



Lady Business

Self-service health care in the women's restroom

Jessamyn Miller

Master of Design Graduate Thesis, Carnegie Mellon University

Lady Business
SELF SERVICE FEMALE HEALTH CARE



 A1 \$25	 A2 \$25	 A3 \$25
 B1 \$10	 B2 \$10	 B3 \$3
 C1 \$1	 C2 \$5	 C3 \$10
 D1 \$10	 D2 \$10	 D3 \$10
 E1 FREE	 E2 FREE	 E3 FREE

SELECT PRODUCT

M1	M2	M3
M4	M5	M6
M7	M8	M9
M10	M11	M12

CHECKOUT

PRODUCT	\$4.95
PRODUCT	\$1.50
TOTAL	\$6.45

CHW FLUENT ID #1
CREDIT CARD

Need medical help? Contact University Health Services at (412) 268-2157



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**SCHOOL OF DESIGN
CARNEGIE MELLON UNIVERSITY**

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MASTER OF DESIGN

in

**COMMUNICATION PLANNING &
INFORMATION DESIGN**

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Abstract

Women work very hard to take care of their female health. Perhaps a little too hard.

To help women better meet their everyday health needs without skipping a beat, the Lady Business project asked if ordinary restroom vending machines could be developed to offer a wider range of products, including some that don't yet exist. I researched the current experiences of women accessing contraception, seeking treatment for common infections, receiving care at clinics and pharmacies and spent a fair amount of time poking around women's public restrooms.

Women I interviewed expressed frustrations with the way they currently obtain female health care. Long waits, feelings of shame and lack of access to needed products are common complaints.

The Lady Business self-service female health care concept I designed was created with a do-it-yourself (DIY) attitude in mind. By making products such as self-diagnostic kits and contraceptions more available, the self-service could empower women to take responsibility for their health by giving them tools to monitor and care for themselves. Surprisingly, much of the medical technology desired in these products already exists, but women either didn't know about it or it simply isn't offered.

To bring the Lady Business idea to life, I conducted workshops with women to develop aspects of the self-service. Then I designed prototypes of the vending machine and products to be sold inside, based on their needs and suggestions.

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It's everywhere—the old battleaxe. Opaque and mechanical, the restroom vending machine is off-putting to modern women. But because it's ubiquitous, it's the perfect place to start designing.



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Carnegie Mellon University offers free feminine products in its restroom vending machines. Women like knowing that someone cares about their comfort and convenience. The final design solution includes several free products, including condoms.

"Free means somebody cares."

"It makes you feel supported to have feminine products available for free."

"I always feel such goodwill when they are free on campus."

Introduction

Women loathe the invasion of privacy, long waits and bureaucracy that come with conventional female health care delivery. Lady Business is a self-service concept that allows a woman to take care of her female health care needs without requiring face-to-face interactions, health insurance or the approval of other individuals.

Through 23 interviews with women and health care providers, I discovered several pain points in the customer journey for tending to everyday female health needs. This study was approved by Carnegie Mellon University's Institutional Review Board, HS11-560: Self-Service Health Care in the Women's Restroom. To pursue care, women must leave their current location, such as work or school, to get health care at the pharmacy or clinic. Women must accommodate the schedules of others when making appointments or waiting for

diagnoses or treatments. They report feeling ashamed during medical exams, while speaking on the phone to providers, and when shopping for female products. Some women have gaps in insurance or lack access to treatment because of age, dependance on family members, or lack of medical facilities.

It was easy to recreate some of the women's negative experiences by putting myself in similar situations. For example, I went to the Entropy campus convenience store to buy condoms after hearing several women complain about the embarrassment of doing so. There, I asked the cashier to pull them down from a shelf behind the counter, in front of the other customers, making sure to specify the brand and type out loud. Simply having to ask the cashier felt awkward, but it also compromised my privacy and left me open to judgement from others. Cashiers I interviewed

also reported that checking out customers buying contraceptives is just as awkward for them, and they wish they could help put the person at ease.

