MILKEN INSTITUTE

FINANCIAL INNOVATIONS LAB®

A National Network to Advance Innovative Financing for Women's Reproductive Health

MAY 2024

About the Milken Institute

The Milken Institute is a nonprofit, nonpartisan think tank focused on accelerating The Milken Institute is a nonprofit, nonpartisan think tank focused on accelerating measurable progress on the path to a meaningful life. With a focus on financial, physical, mental, and environmental health, we bring together the best ideas and innovative resourcing to develop blueprints for tackling some of our most critical global issues through the lens of what's pressing now and what's coming next.

About Financial Innovations Labs

Financial Innovations Labs® bring together researchers, policymakers, and business, financial, and professional practitioners to create market-based solutions to business and public policy challenges. Using real and simulated case studies, participants consider and design alternative capital structures and then apply appropriate financial technologies to them.

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INTRODUCTION

Investing in women's reproductive health is crucial for wider economic productivity and social well-being across the United States. Yet women, who make up half of the US population and nearly half the workforce, are underrepresented when it comes to health. Their health receives far less funding, health concerns have been dismissed, diseases are often misunderstood and misdiagnosed, and a substantial portion of their lives are marked by suffering from disabling conditions related to reproductive health challenges.

To be clear, women's reproductive health is not only about reproduction. It covers women's health across the lifespan, from adolescence through menopause and beyond, and from equitable funding through access to care. It encompasses all aspects of a woman's reproductive system, from puberty, menstruation, fertility, contraception, maternal health, and menopause to gynecology, procedural and medical abortion, hormone and vaccine therapy, and oncology, as well as aspects of mental health.

Inadequate treatment of uterine fibroids, endometriosis, or menopausal symptoms, for example, can affect a woman's daily life and her career, while limited access to routine gynecological cancer screenings and family planning can derail long-term health and financial outcomes. A recent McKinsey report opens with the astonishing metric that women spend 25 percent more time than men in poor health and disability—an average of nine years over a woman's lifetime, and most of it during their "working years"—and that addressing this issue could result in economic improvement to the tune of $1 trillion.[1]

Targeted research and development (R&D) and health-care delivery for women have been underfunded for decades, with outsized and long-term impacts in particular on Black, Latinx, Indigenous, transgender, nonbinary, rural, and low socioeconomic status women, their families, and communities. The gender disparity is not US-specific, of course. In nearly every corner of the globe, one finds inadequate women's health-care delivery, underfunded research, and underreporting by women who have no expectation of receiving care. But among 10 high-income countries, the US has the highest rate of maternal mortality, and Black women are nearly 2.5 times more likely to die from pregnancy-related complications than White women.[2]

The unemployment crisis during the COVID-19 pandemic exacerbated the decades-long health-care disparities that run through our modern social fabric, from insurance coverage and paid parental leave to vaccine awareness and quality of treatment. But the Supreme Court decision to overturn the 50-year precedent of *Roe v. Wade* in its June 2022 *Dobbs v. Jackson Women's Health Organization* ruling catapulted the women's reproductive health crisis into a catastrophe whose effects will reach across generations.

Patients and providers have had to adapt to a culture war redux over private health matters. Clinics and hospitals that have lost federal funding now operate with reduced staffing and may also be subject to surveillance, violence, and prosecution. Today, one in five women must cross state lines to get abortion care. And the ruling's ripple effect reaches further: Some 19 million women now live in US counties that are "contraceptive deserts," where no health centers offer a full range of birth-control methods, including publicly funded contraceptive services and supplies. And 1.2 million of these women lack any access in their county to a clinic even offering birth control.[3]

Women, especially those in precarious circumstances who cannot access or afford contraception or abortion, risk a future of poverty and all it entails for their families. They also risk poor long-term health outcomes. The economic impacts of underinvestment are reflected not only in lives shortened and lost but also in families thrown into turmoil and the wider economic factors arising from diminished productivity in the workplace.

Yet, we continue to find grounds for optimism and momentum. After the Supreme Court decision, the Department of Defense announced it would reimburse active-duty personnel and dependents who must travel out of state to receive reproductive health care, including abortions. And many organizations pledged to pay for services for employees who could not otherwise access care. From pledged travel stipends to philanthropic grants to health organizations, the private sector has stepped in to fill a care void.

More than ever, there is increased awareness of the gaps and challenges—and cross-sector collaboration and coordination to find improved products and services. In November 2023, the Biden administration announced the White House Initiative on Women's Health Research, working across a number of federal agencies to rectify disparities in women's health research, determine investment priorities, and pursue potential private-public partnerships to advance research.[4] This engagement creates opportunities to attract new funding and financing to advance equitable research, care, and outcomes.

For much of 2023, the Milken Institute also tackled this issue, applying market research and interviews with more than 70 stakeholders to examine the systemwide deficits, research gaps, and community-level needs. Our cross-sectoral venture explores how to facilitate corporate, philanthropic, institutional, and private investment through innovative financing models to spur finance for systemwide improvements. In October and November 2023, the Institute convened a series of Financial Innovation Labs® that brought together experts from health care, finance, corporations, government, philanthropy, policy, advocacy, and academia.

The Lab process generated one overriding idea in particular: the creation of a national women's reproductive health network supporting a number of regional hubs to address investment risk-return barriers as well as barriers to equitable delivery of products and care across the health-care system. The solution is national in scope because no area of the country is untouched by disparities in women's reproductive health. Its mission would be to develop the following:

- access to a powerful stakeholder network in centralized locations providing knowledge sharing, mentorship, incubation, and acceleration to participating hubs centered on community needs;
- financing models more suited for the unique challenges facing the women's reproductive health field; and
- a business interruption "insurance" model to safeguard reproductive health services amid a dynamic and fluid policy landscape.

ISSUES AND PERSPECTIVES

Reproductive and gynecological health affects all women from puberty to menopause, roughly ages 12–60, and with a range of potential health issues and complications. Nearly every woman in the US uses contraception, for example, and almost 25 percent will have had an abortion by age 45.[5] Figure 1 details reproductive health topics across a woman's life, with related screenings, therapies, treatments, and support. This health care is essential because issues such as endometriosis, uterine fibroids, cancer, and sexually transmitted diseases (STDs) can determine a woman's fertility, quality of life, and long-term health outcomes.

Figure 1: Potential Conditions and Services across a Woman's Reproductive Lifecycle

Puberty and Menstruation	Fertility and Family Planning	Pregnancy and Delivery	Perimenopause and Beyond
Education and Management	**Fertility Preservation**	**Prepregnancy**	**Monitoring**
• Menstruation tracking	• Fertility diagnostics	• Prepregnancy counseling	• Menstruation monitoring
• PMS management	• Ovulation induction	• Ovulation tracking	• Symptom tracking
• Mental health care	• Egg retrieval and cryopreservation	• Prenatal supplements	**Symptom Relief and Treatment**
• Sexual health and wellness	**Fertility Counseling and Treatment**	**Pregnancy and Delivery**	• Hormone therapy
• Contraception	• Consultation and fertility testing	• Prenatal genetic testing	• Pelvic floor physical therapy
• Genetic-carrier screening	• Ovarian stimulation	• Fetal-health monitoring	• Incontinence management
Risk Prevention and Treatment	• Intrauterine insemination	• Maternal-health monitoring	• Therapy and mental health care
• Fibroids screening and care	• In vitro fertilization	• Nutrition support	• Vaginal estrogen
• Endometriosis screening and care	• Preimplantation genetic testing	• Birth doula services	• Medication
• Cervical cancer screening	• Assisted hatching	**Postpartum**	**Risk Prevention and Management**
• Breast cancer screening	• Surgery	• Lactation consulting	• Cardiovascular health
• STD screening and treatment	**Third-Party Reproductive Services**	• Pelvic floor therapy	• Osteoporosis prevention and management
	• Gestational carrier or surrogacy	• Mental health care	• Cancer screening
	• Sperm donor	• Postpartum doula support	• Nutrition and fitness planning
	• Egg donor	• Physical recovery and nutrition	
		• Newborn care resources	

Source: Milken Institute (2024), based on Boston Consulting Group (2023)

Unfortunately, women's health care and research have suffered from decades of underinvestment. As the McKinsey study notes, the prevailing assumption held that men's and women's organs and systems (e.g., their cardiovascular systems), and thus therapies, differed inconsequentially. (Now we also know, among other differences, that heart attack symptoms are not the same in women.)

