prematurely in 2004 because of an increased risk of stroke).

<sup>72</sup> See *Largest Women's Health Prevention Study Ever*, OFF. ON WOMEN'S HEALTH, U.S. DEP'T OF HEALTH & HUM. SERVS., <https://www.womenshealth.gov/30-achievements/25> [<https://perma.cc/FDJ9-7PZ6>] (summarizing results of 2002 study). The results published in 2002 are available here: Writing Group for the Women's Health Initiative Investigators, *Risks and Benefits of Estrogen Plus Progestin in Healthy Postmenopausal Women: Principal Results From the Women's Health Initiative Randomized Controlled Trial*, 288 J. AM. MED. ASS'N 321 (2002),

and progestin for menopausal symptoms “had an increased risk for breast cancer, heart disease, stroke, blood clots, and urinary incontinence.”<sup>73</sup>

Reaction to the study’s early conclusions was swift and negative.<sup>74</sup> The FDA issued new indications for prescribing hormone therapy and other warnings, emphasizing that hormonal therapy had not been approved to prevent heart disease.<sup>75</sup>

No doubt prompted by the publication of the results of the Women’s Health Initiative’s study, approximately 10,000 lawsuits were filed in the United States and in Canada against the drug manufacturers of MHT.<sup>76</sup> Lawsuits asserted claims of negligence, strict liability, breach of warranty, fraud, and more; there were also some specific claims under California’s consumer protection laws.<sup>77</sup> For the most part, these cases focused on the connection to breast cancer, although there were other claims as well.<sup>78</sup> By mid-2012, Pfizer had settled (or was in the process of settling) sixty percent of the lawsuits (or approximately 6,000

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<https://jamanetwork.com/journals/jama/fullarticle/195120> [<https://perma.cc/9HE2-YDP6>].

<sup>73</sup> *Id.*

<sup>74</sup> *The Greatest Experiment Ever Performed*, TODAY (July 11, 2003), <https://www.today.com/news/greatest-experiment-ever-performed-wbna3079364> [<https://perma.cc/8CP3-MCCU>]; see also Susan R. Johnson, *Editorial, Hormone Replacement Therapy: Applying the Results of the Women’s Health Initiative*, 69 CLEVELAND CLINIC J. MED. 682 (2002) (noting that the study changed the “ground rules” for prescribing MHT).

<sup>75</sup> See *supra* notes 55–57 and accompanying text.

<sup>76</sup> Pfizer Form 10-Q 26 (2012) (on file with authors).

<sup>77</sup> See, e.g., *Krueger v. Wyeth, Inc.*, 396 F. Supp. 3d 931 (S.D. Cal. 2019); see also *In re Prempro Prod. Liab. Litig.*, 254 F. Supp. 2d 1366 (J.P.M.L. 2003); Pfizer Form 10-Q, *supra* note 76, at 25; Jef Feeley, *Pfizer Said to Pay \$330M in Prempro Settlement*, BLOOMBERG NEWS (Feb. 8, 2011, 3:42 PM), <https://www.bloomberg.com/news/articles/2010-08-27/pfizer-settles-arkansas-prempro-case-before-retrial-over-punitive-damages> [<https://perma.cc/572C-M5U3>] (noting large numbers of lawsuits filed).

<sup>78</sup> *In re Prempro Prod. Liab. Litig.*, 591 F.3d 613 (8th Cir. 2010) (breast cancer); Pfizer Form 10-Q, *supra* note 76, at 25 (noting that some cases involved ovarian cancer and heart disease); see also Kate Miller, *Hormone Replacement Therapy in the Wake of the Women’s Health Initiative Study: An Opportunity to Reexamine the Learned Intermediary Doctrine*, 12 WM. & MARY J. WOMEN & L. 239 (2005) (discussing early cases). One of the few successful design-defect cases involved Prempro. *Fraser v. Wyeth, Inc.*, 992 F. Supp. 2d 68 (C.D. Conn. 2014) In *Fraser*, Pfizer defended its action by claiming that some products, particularly those in the area of pharmaceuticals, “are quite incapable of being made safe for their intended and ordinary use.” *Fraser*, 992 F. Supp. 2d at 82 (quoting the Restatement (Second) of Torts). The court rejected the claim because such incapable of being made safe products must, according to the Restatement, be accompanied by appropriate warnings, warnings that the jury found Pfizer had not made. *Id.* at 83; see also Anita Bernstein, *(Almost) No Bad Drugs: Near-Total Products Liability Immunity for Pharmaceuticals Explained*, 77 WASH. & LEE L. REV. 3, 16 (2020).

of them).<sup>79</sup> Pfizer had already been found responsible for \$896 million, and it had earmarked \$330 million for future settlement costs.<sup>80</sup>

Later scientific analysis has clarified that, when prescribed correctly, MHT can have some benefits for menopausal individuals.<sup>81</sup> Nevertheless, not all of the risks associated with MHT are well-known.<sup>82</sup> Physicians continue to prescribe MHT in the absence of adequate clinical studies evaluating the potentially adverse impacts for patients with certain underlying health conditions or predispositions.<sup>83</sup> And there remain considerable concerns about the link between MHT and cancer.<sup>84</sup>

<sup>79</sup> Pfizer Form 10-Q, *supra* note 76, at 27. Pfizer claimed to have “prevalled in many of the hormone-replacement therapy action” that had already been resolved, including those resolved by voluntary dismissal (presumably because of a settlement), but noted that a number of cases had been appealed. *Id.* at 26. A 2012 Bloomberg article reported that, from 2006–2012, Pfizer had lost 11 of the 21 cases decided by juries. See Feeley, *supra* note 77.

<sup>80</sup> See FEELEY, *supra* note 77.

<sup>81</sup> Menopausal Hormone Therapy and Cancer (2018), NAT’L CANCER INST., <https://www.cancer.gov/about-cancer/causes-prevention/risk/hormones/mht-fact-sheet> [<https://perma.cc/J5RS-4JAK>]; ALLYSON J. MCGREGOR, SEX MATTERS 144 (2021); Manson et al., *supra* note 70 (“Findings from the 2 hormone therapy trials have been published in numerous journals during the past decade . . . but no previous WHI publication has synthesized results for primary, secondary, and quality-of-life outcomes . . . The goal of this report is to provide a comprehensive, integrated overview of findings”). Manson noted that hormonal therapy could be useful for women who were early in their menopause, but the analysis would be different for a woman in her seventies, and no one should use HRT long term with a goal of disease prevention. Nancy Shute, *The Last Word*, NAT’L PUB. RADIO (Oct. 4, 2013), <https://www.npr.org/sections/health-shots/2013/10/04/229171477/the-last-word-on-hormone-therapy-from-the-womens-health-initiative> [<https://perma.cc/9764-UCK3>] (interview with Dr. Manson); see Nancy Boone, *Why It’s so Hard to Talk About “Down There”*: The Doctor Who is Normalizing Menopause, L.A. TIMES (June 10, 2021), <https://www.latimes.com/lifestyle/story/2021-06-10/jen-gunter-wants-to-normalize-menopause-with-her-manifesto> [<https://perma.cc/4YXZ-6ARX>] (“From a hormone standpoint, if you’re at low risk for heart disease and if it’s a transdermal patch, it’s incredibly low risk if you are using oral progesterone.”); Sharon Malone & Jennifer Weiss-Wolf, *America Lost its Way on Menopause Research. It’s Time to get. Back on Track*, WASH. POST (Apr. 28, 2022), <https://www.washingtonpost.com/opinions/2022/04/28/menopause-hormone-therapy-nih-went-wrong/> (“MHT is a safe choice for the vast majority of healthy women with menopausal symptoms”).

<sup>82</sup> The North America Menopause Society offers a list of the risks and benefits of hormonal therapy, noting that “[e]xperts agree that there is still much they need to learn.” *Hormone Therapy: Benefits and Risks*, N. AM. MENOPAUSE SOC’Y (2022), <https://www.menopause.org/for-women/menopauseflashes/menopause-symptoms-and-treatments/hormone-therapy-benefits-risks> [<https://perma.cc/4YXZ-6ARX>].

<sup>83</sup> Drabiak, *supra* note 61, at 73 (discussing the use of MHT for women with a BRCA variant who undergo surgical menopause in the absence of serious clinical study). To be sure, there have been efforts to address menopause more positively; for example, the 1994 Study of Women’s Health Across the Nation (SWAN) has sought to understand the menopausal transition process and to enroll a diverse population. See *About SWAN*, STUDY OF WOMEN’S HEALTH ACROSS THE NATION, <https://www.swanstudy.org/about/about-swan/> [<https://perma.cc/USG7-ANTG>].

<sup>84</sup> For example, the American College of Obstetricians and Gynecologists notes: “Estrogen-only therapy causes the lining of the uterus to thicken, which increases the risk of endometrial cancer. Adding progestin decreases this risk.” *FAQs, Hormone Therapy for Menopause*, AM. COLL. OF OBSTETRICIANS & GYNECOLOGISTS (2021), <https://www.acog.org/womens-health/faqs/hormone-therapy-for-menopause> [<https://perma.cc/W6V3-649V>]; see generally Yana Vinogradova et al., *Use of Hormone Replacement Therapy and Risk of Breast Cancer: Nested Case-control Studies Using the QResearch and CPRD Databases*, 371 *BMJ* 1 (2020) (showing varying levels of risk for breast cancer, depending on type of HRT treatment).

Even so, approximately 4 percent of women in the United States take MHT each year.<sup>85</sup> That is considerably lower than the twenty-five percent who were doing so before the publication of the 2002 report from the Women's Health Initiative, but it is still a meaningful number.<sup>86</sup> Clearly, despite the uncertainties surrounding MHT, many patients and their doctors continue to embrace it as a treatment for either specific symptoms of menopause or post-menopausal health generally. While there is no doubt MHT can help some people address menopausal symptoms, it is also propped up by the profit-seeking motives of drug companies that benefit from a conceptualization of menopause as a medical problem to be solved.

### III. MONITORING THE MENOPAUSAL BODY

In the twenty-first century, while doctors continue to promote MHT as a way of managing the “problem” of menopause, new for-profit participants in the health industry have discovered that monitoring the menopausal body can also be a lucrative enterprise.<sup>87</sup> Startup funding for menopause-related companies is still a comparatively small segment of the “women's health” sector overall, but funding for enterprises focused on menopause has grown significantly over the past decade.<sup>88</sup>

The growth in this area is largely attributable to two factors. First, many entrepreneurs likely appreciate that by 2025, there will be roughly 1.1 billion postmenopausal individuals in the world.<sup>89</sup> In a 2019 survey conducted by AARP (formerly known as the American Association of Retired Persons), eighty percent of all women and ninety-three percent of menopausal women expressed interest in wearable devices, clothing, and apps to help address menopausal symptoms.<sup>90</sup> Given the

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<sup>85</sup> Katharine Gammon, *It's Time to Rethink Hormone Therapy for Women*, *Says Health Scientist*, USC TROJAN FAMILY (2021), <https://news.usc.edu/trojan-family/benefits-hormone-replacement-therapy-women-estrogen-usc/> [<https://perma.cc/5HM7-7V4Q>].

<sup>86</sup> *Id.*

<sup>87</sup> See, e.g., Eliza Haverstock, *Narrative Change: VCs are Finally Ready to Talk About Menopause*, PITCHBOOK (May 28, 2020), <https://pitchbook.com/news/articles/vc-menopause-femtech> [<https://perma.cc/9Q6E-VPVH>] (reporting that worldwide menopause startup companies have raised \$254 million in capital since 2009).

<sup>88</sup> See, e.g., Miriam Partington, *These Are Europe's Top Startups Tackling Menopause*, SIFTED, <https://sifted.eu/articles/menopause-startups> [<https://perma.cc/9PGP-BYNN>] (profiling nine startup businesses, of which eight are located in the United Kingdom, hoping to capture an estimated “\$600bn market opportunity that lies un menopause and tech”).

<sup>89</sup> See Jan L. Shifren & Margery L.S. Gass, *The North American Menopause Society Recommendations for Clinical Care of Midlife Women*, 21 MENOPAUSE: J. OF THE N. AM. MENOPAUSE SOC'Y 1, 2 (2014) (“By the year 2025, the number of postmenopausal women is expected to rise to 1.1 billion worldwide”). The average age of menopause is fifty-two. *Id.* at 3.

