

Reaching the unreachable: Using targeted online advertising to promote STI screening among sex workers in Israel

– *Concept Note* –

Manuela Fritz^{1,2}, Michael Grimm^{2,3,4}, Elad Yom-Tov⁵

¹ TUM School of Social Sciences and Technology, Technical University Munich, Munich, Germany

² School of Business, Economics and Information Systems, University of Passau, Passau, Germany

³ IZA Bonn

⁴ RWI Research Network

⁵ Department of Computer Science, Bar Ilan University, Ramat Gan, Israel

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Abstract

Sex workers represent one of the highest-risk population for sexually transmitted infections (STIs), yet they remain underserved by conventional health systems. While STI prevalence remains relatively low in the general populations of most high-income countries, sex workers face significantly higher exposure to both viral and bacterial infections. Despite the importance of early diagnosis and treatment, structural and social barriers, including stigma, legal precarity, and lack of health insurance, limit access to preventive care and routine screening. This study evaluates the effectiveness of a keyword-based online advertising campaign aimed at increasing engagement with free and anonymous STI screening services among sex workers in Israel. The campaign targets individuals actively searching for STI-related symptoms or sexual health information, using algorithm-driven ad delivery to guide them toward testing services within a local clinic. We assess the campaign's effectiveness in reaching the target population and promoting actual service uptake, using metrics such as click-through rates, appointment scheduling, and (via geographical conversion) confirmed clinic visits. Beyond measuring reach and appointment scheduling, the study tests which types of messaging, i.e. framing mechanisms such as appeals to present bias, social support, competitiveness, or alert, are most effective in encouraging testing behavior. We also compare two methods for linking online exposure to offline behavior: geographic conversion tracking and direct conversion via online appointment scheduling. Finally, a cost-effectiveness analysis will estimate the cost per additional STI screening generated by the campaign. The study aims to generate evidence on how digital advertising tools, particularly those driven by AI and behavioral insights, can be leveraged to improve public health access for hard-to-reach and stigmatized populations.

1. Problem statement

While the overall incidence and prevalence of sexually transmitted infections (STIs) remain relatively low in the general populations of most high-income countries, this trend does not extend to high-risk subgroups such as sex workers (Beyer et al., 2025; Mitjà et al., 2023; Shannon et al., 2018). Due to the inherent nature of their work, sex workers experience significantly elevated risks of acquiring STIs, including viral infections such as HIV/AIDS and human papillomavirus (HPV), as well as bacterial infections such as gonorrhea, syphilis, and chlamydia (Mitjà et al., 2023; World Health Organization, 2018).

Early detection and treatment of STIs are critical to preventing the progression of infections into more severe health outcomes and to limiting onward transmission (Steen et al., 2009). However, access to healthcare remains constrained for many sex workers, due to structural and social barriers. These include stigma and criminalization, often leading to non-disclosure of sex work, lack of legal residency status, and the absence of health insurance coverage (Castañeda, 2013; WHO, 2018). Such barriers contribute to the underutilization of routine and preventive healthcare services within this population. One potential strategy to improve access is the provision of free and anonymous STI screening services, particularly in women-centered clinics. However, a major implementation challenge lies in effectively identifying and reaching sex workers to promote uptake of such services (Schwartz et al., 2021).

In this study, we design and evaluate a targeted online advertising campaign as a means to increase engagement with STI screening services among sex workers in Israel (specifically, Tel Aviv). The campaign utilizes keyword-based targeting to display health-related advertisements to individuals actively searching online for information about STI symptoms, testing options or sex-work related keywords. These ads guide users to accessible, anonymous screening services of a local clinic. We assess whether this digital outreach strategy is a cost-effective method to enhance the uptake of STI screening among the target population.

Keyword-based internet advertising could help increase the uptake of STI testing by targeting individuals at critical moments, i.e. when they search for symptoms, testing locations, or related sexual health information. These advertising systems leverage advanced algorithms to deliver ads based not only on search terms but also on user characteristics such as demographics, location, interests, and online behavior.

Despite their potential, such tools remain underutilized in public health, particularly for promoting behavior change. Health-related behaviors, like STI testing, often involve short-term disutility – such as discomfort, stigma, or fear – in exchange for long-term benefits. As a result, the design and targeting of health messages require different strategies than those used to market consumer products. Incentives must be framed differently, and messaging must address emotional and social barriers. A promising solution lies in AI-driven systems that can automate and optimize keyword-based health advertising. By learning from both observed and inferred user characteristics, these systems can deliver context-sensitive messages to high-risk populations, potentially increasing engagement with and access to STI testing services.