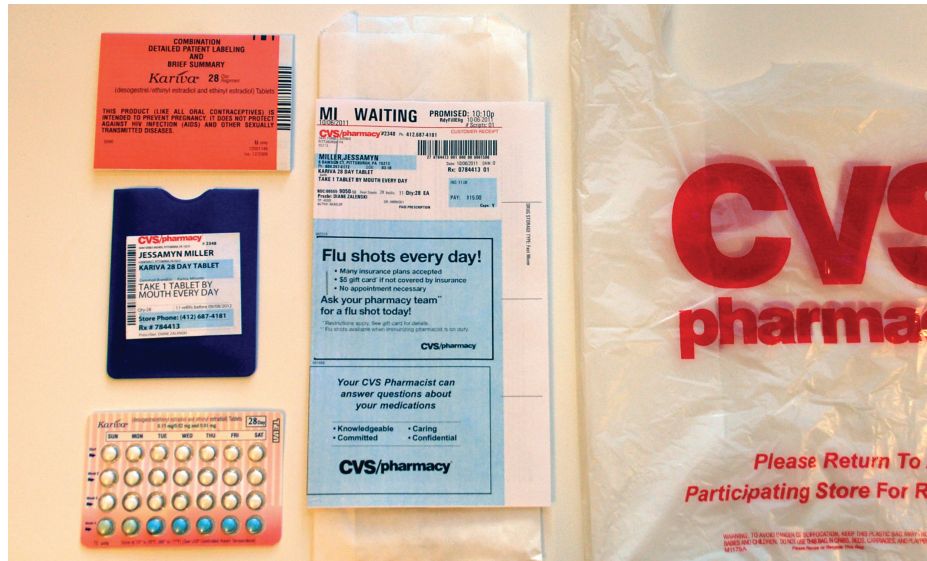
In spite of the face-to-face interactions on which current health care depends, much medical technology exists to self-test or self-administer medication and contraceptives that women are either unaware of or remains undeveloped for DIY use. With the help of ten women who participated in co-design sessions, I developed the Lady Business self-service to offer women a way to access self-care tools while maintaining anonymity and saving time.

Self-motivation

This project began with my own frustrating experiences accessing female health care last summer. I spent three weeks on the phone with my doctor and

the local pharmacy trying to get a refill of prescription birth control. Most of this time, I was at my summer internship. When I needed a break, I'd slip into the women's room. I noticed a vending machine on the wall that sold tampons and pads, as in nearly every public bathroom, and thought, "What if I could just buy my birth control out of this?"

I started on a journey to ask the question, "Why can't I do this myself?" Ultimately, this project did not propose buying birth control pills from a vending machine—because women in my research sessions weren't as interested in that opportunity as other things—but I did stay with the self-service concept and developed it to deliver other types of care.



Getting a prescription-only product means waiting in line, having insurance coverage, and making regular visits to the pharmacy. For birth control pills, women must have an annual exam to renew their prescription.



While on vacation in Italy, on the other hand, I waltzed into a pharmacy, said "candida" and was presented with two Diflucan pills for 7 Euros. No prescription needed. In the US, this convenient oral treatment for yeast infections is only available by prescription.



The fancy U*tique vending machine sells high-end travel accessories for ladies on the go, like cosmetics, electronics and even underwear. This one was spotted at the Atlanta International Airport.

Relevant Literature & Projects

Current vending machines in women's restrooms are old-fashioned, undesirable and under-used. I see it as a missed opportunity, because nearly every public restroom has one, but women rarely use them, according to my interviews. I found vending machines in most bathrooms on campus and in airports, movie theaters, concert halls, some restaurants, and workplaces. Building on the familiarity of public restroom vending machines, I propose to develop them to offer a more robust line of women's health products.

Vending machines

Other designers and artists use vending machines in novel ways. I found several noteworthy projects that helped me see the humble self-service tool as a way to eliminate unnecessary interactions with others and save costs.