<sup>90</sup> See *Menopausal Symptoms: There's a Place for Tech-Related Solutions*, AARP (Jan. 2020), [https://www.aarp.org/content/dam/aarp/research/surveys\\_statistics/health/2020/menopause-symptoms-technology-related-solutions-fact-sheet](https://www.aarp.org/content/dam/aarp/research/surveys_statistics/health/2020/menopause-symptoms-technology-related-solutions-fact-sheet).doi.10.26419-2Fres.00363.001.pdf

size of the potential consumer market, businesses are eager to enter the menopause space.<sup>91</sup> Second, in the United Kingdom, parts of Europe, the United States, and elsewhere, both individuals and businesses are increasingly open about menopause and its personal and economic impacts.<sup>92</sup>

This Part starts with an overview of menopause-oriented businesses. It then shifts to focus on those companies primarily driven by digital technology. In particular, this Part explores how these enterprises create demand and target other businesses as potential customers. Some of the companies also stake out a robust role for the future of telehealth in addressing menopause and seek to foster (and profit from) peer support communities of those experiencing perimenopause and menopause.

#### A. Overview

Menopause-focused enterprises tend to cluster in two distinct areas. The first is those businesses offering analog products or services specifically marketed to perimenopausal or menopausal consumers. Representative products include absorbent underwear (for leaky bladders),<sup>93</sup> moisture-wicking clothes (for hot flashes),<sup>94</sup> special skin-care products (to “[r]eclaim your luminous self”),<sup>95</sup> nutritional supplements

[<https://perma.cc/6MXD-4T6J>].

<sup>91</sup> See, e.g., Haverstock, *supra* note 87, and accompanying text.

<sup>92</sup> See, e.g., Bridget J. Crawford, Emily Gold Waldman & Naomi R. Cahn, *Working Through Menopause*, 99 WASH. U. L. REV. 1531, 1570-74 (2022) (discussing protections for menopause under U.K. law and estimated economic impact of lost business productivity due to menopause); see also, e.g., Gunter, *supra* note 26; Jessica Grose, *Why is Perimenopause Still Such a Mystery?*, N.Y. TIMES (Apr. 29, 2021), <https://www.nytimes.com/2021/04/29/well/perimenopause-women.html> [<https://perma.cc/LD23-QT83>]; Lisa Selin Davis, *Why Modern Medicine Keeps Overlooking Menopause*, N.Y. TIMES (Apr. 6, 2021), <https://www.nytimes.com/2021/04/06/us/menopause-perimenopause-symptoms.html> [<https://perma.cc/B5TZ-K2WE>]; Sumathi Reddy, *The Surprising Good News on How Menopause Changes Your Brain*, WALL ST. J. (June 14, 2021), <https://www.wsj.com/articles/the-surprising-good-news-on-how-menopause-changes-your-brain-11623698003> [<https://perma.cc/9LCA-E74D>].

<sup>93</sup> See, e.g., *About*, HELLO, <https://hellohazel.com/pages/about-us> [<https://perma.cc/P4ME-3XTU>] (“We embrace *everything* that comes with being a woman. We exist to empower you—the ever-evolving woman”).

<sup>94</sup> See, e.g., *About*, COOL-JAMS, <https://www.cool-jams.com/pages/about> [<https://perma.cc/3J7U-G7G7>] (featuring statement from company founder Anita Mahaffey: “My motivation to start Cool-jams in 2007 was because I was having terrible sleep problems. I tried so many brands of sleepwear and couldn’t find anything to help me to stay cool, dry and temperature regulated.”). The company’s website features mostly pictures of middle-aged or older women. See *id.*

<sup>95</sup> See, e.g., *Womaness So Much Glow Kit*, WOMANESS, <https://womaness.com/products/womaness-so-much-glow-kit> [<https://perma.cc/2YX2-QJE9>]. The tagline of the Womaness website is “menopause meet your match” and it advertises products that include dietary supplements, skin creams, cooling mist, body wipes, and vibrators. *Our Mission*, WOMANESS, <https://womaness.com/pages/our-mission> [<https://perma.cc/X7MD-DD5B>]. The company’s skin care products are sold at Target and specifically branded as “for menopausal skin.” See *Skincare for Menopausal*

(including the “first powder supplement range for each stage of menopause”),<sup>96</sup> and personal lubricants (“[j]ust because your body is changing doesn’t mean you aren’t allowed to still have amazing sex”).<sup>97</sup> Depending on where and how consumers interact with companies selling analog products, these businesses also may seek to gather, retain, and even profit from data gathered about their customers.<sup>98</sup> And those data raise privacy concerns that point to a gap in federal law, discussed later in this Essay.<sup>99</sup>

The second category of menopause-focused businesses are those primarily driven by digital technology. Unlike the companies that sell analog products like ultra-absorbent underwear, companies in this second category tend to be focused on: (i) sales of digital products such as

*Skin*, WOMANESS, <https://womaness.com/collections/skincare-for-menopausal-skin> [<https://perma.cc/2DFD-WTAE>]. The company’s founders embrace what they call “menopausitivity.” See Lauren Mechling, *Finally, Skin-Care Brands that Believe Menopause is More than Just Hot Flashes*, SHAPE (Mar. 1, 2021), <https://www.shape.com/lifestyle/beauty-style/menopause-skin-care-brands> [<https://perma.cc/M849-TDY8>] (describing the slogan of Womaness’s founders and reviewing products by Womaness and other menopause-targeting skin care products brands). Although Womaness sells skin-care products, it also offers the ability to connect with “other amazing women through our social channels,” including a private Facebook page. See *Connect with Womaness*, WOMANESS, <https://womaness.com/pages/connect-with-womaness> [<https://perma.cc/9X59-PSN3>] (“Follow. Share. Inspire.”).

<sup>96</sup> *MPowder*, MPOWDER, <https://mpowder.store/> [<https://perma.cc/D8B8-3W3U>] (advertising plant-based supplements purporting to be the “right nutrition at the right time . . . for each stage of menopause”).

<sup>97</sup> Gina Vaynshteyn, *The Best Lubricants for Menopause Dryness*, GLAMOUR (Oct. 9, 2020), <https://www.glamour.com/gallery/best-lubricants-for-menopause-dryness> [<https://perma.cc/A5HW-NWSB>] (reviewing multiple vaginal lubricants).

<sup>98</sup> *E.g.*, *Privacy Policy*, WOMANESS, <https://womaness.com/pages/privacy-policy> [<https://perma.cc/7FQT-A7YW>] (“Except as disclosed in this Privacy Notice, we do not share personal information with any companies other than our subsidiaries, affiliates, business partners, suppliers, vendors, service providers, and contractors” (emphasis added)). Businesses that primarily sell products like underwear or skin products targeted for users experiencing menopause have been called “menopause care.” Menopause care is in some ways an extension of what market analysts call “femcare,” a term used to describe traditional menstrual products like tampons, pads and pantliners, as well as menstrual cups, period underwear and period subscription boxes. See, *e.g.*, *FemCare Brands to Watch*, NOSSA CAP. (Oct. 24, 2019), <https://medium.com/nossa-capital/femcare-brands-to-watch-businesses-leading-the-way-in-eco-friendly-period-products-e09600670d5c> [<https://perma.cc/APK5-UDQP>]. *But see* BRIDGET J. CRAWFORD & EMILY GOLD WALDMAN, MENSTRUATION MATTERS: CHALLENGING THE LAW’S SILENCE ON PERIODS 173–74 (providing an overview of the “feminine care” or “femcare” sector but otherwise declining to use the term to describe the universe of menstruation-related products sold to consumers); Victoria Haneman, *Menstrual Capitalism, Period Poverty, and the Role of the B Corporation*, 41 COLUM. J. OF GENDER & L. 133, 134 (2021) (referring to the “menstruation-industrial complex” in lieu of using the “femcare” moniker).

<sup>99</sup> See *infra* Part IV.

“smart” cooling pads for pillows<sup>100</sup> or “smart” wristbands;<sup>101</sup> (ii) digital platforms that provide access to healthcare professionals with specialized menopause knowledge;<sup>102</sup> or (iii) digital menopause symptom-trackers or coaching platforms that rely on users to enter their own data.<sup>103</sup> Companies across all three subcategories typically provide access to educational information, user communities, and product advertisements.<sup>104</sup> These companies, along with counterparts that seek to “help” users track data about their menstruation, ovulation, and pregnancies, for example, fall under the umbrella category that many investors call “femtech.”<sup>105</sup>

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<sup>100</sup> E.g., Home, MOONA, <https://en.getmoona.com/> [<https://perma.cc/ZSV9-VV5R>] (selling a \$379 “precision cooling pad”). The company’s CEO says that the product can be used by anyone, but that a large portion of the company’s customers are women experiencing menopause. See Partington, *supra* note 88 (quoting CEO Coline Juin as saying that “Midlife women really like the product: it cools them down, helping them fall asleep faster and wake up less during the night.”).

<sup>101</sup> See, e.g., Home, GRACE, <https://www.gracecooling.com> [<https://perma.cc/LZQ2-LLU5>] (“the bracelet to get you through hot flushes”). Grace is a hardware startup company Astinno, based in London. See Natasha Lomas, *UK Femtech Startup Astinno, Which is Working on a Wearable to Combat Hot Flushes, Picks Up Grant Worth \$450k*, TECHCRUNCH (May 13, 2020), <https://techcrunch.com/2020/05/13/uk-femtech-startup-astinno-which-is-working-on-a-wearable-to-combat-hot-flushes-picks-up-grant-worth-450k> [<https://perma.cc/9PJH-GA4L>] (noting the company had won a competitive Innovate UK grant to “prove the efficacy of the core tech, which aims to detect the beginning of a hot flash and apply coolness to the wearer’s wrist” via a bracelet “designed to look like a chunky piece of statement jewelry”).

<sup>102</sup> E.g., *Menopause Support with Peppy*, PEPPY, <https://peppy.health/verticals/menopause/> [<https://perma.cc/N6KN-J8PA>] (detailing the digital “packages” that employers can offer to employees that provide employees with access to instant messaging “with experienced menopause practitioners” and one-on-one consultations with practitioners, as well as access to informational articles and live events).

<sup>103</sup> E.g., MYSYSTEMS, <https://mysystems.com/> [<https://perma.cc/BVZ2-PC6K>] (“mySystems is a social and self-care mobile app to help women manage perimenopause and menopause. Women can track symptoms, print a chart of what they’ve tracked, and share advice with other women in discussion forums”). The first menopause app may have been *Menopro*, developed by the nonprofit North America Menopause Society. See Diane E. Judge, *Menopause Symptoms? There’s an App for That!*, JWATCH (Oct. 31, 2014), <https://www.jwatch.org/na36142/2014/10/31/menopause-symptoms-theres-app> [<https://perma.cc/4BAA-YPKG>]; JoAnn E. Manson et al., *Algorithm and Mobile App for Menopausal Symptom Management and Hormonal/Hon-hormonal Therapy Decision Making: A Clinical Decision-Support Tool From The North American Menopause Society*, 22 MENOPAUSE 1 (2014). The goal was to help in the clinical management of menopausal symptoms, providing guidance on the severity of symptoms and the potential options for treatment. See, e.g., Christie Achwenden, *Hormone Therapy, Long Shunned for a Possible Breast Cancer Link, is now Seen as a Short-term Treatment for Menopause Symptoms*, WASH. POST (Feb. 29, 2020), [https://www.washingtonpost.com/health/hormone-therapy-long-shunned-for-a-possible-breast-cancer-link-is-now-seen-as-safe-and-helpful-as-a-short-term-treatment-for-most-women-in-the-threes-of-menopause/2020/02/28/1fd19f66-54cd-11ea-929a-64efa7482a77\\_story.html](https://www.washingtonpost.com/health/hormone-therapy-long-shunned-for-a-possible-breast-cancer-link-is-now-seen-as-safe-and-helpful-as-a-short-term-treatment-for-most-women-in-the-threes-of-menopause/2020/02/28/1fd19f66-54cd-11ea-929a-64efa7482a77_story.html) [<https://perma.cc/M357-9UU9>] (noting the ways Menopro can be used to help determine risks of MHT treatment).