Another challenge is that measuring the success of a health advertising campaign in the offline world is difficult. In contrast to product marketing, where one can measure sales and lead generation directly online, a health campaign advertises actions and behaviors that happen in the real world, such as the actual STI screening. Such behaviors are not measurable in internet advertising systems, leading to ineffective campaigns or to ones where effectiveness cannot

be proven. In this study, we will therefore test both, the effectiveness of alternative frames and alternative approaches to measure actual behavior following an online targeting.

2. Objectives

The objectives of this study are threefold. First, we aim to evaluate whether a keyword-based online advertising campaign can effectively reach individuals engaged in sex work and increase their utilization of STI screening services at a designated clinic offering free and anonymous testing. This will involve assessing both the reach of the campaign (e.g., impressions, click-through rates) and its impact on actual service uptake, measured by actions such as making an appointment for an STI test or confirmed clinic visits. Additionally, we will examine which specific behavioral mechanisms and messaging framings (appeals to social support, present bias (impatience), competitiveness, or feelings of being shocked/alerted) are most effective in driving engagement and promoting clinic attendance. This will generate insights into how digital health interventions can be tailored for stigmatized and hard-to-reach populations.

Second, we aim to explore how behavior change induced by online health advertising can be reliably measured in real-world settings. We will compare two main approaches: (1) geographic conversion, where the ad platform tracks users who appear within predefined clinic catchment areas after exposure, and (2) direct conversion, where users exposed to the ads sign up for STI testing through the clinic's website.

Third, we will conduct a cost-effectiveness analysis to assess the economic viability of keyword-based advertising as a public health strategy. This analysis will estimate the cost per additional screening and compare it to other outreach methods, providing evidence on whether such digital interventions can serve as scalable and cost-effective tools for increasing STI testing among high-risk populations.

3. Campaign

3.1. Overview

We developed and designed a keyword-based advertising campaign organized around three thematic keyword families (medical care in relation to STIs, sex work, STI symptoms) and four messaging channels (present-bias/impatience, social support, competitiveness, and shock/alert). For each channel, we designed several different ads. Once an individual's search query on Google matches any of the defined keywords, they will be randomly shown one out of the different ads (randomizing across the four messaging channels). When clicking on these ads, individuals will be redirected to the clinic's website, on which they can schedule an appointment for STI testing. We will capture impressions, click-throughs, and completed actions (online appointments or actual clinic visits via geographical conversion). Finally, we will compare the performance and cost of each ad variant to identify the most effective messaging strategy for driving cost-effective uptake of STI screening services.

3.2. Development of ads

We will test two different approaches for the campaign. For each of the two, we took a different approach for the development of the ads.

Approach 1

For each of the four messaging channels, we designed six distinct ads, resulting in a total of 24 ads. Each set of six ads per channel was constructed to ensure balanced coverage of the core keyword families: each keyword family is referenced at least twice across the six ads in that set (i.e. for each keyword-family, there is a minimum of eight ads that can be shown to the individual). This ensures that each individual has the same chance of being exposed to one out of the four mechanisms, irrespective of the keyword-family (see Figure 1).

Each ad title addresses only one behavioral channel. This means that every ad is clearly attributable to a single mechanism (impatience/present bias, social support, competitiveness, alert/shock) without any ambiguity. The ad body text is channel-neutral and provides standardized information on where and how to get tested, such that only the ad title carries the ad-specific message. This approach allows us to test whether a single mechanism can effectively induce action and motivate individuals at risk to get tested.

Approach 2

In a second approach, we will test for interaction effects between mechanisms. We developed one ad per combination of mechanisms, that is $2^4 - 1 = 15$ ads for each theme, for a total of 45 ads. This approach allows us to test whether a combination of mechanisms can effectively induce action and motivate individuals at risk to get tested. The full set of ads for approach 1 and approach 2 are provided in Appendix 1.

We will run the campaign in five different languages to account for the diversified population in Israel and to account for the fact that the share of immigrants among sex workers is particularly high. We will conduct the campaign in Hebrew, English, Arabic, Russian and Tigray. The full set of translated ads is attached to the study registration as separate Excel sheet.

We will run the two different campaigns separately from each other with sufficient time in between (minimum of four weeks) to ensure a clean identification of the campaign effects.

3.3 Motivation of mechanisms to be tested

In the following, we briefly describe the motivation for the four different channels to be tested.

