

Digital opportunities for women's wellbeing

How femtech and other digital platforms can overcome barriers to health access





Even in the UK with a public health system that guarantees care for all, there are critical barriers still stopping women accessing face-to-face health services and information. These include inbuilt structural inequalities, a lack of female-focused data, and the fact many women's health concerns remain taboo topics.

Digital technology has great potential to overcome some of these. Effective digital health platforms, including apps, websites and other online tools, can also empower women with information that's tailored to their individual needs and lifestyles.

But Thrive's research and project work shows that further barriers are curbing this revolutionary promise. And that it's essential women are involved in every stage of the creation of digital services, otherwise potential gains are lost and existing inequalities and prejudices risk being digitised.

Drawing on information from three data sets, this white paper highlights what's hindering access to health services and spotlights three key themes:

- **1:** Why concern about the **quality of online information** impacts how women use digital platforms.
- 2: How diverse authorship is key to providing higher quality, more relevant information.
- **3:** The importance of **understanding how women engage with digital resources** in order to create platforms that meet female needs.





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 New digital opportunities, how women use digital services and how platforms can adapt to this.
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 We identify the factors that can supercharge female-focused digital health platforms.
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Thrive's data

This paper uses three data sets collated by Thrive's research team:

Literature review

Around 40 academic and industry sources were reviewed, including analysis of the structural barriers faced by women, and how they interact and build trust with digital platforms. See our full list of sources on pages 18-20.

Survey

Just over 530 women in the UK (322) and US (210), aged 18 to 64, were surveyed. They each answered 15 questions on the barriers they face when accessing health information, their views on digital platforms and content needs.

Focus groups

We conducted three focus groups, each with between five and nine participants. Women aged 20 to 78 answered a series of questions on the barriers they face accessing digital information and their shared experiences of using different platforms. To better understand how women make trust judgments, we also asked participants to look at two digital health tools.

Read more about the findings from our survey and focus groups in the Appendix on page 21.



What's stopping women accessing face-to-face services and quality health information?

Entrenched social inequalities and prejudices mean women face a series of ingrained barriers when accessing in-person health services*.

Imbalanced service design and data

Health systems are often designed by men and serve male needs by default (Women's Forum, 2019). This means the diagnoses and prescriptions women often receive are based on male data, which can have real-world consequences. For example, women are 50% more likely to be misdiagnosed after having a heart attack due to poor knowledge of female-specific symptoms (BHF, 2021).

Domestic and family responsibilities

Over the past several decades, there has been a continual rise in the proportion of women who work. But they still shoulder most domestic and childcare responsibilities, making it difficult to attend health appointments (Women's Forum, 2019). It also means that their energy is focused on others, rather than themselves.

41% of UK women say they have too little time and energy to improve their health, rising to 50% for women with three or more children.

Thrive survey

Low health literacy

Research shows that many adults in the UK have low health literacy, affecting their ability to attend medical appointments and access public health services. It means they can't manage their health well, as they have difficulty taking medication properly and understanding the signs or symptoms of illness. On a very basic level, it means they can't even identify parts of their own body. For example, a YouGov survey found that 43% of women could not correctly identify the labia (YouGov, 2019).



The challenges of health illiteracy are compounded when health services fail to communicate with users in a clear, concise way. Attendance of cervical screening is at a 20-year low in the UK, with a corresponding rise in deaths. The Royal College of Obstetricians and Gynaecologists (RCOG) attribute this to increased barriers, including poor information (RCOG, 2019).

The issue of low health literacy is most salient among some ethnic minorities in the UK. For example, British Asian women have dramatically lower attendance for breast cancer screening than any other ethnic group (NIHR, 2019). This is largely because invitations and information are not adapted for them (NIHR, 2019).

Negative experiences and hesitancy

The net result of services not offering adequate support is women feeling less inclined to engage with them in future. The behaviour of healthcare workers can also have major emotional and physical impacts. Many women feel they are judged by medical professionals and are fearful of wasting time.

"I went to hospital with hyperemesis gravidarum (severe nausea) in my first pregnancy and a male nurse said to me: 'You're pregnant and you've been sick. What do you want me to do about it?'"

Thrive focus group participant

This sentiment is especially strong among UK women who are from an ethnic minority background. Researchers based at the University of Surrey and King's College London, surveyed women from six different ethnic groups in England (White British, Caribbean, African, Indian, Pakistani and Bangladeshi), to try and understand why women might delay seeking medical help. They found the latter five groups are ten times more likely than White British women to avoid going to their GP due to fear of embarrassment or judgment (CRUK, 2019).