<sup>104</sup> See, e.g., *id.*

<sup>105</sup> The term “femtech” distinguishes the technology-driven market for products associated with “female” reproduction-associated conditions of pregnancy, breastfeeding, menstruation and menopause from the “femcare” market, which traditionally refers to tangible menstrual products themselves. See, e.g., Ida Tin, *The Rise of a New Category: Femtech*, CLUE (Sept. 14, 2016), <https://hellocue.com/articles/culture/rise-new-category-femtech> [<https://perma.cc/NJG7-4DBQ>]

Whether selling analog or digital products or services, menopause-oriented businesses tend to adopt messages of female empowerment and healthy aging while rejecting the association of menopause with weakness or negative stereotypes about older adults.<sup>106</sup> Marketing that encourages consumers to “smash the menopause taboo”<sup>107</sup> and “thrive through menopause”<sup>108</sup> is a welcome counterweight to stereotypes of menopausal individuals as “bitter,” “tense,” “old,” and “sensitive.”<sup>109</sup> Yet there is a thin line between encouraging health and well-being, on the one hand, and still treating menopause as an illness with symptoms that need to be managed and monitored, on the other.<sup>110</sup>

At their core, businesses selling products or services to menopause-aged consumers almost certainly will emphasize whatever messages

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(explaining that femtech is “an expanding category of technology that serves the vast opportunities that exist for female health”). The distinction between “femtech” and “fem care” often collapses, such as in the case of apps that serve primarily as platforms for purchasing products. *See, e.g.*, Anna Altman, *Mommy and Data*, THE NEW REPUBLIC (Jan. 14, 2019), <https://newrepublic.com/article/152693/femtech-companies-alleviate-exploit-female-anxiety> [<https://perma.cc/VE65-Z3EU>] (explaining how many femtech companies now sell “a wide array of products and services that are advertised as helping women along the path to self-determination and healthy, sustainable lifestyles. Women can now purchase menstrual cycle tracking apps and gadgets []; organic, chemical-free, reusable, and home-delivered feminine hygiene products; []; apps that deliver birth control and antibiotics (for the UTIs that can’t be prevented); and much more.”). While recognizing the term’s popularity, we tend to use it only sparingly in this Essay, for three reasons. First, “femtech” is primarily an investor-driven term that neither has been adopted by consumers nor has any legal significance. Second, the term incorporates the root of the word “female,” when it is important to recognize that users of products and services labeled as “femtech” present with a full range of gender identities. Finally, the term is a short-hand that could have the unintended effect of stigmatizing so-called “women’s” products or services as well as companies that create and invest in them.

<sup>106</sup> *See, e.g.*, *About*, HELLOHAZEL, *supra* note 93 (“For far too long, the incontinence category has made women feel ashamed and alienated (hello adult diapers); our products are all about . . . making you feel like your marvelous self at every age.”).

<sup>107</sup> *See, e.g.*, *Let’s Smash the Menopause Taboo, Together*, ELEKTRA HEALTH, <https://www.ektrahealth.com> [<https://perma.cc/U3KA-X7ZU>] (appealing to prospective users by stating, “let’s smash the menopause taboo, together,” presumably by using the company’s digital health platform of “[e]vidence-based menopause expertise and care for the 21st century woman”).

<sup>108</sup> *E.g.*, *A Word from Founder and CEO Jill Angelo*, GENNEV, <https://www.gennev.com> [<https://perma.cc/46XC-7EBE>] (“When I started Gennev five years ago, I set out to build a company that would help women thrive through menopause. Beyond a handful of outdated articles on popular health websites, we couldn’t find recent and authentic data about what women were dealing with.”).

<sup>109</sup> *See* Joan Chrisler et al., *Ambivalent Sexism and Attitudes Toward Women in Different Stages of Reproductive Life: A Semantic, Cross-Cultural Approach*, 35 HEALTH CARE FOR WOMEN INT’L 634, 648 (2013) (reporting results of survey of students in Mexico and the United States); Maria Luisa Marván et al., *Stereotypes of Women in Different Stages of their Reproductive Life: Data from Mexico and the United States*, 29 HEALTH CARE FOR WOMEN INT’L 673, 676–77 (2008). Students in both countries used similarly negative words to describe menopausal individuals. *See id.*

<sup>110</sup> In an analogous context, scholars have said that menstruation-tracking apps “blur boundaries between cultivating health and treating illness.” Andrea Ford et al., *Hormonal Health: Period Tracking Apps, Wellness, and Self-Management in the Era of Surveillance Capitalism*, 7 ENGAGING SCI., TECH. & SOC. 48, 61 (2021).

that lead to the greatest profit. In the current zeitgeist, these happen to be the empowering messages. This represents a shift. Historically, businesses selling menopause-related products have focused on negating or minimizing menopause's impacts, not empowering the consumer to take control of their own health. We call the practice of selling products or services to perimenopausal or menopausal individuals—especially through empowerment-oriented messaging—“menopause capitalism.”<sup>111</sup> This phrase operates not as a critique of capitalism per se, but rather to highlight the interrelationship between and among profit motives, the construction of menopause as an “illness” needing “treatment,” and technology that facilitates the monitoring and managing of menopausal bodies.<sup>112</sup> The next sections take up each of these topics in turn, building on the earlier discussion of the selling of MHT.

## B. Markets

Symptoms of menopause vary widely from person to person.<sup>113</sup> Symptoms may range from mild to severe. For example, an estimated fifteen percent of women experience severe hot flashes that can continue for five years or more (if they end at all).<sup>114</sup> Up to twenty-five percent of menopausal women in North America report that their hot flashes are serious enough to warrant consultation with their doctor.<sup>115</sup>

<sup>111</sup> In related work, two of us use the term “menstrual capitalism” to draw attention to companies that seek to profit from menstruation. See CRAWFORD & WALDMAN, *supra* note 98, at 172; see also Crawford, *Against Menstrual Capitalism*, *supra* note 9; Bridget J. Crawford et al., *The Ground on Which We All Stand: A Conversation About Menstrual Equity Law and Activism*, 26 MICH. J. GENDER & L. 341, 380 (2019) (similar definition). In the privacy field, the concept of “informational capitalism” refers to “a political economy in which data equals profit.” Matthew Tokson & Ari Ezra Waldman, *Social Norms in Fourth Amendment Law*, 120 MICH. L. REV. 265, 298 (2021). As an example, they note that “[t]he multibillion-dollar femtech industry markets its products as enhancing women’s health and sexual enjoyment while collecting intimate data on its users and often selling that data to third parties.” *Id.* at 300.

<sup>112</sup> Cf. CRAWFORD & WALDMAN, *supra* note 98, at 172 (discussing interaction of profit, the history of stigma and shame concerning menstruation and technology that facilitates management and scrutiny of the menstruating body).

<sup>113</sup> There is some research to suggest that symptoms of menopause, or at least the self-reported frequency and severity, may vary by race, too. See, e.g., Robert Friedt, *Gastro Symptoms of Menopause May Vary by Race*, US NEWS (Dec. 8, 2021), <https://www.usnews.com/news/health-news/articles/2021-12-08/gastro-symptoms-of-menopause-may-vary-by-race> [https://perma.cc/35Q9-MPJM].

<sup>114</sup> See *Dealing with the Symptoms of Menopause*, HARV. HEALTH PUB. (Mar. 21, 2017), <https://www.health.harvard.edu/womens-health/dealing-with-the-symptoms-of-menopause> [https://perma.cc/WK34-UA2U] (“hot flashes may begin in perimenopause. . . . For some women they go on indefinitely”) (emphasis added).

<sup>115</sup> See *Menopause FAQs: Hot Flashes*, N. AM. MENOPAUSE SOC’Y, <https://www.menopause.org/for-women/menopause-faqs-hot-flashes> [https://perma.cc/82YJ-9QMB] (reporting rates of consultations with physicians due to the self-perceived level of discomfort with hot flashes). Black women are more likely to experience hot flashes and less likely to be offered treatment for them than women from other racial groups. See Kacey Y. Eichelberger et al., *Black Lives Matter: Claiming a Space for Evidence-Based Outrage in Obstetrics and Gynecology*, 106 AM. J. PUB.

Night sweats—hot flashes while sleeping—are also common during perimenopause and menopause.<sup>116</sup> For many people able to afford them, then, products like cooling pads for pillows to automatically sense changes in bodily temperature or “smart” wristbands that deliver cooling relief in response to increasing body temperature undoubtedly provide meaningful relief.<sup>117</sup>

At the same time, products like a pillowcase insert cooling pad that retails for \$379 will be out of reach of the majority of people.<sup>118</sup> Indeed, these products suggest that “managing” the menopausal body is an expensive proposition, even though fans, ice packs, or other inexpensive options might be nearly, equally, or even more effective. Furthermore, advertising for a cooling pad that touts a “machine learning model to determine your ideal ‘temperature profile’”<sup>119</sup> suggests that the symptoms of menopause are unknowable or mysterious, even though most people likely know—without reference to biometrics—what their “ideal temperature profile” is. And promoting cooling wristbands with electronic sensors because hot flashes “are uncomfortable, embarrassing and above all inconvenient, striking day and night”<sup>120</sup> relies on old stereotypes of menopause as shameful, as opposed to an inevitable occurrence that may, in fact, be “inconvenient” but need not be a reason for shame or expensive interventions.<sup>121</sup> Menopause capitalism depends on creating a perceived need for costly products to cope with inevitable bodily functions.

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HEALTH 1771, 1772 (2016) (“Black women have a 1.6-fold risk of experiencing vasomotor symptoms”).

<sup>116</sup> See, e.g., *What are the 34 Symptoms of Menopause*, UK MEDS (Oct. 21, 2019), <https://www.ukmeds.co.uk/blog/what-are-the-34-symptoms-of-menopause> [<https://perma.cc/A44N-57TR>] (“Essentially, night sweats are hot flushes that occur at night and can disrupt sleep or can lead you to feeling unpleasant when you wake up.”).

<sup>117</sup> See *supra* note 100 (describing the “smart” cooling pad to be inserted into a pillowcase) and 101 (describing the “smart” wristband) and accompanying text.

<sup>118</sup> See *supra* note 100 (providing cost of a Moona pillow). They are unlikely to be covered by health insurance or Medicaid.

<sup>119</sup> See *supra* note 100 (“Based on sleep science, Moona uses water cooling to regulate your temperature by focusing on the head & neck area with cooling pillow technology. Moona uses a machine learning model to determine your ideal ‘temperature profile,’ making Moona a perfect fit for you.”).

<sup>120</sup> *Supra* note 101.

<sup>121</sup> See, e.g., *Hot Flashes: What Can I Do?* NAT’L INST. ON AGING, U.S. DEP’T OF HEALTH & HUM. SERVS., <https://www.nia.nih.gov/health/hot-flashes-what-can-i-do> [<https://perma.cc/73EQ-HWCY>] (“Layer your bedding so it can be adjusted as needed and turn on a fan. . . . Carry a portable fan to use when a hot flash strikes.”).

## C. Employee Benefits

Some menopause startup companies market their digital platforms primarily to other businesses. The U.K.-based company Peppy, for example, raised \$10 million in mid-2021 in a funding round for its platform that offers a new kind of “employee benefit” that businesses can adopt.<sup>122</sup> This novel benefit is an app that employees can use to access educational materials or to text or meet via video conference with a menopause health care specialist.<sup>123</sup> Peppy markets itself as a way that a business can “give your people access to personalized support through the phone, anytime, anywhere. . . . Because when you support your people, you support your business, too.”<sup>124</sup> Founded in 2015, Barcelona-based B-wom (“your coach for intimate and feminine health”)<sup>125</sup> partners with insurance companies, drug companies, or doctors that seek to “be part of the shift toward self-care” by providing support for patient-consumers. B-wom also works with employers that wish to offer “preventative health plans and welfare improvement” for employees.<sup>126</sup> The cost for access by up to twenty-five employees is €500 (approximately \$566).<sup>127</sup> End-users receive personalized daily content in the form of exercises and health information, an automated fitness coach, and a symptom tracker (in order to “better understand your body and motivate you after seeing your progress”).<sup>128</sup> Individual consumers can also purchase a B-wom subscription with all the same features at an annual cost of €44.99 (approximately \$57 dollars).<sup>129</sup>

Digital menopause platforms that position themselves primarily in the business-to-business (B2B) market are responding to unprece-

<sup>122</sup> See PEPPY, <https://peppy.health>. [<https://perma.cc/8N8Y-UJLL>].

<sup>123</sup> See *id.*; see also Elizabeth A. Brown, *The Femtech Paradox: How Workplace Monitoring Threatens Women's Equity*, 61 JURIMETRICS J. 289 (2021) (suggesting reasons that women may suffer from biometric data collection in programs dealing with workplace wellness); *infra* Part IV. Managing and Monitoring the Managers and Monitors.