Creating a feeling of impatience/present bias

Present bias refers to the tendency to prioritize immediate benefits over long-term outcomes, or said differently, to postpone activities that come with a short-term cost but have only long-term benefits. By activating this bias through messages that emphasize benefits from immediate testing, we aim to shift the individual cost-benefit calculation in favor of testing now rather than postponing it. This mechanism is particularly relevant for health behaviors that require short-term action for long-term benefit (Wang and Sloan, 2018), such as STI testing.

Creating a feeling of social support

Social support can increase engagement with health services by reducing stigma and providing a sense of shared responsibility. Messages that signal community, peer, or emotional support may reduce psychological barriers and encourage people to seek testing through a “sense of belonging” and a “sense of personal control” (Heaney and Israel, 2008).

Creating a feeling of competitiveness (social comparison)

Competition can act as a motivator by triggering a desire of keeping-up with others and not acting in a way different than that from peers. Messages that suggest others are getting tested or that one can “keep-up” with peers may induce action through social comparison (Bunk and Gibbons, 2007).

Creating a feeling of being shocked/alerted

Shocking or altering messages leverage emotional arousal (e.g., fear, or concern) to raise attention and induce immediate behavioral responses (Tannenbaum et al., 2015). By shocking or alerting individuals to potential health risks or dangers, these messages can trigger action that might otherwise be overlooked or ignored.

3.4 Selection of key words

We selected three classes of keywords to focus on individuals who search for one of three topics: STI symptoms, sex work, and seeking medical care for STIs. We began with a list of keywords proposed by domain experts. These keywords were fed into Google Adwords for additional suggested keywords, from which we removed keywords which were disallowed by Google Adwords and keywords that were not specific enough (e.g., “sore” was removed but “vaginal sore” was kept). This process resulted in 41 symptom keywords, 30 sex work keywords and 8 of seeking medical care (see Appendix 2, and the full list of translated keywords in the additional Excel sheet).

3.5 Target outcomes

To measure the success of the campaign, more specifically, of the different ads, we focus on the following outcomes, aligning with the two potential real-world measurements:

- 1) The number of individuals who have been exposed to our ads making an appointment for a STI test or a visit to the STI clinic (measured via the designated clinic website)
- 2) The number of individuals that have been exposed to our ads undergoing a STI test (via geographic conversion measured via the advertising platform)
- 3) Number of individuals who click on our ads (click throughs)

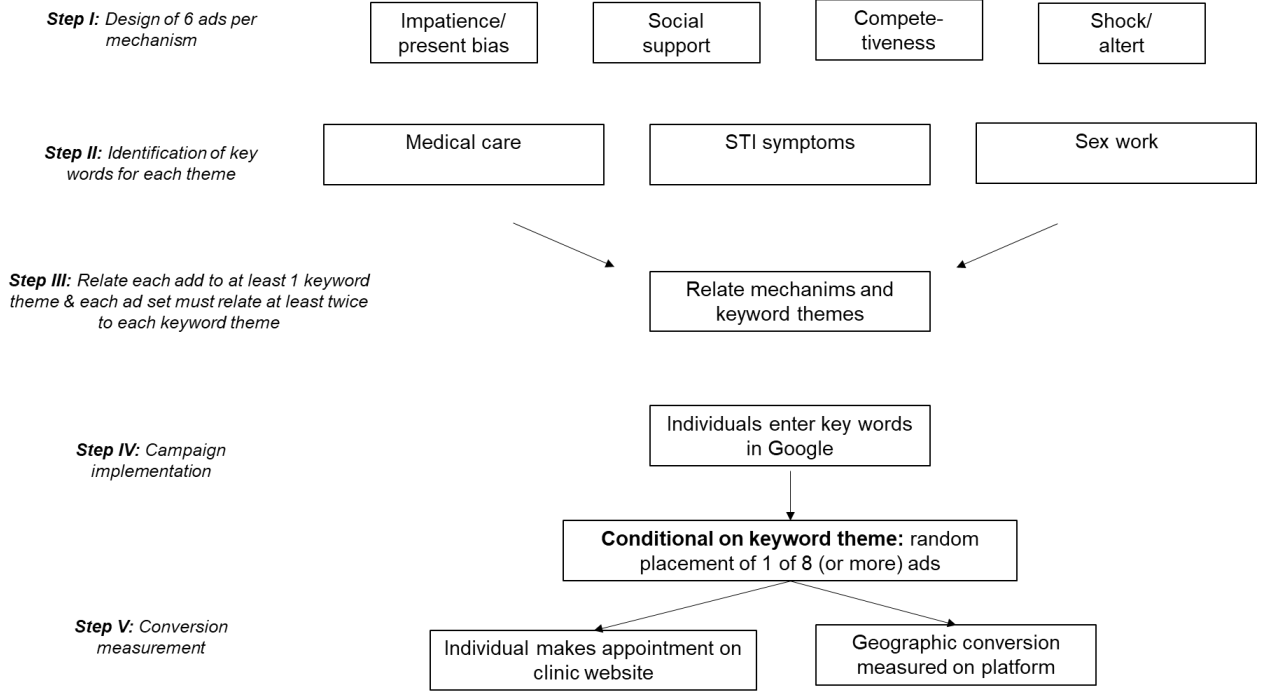


Figure 1: Experimental Flow. The figure shows the process of the allocation of each ad to the keyword themes, and the campaign implementation.