The real potential of digital

In the context of these barriers, digital technology has the potential to make a real difference. In some ways, it already is. The incorporation of digital services into the health infrastructure is helping to overcome the historical data gap in women's health. And effective women's digital health platforms (WDHP), including apps, websites and other online services, are transferring agency and providing accessible, useful information that's relevant to the way women live.

Accessing digital health information is now an integral part of many women's lives, and the internet is a highly consulted source (Battineni et al, 2020). Numerous studies have shown that women access online health information more than men; up to 51% more per week according to Bidmon & Terlatter (2015). As women are more likely to have chronic health conditions (Alimohammadian et al, 2017) that they self-manage day-to-day, they're more likely to access online sources (Battineni et al, 2020).

Thrive's survey found:

- 17% of UK women use a WDHP weekly
- 45% of UK and US
 women believe access to
 digital health information
 has improved in the past
 five years
- 67% of UK women believe that WDHPs have improved the quality of women's health information

Women are more discerning digital users too. Several studies have suggested that they make trust judgments online based on usability and navigability far more than men (Battineni et al, 2020). They also highly value transparency of motive, consistency of information and advice, and information delivered without adverts (Lupton & Maslen, 2019 and Bidmon & Terlatter 2015). And once trust is built, women will often become regular users (Kim, 2016).

The rise of femtech*

The term 'femtech' was first coined in 2016 by Danish women's digital health entrepreneur Ida Tin to describe the growing number of tech and digital solutions designed specifically for women's health.

It covers wearable technology, apps, and digital health platforms and has diversified from an initial focus on menstruation and pregnancy. By 2020, there were estimated to be over 3,000 femtech services available globally (Mobile Health News, 2020), covering



a broad range of conditions, with around 100m users of menstruation-related platforms alone. And globally, the market was valued at \$18.75bn in 2019 (Frost & Sullivan, 2020).

But, in many ways, its widening reach has been by stealth.

Just as digital tech has started to impact on many areas of our lives without us realising it, women are often unwitting femtech users, a view supported by our research.

"I thought I didn't use any femtech, and then I realised I'd been using a period tracker for years."

Thrive focus group participant

We found that more under-35s have stopped using femtech than currently use it. The fact they have been consumers before can be seen as positive, as it means that platforms could re-capture their loyalty if they improve their offering.

Digital flexibility

Health services need to meet women where they are to truly serve them. Given most households in the UK and US are online, digital services can achieve this (Battineni et al, 2020).

Effective platforms can centralise health services and information, ensuring women do not have to visit multiple sites for related services (RCOG, 2019). Virtual consultations and prescriptions can bring services to those who have been excluded by geography or working hours (George et al, 2018). And the innate adaptability and scalability of digital platforms mean that content can be created and delivered to meet nuanced and diverse needs (Germain et al, 2020).

In essence, tech has the advantage of being agile. It can rapidly have an impact on women's confidence and ability to effectively access health services. Meanwhile, the process of accessing face-to-face services when confronted by deep-rooted inequalities and practices is anything but nimble.

Empowering experiences

Digital platforms connect us, giving us opportunities to share experiences and advice in a way not possible through traditional means. They focus on education, empowerment, and support, and many now also incorporate behaviour change content (Untitled Kingdom, 2020).

One striking finding of our research was that WDHP use was highest in women with one child. Several focus group participants recalled how they used pregnancy and parenting WHDP when they most needed support as first-time mums.



Access to expert-led online content can help rationalise concerns (Huo et al, 2017), while positive experiential content can help alleviate anxiety and offer hope (Bussey & Silence, 2019).

Several of our focus group participants discussed how online research helps them feel more confident when they're engaging with doctors and ensures they feel more satisfied about the outcome.

"I had a series of miscarriages, and some frustrating and upsetting experiences as I tried to find out why and what options were available to me. I used the internet to find out more about the benefits of progesterone to prevent unexplained recurrent miscarriage. My research empowered me to keep asking after I was initially dismissed by a male GP. Eventually, I spoke to a female GP and she gave a prescription."

Thrive focus group participant





Challenges to the digital health revolution

Given all this potential, it's no wonder that women are often framed as the main beneficiaries of digital health (George et al, 2018).

But it's not yet having the mass transformative effect that many predicted (Lupton & Maslen, 2019).

Our research has thrown up a few ideas why.

Prevalence of gender inequalities

Many WDHP are women-led and focus on the core needs and experiences of women. However, WHDP are borne out of a wider digital health and tech industry that's dominated by men. Software design and engineering are predominantly based on male practices and preference. Investment and marketing are also male-dominated and can exert influence on development (Health Tech Digital, 2020). For example, investment is likely to be channelled into tech that's related to health conditions men are aware of.