<sup>124</sup> *How It Works*, PEPPY, <https://peppy.health/how-it-works/for-organisations> [<https://perma.cc/5WWF-XAXY>].

<sup>125</sup> See *Product*, B-WOM, <https://www.b-wom.com/en/product> [<https://perma.cc/4HU9-WRX8>]; *Partners*, B-WOM, <https://www.b-wom.com/en/partners> [<https://perma.cc/QT8K-7BSC>].

<sup>126</sup> See *Partners*, *supra* note 125.

<sup>127</sup> See *Partners*, *supra* note 125.

<sup>128</sup> See *Product*, *supra* note 125.

<sup>129</sup> See *Product*, *supra* note 125. Similarly, Australia-based Caia markets its digital health-support platforms (including support for new parents returning to the workforce, lactation consultants, fertility experts and menopause specialists) as a way that businesses can support (and presumably retain) employees at key reproduction-associated stages in the employees' lives. See also Elise Mortenson, *Why Digital Health Companies are Selling Directly to Employers*, HTD HEALTH (May 20, 2020), <https://htdhealth.com/insights/why-digital-health-companies-are-selling-directly-to-employers/> [<https://perma.cc/6SQC-WKP5>] (“Caia’s larger goal is to improve workplace systems and culture to better support the health and engagement of employees”).

dened attention—at the international level, at least—to the real economic costs of menopause for businesses.<sup>130</sup> At one Japanese company, for example, researchers found in 2009 that after offering increased health support for female employees, fewer menopause-aged women took sick days.<sup>131</sup> Those who took sick days took fewer of them.<sup>132</sup> Fewer workers took early retirement because of menopause-related symptoms.<sup>133</sup> In 2017, the U.K. Government Equalities Office published an important report urging employers to consider menopause-related issues.<sup>134</sup> In recent years, menopause-related absenteeism has cost U.K. businesses an estimated fourteen million work days, according to some press accounts.<sup>135</sup>

Although there are fewer B2B menopause-technology businesses targeting the United States market, this sector will almost certainly expand. Women between the ages of forty-five and fifty-four years represent more than ten percent of the workforce in the United States.<sup>136</sup> Women overall constituted more than forty-five percent of the country's total workers in 2020. Once U.S.-based employers are convinced of the economic savings that come from supporting their employees through perimenopause and menopause, a large market awaits.<sup>137</sup>

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<sup>130</sup> See Aphrodite Papadatou, *Menopause Costs UK Economy 14 Million Working Days Per Year*, HR REV. (Apr. 19, 2019), <https://www.hrreview.co.uk/hr-news/menopause-costs-uk-economy-14-million-working-days-per-year/115754> [<https://perma.cc/6PMP-RTJ2>]; *supra* note 89 and accompanying text.

<sup>131</sup> See, e.g., Hiromi Ariyoshi, *Evaluation of Menopausal Interventions at a Japanese Company*, 57 AM. ASS'N OF OCCUPATIONAL HEALTH NURSING J. 106 (2009) (providing an overview of the efficacy of one Japanese newspaper company's efforts to support female employees in their forties and fifties).

<sup>132</sup> See *id.*

<sup>133</sup> See *id.*

<sup>134</sup> Joanna Brewis et al., *The Effects of Menopause Transition on Women's Economic Participation in the UK*, GOV'T EQUALITIES OFF. (2017), <https://www.gov.uk/government/publications/menopause-transition-effects-on-womens-economic-participation>. The report by the U.K. Government Equalities Office presented menopause not only as a problem for businesses, in terms of the margin costs associated with hiring and retraining employees, but also in terms of the impacts of menopause-related workplace departures on individuals (in the form of lowered self-esteem, families (in the form of lowered income) and the overall society (insofar as the ability to engage in paid employment is one measure of gender equity overall)). *Id.* at 9–13.

<sup>135</sup> See Papadatou, *supra* note 130.

<sup>136</sup> See *Labor Force Statistics from the Current Population Survey 2020*, U.S. BUREAU OF LABOR STATS., <https://www.bls.gov/cps/cpsaat03.htm> [<https://perma.cc/G6JX-32PK>] (showing 160,742,000 total persons 16 years and older in the civilian labor force, of whom 15,737,000 were women ages 35 to 44 years; 15,220,000 were women ages 45 to 54 years; 12,911,000 were women ages 55 to 64 years, and 4,742,000 were women 65 years and older).

<sup>137</sup> At least in the case of large law firms in the United States, there do not appear to be robust efforts under way to support employees experiencing menopausal symptoms. See, e.g., Rose Walker, *Is Menopause the Last Taboo for Women in the Law?*, LAW.COM (Feb. 28, 2020), <https://www.law.com/americanlawyer/2020/02/28/is-menopause-the-last-taboo-for-women-in-the-law> [<https://perma.cc/LF6J-9HPB>] (observing that, “[d]espite the challenges [menopause] presents to many senior women in Big Law, firms largely lack a plan to tackle the issue”). U.K. firms, in

At the same time, it is important for employees to critically evaluate any digital health benefits provided to them by their employer. At least in the case of fertility-related apps, there is some evidence that apps share supposedly anonymized data with the employer.<sup>138</sup> Given the prevalence of age-related discrimination, including at the intersection of gender in the form of discrimination based on menopause, it is not unreasonable for employees to be concerned that recording and tracking menopausal symptoms like brain fog, for example, might place the employees at risk for adverse employment action.<sup>139</sup>

#### D. Telehealth

One distinct segment of digital menopause-focused companies is devoted primarily to providing specialty telehealth services. For example, London-based Bia Care boasts that it gives users “access to the UK’s leading menopause specialists,” with all users having access to a doctor within seven days of making initial contact with the company.<sup>140</sup> An initial ninety-minute telehealth consultation takes place in a group setting via Zoom and costs £85 (approximately \$113).<sup>141</sup> Each patient must sign a confidentiality agreement and spend ten minutes speaking one-on-one with the doctor while the other group members listen.<sup>142</sup> Bia

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contrast, appear to be at the forefront of providing menopause support for employees. See Crawford, Waldman & Cahn, *supra* note 92, at 1583. (discussing efforts of private-sector employers in the England and Scotland, in particular, to provide menopause-related guidance and support to employees).

<sup>138</sup> See Drew Harewell, *Is Your Pregnancy App Sharing Your Intimate Data with Your Boss?*, WASH. POST (Apr. 10, 2019), <https://www.washingtonpost.com/technology/2019/04/10/tracking-your-pregnancy-an-app-may-be-more-public-than-you-think/> [<https://perma.cc/5PBA-QMWC>] (reporting data-sharing by the app Ovia).

<sup>139</sup> See Crawford, Waldman & Cahn, *supra* note 92, at 1492–1563 (reviewing application of U.S. anti-discrimination laws to cases involving menopause-related employment discrimination); Emily Gold Waldman, Naomi R. Cahn & Bridget J. Crawford, *Contextualizing Menopause in the Law*, 45 HARV. J. L. & GENDER 1, 18–22 (2022) (describing three categories of menopause-related employment discrimination).

<sup>140</sup> See *How It Works*, BIA CARE, <https://www.bia.care/how-it-works> [<https://perma.cc/K86W-HPAM>] (“Our doctors have helped thousands of women to find the right treatment for them.”).

<sup>141</sup> See *Frequently Asked Questions*, BIA CARE, <https://www.bia.care/faq#faq-row-2> [<https://perma.cc/4N4S-XUTS>].

<sup>142</sup> See *id.* (“The benefit is that other group members can listen and learn from the shared questions and answers. You can even get a prescription, if appropriate.”). In the United States, such groups would raise HIPAA issues. Health Insurance Portability and Accountability Act, Pub. L. No. 104–191, Aug. 21, 1996, 110 Stat 1936; 45 C.F.R. § 164.102; see Sharon Bassan, *Data Privacy Considerations for Telehealth Consumers Amid Covid-19*, 7 J. L. & BIOSCIENCES 1, 2–3 (2020) (discussing HIPAA requirements). Note that HIPAA applies only to information held by health care providers and “business associates,” not patients. Christina Susanto, *Net Neutrality and A Fast Lane for Health*, 37 J. LEGAL MED. 105, 113 (2017); see Iliana L. Peters, *Telehealth and Data Privacy: Issues for the “New Normal” in Health Care*, 22 J. HEALTH CARE COMPLIANCE 21 (2020) (setting out categories of entities covered by HIPAA). How U.K. law addresses these questions is beyond the scope of this Essay. Nevertheless, we note that it would seem possible to offer such groups in the United States through a “HIPAA-compliant telehealth platform.” See Molly Ranns,

Care is a “full remote clinic” co-founded by a former doctor with the National Health Service; it also offers packages of weekly sessions in which a group of patients, along with a “health coach” and a doctor, covers topics ranging from nutritional supplements to exercise and sexual activity.<sup>143</sup> MHT prescriptions are available through Bia Care,<sup>144</sup> a feature that no doubt makes the platform desirable for those patients whose doctors lack training or education in menopause and therefore struggle to get access to prescriptions that they may need.<sup>145</sup> And as affordable as a group consultation may be when compared with the cost of paying out of pocket for a private consultation, services like Bia Care will remain out of reach for many unless covered by insurance.

London-based Alva bills itself as a “comprehensive digital healthcare service” devoted to “excellent menopause care accessible to all,” by providing “education, assessment, treatment and support.”<sup>146</sup> Founded in 2020, the company has built out the education component of its website and is now in the process of testing a digital assessment tool (billed as a “consultation” and a “comprehensive personalized as-

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*Ljap Offers Connection Through New Virtual Support Groups*, 100 MICH. B.J. 50 (May 2021); Martyn Whittingham & Jennifer Martin, *How to Do Group Therapy Using Telehealth*, AM. PSYCH. ASSOC. (Apr. 10, 2020), <https://www.apaservices.org/practice/legal/technology/group-therapy-telehealth-covid-19> [<https://perma.cc/MBE9-FWTC>] (encouraging the use of a HIPAA-compliant platform for group therapy). But that requires careful set-up and consideration not just of common law privacy issues but also of HIPAA-compliance. See Deborah R. Farringer, *A Telehealth Explosion: Using Lessons from the Pandemic to Shape the Future of Telehealth Regulation*, 9 TEX. A&M L. REV. 1, 24 (2021) (discussing lack of security with Zoom telehealth visits).

<sup>143</sup> See *What Happens During a Group Consultation?*, BIA CARE, <https://www.bia.care> [<https://perma.cc/LN75-4XQE>] (“Our mission is to give women easy access to the UK’s most experienced menopause doctors. To achieve this, our clinic is fully remote and specialises in group consultations.”); see also Partington, *supra* note 88 (noting professional background of Bio Care co-founder David Huang, and that Bia Care’s holistic solutions includes one-hour weekly consultations, which cover everything from supplements to sex, as well as personalised treatment plans for symptom relief.”).

<sup>144</sup> See BIA CARE, *supra* note 143 (“Bia Care can also organise users to have treatment options such as hormonal replacement therapy (HRT) –which helps to replenish falling oestrogen levels in the body, which can cause menopausal symptoms—as well as nutrition advice and physiotherapy.”).

<sup>145</sup> See, e.g., Kate Muir, *Women Have Struggled to Get Help With the Menopause for Decades But It’s About to Change*, GUARDIAN (U.K.) (Oct. 6, 2021), <https://www.theguardian.com/commen-tisfree/2021/oct/06/women-menopause-change-hormone-replacement-therapy> [<https://perma.cc/FD4R-PPYF>] (recounting the author’s own struggles for over five years to receive a prescription for MHT through the National Health Service and celebrating the “menopause revolution” led by Labour MP Carolyn Harris). In October 2021, MP Harris withdrew proposed national menopause legislation after the government agreed to reduce the cost of MHT for consumers and to appoint a “menopause task force” to address issues of broad concern). See, e.g., Sienna Rodgers, *Carolyn Harris Secures Victories in Menopause Support Campaign*, LABOUR LIST (Oct. 29, 2021), <https://labourlist.org/2021/10/carolyn-harris-secures-victories-in-menopause-support-campaign> [<https://perma.cc/5RK9-7S95>] (reporting that the compromise resulted in a reduction of the price of a two-hormone MHT prescription from £224 to £18.70 per year).