4. Analysis

4.1. Analysis of approach #1

To analyze the effectiveness of the different mechanisms, we will use the following empirical specification:

$$P(\text{appointment}_i = 1 | \text{Ad}_i^m) = \beta_0 + \sum_{m=2}^4 \beta_m \text{Ad}_i^m + \theta_k + X_i' \delta + \tau_t + \epsilon_{ikt}$$

We will regress the probability of individual i making an appointment (or being in the geographical catchment area of the clinic) on a set of three dummies $\sum_{m=2}^4 \text{Ad}_i^m$ indicating whether individual i was shown an ad relating to channel m . We control for keyword family fixed-effects θ_k , observable individual characteristics X_i' such as age and gender (conditional on the availability and disaggregation of the data), and time fixed-effects τ_t (e.g. day or week effects).

The keyword family fixed-effects are important to account for the fact that the chosen keywords by those who search are not exogenous. Rather, we expect individuals with particular (unobservable) characteristics to use particular keywords. Hence, by including keyword family

fixed-effects, we will partially be able to control for this endogenous sorting. Additionally, we will also conduct the analysis separately by keyword family to assess heterogeneous effects.

In addition to making an actual appointment or being in the catchment area of the clinic, we will also use click throughs as an outcome (e.g. visiting the landing page of the clinic). This will allow us to assess whether certain types of individuals are responsive to the ads but do not complete the full process of registering for an appointment. This is important to identify individuals that might need stronger encouragements or enforcements.

Moreover, we will also assess the distribution of used key word(s) (families) via descriptive statistics and we will conduct heterogeneity analysis by age (cohort) and gender, conditional on data availability.

4.2. Analysis of approach #2

The analysis for the ads developed under approach #2, will follow the same empirical approach as #1, with the additional objective of testing linear interactions between every pair of mechanisms. Given the constraint of having only 45 ads $((2^4 - 1) * 3 = 45)$, we will limit our analysis to interactions involving no more than two mechanisms at a time. In a further analysis, we will use stepwise linear regression to explore the individual effects of each mechanism as well as their pairwise interactions. Additionally, we will conduct a separate test in which the outcome is modeled as a function of the number of mechanisms activated in each ad, ranging from one to four, to assess the potential additive effects of combining multiple channels.

5. Data collection

The data to be used encompass the aggregated statistics from Google as well as the (anonymized and aggregated) geographical conversion data from Google. Moreover, we will use anonymized registration information from the clinic, including the information about which ad the registering individual had seen. To link impressions to appointments, viewers who click on the ads will directly be led to the clinic's online appointment portal of the clinic, through which we can extract the URL code.

6. Timeline

	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025
In-depth discussion with clinic and finalizing approach								
Development of ads and keywords with clinic / experts								
Translation of ads into 5 target languages								
Pilot test of campaign								
Final campaign 1								
Final campaign 2								
Data analysis								
Paper and report writing								

7. Expected outputs

We will report the results of this study in one scientific article, as well as in one policy report for the clinic.