Many apps do not take gendered use into consideration and set physiological monitoring against a male norm, leaving women feeling disengaged. For example, they don't always acknowledge female activity changes due to menstruation, pregnancy or motherhood (Lupton & Maslen, 2019).

In addition, stereotypes hold women back. The enduring belief that men better understand and use technology means many women underestimate their own digital literacy (Bidmon & Terlatter, 2015) and may be less willing to engage with more sophisticated platforms.

45% of UK women say the absence of female-specific health information is a barrier to improving their health.

Thrive survey



Digital Divide

A focus on digital is naturally exclusionary (Lupton & Maslen, 2019) because even in digital nations like the UK, there are millions of people who don't have access to the internet and struggle to use it independently.

It's estimated that 11.3m people lack basic digital skills in the UK, mostly in older and marginalised demographics. Overall, women from lower socio-economic groups are less likely to have internet access or the necessary health literacy skills to engage with platforms (Germain et al, 2020, Stephenson et al, 2020). This is part of a global digital gender divide: according to the International Telecommunication Union women are 17% less likely to use the internet than men, with an even wider gap in low-income countries (ITU, 2020).

Trust issues

WDHP have a clear potential to transform the way women access health information. Yet, many women remain hesitant about using them and few are regular users, largely because they don't trust them.

Concerns over quality of digital content are commonplace. A 2020 study found that the quality and accuracy of online sexual and reproductive health information for women was of "varying quality and accuracy" (Stephenson et al). Uncertainty over the quality has wider ramifications. For example, it can lead women to worry about the off-line choices they make on medication and healthcare services and means they can even be overly suspicious of information that comes from official sources (Kim, 2016).

This is reflected in Thrive's data; although positive about the potential of digital, 85% of UK women and 79% of US women said that trustworthiness of online information is a problem.

"There's a huge amount of untrustworthy information online, which draws in a lot of people who just take it at face value."

Thrive focus group participant

Our survey and focus group data also show that concerns change with age and life stage. The older participants told us they largely shun online information due to a lack of trust. Younger women are the most concerned about the generic nature of content. Women with more children also expressed the strongest need for more adaptive content.



Poor user experience

Although studies show women prefer expert-led information, often this does not fulfil other content needs. Women build trust not only by assessing the veracity of content but also by judging its accessibility as well as the design and usability of the platform (Bidmon & Terlatter, 2015). And initial negative experiences online can have a long-term impact on trust (Germain et al, 2020).

Female-specific health information can be dry and unengaging (Sambrook- Smith et al, 2019) and is regularly poorly presented (Battineni et al, 2020). Many official sites, while accurate, are badly designed and uninspiring (RCOG, 2019). This pushes women to other more well-designed platforms, forums and apps, which may be user-friendly, but are not evidence-based (Health Tech Digital, 2020). There is also a lack of awareness about platforms among women and only partial access to the infrastructure or devices that enable information (NHS Digital, 2021). Another issue is specific design barriers for users with disabilities and additional needs.

"There's a lot on TikTok. Obviously, it's not evidence-based, but there's just a lot of videos with normal women talking about their bodies. If it's presented in this digestible way, with a community-based feel, I'm going to watch it".

Thrive focus group participant

Privacy and anonymity are also becoming increasingly important. Women value digital spaces where they can share experiences in an anonymised manner (Bussey & Sillence, 2019). This trend is evidenced in the fall in the number of women using social media groups to share health information – between 2013 and 17, it fell by 37% (Huo et al, 2019).

Data privacy was a hot topic in our focus groups. Platforms which immediately demand registration are off-putting to many participants. Others mentioned their dislike for seeing targeted ads for menstrual or pregnancy-related products after visiting a WHDP.

Almost two-thirds of UK women said they'd be put off using a digital service that asks them to share personal information.

Thrive survey

Unadaptive content

Our survey revealed that almost 85% of women in the UK and US value health information that is adapted to their life stage and health histories. However, trusted expert-led content tends not to be malleable or tailored to their needs. The failure to adapt information to different social and cultural contexts, such as varying income levels and religious beliefs, means the impact of health issues on a woman's wider life is not considered (George et al., 2018). This can impact wellbeing (CRUK, 2019).



This point is particularly important for sexual and reproductive health information. For content on menstruation, sexual activity and fertility to be truly useful it needs to take into account a woman's life stage, lifestyle and background (RCOG, 2019).

Health information also needs to consider and adapt to diverse ethnic heritages. A failure to do this during the coronavirus (Covid-19) pandemic may have played a role in the higher death rate in women from Black and South Asian backgrounds in the UK (Germain et al, 2021).

"I'm very aware that a lot of content is not adapted to my ethnicity or health background."