<sup>146</sup> *Careers with Alva*, ALVA HEALTH, <https://www.notion.so/Careers-with-Alva-9388a6bf928f494085306fcbfd7793e> [<https://perma.cc/VJD7-TWET>].

assessment of menopause”) accessible at all times that can lead to a prescription for MHT to be delivered through a partner pharmacy.<sup>147</sup> The software is a medical device regulated by the Medicines and Healthcare Products Registry, the agency responsible for regulating all medicines, medical devices, and blood components used in transfusions in the United Kingdom.<sup>148</sup> This smart diagnostic tool appears to be in lieu of face-to-face interaction with a doctor, although speaking with a doctor through Alva is also apparently an option.<sup>149</sup>

On the one hand, a smart-diagnostic tool like Alva’s would appear to normalize receiving MHT. With (presumably) the click of a few buttons through a survey, one can receive medication that may offer important relief for real symptoms. If more people could be diagnosed with menopausal symptoms through artificial intelligence, treatment could become more widely available and easier to obtain. At the same time, however, given the absence of research about the appropriateness of MHT for all patients,<sup>150</sup> it is reasonable to ask questions about the ability of a “smart” diagnostic tool to address more complex cases. Furthermore, consider the strong incentive for any for-profit entity to steer consumers from a diagnostic tool (which presumably is not free) toward MHT, a potential source of further profit.

Companies like Bia Care, Alva, and similar entities exist and can flourish because of gaps in a health care system, regardless of whether that system is socialized medicine, single-payer, or private group insurance-dominated. Significant gaps arise under all systems due to the lack of medical providers with adequate training in menopause as well as delays patients experience in receiving care.<sup>151</sup> And where any aspect

<sup>147</sup> *See id.*

<sup>148</sup> *See id.*; *What the Medicines and Healthcare Products Regulatory Agency Does*, MEDS. & HEALTHCARE PRODS. REGUL. AGENCY, <https://www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency> [<https://perma.cc/548D-N2DK>].

<sup>149</sup> *See Careers with Alva*, *supra* note 146 (“If safe and relevant, the [digital] consultation offers access to treatment through our partner pharmacy. If they want, women can speak to a doctor about their options through Alva too.”). After three months, a doctor reviews the prescription and makes adjustments as necessary. *See Partington*, *supra* note 88.

<sup>150</sup> *See supra* note 83 and accompanying text (discussing lack of research on safety of MHT for patients with certain BRCA gene variants).

<sup>151</sup> *See, e.g., Menopause Support Survey Reveals Shocking Disparity in Menopause Training in Medical Schools*, MENOPAUSE SUPPORT (May 13, 2021), <https://menopausesupport.co.uk/?p=14434> [<https://perma.cc/B9AC-DD64>] (reporting that a Freedom of Information request made of 33 medical schools in the United Kingdom reveals that “41% of UK universities do not have mandatory menopause education on the curriculum”); Davis, *supra* note 92 (quoting Dr. Stephanie S. Faubion of the North American Menopause Society as saying, “[w]hen we surveyed residency programs, across internal medicine, family medicine and gynecology residents, they had maybe one or two total hours of education about menopause. About twenty percent said they’d had no menopause education, and only about seven percent said they felt prepared to treat menopausal women.”); Jennifer Wolff, *What Doctors Don’t Know About Menopause*, AARP MAGAZINE (2018), <https://www.aarp.org/health/conditions-treatments/info-2018/menopause-symptoms-doctors-relief-treatment.html> [<https://perma.cc/7TKT-CC2A>] (“A Yale University review of insurance claims

of a health care system is inadequate, for-profit businesses likely will attempt to provide the requisite services. In the case of services for which there is a long wait or that are not covered by insurance, the private sector will seize on people's ability to pay out of pocket for care. That care might be delivered on a digital platform or in a traditional brick-and-mortar doctor's office. In turn, the availability of such care (for those who can pay) may exacerbate already existing class-based differences in health care.<sup>152</sup>

The founders of companies like Bia Care, Alva, and similar businesses are no doubt are passionate about their work.<sup>153</sup> Pro-woman messaging that "[e]very menopause is different—every woman deserves support" (Alva)<sup>154</sup> or that there are significant, real-life "challenges faced by women who need menopause treatment" (Bia Care)<sup>155</sup> helps to destigmatize menopause and reduce the culture of shame and silence that surrounds it.<sup>156</sup> At the same time, it is important for consumers not to be blinded by the halo effect that this type of advertising engenders. These companies, at their core, seek to profit from menopausal bodies.

To be sure, profit-seeking is not incompatible with good business practices or even positive change for individuals and society. But it remains to be seen whether digital (or analog) menopause-related companies eventually engage in additional work, beyond for-profit activity, that embraces a pro-menopause agenda consistent with the messaging that "every woman deserves support,"<sup>157</sup> for example. Of course, there is no mandate that for-profit companies address the needs of those who may never be consumers of their products or services (because of issues of cost or access). But consumers who expect certain behavior from companies that embrace pro-woman, feminist messaging may well be interested in monitoring these businesses' commitment to achieving broader change in cultural attitudes toward menopause.<sup>158</sup>

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from more than 500,000 women in various stages of menopause states that while 60 percent of women with significant menopausal symptoms seek medical attention, nearly three-quarters of them are left untreated.").

<sup>152</sup> See, e.g., Naomi Cahn et al., *Family Law for the One-Hundred-Year Life*, YALE L.J. (forthcoming 2023), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4038989](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4038989) [<https://perma.cc/H562-7Q3W>].

<sup>153</sup> Katie Coleridge, one of the co-founders of Alva, has advised other entrepreneurs to "[f]ind a problem you care deeply about and understand. . . . There's so many personal reasons which make improving the experience of menopause important to me personally. These reasons spur me on every day." Annie Coleridge, FEMTECH INSIDER, <https://femtechinsider.com/alva-annie-coleridge-starter-story/> [<https://perma.cc/6DY4-HMRB>] (quoting Alva co-founder Katie Coleridge).

<sup>154</sup> *Learn About Menopause*, ALVA, <https://withalva.com/> [<https://perma.cc/YK8Z-PVC6>].

<sup>155</sup> *About Us*, BIA CARE, <https://www.bia.care/about-us> [<https://perma.cc/HB4M-LR85>].

<sup>156</sup> See, e.g., Crawford et al., *supra* note 92 (describing multiple manifestations of menopause-related stigma and shame).

<sup>157</sup> See *supra* note 149 and accompanying text (emphasis added).

<sup>158</sup> This point builds on a similar one made by Professor Haneman in the case of menstrual

## E. Community

Many menopause apps—whether provided by an employer or not, whether facilitating access to MHT or not—provide access to educational materials about health and wellness, symptom tracking, and the ability to participate in interactive user communities.<sup>159</sup> Whether the information that the apps pass along is entirely accurate, though, is a topic that merits a deeper inquiry than is possible in the confines of this Essay. The U.S.-based menopause app Caria, for example, does not necessarily review material that third parties make available on its app.<sup>160</sup> Thus, an advertiser on that site might promote herbal supplements, to give just one example, as an appropriate treatment for symptoms of menopause, without necessarily having any backing for the claims.<sup>161</sup> Because the ad appears on a menopause app that users may come to rely on for support, there is the possibility that the consumers may mistakenly believe that the product is endorsed by the company. Combined with general concerns about accuracy of health information provided on these apps, there is reason to be concerned about the products that might be advertised there, too; later Parts of this essay briefly take up associated legal and pragmatic concerns, such as privacy and informed consent.<sup>162</sup>

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capitalism. See Haneman, *supra* note 98, at 135 (“Pro-female, woke menstruation messaging . . . may be merely an exploitative and empty co-optation. Feminist should expect more of menstrual capitalists, including a commitment that firms operating within this space address the diagnostic issue of period poverty and meaningfully assist those unable to meet basic hygiene needs who may never be direct consumers.”).

<sup>159</sup> For example, Stella is an app created by Vira Health that offers a twelve-week “tailored menopause treatment” plan to help users address menopause-associated hot flashes, urinary incontinence, mood disorders, insomnia, issues related to sex and more. See STELLA, <https://www.onstella.com> [<https://perma.cc/NT4E-JZ7J>]. There is a weekly online community meeting where users can “hear what other women are dealing with and find out what is working for them.” *Id.*

<sup>160</sup> *Terms & Conditions*, CARIA (2020), <https://hellocaria.com/terms> [<https://perma.cc/UB9V-S9EQ>].

<sup>161</sup> The level of FDA oversight of over-the-counter drugs is far lower than for prescription medicines. See generally Agata Dabrowska & Susan Thaul, Cong. Res. Serv., R41983, How FDA Approves Drugs and Regulates Their Safety and Effectiveness (2018), <https://fas.org/sgp/crs/misc/R41983.pdf>; see also Carrie Scrufar Hames, *FDA’s Homeopathic Risk-Based Enforcement: Compromised Consumer Protection or Stepped Up Scrutiny?*, 70 SYRACUSE L. REV. 1115 (2020) (noting deficiencies in the FDA’s 2019 draft guidance that proposes regulating like other drugs any homeopathic supplements that are marketed without FDA approval). The FDA’s draft guidance has not been finalized. See Drug Products Labeled as Homeopathic: Guidance For FDA Staff and Industry, Revision 1, Oct. 2019, U.S. FOOD & DRUG ADMIN., <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/drug-products-labeled-homeopathic-guidance-fda-staff-and-industry> [<https://perma.cc/3TPN-S9LG>].

<sup>162</sup> In the context of menstruation-related apps, several commentators have raised concerns about accuracy of information provided by the app itself. See, e.g., Citron, *supra* note 10, at 1777 (noting that many menstrual apps are “riddled with inaccurate information”); Altman, *supra* note 105 (providing an overview of the laws of certain fertility-prediction apps and technologies and noting that, “[f]or all the startups focused on diagnosing or treating a serious health condition, such as infertility or endometriosis, or developing a new form of birth control, there are others that

Digital platforms and apps try to offer as many contacts points with users as possible. For example, Yahoo Life! describes the U.K.-based Health and Her app as:

a must-have for any woman experiencing perimenopause or menopause. Acting as your digital personal trainer, it tracks information such as your symptoms, symptom triggers and periods to help identify important patterns about your health and body, and offers a range of evidence-based exercises and tools designed to support with symptom management.<sup>163</sup>

Some apps advertise that they rely on “artificial intelligence” (AI) to track hot flashes, libido, menstruation, urination, mood, and sleep, although it is not clear precisely what sort of role AI plays here. The founder of the Copenhagen-based Femilog says that the goal of that tracking app is “to provide women with a broader and clearly menopause health picture, decrease feelings of stress and anxiety and make them feel understood.”<sup>164</sup> To be sure, many users will find apps helpful in communicating with healthcare providers about their symptoms. The mySystems app, for example, permits users to print charts of the symptoms they have tracked, possibly to facilitate sharing that information with a healthcare provider. The app also provides access to a social forum, as a form of peer support.<sup>165</sup> The very act of tracking one’s symptoms may also lead users to have an increased sense of control of their “embodied, social, and emotional lives.”<sup>166</sup>

At the same time, menopause apps should be understood as blurring the line between wellness and illness: Symptoms like hot flashes are quite common in menopause, but the act of tracking renders them something to be recorded and monitored, like a disease symptom. Just as anthropologists Andrea Ford and Giulia de Togni, together with student co-author Livia Miller, have observed of menstruation trackers, menopause apps “facilitate the integration of medical and non-medical approaches to health within a broader framework of approaching one’s

are simply trying to ride the current feminist wave to a generous payday.”). *See also infra* Part IV.

<sup>163</sup> See HEALTHANDHER.COM, <https://healthandher.com/symptom-tool> [<https://perma.cc/DEW5-MT7H>] (including a “Perimenopause and Menopause Symptom Checker” and a banner heading that urges webpage visitors, “Download the free Health & Her Menopause App today”). Bearable is a similar tracking app. *See* BEARABLE, <https://bearable.app/> [<https://perma.cc/3YWG-2T7X>].

<sup>164</sup> *See* Partington, *supra* note 88 (calling Femilog an “AI menopause health tracker” (quoting Femilog founder and CEO Samina Usman)).

<sup>165</sup> *See* MYSYSTEMS, *supra* note 103 (The company, mySystems, “is a social and self-care mobile app to help women manage perimenopause and menopause. Women can track symptoms, print a chart of what they’ve tracked, and share advice with other women in discussion forums.”).