References

- Beyrer, C., Crago, A. L., Bekker, L. G., Butler, J., Shannon, K., Kerrigan, D., ... & Strathdee, S. A. (2015). An action agenda for HIV and sex workers. *The Lancet*, 385(9964), 287-301.
- Buunk, A. P., & Gibbons, F. X. (2007). Social comparison: The end of a theory and the emergence of a field. *Organizational behavior and human decision processes*, 102(1), 3-21.
- Castañeda, H. (2013). Structural vulnerability and access to medical care among migrant street-based male sex workers in Germany. *Social Science & Medicine*, 84, 94-101.
- Heaney, C. A., & Israel, B. A. (2008). Social networks and social support. In Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.). *Health behavior: Theory, research, and practice*. 4th Edition. Chapter 9, pp. 189-210. John Wiley & Sons.
- Mitjà, O., Padovese, V., Folch, C., Rossoni, I., Marks, M., i Arias, M. A. R., ... & Casabona, J. (2023). Epidemiology and determinants of reemerging bacterial sexually transmitted infections (STIs) and emerging STIs in Europe. *The Lancet Regional Health – Europe*, 34.
- Schwartz, S., Viswasam, N., & Abdalla, P. (2021). Integrated interventions to address sex workers' needs and realities: academic and community insights on incorporating structural, behavioural, and biomedical approaches. In S.M. Goldenberg. et al. (eds.). *Sex Work, Health, and Human Rights*. (Chapter 13, 231-253). Springer.
- Shannon, K., Crago, A. L., Baral, S. D., Bekker, L. G., Kerrigan, D., Decker, M. R., ... & Beyrer, C. (2018). The global response and unmet actions for HIV and sex workers. *The Lancet*, 392(10148), 698-710.
- Tannenbaum, M. B., Hepler, J., Zimmerman, R. S., Saul, L., Jacobs, S., Wilson, K., & Albarracín, D. (2015). Appealing to fear: A meta-analysis of fear appeal effectiveness and theories. *Psychological Bulletin*, 141(6), 1178.
- Wang, Y., & Sloan, F. A. (2018). Present bias and health. *Journal of Risk and Uncertainty*, 57(2), 177-198.
- World Health Organization (2018). Report on global sexually transmitted infection surveillance 2018. Geneva: World Health Organization. <https://www.who.int/publications/i/item/9789241565691>

Appendix 1: Overview of ads

Table 1: Overview of channels and corresponding ad heads (experimental approach 1)

Channel	Add Head
Impatience/present bias	Don't wait. Get tested now.
Impatience/present bias	Symptoms won't wait. Neither should you.
Impatience/present bias	Don't delay - Your health can't wait
Impatience/present bias	One test today. No regrets tomorrow.
Impatience/present bias	Protect yourself today - testing only takes a moment.
Impatience/present bias	Testing today means reducing the risk for tomorrow.
Social support	There is no need to be ashamed - we are here for you.
Social support	We offer a safe space for women's health
Social support	You don't have to handle this alone - Get tested today.
Social support	Together, we take care of your health.
Social support	Together, we make your day safer.
Social support	We help you care for your health.
Competitiveness	Other women are getting tested for STIs. And you?
Competitiveness	Most women at risk get tested for STIs. How about you?
Competitiveness	Do not take risks that others take.
Competitiveness	Be smarter than others - get tested!
Competitiveness	Strong women protect their health - get tested!
Competitiveness	Responsible people get tested - do you?
Shock/alert	1 in 4 women has an STI!
Shock/alert	Don't risk it - untreated health issues can be serious.
Shock/alert	STIs can lead to infertility and pregnancy complications
Shock/alert	STIs can cause irreparable damage to your health
Shock/alert	STIs can cause cancer!
Shock/alert	You might have an STI without noticing it.

Ad Body (identical for all ads):

Free and anonymous STI testing available now at Levinsky Clinic. No appointment needed. Walk in today or book online.

Table 2: Overview of ad heads and body (experimental approach 2)

Number	Title	Body
1	1 in 4 women has an STD!	Free and anonymous STI testing available now at Levinsky Clinic. No appointment needed. Walk in today or book online.
2	Other women are getting tested for STDs!	Free and anonymous STI testing available now at Levinsky Clinic. No appointment needed. Walk in today or book online.
3	Most women get tested for STDs	STDs can damage fertility. Schedule your free test!
4	A clinic for women by women	Schedule a test to make sure you are free of STDs
5	It Might Not Be Nothing—But You're Not Alone	Burning, itching, weird discharge? It's more common than you think. You don't have to deal with it alone. Our women-only clinic offers free, confidential STD testing and treatment in a safe, supportive space. No judgment. No cost. Just care. Take the first step—book your appointment today.
6	Take a Moment for Your Health	Life gets busy, but your health matters. Whether you've noticed something unusual—or just want peace of mind—we're here for you. Our women-only clinic offers free, confidential STD testing and treatment in a respectful, welcoming environment. No insurance needed. No judgment. Just women supporting women. You're not alone—and you don't have to wait. Make time for you. Schedule your visit today.
7	It Might Not Be Nothing—But You're Not Alone	Burning, itching, weird discharge? It's more common than you think. 4 out of 5 women who walk into our clinic thought they could wait. Most were glad they didn't. Our women-only clinic offers free, confidential STD testing and treatment in a safe, supportive space. No judgment. No cost. Just care. Take the first step—book your appointment today.
8	Worried? Walk In. Feel Better Today	Why wait and wonder? You can get tested, treated, and on with your life—all today. Our women-only clinic offers free, confidential STD care with no appointment, no wait, and no hassle. Most visits take less than 30 minutes. You walk in, we take care of the rest.