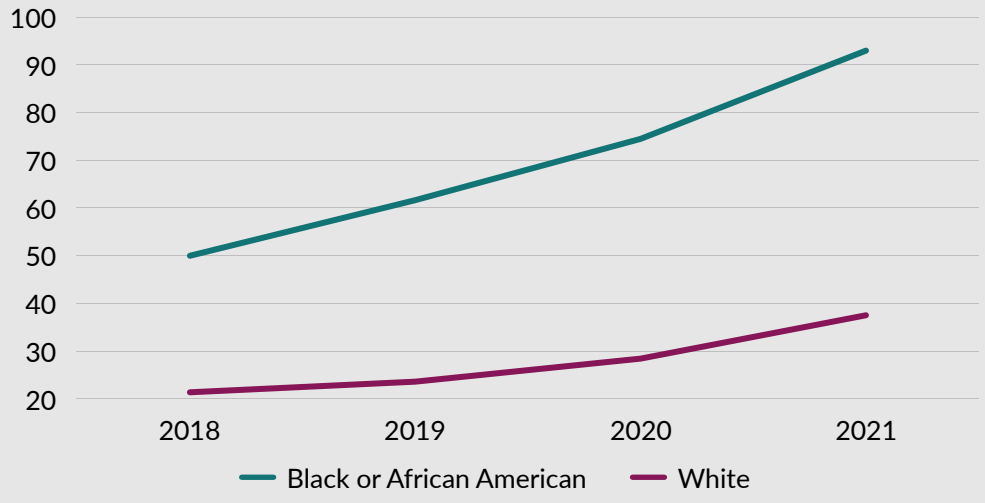
Women-specific reproductive health issues have historically received little attention, even though their impacts on the population are great. Consider just three: Fibroids, which are noncancerous tumors, grow in the wall of the uterus and affect an estimated 26 million women in the US. They cause heavy menstrual bleeding and intense pelvic pressure or pain and can lead to long-term bladder and fertility issues. Although common, fibroid prevention and treatment are not well understood, with limited medications and often surgery for both diagnosis and removal.[6]

Or consider endometriosis: Recent data suggest that roughly one in ten women suffer from this condition in which endometrial tissue grows outside the uterus, causing chronic inflammation and severe pain. Still, it can take many years to receive an accurate diagnosis because of the numerous symptoms.[7] In the case of fertility, about 10 percent of women ages 15–44 have difficulty becoming or staying pregnant, yet today, only twenty-one states require private insurers to provide infertility benefits, and only two state Medicaid programs provide coverage.[8]

Underinvestment in reproductive health has also led to poor maternal health care. Pregnancy complications can increase the risk for chronic illnesses such as hypertension and diabetes. The US has the highest maternal mortality ratio of developed countries, which has steadily increased while the global ratio has decreased.

Even more troubling, a recent review of pregnancy-related deaths in 36 states found that 84 percent were preventable and that women who are most vulnerable and most marginalized bear a disproportionate burden (Figure 2).[9] For example, Black maternal deaths occur at three times the rate of White maternal deaths. Robust maternal health would benefit mothers and babies beyond pregnancy and birth.

Figure 2: US Maternal Mortality, by Race (2018–2021)



Source: Milken Institute (2024), based on CDC (2021)

Menopause is another health issue that faces a general lack of information and understanding. Menopause typically affects women ages 45–55 (perimenopause even earlier) and can present as any of more than 30 symptoms, including physical changes (weight gain, irregular heartbeat, sleep disorders); psychological symptoms (mood swings, fatigue, anxiety, memory loss); digestive problems (bloating); oral issues (gum problems); changes in the nervous system (tingling extremities); and vasomotor dysfunction (night sweats and hot flashes).[10] Inconclusive and differing studies about links between hormone therapy and increased risks of breast cancer or dementia have left physicians without foundational data and training on specific menopause treatment and women without informed treatment options.[11]

The Economic Impacts of Women's Reproductive Health

Better health is correlated with economic prosperity for individuals, their families, and the larger community. Prioritizing investment in women's reproductive health is also central to advancing gender equity and economic growth by enabling women's full participation and productivity in the workplace, which have increased over the past several decades. Today, women are more likely to pursue higher levels of education, women are more likely to work full time all year, and women's earning have grown. However, there have been setbacks, including the effects of the COVID-19 pandemic on the job market, which have been widespread and have varied by gender and race.

The high rates of pregnancy-related deaths, preventable deaths, chronic health conditions (e.g., high blood pressure and diabetes), and mental health care needs, as well as the reversal of *Roe*, contribute to poor outcomes that negatively affect the workplace and society. Years of life lost due to poor health or early deaths create the women's health gap. Greater than 55 percent of the health gap occurs during women's working years (ages 20–70), and today, menopausal women account for 20 percent of the US workforce. According to the Mayo Clinic, costs associated with lost work productivity because of menopause total $1.8 billion annually.[12] Women's increased labor force participation can partly explain economic growth since the 1950s; therefore, the gap in women's health results in lost economic potential.

As we know, one of the largest changes in women's outlook on work is the limited access to reproductive rights with the overturning of *Roe*. Many companies and organizations are offering family planning, reproductive support, maternal health, and parental leave benefits as not only increasingly important to their bottom line, in terms of better retention rates and a widening pipeline of future talent, but also what employees want and are passionate about.

Even prior to the *Dobbs* decision, 70 percent of women ages 18–44 and 59 percent of men would be reluctant to take a job in an abortion-restricted state.[13] In a small study of more than 3,000 people in a 2022 LeanIn.org online poll of employed men and women conducted just weeks after the overturn of *Roe*, both males (79 percent) and females (80 percent) reported that control over when and whether to have a child is critical to pursuing their career goals.[14] Nearly a quarter of women in the workforce say they will not work in a state that limits or bans access to abortion.[15] These findings greatly reflect younger and higher-income women who have more flexibility than low-income or low-educated women to relocate themselves or their families.

The private sector can do more to support women and ultimately create a healthier society by providing better health insurance benefits; comprehensive coverage for pregnancy, childbirth, and postpartum care; and paid parental leave (the US is the only high-income country without national paid leave). A recent study showed that among those states with paid leave, employee retention increased and performance

rose by 1 percent and productivity by 5 percent, and highlighted the need for redesigning the workplace to support designated breaks, breastfeeding areas, and support for childcare and caregiving responsibilities.[16] Corporate leaders have a moral and business case to improve productivity, enable each employee's full potential, and make a positive impact on health outcomes for women in the US.