The Auto-Wed is a machine that performs civil ceremonies, such as weddings and divorces, for \$1. It pokes fun at the austere nature of ceremonies by simulating a third person with a robotic voice and a printed marriage certificate that resembles a receipt. This project influenced me in several ways. I recognized it as tongue-in-cheek criticism of high-cost weddings and the lavishness and celebration that accompany them, despite the fact that so many end in divorce. It takes the barriers out of a journey that ultimately ends in the granting of a government-issued certificate by printing out a simple receipt. At the same time, it feels charming and the aesthetic reflects the style of a wedding cake. Although it hasn't been placed out in the world, I think it would be used if it were in a romantic location. (LaBarre 2011)

Another design project I researched was the Swap-o-Matic. Users swap secondhand items

with others in order to save money on buying new items. The makers were interested in offering an alternative to modern consumerism. Users earn points by leaving items in small glass-door lockers and spend points when removing items left by others. I found this project attractive because it was designed as a cashless system and was also built to prove a point against the societal convention of buying new. (Price 2012)

Several years ago, IDEO was hired by BBV to re-design their ATM machine. Most ATMs today feel clunky and are somewhat cumbersome to use. Most important, however, is that the front-facing design compromises privacy. When people line up behind the user, their transaction is in full view. IDEO's new design turned the user 90 degrees so that half of their body was against the wall, and the other half was hidden by a privacy screen. If

used in a space where their back is against another wall, their transaction is completely hidden, despite being in a public space. I experimented with several angles and privacy screens when designing my vending machine after being inspired by this project. (IDEO 2010)

A new women-centered self-service that caught my attention is the U*tique. Selling high-priced makeup, perfumes, handbags and even underwear, it is stylishly designed and features a touch-screen interface that explains each product. While the machine was more beauty-focused than my project, I was excited to see it as a breakaway example of modernizing vending machines and tailoring them to women's needs. (U*tique 2012)

Emergency contraception

Shippensburg University, in Shippensburg, Pennsylvania, had its 15 minutes of fame in February 2012 because the media discovered that it offers emergency contraception in a vending machine at the student health center. The school defended itself saying that its entire student population was over the age of 17, for whom the product is legally over-the-counter. (Serr 2012) According to the school, students were surveyed two years ago and 85 percent responded that they would want the product available in the vending machine, due to the remote location of the school. The machine also sells cold medicines, condoms and pregnancy tests. The school reports it sells 300-400 doses of Plan B a year. (Begos 2012)

The ensuing online debate about whether such a product should be sold this way focused on two things: whether a machine that is built to sell snacks should also sell such a sensitive medical product and whether the women were being denied the assistance of medical professionals who could counsel them on the risks. The fact that so many students were buying it, however, seemed evidence that demand did indeed exist and that students were availing themselves to this simple self-service mechanism. The student center also noted that women were free to approach the school nurse and ask for help at any time. This is important because the vending machine was not intended to replace medical care for those seeking it, but was intended to offer students a low-intervention way to access the medication. I anticipated that this would be a point of contention with my own project, which it was during



People tend to steal products they're too embarrassed to buy. Walmart encases expensive feminine products in clear plastic cases to prevent theft. When you arrive at the register, the cashier walks the product over to a manager, who opens it with a special key. Now everyone can see what you're buying!

faculty panel reviews. However, the medical establishment isn't going anywhere, so a woman that wants to make herself a doctor's appointment could continue to do so, couldn't she?

Self tests

Medical technology exists for women to take their own tests and administer their own treatments. It's not complicated to

swallow pills or take a swab. On the shelves of big box stores and pharmacies, you can buy tests to diagnose HIV (via blood tests, but a saliva test is also possible), gonorrhea and chlamydia. The self tests I was able to buy over the counter are pregnancy tests (via urine for hormone), urinary tract infection tests (via urine for nitrites and leukocytes) and yeast infection tests (via swab for pH), so I included all of those in my research sessions

and self-care kits. Although the technology exists to do DIY pap smears (Pevoto 2005) and home HPV tests (Rettner 2011), they haven't been developed for the marketplace as far as I can tell. During an interview I asked one woman if she'd be interested in a DIY pap smear and she said, "Absolutely. My annual exam is the worst day of the year."

In an interview with a physician early in my project, I discussed the safety of self treatment. He said that for younger women, it's probably safe for them to go the self-treatment route, monitoring themselves to see if symptoms improve. If symptoms haven't improved in 3-5 days, they can make an appointment, armed with the knowledge that they tried one medication and it didn't work—ruling out at least one possibility. He said scenarios where self-treatment isn't advisable are if a person is bleeding or has a high fever. He also pointed out that

complicated instructions for self-care can become so frustrating for some patients that they give up altogether, for example with diabetes, so that doctors need to simplify instructions they give patients. Based on this advice, I kept instructions very simple in my self care kits. Instructions were brief and printed on the inside of the lid, because a long, separate instruction sheet might be overwhelming or ignored. The doctor also thought that STI diagnosis and treatment might be moving more toward self-service, so that people didn't have to go through a provider for care. He also cited other medical self-treat scenarios like over-the-counter yeast infection creams and the home birth movement. For STI treatment, he noted that the technology for most test is the equivalent of a urine dipstick, which is simple enough for a woman to do herself in the bathroom.