9	If It's Burning Now, Waiting Won't Help	That weird itch? The burn? The discharge? It's not going away on its own—and it could get worse fast. Most STDs don't wait—and neither should you. Our women-only clinic offers free, confidential testing and treatment—today. No appointment. No judgment. No insurance. Just walk in. Be in and out in under 30 minutes.
10	Smart Women Don't Wait	The ones who feel better faster? They didn't ignore the signs. Itching, burning, or just unsure—they came in today and left with peace of mind. You can too. Our women-only clinic offers free, confidential STD testing and treatment—no wait, no appointment. Be the one who's already handled it. Walk in now. Done in 30 minutes.
11	They Thought It Was Just a Yeast Infection	Turns out it wasn't. Most STDs look like nothing—or something harmless—until they don't. The smart ones don't guess. They get tested—fast. Be the woman who caught it early. In, out, and handled—in 30 minutes. While others are still wondering, you're already done.
12	You Don't Have to Wait. And You Don't Have to Do This Alone	Worried about a symptom? Not sure if it's something? You can walk in today and have answers—without the stress, without the wait. Our women-only clinic offers free, confidential STD testing and treatment in a space that's safe, kind, and judgment-free. Most visits take 30 minutes or less.
13	She Waited Too Long—Now It's Complicated	STDs don't always scream. Sometimes they whisper—until it's too late. ... and then? Pelvic pain. Infertility. Lifelong issues. But that doesn't have to be your story. At our women-only clinic, you can walk in today for free, confidential testing and treatment—with no judgment, no insurance, no appointment. You'll be welcomed by women who understand—and who care. Most visits take under 30 minutes. You're not alone. But you do need to act now.
14	She Waited. You Don't Have To	Smart women take care of their health right away. If something's off, why wait? Our women-only clinic offers free, confidential testing and treatment—no wait, no appointment needed. Most visits take under 30 minutes.

		Be the one who acts fast, not the one who hesitates. You deserve peace of mind, and we're here to help you get it today.
15	She Waited. Now It's a Problem. You Don't Have To	Most women don't act fast enough—and end up dealing with bigger health issues. Pelvic pain. Infertility. Lifelong complications. But that won't be you. The smartest women get tested right away. At our women-only clinic, you can walk in today for free, confidential testing and treatment—no wait, no appointment. Done in 30 minutes. Be the woman who acts fast, not the one who waits. You deserve peace of mind—and we'll get you there, today.
16	It Could Be More Than You Think—Get Tested Now.	What feels like a small issue could be something bigger. STDs don't always show symptoms—and waiting too long can lead to serious complications. Our women-only clinic offers free, confidential testing and treatment—no wait, no appointment needed. Get the answers today and avoid bigger problems tomorrow.
17	Be the One Who Takes Action—Get Tested Today	The smartest women don't wait. They act fast to protect their health, get answers, and stay ahead. At our women-only clinic, you can walk in today for free, confidential testing and treatment—no appointment needed. In and out in under 30 minutes. Be the one who acts first.
18	Don't Be the One Who Waits Until It's Too Late	Some women wait. But the smartest ones act now. Complications can happen when you wait too long. Don't risk it. At our women-only clinic, you can walk in today for free, confidential testing and treatment—no appointment needed. Get tested in under 30 minutes while others are still thinking about it.
19	You're Not Alone. We're Here to Help	It's normal to feel uncertain, but you don't have to handle this alone. At our women-only clinic, we offer free, confidential STD testing and treatment in a safe, welcoming space. No judgment. No insurance. Just women supporting women. We're here for you every step of the way.
20	You Don't Have to Handle This Alone—Get Tested Today	It's normal to feel nervous or unsure. But you don't have to deal with this alone. STDs don't always show symptoms, and waiting too long can lead to