The State of Public and Private R&D

Women's health issues have historically received less R&D funding than men's. *Nature* reports that a study of more than 20,000 clinical trials funded by the National Institutes of Health (NIH) in the period 2020 to 2022 found that medical conditions predominantly or disproportionally affecting women received far less funding, relative to the societal burden of those conditions, than did conditions primarily affecting men. These conditions include mental health, headaches, migraines, anxiety, and chronic fatigue syndrome. *Nature* also notes that NIH biomedical R&D funding in 2022 alone totaled $45 billion, again mostly on conditions that disproportionately affect men and that another, smaller study of federal funding of cancer research, using ratios of lethality to funding, found that ovarian and cervical cancer rank high in lethality but low in research funding.[17]

The NIH 2022 budget of $48 billion allocated just $4.6 billion for women's health research.[18] Considering that NIH did not formalize "sex as a biological variable" in its grant development and application guidelines until 2016, it becomes clear that progress moves at a glacial pace.[19]

Anticipated returns drive private-sector R&D investment, and investment ventures tend to align with market incentives—thus, the skyrocketing marketing and popularity of so-called lifestyle drugs for weight loss, hair growth, mood elevation, and erectile dysfunction (ED). The global ED drugs market, according to one marketing study, totaled $3.2 billion in 2022 and is expected to hit $6.1 billion by 2032.[20] Compare those costs with the $150 billion cost to the global economy from premenstrual syndrome (PMS) because of lost productivity and health-care costs, which could be averted with appropriate therapeutic treatments.[21] According to UK reports, only 19 percent of men need treatment for ED, while 90 percent of women will need treatment for PMS.[22]

Underinvestment in women's reproductive health has led biotech companies to discontinue drug candidate research in favor of other programs or leave the space entirely. Bayer, previously a leader in the women's health market, announced in 2023 that it was shifting priorities away from preclinical research in women's health to focus on clinical testing (drugs in human trials) and other areas such as immunology, rare diseases, and neurology (the drug maker, beset by massive lawsuit settlements due to Roundup® weedkiller claims and a disappointing pipeline, said it would continue development of its menopausal relief product).[23]

Philanthropic foundations and nonprofit organizations such as the Bill & Melinda Gates Foundation (BMGF) have also made contributions to women's reproductive health R&D. BMGF and NIH together committed a total of $1.13 billion, nearly two-thirds of the total *global* investment, in funding grants for women's sexual and reproductive health from 2018 to 2021.[24] Traditionally, academic institutions receive a majority of this funding and must compete for the same limited pool of grants. These scarce, one-time grants are not sufficient to bridge the gap caused by the lack of adequate public and private funding sources.

R&D is also complicated by gender bias, even for R&D surrounding conditions that affect both men and women, such as heart disease, malaria, or dementia. Inadequate understanding and training for how certain diseases present differently have resulted in delayed or inaccurate diagnoses or medications with lower efficacy and greater harm to women. It was not until 1993 that NIH required the inclusion of women and minorities in research, and, as just noted, not until a few years ago that the agency introduced its "sex as a biologic variable" policy into study and grant-designing policy. This delay is problematic—underlying biology and risk factors cause women to experience or display unique symptoms. Yet, women have comprised fewer than half of clinical trial participants for cardiovascular diseases and cancer, even though they are 50 percent more likely to be misdiagnosed following a heart attack and more likely to die from one.[25] When women are not included in R&D in its early stages, researchers may find that they must either conduct further investigation and delay their timeline, or proceed without the gender-appropriate data.

Furthermore, the gender of innovators impacts the types of inventions and for whom they are invented. Women-led research teams are 26 percent more likely to invent medical advances focused on women. When the lead inventor on a patent is a woman, the innovation is significantly more likely to focus on female health outcomes. More women in science, technology, engineering, and mathematics (STEM) could contribute to an increase in female-focused inventions.[26]

Other drawbacks to women's research include liability concerns, for example, potential damage to the fetus from maternal immunizations. Lock-in remains another impediment and occurs when a product's popularity or low price (perhaps a particular form of birth control) makes it more difficult for new and improved products to get a foothold in the market.

In sum, scientific knowledge and treatment options slow without funding for women's reproductive health R&D, with repercussions across a community and society at large.

Market Dynamics

The investment landscape for research, products, and services is vast. As of 2021, this population comprised 58.7 million women in their reproductive years, 15 to 44.[27] Almost all of these women use menstrual products and contraception and go through menopause, to name just a few needs, at some point during these years. An average menstruating person uses 17,000 tampons or pads throughout their life.[28] One hundred start-ups are developing menopause interventions, and investments increased two-fold between 2021 and 2022, with investment trends currently projected to exceed those levels.[29]

Further, the US women's health market size was estimated at $15.5 billion in 2022 and is expected to grow through 2030.[30] Given the unmet health needs of women, the market expects deals and capital to continue to accelerate to improve research, products, and services as the sector grows.

Many of the innovations are coming from start-ups that are doing it all—conducting firsthand research, executing testing, educating doctors and patients about their products, and then promoting their business to attract and serve women. However, they need the capital to do so and preliminary data to show the potential opportunities. Dedicated funding is necessary to streamline this systemic problem and further advance positive outcomes in women's health.

Affordable Access to Products and Services

The lengthy R&D process for products and services is financially intensive, both for the company and for investors; these costs will affect the eventual affordability to the market. Over the course of her life, writes one HuffPost contributor, a woman may spend an estimated $15,000 on birth control and feminine hygiene products, pap smears, and human papillomavirus (HPV) tests.[31] If she uses the pill, she probably spends $50 a month. The Annovera® ring, which lasts for one year, can cost up to $2,200, depending on insurance. The less expensive NuvaRing® can cost up to $200 but lasts just five weeks. Both require doctor's appointments for added costs ranging from $35 to $250.[32] Fibroid removal surgery can cost upward of $20,000.[33] Annual cervical exams with a pap smear can cost, on average, $330.[34] Many insurance plans do not cover fertility treatments, which are the only reproductive option for single parents and same-sex couples; meanwhile, a single round of IVF can cost $15,000–$30,000.[35]

A UK study comparing the US and other high-income countries on reproductive health care finds that half of US women of reproductive age skipped or delayed necessary care because of costs. This population includes not only women who lack health insurance but also women whose private insurance copayments, coinsurance, and deductibles make care and treatment unaffordable.[36] Underserved individuals and communities, predominantly lower-income populations, face other challenges in accessing care, from the inability to take time off from work to finding childcare and transportation. Low-income or rural community care providers suffer from funding constraints, and because they practice in areas of low population density, they are less able to procure products at cost-effective prices that are routinely available in higher-income, more urban locations.