Thrive focus group participant

When adaptive and experiential content is not available from preferred sources many women are pushed elsewhere. This might be to social media, forums or women's digital health platforms where the reliability of information remains an unresolved issue (Battineni et al, 2020). They're also forced to use multiple websites to corroborate information (Lupton & Maslen, 2019). This means piecing together disparate bits of information and making subjective judgments on how to apply them.





Making the most of tech opportunities

Despite the barriers highlighted by our research, digital offers a unique opportunity to transform female health information.

Effective digital platforms can overcome the fragmentation and disparate nature of women's health services by acting as a one-stop-shop for information, support and engagement with services (RCOG, 2019). They can either complement or help reduce reliance of traditional health infrastructure.

But to do this successfully, they must avoid merely replicating traditional barriers (Women's Forum, 2019). The same factors that regulate and influence women's behaviour in the real world also affect how they behave online (Bidmon & Terlatter, 2015).

They need to be designed with gendered use in mind (George et al, 2018), using quality, diverse authorship to offer content with the following key attributes.

Experiential and relatable

There is space for services that offer medically accurate information alongside more experiential, lifestyle content.

For example, quality information combined with peer support can empower women and give them far greater agency (APPG, 2019). Hearing the experiences of other women, alongside accurate medical information, can encourage women to make positive health choices and develop better doctor-patient relationships (Bussey & Sillence, 2019).

75% of UK women and 62% of US women think hearing about other female experiences is important.

Thrive survey

Younger participants in our research reported using forums like Reddit, sometimes over official websites, because it offers experiential content and non-clinical recommendations.



Trustworthy

Creators of women's health information need to do more to build and maintain trust (Johnson, 2016). Thrive's survey showed that women prefer sources of information that are associated with authority, prioritising doctors and official government or health organisation websites. Social media and WDHP were ranked lowest.

Without trust, women feel disempowered when making often difficult health choices. In 2019, a RCOG study found that 62% of women with endometriosis were not satisfied with the quality of information they received, which limits their choices.

Our research shows that expert authorship boosts trust levels. In fact, over 90% of our survey participants said so. Our focus group participants also felt that brand association and large social media followings provide legitimacy and authority to platforms.

Endorsements from well-known companies and media organisations are also perceived to be a strong indicator of quality.

"I always feel more comfortable when information is coming from a woman, such as a female doctor or health expert. I feel they have a better understanding if it's a women's health condition."

Thrive focus group participant

Inclusive

To ensure that women are not only empowered by online information, but inspired to make positive and healthy choices, information needs to be relevant to them and their individual circumstances. The nuanced experiences and barriers that women face must be acknowledged and accounted for.

One way to ensure that content is adapted to different demographics is to use authors from varied backgrounds and include a range of women's voices and experiences (RCOG, 2019). This helps content become more relevant and engaging (Meads, 2019). And it helps dismantle the obvious barriers faced by older women, women from ethnic minority groups and, lesbian, gay, bisexual and trans (LGBT) communities, and women with disabilities or additional needs.



Interactive, adaptive and personalised

Platforms need to appeal to women before they read any editorial content. Quality of design, navigability and tone of voice are crucial to building initial trust and encouraging further use. Behavioural science, human-centred design, social cognitive theory, and tailored content were found to be key trust builders in one study involving a "test" sexual and reproductive health website (Stephenson et al, 2020).

Women engage with digital platforms in a different way to men, they also use information differently (Johnson, 2016). Men tend to access information on a short-term basis and attempt to apply it without further reference. Generally, women prefer to engage over a longer period, going back to websites, sharing their progress with others and continually learning (Johnson, 2016).

To create products that better serve these distinct user needs and behaviours, tech companies need to work harder to increase female voices and representation in their design processes.

"I think the nhs.uk is usually too broad. And I want more personal experiences."

Thrive focus group participant

When designers successfully consider, and tailor to, these female-specific behaviours, it can truly elevate their platform. Services such as the Maven Clinic and Ellevest have designed their apps and digital services around the needs of women, considering time-pressured use, language and female-centric design (Schwgler, 2018 & Intothegloss, 2016). The website contraceptionchoices.org, was created by academics using female-focused, human-centred design and has been well received by users in comparison to traditional sites (Stephenson, 2020).

It's also important that women are given ownership as users of digital platforms. One of the key reasons women are drawn to fitness and diet apps is the ability to set personal health goals (HINTS, 2018). This is backed up by our research. Most focus group participants already using health apps also use fitness-related platforms and told us that a star feature was the personalised data they receive, even if they weren't necessarily aware that these apps are based on male data.