<sup>166</sup> Ford et al., *supra* note 110, at 58 (discussing the practice of “hormonal health” in the contest of menstruation-related apps).

life as a personal management exercise.”<sup>167</sup> When menopause turns out to be something that cannot be so easily managed—at least in the sense of being controlled, as opposed to tracked—then what Ford, de Togni and Miller call “neoliberal self-management project”<sup>168</sup> is revealed as a futile exercise.

Some apps do not participate in this neoliberal project of symptom tracking per se and instead name and norm themselves as spaces where users can connect with others experiencing menopause. For example, the Perry app (tagline: “Menopause Sisterhood Support”) connects all users in a “Sisters Chat” group, and then allows users to join separate groups with names like “Work & Peri,” “Excessive weight, WTF?,” “I don’t feel like myself anymore,” and “Sex or no SEX?”<sup>169</sup> The app Peanut, initially a networking app for new mothers, has started a “Peanut Menopause” digital community.<sup>170</sup> Members of Peanut Menopause must verify that they are female-looking by taking a selfie of their entire face. Members can join groups like “fit at fifty,” “M-brace The Change,” “Mid-life Pleaser & Power-Sex, Cycles Education & Empowerment” and “Product Feedback.”<sup>171</sup>

No doubt there is value in peer support; it is useful for those who are experiencing perimenopause and menopause to come together and discuss symptoms, challenges, and strategies for coping with common occurrences such as hot flashes, mood changes, or sleep disturbances.<sup>172</sup> Being present in a community, whether digital or face-to-face, can be an antidote in a culture that otherwise treats menopause as either

<sup>167</sup> Ford et al., *supra* note 110, at 50.

<sup>168</sup> Ford et al., *supra* note 110, at 50.

<sup>169</sup> PERRY: PERIMENOPAUSE COMMUNITY, <https://apps.apple.com/us/app/perry-perimenopause-community/id1544428724> [<https://perma.cc/X8E3-K72P>]; *Explore Other Groups*, PERRY APP (image on file with the authors) and available here: <https://imgur.com/a/RSDigsE> [<https://perma.cc/NKA3-DL94>].

<sup>170</sup> See PEANUT: FIND FRIENDS AND SUPPORT, <https://apps.apple.com/us/app/peanut-find-friends-support/id1178656034> [<https://perma.cc/497A-FVYT>]; see also Lizzie Widdicombe, *At Last, An App for Menopause*, NEW YORKER (Sept. 25, 2021), <https://www.newyorker.com/culture/culture-desk/at-last-an-app-for-menopause> [<https://perma.cc/MPA4-QY37>] (recounting the author’s discovery of the Peanut app and connecting with a user in Michigan who said she was “looking for someone other than my husband to talk about my girly stuff with”).

<sup>171</sup> See *App Screenshots*, PEANUT, <https://imgur.com/a/DzxKvUW> [<https://perma.cc/W7FL-VGTT>] and <https://imgur.com/BGz4Q4p> [<https://perma.cc/B68S-MTR8>]. At this point, the privacy policy of Peanut does not permit marketing materials, but that may change. *Privacy*, PEANUT (Apr. 26, 2021), <https://www.peanut-app.io/privacy> [<https://perma.cc/ZG9J-NXWA>] (“We will not send you any marketing materials” and it even warns: “So, please be careful about what permissions you grant through the App and what you post, particularly when it relates to your children. We want to keep you safe, but we need you to help us.”). The policies may, of course, change. *Id.*

<sup>172</sup> See, e.g., PERRY, <https://www.heyperry.com/> [<https://perma.cc/8Y38-ZTRC>] (proclaiming on its homepage that “85% of women experience symptoms of menopause. Yes! It’s normal. No! You’re not alone,” and providing links to “connect with like-minded women in the same stage of life,” “tap into our network of menopause experts,” “explore topics and create posts,” and “browse through articles, latest researches [sic] and product reviews”).

something to be hidden or the butt of jokes.<sup>173</sup> At the same time, there is a certain flattening of experience demanded by these platforms. On Peanut, one's profile must include a user's life stage (with the only choices being "trying to conceive," "mama-to-be," "mama," perimenopause," and "menopause"), even though one can, of course, be in two categories at once (such as a "mama" and "trying to conceive" or even "mama to be" and "perimenopause").<sup>174</sup> On Perry, one's profile includes the user's "biggest WTF peri/menopause symptom" with responses limited to sixty characters.<sup>175</sup> In other words, to identify oneself as a worthy member of the community, a user must rank symptoms and choose the most problematic.

To be sure, that self-identification is for profile purposes only; it is not limiting. Users are free to seek peer support for symptoms of perimenopause and menopause other than the ones listed in the user profile. Yet a conceptual tension exists between requiring users to describe the most troublesome symptoms—in sixty characters or less—and recognizing that perimenopause and menopause may present with multiple severe, and even mutually reinforcing symptoms (such as night sweats that cause disrupted sleep that in turn leads to fatigue, for example).<sup>176</sup> It forces users to fit their experiences into certain pre-determined categories, defining them in terms of their perimenopause symptom of choice. And while critiquing an app's format because it requires ranking or summarizing symptoms for profile purposes may be a relatively minor point, note that the app does then identify and classify the user based on that isolated symptom, suggesting a simplification and flattening of a complex condition and experience. Moreover, nearly all menopause-oriented digital platforms raise significant questions about privacy, discussed in the next section.

## F. Autonomy and Privacy

Most menopause-related platforms are easily accessible, at least in part, on the internet; the apps are free and easy to download (although accessing more than the basic features or an advertisement-free version

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<sup>173</sup> See Widdicombe, *supra* note 170 (recounting a 2019 appearance by the actor Viola Davis on the Jimmy Kimmel talk show in which Kimmel pretended not to know what menopause is and Davis explains, "Menopause is hell, Jimmy. Menopause is a dark hole. That's what menopause is. And that's where I'm at right now.").

<sup>174</sup> See *User Profile Options*, PEANUT, <https://apps.apple.com/us/app/peanut-find-friends-support/id1178656034> [<https://perma.cc/H45W-CYLM>].

<sup>175</sup> See *User Profile Options*, PERRY, <https://www.heyperry.com/> [<https://perma.cc/FGM9-L3XZ>].

<sup>176</sup> UK MEDS, *supra* 116 ("[R]esearch has shown that menopause typically comes with a list of 34 different symptoms. Some may disrupt your life rather significantly, while others may go largely unnoticed.").

may require monthly payment).<sup>177</sup> All of the sites and apps acknowledge the collection of users' personal information, although the average user is not likely to linger and read lengthy terms, conditions and privacy policies.<sup>178</sup> Only close examination reveals the myriad potential uses of that information, such as the fact that the Health and Hers app shares personal data with advertisers.<sup>179</sup> The mySystems app warns its customers that, "[w]e may engage certain third parties to assist in providing community services to you and, in the context of that relationship, we need to share some of your information with such third parties in order to provide that service."<sup>180</sup> It is not clear who those community service providers might be, and indeed, the company does permit "third-party data sharing related to advertising."<sup>181</sup>

The menopause symptom-tracker Femilog announces on its website that:

You probably know the saying 'If it is free you are the product.' We have taken an ethical stance and do not sell your sensitive data to any third party. That is why you can choose a subscription of your choice. But the cost is not more than what you probably would pay for a cup of coffee depending on where you are in the world.<sup>182</sup>

Note, however, that Femilog does not refrain *entirely* from selling consumer data; it merely claims not to sell "sensitive" data, without defining that term.<sup>183</sup> What may be sensitive to the consumer may not be sensitive from the standpoint of the company.<sup>184</sup>

In the context of period trackers, Professor Michele Gilman notes that apps share "deeply personal" information such as a user's self-reported moods and feelings and characteristics of menstrual flow.<sup>185</sup> It is not uncommon for apps in general to share information about a user's

<sup>177</sup> E.g., MYSYSTEMS, *supra* note 103 (requiring a monthly payment to eliminate ads).

<sup>178</sup> Caroline Cakebread, *You're Not Alone, No One Reads Terms of Service Agreements*, BUS. INSIDER (Nov. 15, 2017), <https://www.businessinsider.com/deloitte-study-91-percent-agree-terms-of-service-without-reading-2017-11> [<https://perma.cc/8VP6-7NAC>].

<sup>179</sup> See *Privacy Policy*, HEALTH & HER, <https://healthandher.com/privacy-policy/> [<https://perma.cc/492Q-L9E7>] ("We will take all reasonable steps to ensure that your data will be handled safely, securely . . . . We may from time to time share such data with third parties such as prospective investors, affiliates, partners and advertisers.")

<sup>180</sup> *Privacy Policy*, MYSYSTEMS, <https://mysystems.com> [<https://perma.cc/TPN8-CQEX>].

<sup>181</sup> *Id.*

<sup>182</sup> See FEMIOLOG, <https://femilog.com/femilog-menopause-health-tracker/> [<https://perma.cc/SQ5L-C96P>].

<sup>183</sup> See *id.*

<sup>184</sup> See *id.*

<sup>185</sup> Michelle S. Gilman, *Periods for Profit and the Rise of Menstrual Surveillance*, 41 COLUM. J. OF GENDER & LAW 100, 103 (2021).

gender, physical location (based on GPS data), or IP address with companies such as Amazon and Facebook or smaller companies that pay to obtain this information about an app's users.<sup>186</sup> This transformation of "human experience . . . into behavioral data" is what Harvard Business School Professor Shoshanna Zuboff has called "surveillance capitalism."<sup>187</sup>

Note that even in the unlikely event that digital menopause-focused companies do not share their data analytics with outside companies, surveillance capitalism is a stand-alone instrument of menopause capitalism. In other words, even hypothesizing the absence of data sharing, menopause-related digital platforms themselves collect data that allow them to retain and serve their customers. A company's "internal" market for data—standing alone—makes the business attractive to investors. The more data about a consumer that a company has, the more it is able to refine the delivery of its services and products to existing and future customers. For example, a representative of the venture capital firm that raised \$4 million in financing for Gennev, an online platform that allows booking telehealth appointment with physicians (not necessarily menopause specialists), observed that "the company's data trove about its members is valuable because it can help refine medical advice."<sup>188</sup> In the menopause space, where companies like Bia Care are hoping to offer their group consultations at scale, possibly through the UK National Health Service,<sup>189</sup> or Alva, currently developing its "smart" menopause diagnostic system, the ability to refine one's products and services based on sophisticated user analytics may be what distinguishes one company from other and bests positions it to potentially win large government or B2B contracts.

Many digital menopause-focused enterprises embrace messaging around education, empowerment, and community.<sup>190</sup> These companies provide products or services that many customers find useful. At the same time, however, there are legitimate concerns related to both commodification of data about menopausal bodies—which ultimately re-ounds to the financial benefit of the for-profit entity, not the users—as

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<sup>186</sup> See Forbrukerradet, *Out of Control: How Consumers are Exploited by the Online Advertising Industry* 5 (2020), <https://fil.forbrukerradet.no/wp-content/uploads/2020/01/2020-01-14-out-of-control-final-version.pdf> [<https://perma.cc/V23A-V39N>] (reporting results of cybersecurity study of ten popular apps including as Tinder, OKCupid and the period tracker MyDays, finding that "the ten apps were observed transmitting user data to at least 135 different third parties involved in advertising and/or behavioural profiling").

<sup>187</sup> See SHOSHANNA ZUBOFF, *THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER* 8 (2019).

<sup>188</sup> See Gilman, *supra* note 185 (paraphrasing Maven Ventures partner Sara Deshpande).

<sup>189</sup> See, e.g., Partington, *supra* note 88 (noting that Bia Care is working with the National Health Service).