		complications. Our women-only clinic offers free, confidential testing and treatment with no wait, no appointment. You'll be treated with care and respect, every step of the way.
21	Smart Women Get Tested. You're One of Them	You're not the only one who cares about your health. Women like you take action—and they get the answers they need. Our women-only clinic offers free, confidential testing and treatment in a supportive environment. No appointment needed. No insurance required. While others wait, you'll be ahead, getting the care you deserve.
22	Smart Women Get Tested. You Don't Have to Wait	Most women wait—until it's too late. The ones who act now get tested fast, and they avoid complications later. Our women-only clinic offers free, confidential testing and treatment in a supportive, judgment-free environment. No appointment. No insurance. Just care. Get ahead, get tested—today.
23	Don't Wait. Get Tested Now	Why wait and wonder? If you're concerned, act today. Our women-only clinic offers free, confidential testing and treatment with no wait, no appointment—just walk in. Most visits take under 30 minutes. Get the answers you need now, not later.
24	Don't Wait—It Could Be Worse Than You Think.	You feel something's wrong. Trust that instinct. The sooner you act, the sooner you know. Untreated issues can lead to complications, but you don't have to let it get worse. Our women-only clinic offers free, confidential testing and treatment with no wait, no appointment. In and out in under 30 minutes. Don't wait, don't wonder—get the answers today.
25	Don't Wait. Get Ahead of It.	Most women wait—until it's too late. The ones who act now get tested fast, and they avoid complications later. Our women-only clinic offers free, confidential testing and treatment in a supportive, judgment-free environment. No appointment. No insurance. Just care. Get ahead, get tested—today.
26	Get Ahead—Before It's Too Late	You're already looking for care. The smartest women get answers fast. Don't wait until things get worse. Our women-only clinic offers free, confidential testing and treatment with no

		appointment needed. You'll be in and out in 30 minutes or less, while others are still waiting to take action. Get the care you need, and be the one who stays ahead.
27	You're Ready to Act. We're Ready to Help.	You don't have to wait any longer. If you're ready to take care of your health, we're ready to support you—today. Our women-only clinic offers free, confidential testing and treatment with no wait, no appointment. Get in and out in under 30 minutes. No matter what brought you here, we've got your back. Let's do this together.
28	Don't Wait—Get Tested Before It Gets Worse.	Trust your body, and trust your instincts. STDs don't always show symptoms—but they can get worse without treatment. You can walk in today for free, confidential testing and treatment—no wait, no appointment. We're here to support you every step of the way. Take care of it now before it becomes something bigger.
29	Get Tested Now. Be the Woman Who Acts Fast.	You know what you need. Don't wait to take care of yourself. The women who act first get ahead—and that's what we're here to help you do. Our women-only clinic offers free, confidential testing and treatment with no appointment and no wait. In and out in under 30 minutes. Be the one who moves forward, not the one who hesitates
30	Don't Wait. It Could Be Worse Than You Think—And You Don't Have To Handle This Alone	You know something's off, but waiting could make it worse. Smart women get tested today—don't be the one who waits until it's too late. At our women-only clinic, we offer free, confidential testing and treatment. No appointment needed. No judgment. Just women supporting women. In and out in under 30 minutes. Be the one who takes action, gets ahead, and knows today.
31	Don't Risk It—Untreated Health Issues Can Be Serious	Your health might be at risk—but waiting to get tested could make it worse. STDs don't always show symptoms, and untreated issues can cause serious health complications. Get tested now—no appointment needed at our women-only clinic. Protect yourself before it's too late.
32	Take Control of Your Health—Get Tested Today.	The smartest women take charge of their health. Get tested today to ensure you're protecting yourself. Free, confidential testing and treatment at our women-only clinic. Be the one who stays ahead by getting checked today. No appointment needed.
33	Don't Be the One Who Waits—Get Tested Before It's Too Late	The smartest women protect themselves fast. Don't risk your health by waiting.

		Untreated STDs can cause serious health issues—get tested today at our women-only clinic. In and out in under 30 minutes—no appointment needed.
34	We're Here for You—You Don't Have to Go It Alone	You might feel isolated, but your health doesn't have to be. At our women-only clinic, we offer free, confidential testing and treatment to keep you safe. You're not alone—we've got your back, with no judgment. Walk in today and get the care you deserve.
35	You Don't Have to Handle This Alone—Get Tested Before It's Too Late.	It's normal to feel uncertain, but waiting could lead to serious consequences. STDs don't always show symptoms—but untreated issues can lead to bigger health problems. Get your free, confidential testing and treatment. We'll be with you every step of the way.
36	Be the Woman Who Takes Control of Her Health—Get Tested Today	The women who thrive are the ones who stay in control of their health. Get tested today—our women-only clinic offers free, confidential testing and treatment. You're not alone—we're here to help you stay safe and healthy. Be proactive and stay ahead of the curve.
37	Be the One Who Acts Fast—Get Tested and Stay Safe	It's time to take control of your health—and stay ahead of the game. Get tested today—we offer free, confidential testing and treatment at our women-only clinic. You're not alone—we're here to support you every step of the way. Don't wait until it's too late.
38	Don't Wait—Protect Your Health Now	Your health is too important to delay. Get the testing and care you need today. Walk in today for free, confidential testing and treatment at our women-only clinic. No appointment needed. Don't wait—stay safe, stay healthy.
39	Don't Wait—It Could Be Worse Than You Think	You can't afford to wait when it comes to your health. Untreated STDs can lead to serious complications, so get tested today. At our women-only clinic, we offer free, confidential testing and treatment—no appointment needed. Protect your health before it's too late.
40	Don't Wait—Get Tested Today and Stay Ahead.	The smartest women act fast. Don't wait to find out the hard way. At our women-only clinic, you can walk in today for free, confidential testing and treatment.