"With apps, I like that you can put in your own information, whether it's your height, your weight or how much activity you do each day. Then the information is more personalised to you and you have a more helpful experience."

Thrive focus group participant





Quality, adaptive health digital content is already having an impact. It's reducing health-related stress and anxiety (Johnson, 2016) and empowering women to make positive health choices. It's giving women the confidence to engage with health professionals and get the care and support that's best for them (Bussey & Sillence, 2019).

But the true potential of digital is being muted by underlying flaws and prevailing inequalities in the design and creation of platforms.

Key actions for digital health innovators:

- Build trust into everything you do. Expert content is crucial, but so is clever design: trust-building starts as soon as a woman clicks through to a site.
- Put the female experience front and centre when creating digital platforms, including web design, content creation and marketing.
- Ensure that authorship is diverse. Women want useful and effective information, not generic advice. Having authors with varied experiences is vital.
- Build peer support and communication into digital platforms. Allowing women to communicate and share with one another is highly valued.
- Take a holistic approach. Talking about health issues in the context of relatable lifestyle topics means it's naturally more engaging.





Alliance, E.P.H. (n.d.). Gender and eHealth - EPHA. [online] https://epha.org. Available at: epha.org/gender-and-ehealth [Accessed 14 April 2021].

All Party Parliamentary Group on Sexual and Reproductive Health in the UK. (n.d.). [online] . Available at: fsrh. org/documents/womens-lives-womens-rights-full-report/women-s-lives-women-s-rights-full-report-100920.pdf [Accessed 14 April 2021].

Alimohammadian, M., Majidi, A., Yaseri, M., Ahmadi, B., Islami, F., Derakhshan, M., Delavari, A., Amani, M., Feyz-Sani, A., Poustchi, H., Pourshams, A., Sadjadi, A.M., Khoshnia, M., Qaravi, S., Abnet, C.C., Dawsey, S., Brennan, P., Kamangar, F., Boffetta, P. and Sadjadi, A. (2017). Multimorbidity as an important issue among women: results of a gender difference investigation in a large population-based cross-sectional study in West Asia. BMJ Open, [online] 7(5), p.e013548. Available at: bmjopen.bmj.com/content/7/5/e013548.

Anon. (2019) Addressing health barriers through technology. Women's Health Forum. Available at: womens-forum. com/wp-content/uploads/2020/04/HEALTH-19e787a3-2643-4548-a840-2085886370b2.pdf

Anon. (2019). Better For Women: Improving the health and wellbeing of women and girls. Royal College of Obstetricians and Gynaecologists. Available at: rcog.org.uk/globalassets/documents/news/campaigns-and-opinions/better-for-women/better-for-women-full-report.pdf

Battineni, G., Baldoni, S., Chintalapudi, N., Sagaro, G.G., Pallotta, G., Nittari, G. and Amenta, F. (2020). Factors affecting the quality and reliability of online health information. DIGITAL HEALTH, 6, p.205520762094899.

Berga, S.L. and Garovic, V.D. (2019). Barriers to the Care of Menopausal Women. Mayo Clinic Proceedings, [online] 94(2), pp.191–193. Available at: www.mayoclinicproceedings.org/article/S0025-6196(18)30999-6/fulltext [Accessed 14 April 2021].

Bidmon, S. and Terlutter, R. (2015). Gender Differences in Searching for Health Information on the Internet and the Virtual Patient-Physician Relationship in Germany: Exploratory Results on How Men and Women Differ and Why. Journal of Medical Internet Research, 17(6), p.e156.

British Heart Foundation (2019). Misdiagnosis of heart attacks in women. [online] Bhf.org.uk. Available at: bhf.org.uk/informationsupport/heart-matters-magazine/medical/women/misdiagnosis-of-heart-attacks-in-women.

Bussey, L.G. and Sillence, E. (2019). The role of internet resources in health decision-making: a qualitative study. DIGITAL HEALTH, 5, p.205520761988807.

Cancer Research UK. (2019). Ethnic minority women face more barriers to seeing their GP. [online] Available at: news. cancerresearchuk.org/2019/11/12/ethnic-minority-women-face-more-barriers-to-seeing-their-gp [Accessed 14 April 2021].

Devex. (2020). [online] 6 April The digital health revolution: Will women be left out. Available at: devex.com/news/sponsored/the-digital-health-revolution-will-women-be-left-out-96838 [Accessed 11 April 2020].

Digital Health. (2020). Addressing gender imbalance will take time but change needs to start now. [online] Available at: digitalhealth.net/2020/05/addressing-gender-imbalance-will-take-time-but-change-needs-to-start-now [Accessed 14 April 2021].