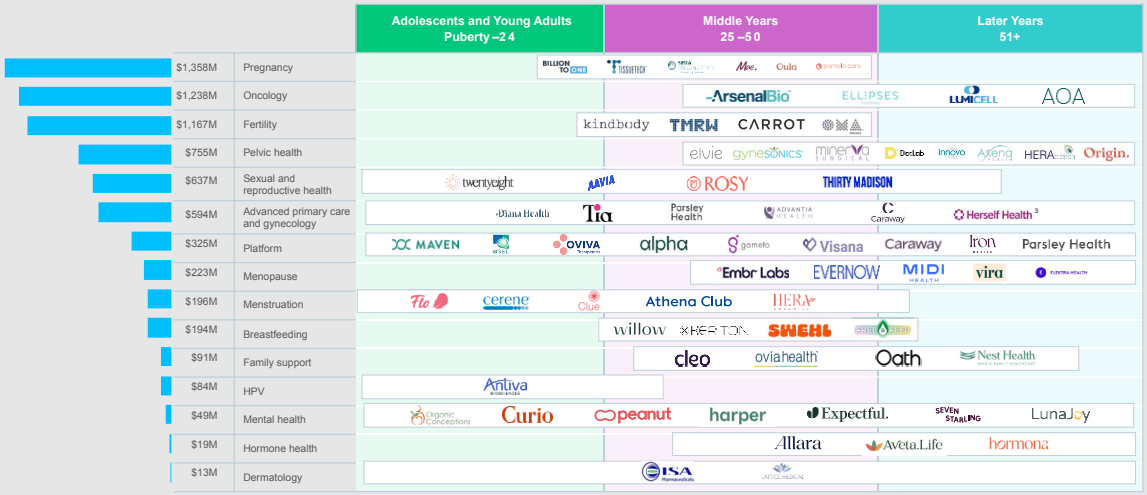
As with almost any service or product, health care will only scale and prices will only decline with greater funding. However, increasing health care for lower-income women is a tough sell for entrepreneurs and investors, perhaps because lower-income markets seem too risky, or public funding is perceived to already exist in that space, or a simpler intervention (e.g., the pill or a straightforward menopause treatment) would suffice in an uninsured market that cannot afford higher prices. Or, the reason may be that companies do not want to navigate the cumbersome and time-consuming reimbursement system of public programs such as Medicaid, which is the largest single-payer of pregnancy-related services, paying for 42 percent of births in 2020 and 75 percent of all publicly funded family planning.[37] (In fact, many companies in women's reproductive health rely on Medicaid reimbursement, which states have a variety of rules, regulations, and payments to comply with to satisfy a significant demand.)

Enter FemTech, that is, companies focused on technology-driven women's health-care products and services. Depending on the scope, the FemTech market is estimated at between $500 million and $1 billion and still surging globally, with double-digit growth rates expected.[38] FemTech reaches across the spectrum of age and conditions, including products that are devices and wearables (e.g., breast pumps, diagnostic tools, and at-home monitors); services include telehealth, counseling, patient support, and diagnostics, especially from firms run by women. End users are not only direct-to-consumer; FemTech firms also work with entities such as hospitals and fertility and diagnostic clinics.

More than 60 percent of FemTech products and services start-ups have launched in just the past five years.[39] Impact-driven but focused on returns, these firms also help show how to de-risk investment across the broader industry.

Venture capital (VC) investment, particularly that led by women and those who invest in women, covers the spectrum from girls to later years (Figure 3).

Figure 3: Venture Capital Investment across Women's Health Care since 2019



Source: Silicon Valley Bank (2023)

SteelSky Ventures, for example, invests across women's health in consumer, digital, and infrastructure health care to improve access and care to underrepresented and underserved communities. Its portfolio of companies has collectively provided more than 40 million people with access to essential health-care services, among them Twentyeight Health, a low- or no-cost bilingual telehealth and prescription mail delivery platform serving underserved communities in 34 states.[40] RH Capital is an impact-first fund that invests in early-stage start-ups—from life sciences and health care to digital health and consumer products related to maternal health, contraception, fertility, menopause, and oncology—focused on underserved populations. A portfolio company, Mae, is a digital platform working with health-care payers and states to address disparities, and provide pregnancy and postpartum support, tailored for Black women and inclusive of the Medicaid market. Lux Capital, a generalist VC firm that has made women's health investments, raised $1.2 billion, the largest health fund in 2023.[41] It is invested in Maven, a virtual network providing care across fertility, pregnancy, adoption, parenting, and pediatrics to millions of women across the country.

Funding the Health-Care Infrastructure

Underinvestment has also plagued health-care infrastructure, or the full scope of delivery of products and services across age groups and income levels. This includes digital services, community clinics, private practice, urgent care facilities, and university-affiliated research hospitals.

A woman's unique health needs and economic circumstances dictate the quality of the facility and care. Local clinics, for example, are a critical access point for low-income, uninsured, or under-insured individuals because they offer a range of services, including contraceptive counseling, STD testing and treatment, prenatal care, and sometimes abortion services, at reduced or no cost. Other individuals may rely on private health care specialists, such as gynecologists and obstetricians, for reproductive health needs. Hospitals and health systems provide comprehensive reproductive health services for a majority of urban populations.

Primary and reproductive care for lower-income women is generally provided outside the network of private offices and hospital systems, which is more common for privately insured patients. Access to community health centers or public hospitals can be crucial for women on Medicaid and women without insurance who often rely on these providers for their reproductive as well as primary care. Of women below the federal poverty line who use birth control, one in three obtains it from a community-based hospital or health center.[42] This infrastructure has been in trouble for decades. Most local clinics are small and lack the budget to offer specialized reproductive health services or providers.

However, one specific category of clinic, the federally qualified health center (FQHC), receives federal funding expressly to provide primary-care and family planning services in underserved areas, playing a significant role for low-income or uninsured patients to receive the care they need. In 2022 alone, 30.5 million people, of whom approximately 10 million were rural residents, relied on these clinics.[43] Being in high demand, however, also means that these clinics are overburdened, with chronically long wait times and limited appointment availability. Post-*Dobbs*, in states where abortion is banned, FQHCs cannot use federal funds for abortion services, either directly or indirectly, by referring them elsewhere.

Nonprofit clinics such as Planned Parenthood provide access to primary and reproductive health care, cancer screenings, contraception, STD testing and treatment, and education programs at low or no cost. Medicaid enrollees access Planned Parenthood services free of charge, and those without insurance can take advantage of its sliding-fee scale, which adjusts the costs of the visit based on a person's ability to pay. In the post-*Dobbs* era, these clinics have been inundated with patients from states that restrict or ban women's reproductive health services and abortion.

Government funding has been largely centered around the Title X family planning program, established in 1970. Title X is the only federal family planning program providing no- and low-cost Food and Drug Administration (FDA)-approved contraceptive products and pregnancy testing, as well as gynecological examinations, and screening for STDs, HIV, breast and cervical cancer, high blood pressure, and anemia. It grants funding to a wide variety of providers, which span approximately 4,000 independent Title X clinics to university health centers and local health departments. Two-thirds of all patients seen at a Title X clinic report that it is their only health-care encounter of the year.[44]

In 2019, a Trump administration rule change barred Title X providers from discussing abortion. Planned Parenthood and a number of states withdrew from the program altogether, decreasing the size of the network of patients served by 60 percent from 2018 to 2020.[45] In 2021, the Biden administration rescinded the gag rule, restoring the program, except where abortion was now banned by state law, and KFF notes that "today, the Title X network has even more sites than the number participating prior to initiation of the Trump Administration regulations."[46] However, as the only federal program funding these services, and with significant administration burdens, Title X cannot bridge all the funding gaps across the country.

A handful of other, smaller federal grants also target specific areas of women's reproductive health. In April 2023, the Centers for Disease Control and Prevention (CDC) announced a grant notice under a new funding opportunity, Enhancing STI & Sexual Health Clinic Infrastructure, which will provide $50 million to strengthen clinic infrastructure nationwide to expand access to sexual health services in sexually transmitted infection (STI) prevention and control.[47] Then, in August 2023, as part of its IMPROVE (Implementing a Maternal Health and Pregnancy Outcomes Vision for Everyone) initiative, NIH announced that it was underwriting the creation of 10 Maternal Health Research Centers of Excellence to partner with local and state health agencies, community health centers, and faith-based organizations, with an estimated $168 million in funding for seven years.[48] Federal grants are beneficial, but they are limited in scope and funding, labor-intensive on already constrained staff, and ultimately, vulnerable to shifting political landscapes.