<sup>190</sup> See *supra* notes 102–105 and accompanying text.

well as basic concerns about privacy, including who can access the users' data, under what circumstances, and how meaningful any user consent to data sharing is.<sup>191</sup>

#### IV. MANAGING AND MONITORING THE MANAGERS AND MONITORS

Considering menopause through the lenses of both MHT and the companies that sell technology-driven menopause-oriented products or services illuminates new intersections between menopausal bodies and the law. There is no doubt that increased attention to menopause is both necessary and welcome. For too long, if it is discussed in public at all, menopause has been treated as largely a taboo topic, even among friends, or the object of jokes and derision.<sup>192</sup> Increasing awareness of menopause will help destigmatize the subject and empower individuals and their physicians to become more knowledgeable about this stage of life and all available treatments, pharmacological and otherwise.<sup>193</sup> To the extent that MHT or certain products or services provide meaningful relief to those who suffer from severe symptoms of menopause, and to the extent they create knowledge and community, these are welcome developments.<sup>194</sup>

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<sup>191</sup> See Karen E.C. Levy, *Intimate Surveillance*, 51 IDAHO L. REV. 679, 684 (2015) (discussing how menstrual and fertility trackers make "intimate data collection a family affair" that may facilitate domestic violence); Cynthia Conti-Cook, *Surveilling the Digital Abortion Diary*, 50 U. BALT. L. REV. 1, 55 (2020) (discussing the sale of menstrual data to immigration authorities to monitor for pregnancy). Note also that technology companies are not subject to the rules under Health Insurance Portability and Accountability Act of 1996 (commonly called "HIPAA") regarding the protection of health-related data. See, e.g., Thomas Germain, *Mental Health Apps Aren't All as Private as You May Think*, CONSUMER REPS. (Mar. 2, 2021), <https://www.consumerreports.org/health-privacy/mental-health-apps-and-user-privacy-a7415198244/> [<https://perma.cc/YJ4J-XW2Q>].

<sup>192</sup> Oprah Winfrey, for example, has said that she sought medical assistance to no avail for over two years, only to self-diagnose her own menopause in her early fifties. See *10 Celebrities Who Have Spoken Out About Menopause*, GLAMOUR (Oct. 5, 2020), <https://www.glamour.com/gallery/celebrities-who-have-spoken-out-about-menopause> [<https://perma.cc/LQJ4-N5HR>] (quoting Winfrey as saying that "Until that point in my adult life, I don't recall one serious conversation with another woman about what to expect" from menopause); *id.* (reporting a 2014 awards ceremony when actor Emma Thompson joked, "It's such a cold night. You know, it's the first time I've been actively grateful for the menopause.").

<sup>193</sup> See, e.g., *supra* note 145 and accompanying text (reporting lack of quality education about menopause for doctors in the United States). A parallel argument in the disabilities field is that only by making public the pervasiveness of non-visible disabilities that allow for "passing" by some individuals as non-disabled can existing approaches be redesigned to acknowledge and account for the pervasiveness of disability. See, e.g., Jasmine E. Harris, *Taking Disability Public*, 169 U. PA. L. REV. 1681 (2021).

<sup>194</sup> See Ford et al., *supra* note 110, at 59 (identifying as a goal of the early women's health movement "putting health technologies for self-knowledge and self-care" in the hands of users themselves).

Simultaneously, though, there are questions about the ongoing safety of MHT drugs and the ways that MHT reinforces traditional gendered stereotypes and negative attitudes about aging.<sup>195</sup> In the case of technology-driven menopause-oriented products or services like symptom-monitoring apps or peer support communities, there are some of the same concerns about gender and aging stereotypes, as well as important questions about the meaning of privacy, autonomy, and informed consent.<sup>196</sup> This Part points in turn toward areas of possible legal reform for MHT and technology-driven menopause businesses. Far from serving as a comprehensive examination and set of proposals, however, this Part draws attention to menopause-related issues so that other scholars already working on issues of drug safety, informed consumer and medical decisionmaking, healthcare access, and privacy, to name just a few, might integrate menopause into their analyses.

## A. MHT

The most important baseline in any discussion of legal issues surrounding MHT is the fact that approximately half the population will inevitably experience menopause. Menopause is not a disease. Its symptoms may require no treatment for some people, while treatments (whether in the form of drug therapies or other interventions) may be useful for others.<sup>197</sup> Its psychological impact also varies; in fact, many people ultimately experience menopause or post-menopause as a liberatory stage of life.<sup>198</sup> As a first and conceptual step, responding to MHT requires placing it in the larger context of life stages, accepting aging, and locating menopause within the trajectory of other bodily-related processes and conditions.<sup>199</sup>

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<sup>195</sup> See *infra* Part II (the marketing of MHT through appeals to youthful femininity).

<sup>196</sup> In the comparable arena of menstruation, critics contend that existing apps essentialize menstruation, insofar as women's "lived experiences" are portrayed as "monolithic and privileged across domains (e.g., race/ethnicity, sexuality, socioeconomic status, disability, access to housing, food, healthcare)," and with a limited view that overlooks more holistic possibilities. See Adrienne Pichon et al., *The Messiness of the Menstruator: Assessing Personas and Functionalities of Menstrual Tracking Apps*, 25 J. AM. MED. INFORMATICS ASSOC. 1, 4–5 (2021).

<sup>197</sup> E.g., GUNTER, *supra* note 3, at 108; Corinna, *supra* note 31, at 95; *Complementary & Alternative Therapies: Nonhormonal Prescribed Treatments*, WOMEN'S HEALTH CONCERN FACT SHEET 2, <https://www.womens-health-concern.org/wp-content/uploads/2021/02/03-WHC-FACTSHEET-Complementary-And-Alternative-Therapies-FEB2021.pdf> [<https://perma.cc/MW2M-UGPA>] (listing as alternative treatments to MHT interventions including cognitive behavior therapy, dietary changes and acupuncture).

<sup>198</sup> See Waldman, Cahn & Crawford, *supra* note 139 (beginning with the story of Belinda, a character from the Netflix show, *Fleabag*, who describes the ultimately freeing nature of menopause); Naomi Cahn, *Justice for the Menopause, A Research Agenda*, 41 COLUM. J. GENDER & L. 27, 30–31 (2021) (noting how nineteenth century feminists felt freed of some domestic obligations); see *infra*.

<sup>199</sup> Waldman, Cahn & Crawford, *supra* note 139 (locating menopause in the context of other

A second step requires moving away from presumptions and toward equity in health care. So that menopausal individuals, together with their health care providers, can determine what treatment, if any, might be appropriate, there needs to be a comprehensive assessment of symptoms, exploration of alternatives, and analysis of risks and benefits for each individual considering intervention.<sup>200</sup> While artificial intelligence and “smart” diagnostic tools may have a role to play here,<sup>201</sup> the urgent need is not just for improved apps but for increased and better research about MHT, other treatments, and menopause itself.<sup>202</sup> Since the development of MHT, there have been no significant advances in therapeutic treatments, although the exact form that MHT takes and the recommended dosage have changed.<sup>203</sup> Even though federal legislation requires publicly funded medical studies to include women in federally funded research,<sup>204</sup> privately funded studies do not have such constraints.<sup>205</sup> It can be difficult for researchers to find funding for conditions associated with the “female” reproductive system, and thus multiple inequities in health care studies continue.<sup>206</sup> The remedy is more appropriations for menopause-focused research.

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reproduction-associated conditions or processes of pregnancy, breastfeeding and menstruation).

<sup>200</sup> GUNTER, *supra* note 3, at 325 (discussing the author’s decision to take hormones); Ellena A. Anagnostis, *Menopausal Hormone Therapy (MHT): Refining Our Understanding of MHT Research, Optimally Applying Results, and Considering the Future of MHT*, 25 J. PHARM. 324 (2012), [https://www.researchgate.net/publication/224879328\\_Menopausal\\_Hormone\\_Therapy\\_MHT\\_Refining\\_Our\\_Understanding\\_of\\_MHT\\_Research\\_Optimally\\_Applying\\_Results\\_and\\_Considering\\_the\\_Future\\_of\\_MHT](https://www.researchgate.net/publication/224879328_Menopausal_Hormone_Therapy_MHT_Refining_Our_Understanding_of_MHT_Research_Optimally_Applying_Results_and_Considering_the_Future_of_MHT) [<https://perma.cc/U4X6-HTS3>].

<sup>201</sup> See *supra* notes 141–145 and accompanying text (discussing a “smart” menopause diagnostic tool).

<sup>202</sup> MHT has been called “a medical therapy that has been enveloped in mixed messages.” See Katie Hunt, *Hormone Replacement Therapy not Linked to an Increased Risk of Developing Dementia, Study Finds*, CNN (Sept. 30, 2021), <https://www.cnn.com/2021/09/30/health/hormone-replacement-therapy-menopause-hrt-dementia-wellness/index.html> [<https://perma.cc/AF2F-UKMV>]. While alternative therapies exist, they are not as effective as hormones in alleviating symptoms. See Christie Aschwanden, *Hormone Therapy, Long Shunned for a Possible Breast Cancer Link, is now Seen as a Short-term Treatment for Menopause Symptoms*, WASH. POST (Feb. 29, 2020), [https://www.washingtonpost.com/health/hormone-therapy-long-shunned-for-a-possible-breast-cancer-link-is-now-seen-as-safe-and-helpful-as-a-short-term-treatment-for-most-women-in-the-throes-of-menopause/2020/02/28/1fd19f66-54cd-11ea-929a-64efa7482a77\\_story.html](https://www.washingtonpost.com/health/hormone-therapy-long-shunned-for-a-possible-breast-cancer-link-is-now-seen-as-safe-and-helpful-as-a-short-term-treatment-for-most-women-in-the-throes-of-menopause/2020/02/28/1fd19f66-54cd-11ea-929a-64efa7482a77_story.html) [<https://perma.cc/KFY3-4ABH>].

<sup>203</sup> See Stephanie S. Faubion, Editorial, *Femtech and Midlife Women’s Health: Good, Bad, or Ugly*, 28 MENOPAUSE 347 (2021), [https://journals.lww.com/menopausejournal/Citation/2021/04000/Femtech\\_and\\_midlife\\_women\\_s\\_health\\_good\\_bad\\_or.1.aspx](https://journals.lww.com/menopausejournal/Citation/2021/04000/Femtech_and_midlife_women_s_health_good_bad_or.1.aspx) [<https://perma.cc/25EA-CAZX>].

<sup>204</sup> See 42 U.S.C. § 289a–2(a) (requiring inclusion of “women” and “members of minority groups” in federally funded clinical research).

<sup>205</sup> See Eichelberger et al., *supra* note 115 (calling for more research on Black women’s experiences of menopause).

<sup>206</sup> See CRAWFORD & WALDMAN, *supra* note 98, at 151–52 (discussing U.S. Representative Carolyn Maloney’s efforts to get passed the Tampon Safety and Research Act).

## B. Technology-Driven Menopause Products and Services

With respect to private health information, federal law prevents disclosure, but only if the information is provided in the context of the health care delivery.<sup>207</sup> Accordingly, information provided via a menopause symptom tracker or in a menopause support community is not protected against disclosure under HIPAA.<sup>208</sup> For that reason, the burden is on the individual consumer of technology-driven menopause products and services to take control of what information is subject to disclosure.<sup>209</sup> In other words, consumers must recognize the confidentiality issue and act accordingly, even though it may be difficult or impossible to bargain around standing disclosure rules.<sup>210</sup> These concerns are heightened in the context of digital health tools, where consumers of all types voluntarily share sensitive information about themselves, and third-party companies routinely profit from that data.<sup>211</sup>

In other contexts, scholars have suggested a range of reforms to the current law's standard of notice and consent.<sup>212</sup> As Ari Ezra Waldman has explained, an app provider can generally escape liability once users consent to the platform's privacy policies.<sup>213</sup> In discussing period-tracking apps in particular, Michele Gilman, for example, has proposed applying the tenets of "data feminism" to make period trackers, fertility apps, and similar technologies an "empowering and accurate health tool

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<sup>207</sup> See Health Insurance Portability and Accountability Act of 1996 (HIPAA), Pub. L. No. 104-191, 110 Stat. 1936.

<sup>208</sup> See Citron, *A New Compact for Sexual Privacy*, *supra* note 10, at 1806-07; Gilman, *supra* note 185, at 109; *supra* note 140 (discussing HIPAA); Charles Ornstein, *Federal Patient Privacy Law Does Not Cover Most Period-Tracking Apps*, PROPUBLICA (July 5, 2022).

<sup>209</sup> "At some level, people understand that online services are not actually free. But the firms intentionally structure the deal in a manner that obscures its lopsided nature. Individual consumers cannot fully grasp the potential risks, and few options exist for those who do (beyond not using the service)." Citron, *A New Compact for Sexual Privacy*, *supra* note 10, at 1767; see also Gilman, *supra* note 185, at 40-41 (under firms' notice-and-consent approach, the individual consumers, rather than the data collector, bear the burden of protecting the privacy of their data).

