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HEALTH CARE POLICY AND LAW

Prevalence of Third-Party Tracking on Abortion Clinic Web Pages

The US Supreme Court's ruling in *Dobbs v Jackson Women's Health Organization*, which eliminated the constitutional right to an abortion, has raised concerns about the privacy of people



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Supplemental content

seeking abortions. In states where abortion is criminalized, law enforcement agencies could use individuals' digital footprints—including smartphone app data and internet search histories—to identify and prosecute those suspected of having abortions.^{1,2} Several states are considering legislation prohibiting people from traveling out of state to receive an abortion and empowering private citizens to enforce new laws through civil litigation.³

Thus, third-party tracking code on abortion clinic web pages may present a privacy risk. This code is installed by website maintainers, typically to add functionality, such as advertisement campaign monitoring or social media linkage. However, such code may allow advertisers, social media companies, and other entities to record when someone visits an abortion clinic's website and how they navigate that site. Routinely linked with other data, this browsing history could contribute to evidence that someone has sought an abortion.

Although third-party tracking is common on some health-related websites,⁴ the extent of tracking on abortion clinic web pages is unknown. We assessed the prevalence of third-party tracking on abortion clinics' web pages.

Methods | In this cross-sectional study, we extracted the uniform resource locator (URL) of each National Abortion Federation member facility on May 6, 2022.⁵ We visited each unique URL using webXray (Timothy Libert),⁴ which detects third-party tracking (eAppendix and eFigure in the Supplement). For each web page, we recorded data transfers to third-

Table 1. Characteristics of Abortion Clinics^a

Characteristic	Clinics, No. (%) (n = 414)
Clinic type	
Hospital affiliated	18 (4.3)
Planned Parenthood	143 (34.5)
Freestanding or not otherwise classified	213 (51.4)
Virtual ^b	40 (9.7)
US Census region	
West	113 (27.3)
Midwest	59 (14.3)
Northeast	100 (24.2)
South	141 (34.1)
Puerto Rico	1 (0.2)

^a Clinics listed as National Abortion Federation members.⁵

^b We followed the National Abortion Federation practice of listing virtual clinics multiple times if the same clinic provided services in multiple states.

party domains. Transfers typically include a user's IP (internet protocol) address and the web page being visited. We also recorded the presence of third-party cookies, data stored on a user's computer that can facilitate tracking across multiple websites. In accordance with the Common Rule, this study was exempt from institutional review board review because it did not involve human participant research. We followed the STROBE reporting guideline.

We calculated the percentages and 95% CIs of web pages with a third-party data transfer or cookie and the median number of third-party data transfers and cookies per web page. Corporate owners of third-party domains were identified using webXray's database. Analysis was conducted using R software, version 4.0.2 (R Foundation for Statistical Computing).

Results | We identified 414 abortion clinics (Table 1). Because multiple clinics shared common web pages, we cross-referenced URLs and found 244 unique web pages, 21 of which were inaccessible because of broken links. Of 223 accessible web pages, 221 (99.1%; 95% CI, 96.7%-100.0%) included a third-party data transfer, and 154 (69.1%; 95% CI, 62.7%-74.8%) included a third-party cookie. Web pages with tracking transferred data to a median (IQR) of 12 (6-17 [maximum, 55]) third-party domains, operated by a median (IQR) of 9 (5.5-15 [maximum, 49]) unique parent entities. Web pages with third-party cookies included cookies for a median (IQR) of 3 (1-26 [maximum, 31]) domains.

Across all web pages, we identified data transfers to 290 unique third-party domains owned by 66 unique parent entities. Table 2 describes the 10 most prevalent parent entities.

Discussion | Findings of this study suggest that 99.1% of US-based abortion clinic web pages include third-party tracking, transferring user data to a median of 9 unique entities. The number of tracking entities has implications for user privacy because each could sell or share browsing data with law enforcement or civil litigants.

A limitation of this study was that the National Abortion Federation clinic list included inaccessible URLs. However,

Table 2. 10 Most Prevalent Tracking Entities on Abortion Clinic Web Pages^a

Entity ^b	Web pages reporting data to a given tracking entity, No. (%) [95% CI] (n = 223)
Alphabet (Google)	217 (97.3) [94-99]
Meta (Facebook)	85 (38.1) [32-45]
Adobe Systems	73 (32.7) [27-39]
Microsoft	56 (25.1) [20-31]
Amazon	53 (23.8) [19-30]
Hotjar	53 (23.8) [19-30]
CallRail	52 (23.3) [18-29]
AT&T	51 (22.9) [18-29]
Telenor	51 (22.9) [18-29]
The Trade Desk	51 (22.9) [18-29]

^a A total of 162 (72.6%; 95% CI, 66%-78%) web pages had at least 1 data transfer to a third-party domain whose parent entity could not be identified in the webXray database.

^b The market research company PitchBook (pitchbook.com) provides the following summaries of the relevant aspects of these entities' operations: (1) Alphabet is a holding company of which Google is a wholly owned subsidiary. "Google generates 99% of Alphabet revenue, of which more than 85% is from online ads." (2) Meta "is the world's largest online social network. ... Advertising revenue represents more than 90% of the firm's total revenue." (3) Adobe Systems provides "digital marketing and advertising software and services to creative professionals and marketers." (4) Microsoft "develops and licenses consumer and enterprise software." (5) Amazon is an online retailer that provides advertising services to clients through its Amazon Web Services segment. (6) Hotjar is a "provider of a research and optimization analytics and feedback platform for web businesses." (7) CallRail develops "a leads-focused analytics platform designed to bring complete visibility to the marketers who rely on quality inbound leads." (8) AT&T offers a variety of global communications services to customers. (9) Telenor is "an international provider of telecom, data, and media communication services." (10) The Trade Desk provides "a technology platform for ad buyers ... [to] optimize data-driven digital advertising campaigns."

these websites are unlikely to differ systematically in their tracking. After the *Dobbs* decision, some clinics may have closed and taken down their websites.

To protect patient privacy, abortion clinics should audit their websites to identify and remove third-party trackers. Browsing data are not protected under the Health Insurance Portability and Accountability Act; those seeking abortions should follow US Department of Health and Human Services guidance to protect their privacy by installing tracking-blocking browser extensions and adjusting privacy settings on browsers and smartphones.⁶

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Editor's Note

Protecting the Privacy of Individuals Seeking Abortion

Given the recent US Supreme court ruling in *Dobbs v Jackson Women's Health Organization*, states may limit abortion, with the likely consequence that some individuals living in those states will seek abortion-related care in other states or abortion medications through the mail.¹ Regrettably, people may be prosecuted for these actions. Even before the Supreme Court decision, people had been prosecuted for self-inducing abortion.² Prosecutions or threatened prosecutions are likely to intensify as states enact strict anti-abortion laws.