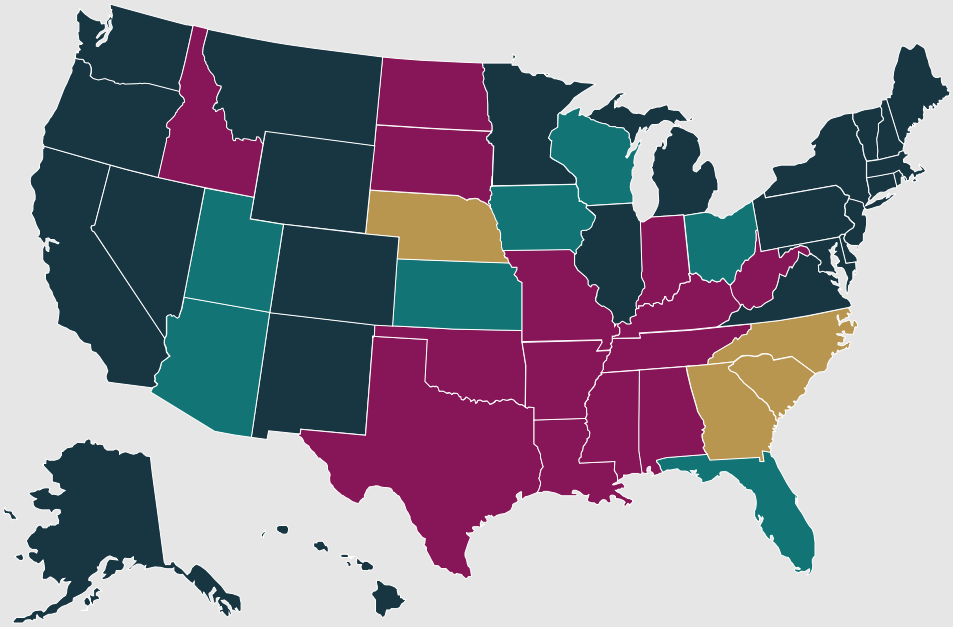
Telehealth, whether it be phone calls or virtual consultations, has emerged as another way to expand access, allowing for remote consultations and prescriptions for contraceptives or other medications. This access, which is not limited to FemTech companies, is especially beneficial for women who lack access to local pharmacies and hospitals and must travel long distances to reach care. Telehealth has its own challenges, however, among them the lack of in-person diagnosis and treatment and the inaccessibility for people without broadband to access video care.

What the federal government program does not fund comes from state and local grants, philanthropic support, and private investors, depending on the type of clinic or provider network. Nonprofits, with limited financial returns, benefit most from grant support, while for-profit providers and networks can accept investment from the capital markets. Expanding the role of the private sector to help fill these gaps at scale is essential to meeting the increased need for women's reproductive health access.

Shifting Political Landscape: Post-*Dobbs* Impact

The 2022 *Dobbs* ruling has had a devastating effect on women's access to reproductive health services. As Figure 4 illustrates, as of February 2024, 25 states (up from the initial 15) had imposed restrictions on abortions, and 14 states had enacted outright bans.[49] Sixty percent of US women now live in states that ban or severely limit reproductive rights.

Figure 4: Status of Abortion Bans in the United States as of February 2024



Note: LMP = last menstrual period
Source: Milken Institute (2024) based on KFF

The ramifications are especially concerning for the large populations of underserved communities in states where abortion is banned. A 2023 study by the Gender Equity Policy Institute finds that 7 in 10 Black women live in a state banning or restricting abortions, and in states banning abortion, 1 in 5 lives below the federal poverty line. Because one in five women has also stopped using her contraception because of its unaffordability, paying for travel to a supportive state is out of the question, especially for women in remote rural areas because they cannot afford to miss work or lack savings to pay for unplanned travel.

The study also finds that women living in states that banned abortion post-*Dobbs* are up to three times more likely to die during pregnancy, childbirth, or soon after giving birth than are women in supportive states, and babies born in banned states are three times more likely to die in their first month of life. Black women face almost triple the risk of death that White women face. Supportive states, the study found, all have expanded Medicaid maternal and neonatal coverage, are more likely to require pregnancy-related insurance coverage, and require sex education in their curriculums.[50]

The *Dobbs* ruling brought about other far-reaching effects in the 15 states that immediately banned abortion. Before the Supreme Court decision, 79 clinics in those states provided abortion along with other reproductive health care. That number dropped to 13, all of which were located in just one state, Georgia. Of the 66 clinics that were forced to stop offering abortions, 26 shut down entirely.

Most of these 15 states were already resource-constrained, with only a handful of clinics available pre-*Dobbs*. Kentucky, for instance, which previously had two main government-funded clinics, was left with just one. All three clinics in Louisiana closed amid plans to relocate out of state. And although some clinics may have been able to reopen as nonprofit entities with private donations, this is not a long-term solution. That will require new approaches and collaboration between public- and private-sector stakeholders.

As clinics around the country closed, researchers investigated the consequences of the rise in unintended or unwanted pregnancies. The Turnaway Study, conducted by researchers at the University of California, San Francisco, tracked 1,000 women seeking abortion from 30 facilities around the country. Researchers followed the health and well-being outcomes every six months over five years for women who obtained an abortion versus those who were "turned away" because they were past the facility's gestational limit. The findings show that those turned away had a higher likelihood of experiencing economic hardship and insecurity. Those who gave birth experienced an increase in household poverty lasting at least four years, compared to those who were able to receive an abortion, underscoring the lasting effects of this decision on families and broader social well-being.[51]

Yet access is limited in another way. The *Dobbs* decision has prevented medical students in banned states from receiving firsthand abortion training. The Philadelphia-based Medical Students for Choice (MSFC), an international organization that helps medical students obtain in-person abortion training, estimated in late 2022 that around 10–15 percent of the roughly 5,000 students who participated in MSFC had expressed interest in abortion training outside the US because of the lack of stateside opportunities, triple what it was before *Dobbs* and soon to be the largest number of students looking to go abroad (as of 2023, the group's 30th anniversary, membership had risen to 10,000 members, according to its website).[52] Considering that these banned states already show higher maternal mortality rates, it is reasonable to predict that the rates will rise as more medical students or doctors are under-trained in women's reproductive health.

BARRIERS TO ACHIEVING SCALE, FUNDING, AND EQUITABLE ACCESS

As the previous sections illustrate, numerous barriers across many topics inhibit funding and scalable, equitable access to comprehensive reproductive health care. The Milken Institute Lab process used interviews and engagement with stakeholders to narrow the list of barriers, and potential areas of intervention, to the following:

(1) lack of coordinated investment in R&D for products and services,

(2) inequitable access to products and services,

(3) too few clinics and hospitals that provide reproductive health services, and

(4) disruption of business operations due to political and policy uncertainty.

Lack of Coordinated Investment in R&D for Products and Services

Although engagement in women's reproductive health is rising, progress remains slow because of a lack of funding and, subsequently, fragmented clinical research and data. R&D has long been siloed within university or business settings and, most often, not specifically dedicated to the female body. Collaboration can be difficult, resulting in a lack of standardization of research and data from the documentation to aggregation to analysis. Given the lack of a dedicated women's reproductive health market, researchers and/or innovating entrepreneurs bear the additional burden of educating potential funders on the science as well as the value of investing.