Digital Health Technology News. (2020). Digital innovation in Women's Health. [online] Available at: healthtechdigital. com/digital-innovation-in-womens-health [Accessed 14 April 2021].

Endometriosis-uk.org. (2017). New report highlights barriers to women's health care | Endometriosis UK. [online] Available at: endometriosis-uk.org/news/new-report-highlights-barriers-women%E2%80%99s-health-care-37495 [Accessed 14 April 2021].

England Breaking down barriers to better health and care. (2019). NHS England. [online]. Available at: england.nhs.uk/wp-content/uploads/2019/04/breaking-down-barriers-to-better-health-and-care-march19.pdf.

Ford, S. (2019). LGBT+ women "face barriers to accessing healthcare" at front line. [online] Nursing Times. Available at: nursing times.net/news/research-and-innovation/lgbt-women-face-barriers-accessing-healthcare-front-line-20-09-2019 [Accessed 14 April 2021].

Ford, E., Roomi, H., Hugh, H. and van Marwijk, H. (2019). Understanding barriers to women seeking and receiving help for perinatal mental health problems in UK general practice: development of a questionnaire. Primary Health Care Research & Development, 20.

Forth. (2020). Women's Health – Why More Needs To Be Done To Improve Outcomes. [online] Available at: forthwithlife.co.uk/blog/womens-health-isnt-being-taken-seriously.

George, A.S., Morgan, R., Larson, E. and LeFevre, A. (2018). Gender dynamics in digital health: overcoming blind spots and biases to seize opportunities and responsibilities for transformative health systems. Journal of Public Health, 40(suppl_2), pp.ii6-ii11.

Germain, S. and Yong, A. (2020). COVID-19 Highlighting Inequalities in Access to Healthcare in England: A Case Study of Ethnic Minority and Migrant Women. Feminist Legal Studies.

HINTS 2017: Women and Health Information Seeking. (2018). [online]. Available at: national partnership.org/our-work/resources/health-care/hints-2017-women-and-health-info-seeking.pdf [Accessed 14 April 2021].

Huo, J., Desai, R., Hong, Y.-R., Turner, K., Mainous, A.G. and Bian, J. (2019). Use of Social Media in Health Communication: Findings From the Health Information National Trends Survey 2013, 2014, and 2017. Cancer Control, 26(1), p.107327481984144.

International Telecommunications Union. (2020). New UN report shows closing the gender divide can save lives in emergencies, including pandemics. [Online]. itu.int/en/mediacentre/Pages/pr14-2020-Women-ICT-and-Emergency-Telecommunications-report-from-ITU-and-ETC.aspx (Accessed 13 July 2021).

Into The Gloss. (2016). Meet Helen Steed, Glossier's Creative Director. [online] Available at: intothegloss.com/2015/12/helen-steed [Accessed 22 April 2021].

Johnson, R., Johnson, F. and Sbaffi, L. (2015). Gender as an influencer of online health information-seeking and evaluation behavior. Journal of the Association for Information Science and Technology, 68(1), pp.36–47.

Kim, Y. (2014). Trust in health information websites: A systematic literature review on the antecedents of trust. Health Informatics Journal, 22(2), pp.355–369.

The King's Fund. (2014). "Herstory": the barriers facing women in health and care. [online] Available at: kingsfund.org. uk/blog/2014/07/herstory-barriers-facing-women-health-and-care [Accessed 14 April 2021].

Lupton, D. (2017). Digital health now and in the future: Findings from a participatory design stakeholder workshop. DIGITAL HEALTH, 3, p.205520761774001.



Lupton, D. and Maslen, S. (2019). How Women Use Digital Technologies for Health: Qualitative Interview and Focus Group Study. Journal of Medical Internet Research, 21(1), p.e11481.

Meads, C., Hunt, R., Martin, A and and Varney, J. (2019) 'A Systematic Review of Sexual Minority Women's Experiences of Health Care in the UK', International Journal of Research and Public Health, 16(17), pp. 30-32 [Online]. Available at: ncbi.nlm.nih.gov/pmc/articles/PMC6747244 (Accessed: 14 April 2021).

NHS Digital. (n.d.). Overcoming digital barriers in the nursing profession. [online] Available at: digital.nhs.uk/blog/transformation-blog/2021/overcoming-digital-barriers-in-the-nursing-profession [Accessed 14 April 2021].

NHS Digital. (n.d.). What we mean by digital inclusion. [Online] Available at: digital.nhs.uk/about-nhs-digital/our-work/digital-inclusion/what-digital-inclusion-is.