<sup>210</sup> See Gilman, *supra* note 185 (suggesting the entities that gather these data should be responsible for protecting privacy).

<sup>211</sup> Against the backdrop of the United States Supreme Court's ruling in *Dobbs v. Jackson Women's Health Organization*, 142 S.Ct. 2228 (2022) and the state-by-state rollback of abortion rights, this Article joins others in noting that existing data privacy laws that cover both health care and the digital world are inadequate to protect users from unwarranted intrusions on their privacy, whether from the government, employers, commercial marketing, or even public disclosure. *E.g.*, Danielle Keats Citron, *The End of Roe Means we Need a New Civil Right to Privacy*, SLATE (June 27, 2022), <https://slate.com/technology/2022/06/end-roe-civil-right-intimate-privacy-data.html>.

<sup>212</sup> See Ari Ezra Waldman, *Privacy Law's False Promise*, 97 WASH. U. L. REV. 773, 796 (2020).

<sup>213</sup> *Id.* ("Under the traditional notice-and-consent regime, data collectors can escape liability as long as they post their data use practices in a privacy policy.").

rather than a data extraction device.”<sup>214</sup> She would require these technologies to be provided through a non-profit model that places an absolute bar on the sharing of data with for-profit, third-party entities.<sup>215</sup> Danielle Citron, on the other hand, suggests severing any data consent policies and practices from the process of signing up for an app itself (although she agrees with Gilman on the greater need for privacy protections for menstruation-related data).<sup>216</sup> In Citron’s view, the “gold standard for consent combines the ‘knowing and voluntary’ waiver standard from constitutional law and the informed consent standard from biomedical ethics . . . . [R]equests for consent must be clear and understandable. They should explain what intimate data would be collected, how it would be used, and how long it would be retained.”<sup>217</sup>

Adrienne Pichon and colleagues call more generally for holding companies “accountable for [ways] users’ data are collected, stored, used, and shared, beyond obscure terms and services.”<sup>218</sup> They also propose giving users “more control over who has access to their data and how to revoke this access,” implying that they favor a more user-friendly and modifiable version of the existing notice and consent model.<sup>219</sup> Although the suggestions are not focused on menopause apps, incorporating them in that context would be an important step forward in protecting menopausal app users.

A second change relates to the content of the platforms and apps themselves. Menopause-oriented companies mostly presume the need for help of some kind, frequently in the form of MHT. Moreover, most of the digital trackers and communities are designed for cis women, even though not all who menstruate (and therefore not all who experience menopause) are cis women. There are trans and gender non-binary individuals who experience menopause, too.<sup>220</sup> So instead of assuming a “typical” user who needs management of a hormonal-induced state,<sup>221</sup>

<sup>214</sup> See Gilman, *supra* note 185, at 100.

<sup>215</sup> See Gilman, *supra* note 185, at 112–13.

<sup>216</sup> See Citron, *A New Compact for Sexual Privacy*, *supra* note 10, at 1775–76, 1819 (discussing the need for stronger privacy protections for menstrual data collection apps and consent severed from app initiation).

<sup>217</sup> Citron, *A New Compact for Sexual Privacy*, *supra* note 10, at 1819.

<sup>218</sup> Pichon et al., *supra* note 196, at 13.

<sup>219</sup> Pichon et al., *supra* note 196, at 13.

<sup>220</sup> See, e.g., Sarah E. Frank, *Queering Menstruation: Trans and Non-Binary Identity and Body Politics*, SOC. INQUIRY 1 (Feb. 5, 2020), <https://onlinelibrary.wiley.com/doi/pdf/10.1111/soin.12355> [<https://perma.cc/H5HP-PGWL>] (centering trans and gender non-binary individuals’ personal accounts of their experiences with menstruation). See also Crawford et al., *supra* note 92 (discussing the experiences of a butch woman and trans man with menopause).

<sup>221</sup> See Ford et al., *supra* note 110, at 50 (developing the concept of “hormonal health,” which “describes a way of caring for, and knowing about bodies”).

there needs to be greater recognition of the full range of human experiences and needs during menopause.<sup>222</sup> One simple example would be not requiring users to identify themselves with a single primary symptom.<sup>223</sup> While legal regulation is not the appropriate vehicle to effectuate this type of reform, these suggestions nevertheless point to the need for transformation in the ways that law, medicine, and society itself conceptualize the experience of menopause. Change is necessary.

These data privacy concerns around digital menopause technologies exist despite the liberatory potential of community and information for those who will experience menopause. They suggest both broader failures of U.S. law to protect adequately consumer data and the potential for change.

### C. Managing and Monitoring Beyond Menopause

Jurisprudentially, menopause can serve as an entry point for theorizing beyond binaries of sex, gender, and gender identity, through the decoupling of gender identity from reproductive capability. From a socio-legal perspective, new ways of thinking about gender identity that go beyond reproductive capability might lead, for example, to a more robust articulation of the rights of trans and gender nonbinary individuals to gender-affirming healthcare, including hormone-related treatments if they choose.<sup>224</sup>

Menopause also suggests how gender might be disaggregated from the body, at least in part. From a physiological perspective, menopause clearly represents a transition point. But it is managed for reasons that go beyond responding to the actual physical changes themselves. Marking the change from a fertile body capable of reproduction to an infertile body that is not, menopause also represents the loss of the biological capability that has, at least historically speaking, been the basis for much of the differentiation between “men” and “women.” For that reason, some people subjectively experience or consider menopause as a

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<sup>222</sup> Not seeing one’s own body or experience reflected in the digital world undoubtedly is alienated and can even be harmful to one’s sense of self, as can be seen in other gendered contexts. *E.g.*, Georgia Wells et al., *Facebook Knows Instagram Is Toxic for Teen Girls, Company Documents Show*, WALL ST. J. (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739> [<https://perma.cc/ZRS3-9LWZ>] (Instagram makes issues of body image worse for one of three teen-aged girls).

<sup>223</sup> See *supra* note 170 and accompanying text.

<sup>224</sup> See, e.g., *Medical and Other Transition Options for Transgender People*, U. MICH. HEALTH, <https://www.uofmhealth.org/health-library/acd1551> [<https://perma.cc/W3NE-MM36>] (“The process for recognizing, accepting, and expressing your gender identity is called a transition. There are many options for transitioning, including medical and *nonmedical* options,” with nonmedical options including “changing your clothing, name, speech or other things. You choose how you feel most comfortable expressing your gender identity.” (emphasis added)).

“sexless” state to be mourned and lamented, at least from a socio-cultural perspective, and thus one that requires “treatment.”<sup>225</sup> For other individuals, though, menopause can represent a time of personal liberation, both from concerns about unexpected pregnancies and from gender stereotypes and expectations.<sup>226</sup> Menopause is both exceptionalized—with its association with irrational individuals experiencing hot flashes and remnants of the Robert Wilson message that menopausal bodies are “castrates”—and unexceptional, a normal part of the aging process.

Moving beyond the body, this Essay’s framework may be useful in highlighting the needs of certain historically disadvantaged populations, including trans and gender nonbinary individuals, for robust consumer protection laws and privacy protection. Indeed, the failure to safeguard data opens the door to potential discrimination in employment, healthcare, housing, and other contexts—and to potentially undesired exposure.<sup>227</sup> In a related context, just as an individual who is experiencing menopause is not “abnormal” and may (or may not) choose MHT, trans and gender nonbinary people should not be medicalized or pathologized as “sick” either. Moreover, a consideration of how menopausal technology reifies the male/female binary provides support to legal efforts to question and challenge surveillance technologies that rely on gender classifications.<sup>228</sup> Menopause thus serves as an inflection point for identifying the ways that law should become more responsive to multiple human needs.

## V. CONCLUSION

Multiple themes run through this Essay’s critique of the ways that menopausal bodies are medicalized, managed, and monitored. In the related arenas of MHT and technology-driven menopause-oriented

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<sup>225</sup> See *supra* notes 37–38 and accompanying text (in which the author of *FEMININE FOREVER* both praised menopausal women as the biological equivalent of men and denigrated them (some-what ironically) as “castrates”). See also ERICA RAND, *THE SMALL BOOK OF HIP CHECKS: ON QUEER GENDER, RACE, AND WRITING* (2021) (Rand “mourn[ed] the departure of my curvy hips within the queer erotics of butch/femme”).

<sup>226</sup> See, e.g., Darcy Steinke, *Going Through Menopause Changed the Way I Think About Gender*, BUZZFEED NEWS (June 18, 2019), <https://www.buzzfeednews.com/article/darceysteinke/i-felt-confined-by-femininity-for-most-of-my-life-menopause> [<https://perma.cc/G8U5-KRDJ>] (noting that “While a few of the women I interviewed felt, in and after menopause, even more like women, most felt a gender shift,” and describing the transition as “disorienting, thrilling, and freeing”).

<sup>227</sup> E.g., Citron, *A New Compact for Sexual Privacy*, *supra* note 10; Gilman, *supra* note 185.

<sup>228</sup> Sonia K. Katyal & Jessica Y. Jung, *The Gender Panopticon: AI, Gender, and Design Justice*, 68 UCLA L. REV. 692, 700 (2021) (“When a binary system of gender merges with the binary nature of code, the result necessarily excludes transgender and nonbinary populations.”).

products and services, certain tropes recur: disease, youthfulness, aging, gender norms, profit, and privacy.<sup>229</sup> But this Essay challenges the positioning of menopause as a medical condition requiring intervention, while also highlighting two distinct paradoxes.

The first paradox is the tension between the cultural need for greater openness about menopause—it is an inevitable biological process for approximately half the world’s population—and the legal need for greater privacy protections for those who choose to use technology to track menopause’s symptoms or seek peer support. Awareness campaigns, like “Pausitivity” in the United Kingdom or “let’s talk menopause” in the United States bring welcome attention to an issue that has too long stayed in the shadows of public discourse.<sup>230</sup> Yet at the same time, many users of menopause apps or other digital services likely would not be keen to share intensely private information with their employers, for example,<sup>231</sup> or even their partners. In other words, menopause itself should not be treated as a taboo topic unfit for public discussion, but any one person’s information about menopausal symptoms should not be shared with persons or companies that seek to profit from it without that user’s clear understanding and consent.

The second paradox is the challenge of avoiding pathologizing menopause as an “illness” while simultaneously recognizing that, for many, menopause has real (and sometimes debilitating) effects that merit serious and thorough research and treatment. This means developing and funding new treatments for symptoms, continuing studies and reports on the impact of existing treatments, and adjusting various aspects of the workplace so that those experiencing menopausal symptoms are able to be equal participants in society, both within and beyond the workforce.<sup>232</sup>

Future managing and monitoring the menopausal body must recognize the simultaneous need for both increased public discourse about

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<sup>229</sup> Activist Jennifer Weiss-Wolf notes that the numerous sources Weiss-Wolf found on menopause show an “odd chasm . . . a presumptive sexist, ageist trope – jokes about our overheated brains and bodies, the expectation of our diminishing utility and presence.” Jennifer Weiss-Wolf, *Menopause and the Menstrual Equity Agenda*, 41 COLUM. J. GENDER & L. 228, 241 (2021).

<sup>230</sup> The British Pausitivity campaign provides free posters and menopause support kits, and it has inspired a nonprofit in the United States, let’s talk menopause, that is similarly focused on education and breaking the silence and stigma. See *Home*, PAUSITIVITY (last visited Feb. 7, 2022), <https://www.pausitivity.co.uk/> [<https://perma.cc/9SQ9-7SZ2>]; *Our Mission*, LET’S TALK MENOPAUSE, <https://www.letstalkmenopause.org/our-mission> [<https://perma.cc/R8LG-6ZZ9>]; Julianne McShane, *Menopause Isn’t Widely Talked About*, THE LILY (Oct. 29, 2021), <https://www.thelily.com/menopause-isnt-widely-talked-about-this-first-of-its-kind-campaign-wants-to-change-that/> [<https://perma.cc/89D6-LQC6>] (describing the organization’s history and goals).

<sup>231</sup> See *supra* Part III.C.

<sup>232</sup> We have separately made several suggestions for how to do so, such as modifying uniforms or allowing for scheduling flexibility. See Crawford, Waldman & Cahn, *supra* note 92.

an inevitable process for approximately half the population and better protection of personal information, especially any information that is shared over digital platforms. And all future managing and monitoring of the menopausal body should be implicated in the broader re-examination of binaries, whether based on biology, gender presentation, or ability.