		Get in and out in under 30 minutes. Be the one who protects herself before it's too late.
41	Get Tested Now—Protect Yourself Before It's Too Late	Smart women act fast to protect their health. Don't risk untreated issues—get tested now at our women-only clinic. In and out in under 30 minutes, with free, confidential testing and treatment—no appointment needed. Stay ahead, stay safe, and get the care you need.
42	Get Tested Now—We're Here to Help You Stay Safe	Don't wait to get the care you need. We offer free, confidential STD testing and treatment—walk in today. You're not alone. We're here to support you with respect, understanding, and care. Get tested now and stay safe.
43	Don't Wait—Get Tested Before It Gets Worse	Trust your instincts. Don't wait—act now to protect your health. STDs don't always show symptoms, but untreated issues can cause serious complications. At our women-only clinic, we offer free, confidential testing and treatment—no appointment needed. You're not alone—we're here for you.
44	Get Tested Today—Stay Safe and Stay Ahead	Your health is in your hands, but you don't have to go through this alone. Get tested today—our women-only clinic offers free, confidential testing and treatment. Be the one who stays ahead by protecting your health and your future. We're here to support you. Walk in today.
45	Don't Wait—Get Tested Today and Protect Your Health. We're Here for You	Don't risk waiting—act now to protect your health. Untreated issues can lead to serious complications, and you deserve better. Get tested today—free, confidential testing and treatment at our women-only clinic. Stay ahead of the game, stay safe, and we'll be here to support you every step of the way.

Appendix 2: Overview of keywords

Table 3: Overview of keyword themes and corresponding key words

Symptoms	Medical care	Sex work
Vaginal sore	Sex workers	Massage Parlors
Burning pee	STD Testing	Massage Apartments
Bumps in the vagina	Free Condoms	Massage Services
Swelling in the vagina	Condoms for free	Massage Work
Green discharge from the vagina	Free Gynecologist	Massage Parlors & Spas
White discharge from the vagina	Discreet Gynecologist	Looking for Masseuses
Vaginal ulcer		Sugar Daddy
Swelling of the clitoris		Sugar Baby
Swelling in the vagina		Looking for a Sugar Daddy
Swelling in the vagina on one side		Sugar Daddy Website
Swelling in the vagina on the right side		Sugar Daddy Login
Swelling in the vagina on the left side		Sugar Daddy Dating
Swelling in the vagina after intercourse		Sugar Daddy Website
Swelling of the lip in the vagina		Sugar Daddy
Swelling in the labia in the vagina		Sugar Daddy Dating Site
Swelling in the labia majora in the vagina		Sugar Daddy Dating Site
Swelling in the inner labia in the vagina		Sugar Daddy Phone
Swelling in the labia minora in the vagina		Sugar Daddy App
Swelling and itching in the vagina		App for Sugar Daddy
Swelling and itching in the vulva		Sugar Dating Site
Vaginal sore treatment		Sugar Daddy Website Review
Vaginal sore painful		Sugar Baby
Vaginal sore itchy		Rich Sugar Daddy Dating
Vaginal sore with pus		Sugar Daddy Dating
Vaginal sore on the labia in the vagina		Luxor Sugar Daddy
Wound on the inner labia in the vagina		What is a Sugar Baby
Wound on the inner labia of Vulva		Sugar Baby What is it
White sore in the vulva		Sugar Daddy Gay
Itchy sore in the vulva		Sugar Daddy Registration
Purulent sore in the vulva		Sugar Daddy Wikipedia
Internal sore in the vulva		Sugar Daddy Search
Burning sore in the vulva		Sugar Daddy Find People
Sores in the vulva		Sugar Daddy Support
Sores in the vagina		Sugar Date
Sores in the vagina and vulva		Sugar Mommy Website
White sores in the vagina		Sex workers
Purulent sores in the vulva		
Burns after peeing		
Burns when I pee		
Burns when peeing		
Bumps on the vulva		
Discharge from the vulva		