NIHR Evidence. (n.d.). Cultural and language barriers need to be addressed for British-Pakistani women to benefit fully from breast screening. [online] Available at: evidence.nihr.ac.uk/alert/cultural-and-language-barriers-need-to-be-addressed-for-british-pakistani-women-to-benefit-fully-from-breast-screening [Accessed 24 Mar. 2021].

Nursing in Practice. (2016). Minority ethnic women less likely to attend cervical screenings. [online] Available at: www.nursinginpractice.com/latest-news/minority-ethnic-women-less-likely-to-attend-cervical-screenings/#:~:text=About%2030%25%20of%20Asian%20women [Accessed 14 April 2021].

Ravindran, T.S., Teerawattananon, Y., Tannenbaum, C. and Vijayasingham, L. (2020). Making pharmaceutical research and regulation work for women. BMJ, p.m3808.

Rosenbaum, J.E., Johnson, B.K. and Deane, A.E. (2018). Health literacy and digital media use: Assessing the Health Literacy Skills Instrument – Short Form and its correlates among African American college students. DIGITAL HEALTH, 4, p.205520761877076.

Sambrook Smith, Megan., Lawrence, V., Euan Sadler and Easter, A. (2019). Barriers to accessing mental health services for women with perinatal mental illness: systematic review and meta-synthesis of qualitative studies in the UK. BMJ Open, [online] 9(1). Available at: bmjopen.bmj.com/content/9/1/e024803 [Accessed 2 January 2020].

Stephenson, J., Bailey, J.V., Gubijev, A., D'Souza, P., Oliver, S., Blandford, A., Hunter, R., Shawe, J., Rait, G., Brima, N. and Copas, A. (2020). An interactive website for informed contraception choice: randomised evaluation of Contraception Choices. DIGITAL HEALTH, [online] 6, p.205520762093643. Available at: ncbi.nlm.nih.gov/pmc/articles/PMC7359649/pdf/10.1177_2055207620936435.pdf [Accessed 3 Mar. 2021].

YouGov. (n.d.). Half of Brits don't know where the vagina is - and it's not just the men | YouGov. [online] Available at: yougov.co.uk/topics/health/articles-reports/2019/03/08/half-brits-dont-know-where-vagina-and-its-not-just.

YouTube (n.d.). ADDC 2018 - Renata Schwegler: App Design for Women, by Women. [online] Available at: youtube. com/watch?v=eDwKnB4CAP8 [Accessed 22 April 2021].



Appendix: Background information on our survey data and focus groups

Methodology

We used three complementary data sets – focus groups, surveys and academic research – to provide a balanced and wide view.

To gather strong quantitative data on a range of topics that could be analysed across demographics, we created a 15-question survey. It was designed to build a broad composite picture of women's relationships with digital health, highlight their real-world experiences, and to determine levels of trust and mistrust, and the drivers for these.

The scale of the data (over 530 respondents) allowed for patterns to emerge. The inclusion of US women as a useful experiential comparison to UK women allowed us to cement our initial hypotheses.

The survey insights were then tested in a qualitative format with three focus groups to better understand the reasoning and emotions behind the answers. Group sessions allowed participants, selected from a wide range of demographics, to question one another and deconstruct each other's beliefs and preconceptions.

The design of both the survey and the focus groups was informed by our comprehensive literature review.

What we discovered

Age as a factor in digital behaviour and belief

Thrive's survey data found that WDHP use strongly correlates with age in both the US and the UK. The health focus of WDHP (such as period tracking or conception aids) and their marketing generally target younger women, who also tend to use digital devices at a higher rate. However, a quarter of women aged 45-54 also use a platform every month.



There is large drop off in use in the over-55s. One reason is that there are few platforms aimed at women of this age. Many in this age bracket (30% in US) have used platforms in the past, but no longer do. The health issues that platforms spotlight (for instance, periods and conception), as well as branding and language often cater for a younger audience.

Such is the number of women over 55 who have given up using WDHP that we identified this group as a ripe potential market for digital health providers. Focusing on the menopause and tweaking the language and tone of content could be key to unlocking this market.

"I don't think there's enough information out there on menopause. I'd like to easily find out what other women are going through, share tips and advice about managing my symptoms."

Thrive focus group participant

Monthly use of WDHP declines with age in the US

18-24	54%
25-34	55%
35-44	31%
45-54	25%
55-64	7%

Monthly use of WDHP declines with age in the UK

18-24	56%
25-34	49%
35-44	32%
45-54	40%
55-64	15%



Having children affects trust and digital use

Use of WDHP is demonstrably higher among women with one child and then drops as their family grows but remains higher than women with no children.

This may be because first-time parents look for the help, validation and interaction that they can't get with their peer group.