Investment tends to rely on data and analytics that can predict returns. Many of these organizations are early stage, with no clear track record, leaving investors without access to industry experts, struggling to understand and how to decide which innovations are worthy of investment. Interaction among pharma, community and advocacy organizations, health agencies, and investors is needed to facilitate innovation through a unified ecosystem that effectively educates and capitalizes on this high-potential market that can enable better care for women as well as deliver significant economic returns.

Inequitable Access to Products and Services

Gender, as well as income inequality, has been a driving theme of this report as it gives rise to a chief deterrent to private investment: the perceived low return on investment. To reach a lower-income population, products and services must be sold at reduced prices, but often they are not because of a "pink tax." The pink tax is not an actual tax but generally refers to the extra cost for products and services marketed specifically toward women compared to men. These higher prices, coupled with low reimbursements, are reflected in profit margins.

Market volatility and the challenges inherent in scaling operations in lower-income settings can further deter investors who are cautious about the predictability and timeliness of their returns.

When the requirement of quick financial gain overshadows the social and health benefits of investing in this sector, entrepreneurs and companies will struggle to attract investment. Even impact investing, which is longer term by nature, may not align with the objectives of traditional investment models. However, finding investors who are willing to engage in patient, impact-focused investment is essential. As stated previously, grants, philanthropy, or government programs are bandages that are not sustainable over the long term for scaling operations.

Too Few Clinics and Hospitals That Provide Reproductive Health Services

The closure of facilities in states that restrict or ban reproductive freedom produced a cascade of challenges for women and their providers. Many of the closed facilities provided not only abortion but also birth control, cancer screenings, STD testing, and crucial prenatal care. Those that remain open experience levels of patient demand that they are neither financially nor physically equipped to accommodate.

"Maternity care deserts"—counties with no or low access to hospitals or birth centers offering obstetric care or maternity care resources—affect up to 6.9 million women and almost half a million births.[53] Half of women in rural areas live within a 30-minute drive to the nearest hospital offering perinatal services. Within a 60-minute drive, the proportion increases to 87.6 percent in rural towns and 78.7 percent in the most isolated areas.[54] As a result, these populations are at higher risk of neglecting essential health-care needs, exacerbating existing health disparities and potentially leading to poorer health outcomes.

Restricted access to reproductive, prenatal, and maternity care can lead to an increase in unintended pregnancies, STDs, complications of pregnancy, and maternal and infant mortalities, placing even more strain on already burdened health-care systems.

Disruption of Business Operations due to Political and Policy Uncertainty

Ongoing lawsuits, ballot initiatives, and state constitutional amendments (and challenges) also impede care and investment. What may start as an abortion ban could expand to restrict birth control and other reproductive products, and now, with the recent 2024 Alabama Supreme Court ruling that embryos created through in vitro fertilization are considered children, over a dozen other states are introducing similar fetal personhood laws or proposals that could be interpreted by judges in ways that restrict or ban IVF. For some couples, and certainly for same-sex couples, IVF limitations destroy their chances of having a biological child. The dynamic political environment makes it difficult to understand, much less predict, the types of risks that companies, insurers, and investors face. A telehealth company that provides oral contraception but also provides abortion medication might have to increase insurance, administrative costs, and legal funds to ensure that some, if not all, of its products remain legally viable. Any cut into profit margins would likely dissuade investors.

Currently, no type of protection or insurance exists that mitigates uncertainty, risk, liability, or blowback if a business or clinic loses some or all of its patients or is forced to cease services because of threats or changes to the law. Without safeguards and protection, start-ups, as well as longstanding organizations and institutions, will struggle.

INNOVATIVE SOLUTIONS

Lab discussions focused on creating new investment models to enhance and scale equitable, affordable, and comprehensive reproductive health care. One of the proposed solutions received overwhelming favor: a national Women's Reproductive Health Network to catalyze and capitalize R&D, products, and services. A central hub would serve as a focal point among regional hubs to facilitate introductions, and coordinate and promote regional funding efforts, resources, events, and information to advance innovation and equitable and affordable access to care across communities.

A Centralized Women's Reproductive Health Network

Lab participants envision the Women's Reproductive Health Network to have a central hub, as either a brick-and-mortar center or a digitally connected entity that is the main governing body, with regional hubs (likely physical structures) providing targeted support in response to community needs by connecting key stakeholders to catalyze and capitalize R&D, products, and services to deliver accessible and affordable solutions (Figure 5). At this very early stage, the model can be adapted according to its final mission and goals but should provide as much design flexibility as possible for operations and governance because each regional component may have its own activities and needs.

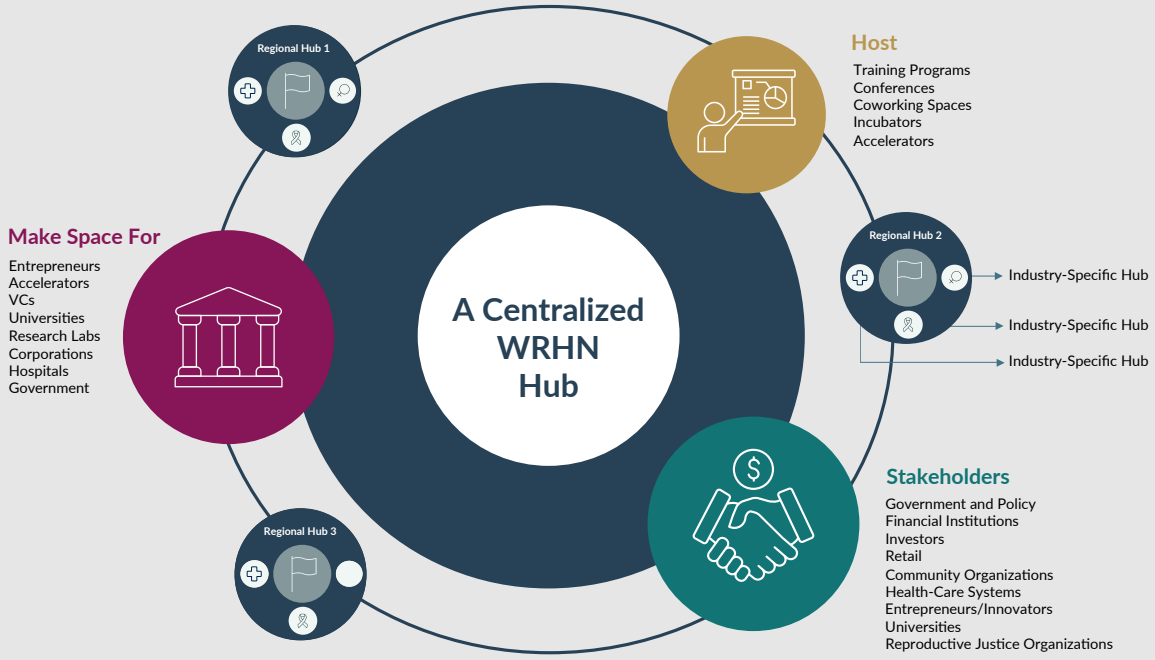
The idea stems from existing start-up efforts (some of them national efforts, some via public agencies or public-private partnerships, others private) that incubate and accelerate action across groups of stakeholders working on a common problem. These programs (or physical centers) help bring together and match researchers, corporate leaders, entrepreneurs, and investors, and coordinate efforts. To date, no hub, incubator, or accelerator exists that specifically focuses on driving investment in women's reproductive health R&D, start-ups, resources, and services at the national level in the US.