Buying products from a cashier

The power of self-treatment is that it can be done anonymously and privately. But because the products are for sale in brick-and-mortar stores, women still have to face a pharmacist or cashier to buy one, unless they use self-checkout. At one big-box store I visited, pregnancy tests, along with other reproductive health items, were encased in clear acrylic boxes that could only be opened by a manager. Not only was my purchase bulkier than normal, but it felt “bad,” like I was buying a shameful product. At the cash register the box was walked over to the customer service desk to a manager who took a special key and opened it. It was then walked back across to me, past other shoppers.

The irony is that customers are so embarrassed to buy these

products that they are often stolen. However, Walmart didn’t address that feeling of shame when making its anti-theft solution. Couldn’t the process be more discreet instead of more public? Imagine the humiliation of being a young woman buying a pregnancy test under the scrutiny of the entire checkout area.

Testing together

After one of my research participants asked about testing for couples, I started researching STI tests for two. I discovered a San Francisco program called “Testing Together” where a couple takes a test for HIV at the same time. (CBS News 2012) They report that couples where one person tests positive and another negative have a higher rate of preventing transmission if they test at the same time. This is still a conventional clinic experience based on a face-to-face meeting with a counselor. It goes against

the idea of total anonymity because it's done with a partner.

My research participant selected an STI test kit and asked, "Why can't there be two in here?" She'd prefer that there were one for herself and one for her partner so that she could take it home and do it at the same time. She even joked, "Can we do a stealth test? Like one I can do on him while he's sleeping?" Her joke revealed that it's hard to get a partner to take STI tests, even though that is what's recommended when couples decide not to use condoms. It makes sense to me to make a couples STI test, so I researched the most common STIs and if home tests were available for them. Out of the 6 most common STIs, 5 have existing technology to self-test. So those made it into the "Just Testing" self-care kit.

Birth control regulations

Even though birth control pills didn't make it into the final product selection for my self-service, studying the regulations around them informed my knowledge of contraceptives for the project. Birth control pills are the most common method of hormonal contraception and are available by prescription only in the US. I have personally seen birth control pills for sale over the counter in Mexico, Qatar, and Guinea. An IBIS study on over-the-counter oral contraception said that in Mexico, women are more likely to use the pills, but have a hard time figuring out which combination and dosage of hormones are right for them. (Grossman 2011).

Conversations with pharmacy workers and packaging don't seem to give Mexican women