Several focus group participants recalled how they used parent-related WHDP with their first child but not with subsequent children. They told us that experience, confidence and their real-world parent network supported them with their second child.

Our research shows that women with more children want flexible content. Of all the UK and US survey respondents, 90% said having content adapted to their background and health histories was important.

Disconcertingly, the participants with one child also had the lowest levels of trust in WHDP. They are more reliant on these platforms but don't always trust the information they receive. Developers should incorporate some of the trust-building mechanisms we've identified (pages 14-16), so users remain loyal as their family grows.

"I used them constantly with my first born, checking and asking questions about every rash and cough. But now I know there's nothing to be worried about, and if I'm unsure I ask my WhatsApp group."

Thrive focus group participant

Monthly use of WDHP by parental status (US)

0 children	28%
1 child	51%
2 children	35%
3 children	24%



Low awareness of the prevalence of femtech

Only about 50% of women surveyed across the UK and US, and none of our focus group participants, had heard of femtech.

Current use is also very low, not surpassing 6% in any age group. Although use loosely correlated with age in the US, the highest use in the UK was among those aged 45-54. However, in both countries, under 35-year-olds indicated a far greater willingness to use femtech in the future.

UK women: Would you use femtech?

Age	Yes	Unsure	No	Do use	No longer use	Don't know what it is
18-24	12%	21%	16%	2%	6%	43%
25-34	17%	16%	14%	3%	4%	46%
35-44	17%	37%	10%	3%	2%	32%
45-54	9%	26%	12%	5%	0%	49%
55-64	8%	23%	5%	0%	0%	65%

US women: Would you use femtech?

Age	Yes	Unsure	No	Do use	No longer use	Don't know what it is
18-24	12%	24%	10%	5%	5%	44%
25-34	18%	24%	14%	4%	0%	40%
35-44	13%	35%	10%	4%	4%	35%
45-54	6%	38%	3%	0%	0%	53%
55-64	4%	21%	9%	0%	2%	65%



Almost as many women no longer use a femtech service as currently use one. More under-35s in the UK have stopped using femtech than currently use it.

This suggests that younger women are not engaged or satisfied enough to maintain use. They are more demanding of content – they want adaptive, female-led, expert information alongside lifestyle advice. Platform owners need to meet the needs of the demographic who are clearly most open to their services.

A significant proportion of women remain unsure about whether they'd use femtech. This may be because they are unclear what it is, or what it can do for them. They may have concerns about privacy and veracity or relevance to their health.

The overwhelming number of women who simply don't know what femtech is suggests that the sector has much to do to reach a mass audience. Creating quality, holistic content from diverse and experienced authors is crucial. Focusing on health topics that are poorly understood and taboo, such as polycystic ovary syndrome or endometriosis, could attract underserved audiences.

The importance of good design

Design and imagery were used by our participants to make immediate trust judgements about platforms. They value person-centred design, as well as accessible language and strong privacy settings.

Good design is like having an appealing shop window. And users need to feel engaged and trust a site before they reach the substance of the content.

When we asked our focus groups to review two WHDP, participants reported feeling more drawn to the better designed platform:

"The tone, the colours, the aesthetic are more pleasing. It made me want to see what it else it had to offer."

"The whole design was very childlike, and the picture choice is odd, it put me off straightaway"

Thrive focus group participants

Why diverse authorship matters

Our survey data shows that adaptive content is important across all age ranges, and key to its creation is diverse authorship. Writers and designers who appreciate the subtleties of experience create content that's more useful and relatable and, in turn, encourage continued use of a platform or service.



UK women: How important is it that health information is adapted to your background and health history?

Age	Extremely	Very	Somewhat	Not so	Not at all
18-24	47%	34%	14%	6%	0%
25-34	43%	44%	12%	1%	0%
35-44	41%	44%	13%	2%	4%
45-54	40%	42%	19%	0%	0%
55-64	46%	46%	7%	0%	2%

[&]quot;I really value hearing from people with similar experiences. They understand the nuances of living with a particular condition. I've gained more practical and effective advice from them than doctors."

Thrive focus group participant





Thrive is a value-driven agency specialising in powerful health and behaviour change content, campaigns and programmes. For 20 years, our researchers, writers, medical and behavioural experts have been on a mission to inform and inspire people around the world, motivating change for the better.

Working with NGOs such as the World Health Organization, charities, and large brands, we develop content and messaging that supports people through health changes. All our content is evidence-based, goes through rigorous checks with expert medical advisory boards. As a result, we hold Health on the Net and Information Standard accreditation for our work on BabyCentre.

Our programmes in lower- and middle- income countries have reached more than 8 million people and have had measurable impacts on issues such as HIV transmission, medication adherence and vaccination rates.



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