The initial step to design the network would be to outline the community-led mission and the guiding principles of equity and impact. The network's values should be articulated in a charter to guide its activities and hold involved stakeholders accountable to build a safe space for collaboration. Lab participants discussed the various principles and standards centered on equity and impact that could set the foundation for the central hub's governance and operations. The success of its mission to connect stakeholders and advance equitable access would depend on the quality and diversity of partner organizations.

For the governing structure, the first step would be to create either a nonprofit or a social enterprise. This organization could have a simple staff and board structure but must be able to accept donor funding quickly. Dedicated personnel—including an executive director, advisory board, and managers dedicated to overall project management, coordination with regional hubs, financing, and technology—were deemed necessary by participants for governance and building for connectivity within the network and to provide and maintain the framework of procedures and processes. They would attract external funding and financing, manage the staff and back-office operations, and oversee investor interest.

Most likely, regional hubs, potentially at least four to serve the various needs of the Northeast, Midwest, South, and West, would be physical centers selected according to a number of factors, including proximity to access to research and universities, or to research and technology hubs. Ideally, these regional hubs would include research labs, incubator and collaboration space, mentorship, resource sharing, and financing. Each regional hub would serve as its own entity, with the governing body representing state and community voices and organizations.

Figure 5: A Centralized Women's Reproductive Health Network



Source: Milken Institute (2024)

Key components of the network's mission could include the following:

Centralized Hub:

- **Building a governing platform network** to share best practices among community organizations, researchers, universities, health-care systems, entrepreneurs, financial investors (private, institutional, and philanthropic), reproductive justice agencies, payers, and policymakers dedicated to advancing innovation to scale up the development of products and care.
- **Facilitating funding access** via differentiated funding and investment options that best match their needs with a dedicated financing fund with simplified procedures and guidance. The Lab identified several models that could attract initial funding for the central hub and drive investment to the regional nodes.

Regional Hubs:

- **Acting as host and incubator spaces,** providing administrative and technological support and resources via mentorship, access to networking opportunities, office space, funding pathways, and other critical resources.
- **Coordinating education, outreach, and advocacy** through regional and community events, roundtables, summits, and conferences to amplify the network's initiatives.

Stakeholders

Participants believed it was vital to involve organizations from both the public and private sectors to facilitate the network's success in accelerating, adopting, and scaling solutions. Knowledge transfer would be a key focus; similar to partnering organizations, the variety and caliber of stakeholders are important to the platform.

As seen in Figure 6, the network would introduce entrepreneurs building companies that deliver health products and services to investors who could provide capital. It would also bring together researchers and academic institutions that can collaborate on clinical trials and have access to industry partners such as major pharmaceutical companies that can help move products to the final stages of development. Community organizations would anchor the central and regional hubs, articulating local needs and, thus, the direction of the activities.

Figure 6: Stakeholders Create a Cohesive WRHS Marketplace

Source: Milken Institute (2024)

The selection of stakeholders could be based on criteria that ensure they come to the table with a mindset of collaboration (such as benchmarks that acknowledge roles and responsibilities). The network could build off existing approaches, such as the Rhia Ventures' Health Equity Assessment and Rating Tool (HEART Framework) to support organizations to include and advance their health equity. HEART offers a set of standardized metrics that assists organizations to understand and incorporate health equity components such as health, race, gender, and socioeconomics into their policies. Ratings are determined through a matrix focused across equity: stated commitment, stakeholder engagement, outcomes, and affordability. These ratings would enable an organization to identify its position in the equity continuum and create an action plan to move toward the goal of equity-focused work.[55] This type of standardization could help establish eligibility requirements and serve as a method to recruit specific candidates.

Services and Activities Provided by the Network

The central hub, as well as the regional entities, can fill a variety of different operational needs for participants, from providing a platform for collaboration and knowledge transfer to funding resources and laboratory equipment for medical research. Although the regional hubs will not address every need for every organization, they can offer a standard set of activities according to regional needs.

Information Exchange

The network would serve as the primary source of national industry information, education, and resource coordination via dissemination to regional centers and peer-to-peer exchanges. It could be a repository for research across the women's reproductive life cycle and convene and coordinate workshops and mentorship programs. Some information could be available only to stakeholders, while other information could be available to the public. This would streamline and enhance the learning, sharing, and financing opportunities.

A potential model can be found in the Capital Factory in Austin, which began life as an incubator but has grown to become "the center of gravity" for the technology industry, hosting mentors, coworking spaces, technology, and community events.[56] Another example is Springboard's Women's Health Innovation Program. The program provides a platform for women-led companies to seek fundraising and connections in women's health innovation. It also hosts events and workshops for its community, further driving research, innovation, and investment connectivity.[57]

The network could also be a force for advocacy, creating opportunities to educate lawmakers and industry players on policies and programs to ensure better products and equitable access to services. For example, it could engage with the Reproductive Freedom Alliance, a nonpartisan coalition of 21 governors, and partner on issue campaigns, congressional briefings, or educational seminars to further engage lawmakers on the Hub's work.

Financing Counseling

Many community organizations on the front lines of providing care and services need assistance to navigate funding or financing, including private-sector investment. The network could provide a financing playbook that outlines potential opportunities. It could also offer financial counseling to participants who could benefit from more hands-on education and individual matchmaking to identify concrete funding targets and make introductions. Lab participants raised the concept of a financing "sherpa" to guide organizations through the suite of options, applications, and follow-through.

Mainstreaming the Narrative

Storytelling is an age-old art that has blossomed via social media, and there is a reason why it works. Framing an issue via photos, videos, or thematic events, for example, can change how a market reacts. Women's reproductive health has struggled with a counternarrative that says the topic is embarrassing or taboo. Many Americans still have a difficult time discussing menstruation or fertility. Some women and a large portion of men cannot identify sexual organs or explain specific health terms.

This narrative barrier impedes progress. To consider how to take back a narrative, look back to the 1980s and the shift in the narrative around HIV and AIDS, from one of stigma to one of understanding and compassion. Initially, HIV was poorly understood and its cause was unknown, and fear and misinformation led to widespread stigmatization. Education initiatives, led by the community group ACT UP (AIDS Coalition to Unleash Power), fought the stigma with accurate information, and schools, community organizations, and health-care providers worked to educate the public, in turn forcing government and institutions to act.

Lab participants discussed how this type of education mainstreaming could strengthen fundamental knowledge of women's health and help dispel misinformation and biases. The network could tackle education, marketing, and advertising around women's reproductive health.

Back-Office Administration Services and Operations Support

The network could also offer capacity-constrained providers and community organizations a suite of shared back-office services. These services could include administrative assistance for community organizations that need help with billing or human resources. They could also include technical support for researchers who need guidance about qualifications for clinical trials or insurance credentialing for medical providers. Lab participants identified the tremendous value-added proposition for community and grassroots organizations, particularly start-ups, small organizations, and entrepreneurs seeking to expand their offerings to serve the Medicaid market.

The regional hubs could also offer physical lab spaces or other areas for researchers and organizations to collaborate and coordinate on R&D activities. Start-up companies would benefit from accessing infrastructure already in place in university or corporate labs. The life sciences sector has a variety of examples of accelerators and incubators that provide shared working spaces, including wet labs, where drugs and treatments can be studied using tests involving liquids. To date, there has not been a physical space where researchers and firms can go to specifically focus on drug development for women's reproductive health. The network could be the first of its kind, building on the track record of successful shared lab spaces.

Insurance

Lab participants expressed the need for a form of "business interruption insurance" that would help address operational disruptions due to legislative changes and other events. This insurance would alleviate investment apprehension by offering a guarantee, thus helping organizations and clinics safeguard reproductive health services from the constantly shifting political landscape. Resources for Abortion Delivery (RAD), based in Washington, DC, was cited as an example. Funded by individuals, donor-advised funds, and charitable foundations, RAD provides resource sharing, funding and grants, legal compliance assistance, funder facilitation, and more for independent abortion providers.[58]

Participants suggested partnering with an insurance stakeholder to develop a payout policy in the event of a triggering event that would compel a company to cease operations or provide services in a particular location. The payout would provide liquidity to the company to maintain staff and other operations. The Hub could design the insurance on some combination of existing models, including the World Bank's Multilateral Insurance Guarantee Agency, which provides political risk insurance and credit enhancements to protect investors in developing countries. In Hong Kong, the private insurance/reinsurance company Swiss Re pays a fixed sum to businesses when typhoon warnings breach a preset threshold, causing businesses to shut down and suffer revenue loss.[59] These models could be adapted to the political risk triggers in the US.

Funding the Network and Designing an Investment Vehicle

Lab participants discussed how to capitalize the centralized hub and create an investment fund that it could manage to benefit regional hub stakeholders. Capital for the day-to-day operations would likely begin with philanthropic donations. Foundations, individual philanthropists, and corporations could become anchor donors and provide an endowment for the first few years. However, once the centralized hub established a reputation in the industry and generated value for partners, the opportunity might arise to charge membership fees to help sustain activities, especially to companies from industry or finance that generate deals or investment from the network.

The philanthropic capital or fees could support the centralized and regional hubs themselves, but Lab participants discussed the benefits of having an investment vehicle to fund community organizations, researchers, and companies that need access to financing, for example, companies with lower profit margins or smaller market potential and many (but certainly not all) of the organizations in the women's reproductive health space.

Lab participants discussed two models for an investment vehicle that would provide capital for network participants. The easiest and simplest option would be to start with a pooled investment fund, such as a limited liability company (LLC) because its generic and flexible structure does not require a significant amount of initial legal legwork. With a simple template, the LLC's parameters would need to be clearly articulated to attract investors with similar expectations for returns.

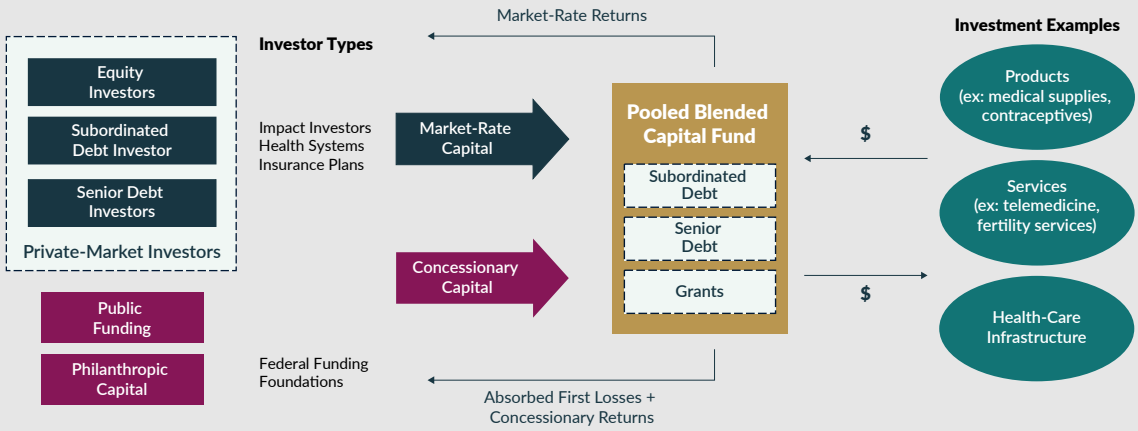
For example, the model could be designed to make investments over a 20-year period, with a pledge to at least return an investor's capital and potentially also provide a specified rate of return at the end of the funding period. This time horizon is longer than traditional private equity or even loan funds, and the low or no return component would offer ultimate flexibility to provide financing to companies that normally could not attract more commercial rates of capital. However, this arrangement would limit the types of investors willing to participate; thus, the fund would need to find the right structural element to ensure a risk-return profile that would not be burdensome to the companies but still attractive to investors. These investors could be philanthropic and simply seek a return on their capital, or they could be family offices that may be willing to take lower returns to achieve social and health impacts.

The second option for an investment vehicle would use a mix of different types of capital, from concessionary funders willing to accept a lower return, to more market-rate investment from traditional firms such as banks and private-equity firms. This blended capital approach uses funding that requires a lower return to subsidize the higher-cost investors. Therefore, the overall repayment needed from the recipients is lower and less burdensome. As discussed above, this approach could benefit companies in the reproductive space whose profit margins may not be high enough to compete with big technology companies or biotechs with huge market potential. It could also be used for clinics that wish to expand their physical space but have insufficient revenue to attract traditional real estate investment.

A blended capital financing vehicle (Figure 7) would bridge different levels of investor risk appetite. Investors providing concessional catalytic capital, from government grants and philanthropic funding, willing to accept no or low returns, contribute low-cost, junior debt or equity, and absorb a portion of initial losses, thus providing traditional investors, such as banks or private-equity firms, with an additional layer of financial protection. This cushion would reduce the cost of capital for applicants, addressing a key barrier to equitable access to products and services. An additional benefit of a blended capital model, much like the LLC, is the flexibility in financing (both debt and equity) and repayment time horizon. Consequently, it could have a wide variety of applications for Hub participants, including the following:

- a low-cost 10-year loan for a brick-and-mortar clinic or to purchase mobile units to serve patients in a broader geographic region, especially those who cannot travel or live a long distance from existing sites;
- low-cost loans to rural and low-income clinics to provide procurement guarantees to purchase lower-cost medical equipment, services, and supplies in bulk (e.g., HPV vaccines or alternative methods of contraception); and
- low-cost equity for a telehealth company providing home tests.

Figure 7: Blended Finance Fund



Source: Milken Institute (2024)

Funding and financing the network is a crucial feature of the model that would add tremendous value to the industry. The convening power, the ability to provide a safe space for collaboration, the partnerships to bring products to scale, and the education and advocacy power that can come from a united group of stakeholders could truly change the delivery of women's reproductive health.

Next Steps:

- Design the structure of the network, with strong guiding principles and metrics for success.
- Identify pilot regional hubs and define their mission, given local needs and regulations.
- Solicit feedback from industry and community leaders in the areas identified, and incorporate recommendations to ensure representation and dynamism.
- Define a core group of industry leaders, strategic philanthropists, and community champions to convene and outline the stakeholder network, services provided, and ideal financing mechanisms.
- Identify anchor investors to act as a catalytic force to mobilize investment into the Hub.

CONCLUSION

After decades of underinvestment in the full spectrum of women's reproductive health, momentum is building toward a focus on comprehensive awareness, innovation, and funding across national platforms and the private sector. Initiatives from the Biden administration, the National Institutes of Health, and the Bill & Melinda Gates Foundation are just the largest headline makers among many, and the FemTech market capture is surging. Building on initiatives of public, private, and community partners' engagement and collaboration, the Milken Institute's Financial Innovations Lab process has proposed the design and implementation of a Women's Reproductive Health Network as a way to coordinate, advocate, educate, invest, collaborate, and facilitate equitable growth and access. This Network would harness capital and the power of a strong stakeholder community to address market challenges and advance equitable access and care. This level of national coordination is necessary to help close the gap in gender equity, create healthier communities, increase economic productivity, and attract additional funding for women's reproductive health.

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