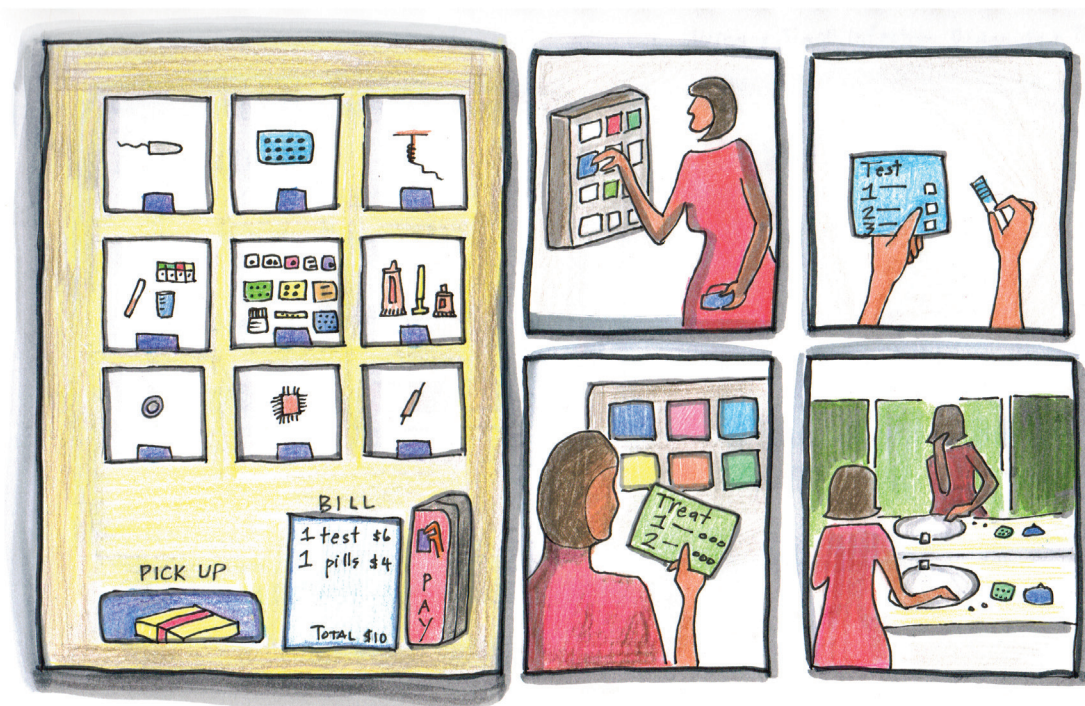
enough guidance on which pill to choose (in the US, there are dozens of brands and dosages available). Other studies suggest that giving women a longer-term supply of pills helps women continue taking it over time. (Norton 2011) This illustrates the consequences of having the pill available as a prescription: it is only available in 1 to 3 month supplies, it is only available at a certain time of the month, and it must be picked up from a pharmacy or ordered via mail. Women aren't free to buy as many packs as they wish and they must rely on pharmacies having it in stock, having their insurance on file, and being able to get to the pharmacy in time to ensure continuous use from month to month.

In an interview with a pharmacist, I asked why birth control pills weren't over-the-counter. He said that the hormones in birth control can have adverse side effects and

are dangerous if used without the oversight of a doctor. He said his job as a pharmacist was to ensure that the chemicals in medication were not going to harm the patient, interfere with other medications or be taken in the wrong dosages. He was doubtful that women would be able to take the pill correctly if they bought it off the shelves. I asked him what he thought about the fact that birth control is sold over the counter in other countries, and he was surprised to learn that. I asked him if the consequence of an unplanned pregnancy was worse than the side effect of birth control pills, and he said he didn't know either. His perspective was clearly focused on the chemistry of taking pharmaceuticals, and advising patients of correct use, but it seems he was not considering the social side of restricting birth control access to women. When I suggested that a trip to the pharmacy each month to pick up pills might be an



A clinician at University Health Center shows long-term contraceptions available to students. The IUD and implant are some of the most effective forms of birth control available—and must be administered by a health care provider. These methods are gaining in popularity, but the pill and condom, with lower rates of effectiveness, are the most widely used.



An early sketch of a vending machine and the purchase of a test and treat product. The woman buys and uses the product in the public restroom.

inconvenience for women, he said “If a woman wants to be sexually active, then it’s her responsibility to come in each month and get birth control.” This was an interesting opinion for me to hear. It showed me the side of the status quo—that the system is in place because women should pay a price—their time and privacy—to be sexually active.

Urinary tract infection care

I read an article recently by a woman lamenting that she hadn’t learned about urinary tract infections (UTIs) in sex ed. (North 2010) UTIs are common in women, yet the process of caring from them is still very cumbersome. Women I interviewed had many unpleasant

stories about suffering from UTIs and their strategies for relief. Several even mentioned camping out in their bathrooms with pillows so they could doze comfortably on the toilet, while the urge to urinate persisted. One story which stays with me was from a woman who was getting a haircut one day. Her hairdresser was very agitated and distracted. Finally, she apologized and confided, "I'm so sorry, I'm very uncomfortable. I have a UTI and called my doctor, but he won't give me a prescription for antibiotics unless I come in for a urine test. I can't leave work, so I'm stuck here until I can go in for an appointment." This approach of making a woman go through the formality of taking a urine test is justified by some care providers to ensure, "it's not something else, like a kidney infection." But other health care providers said that UTIs can commonly be diagnosed over the phone, just by questioning a patient about their symptoms. If confirming

symptoms are all that is needed to diagnose a UTI most of the time, why force women to come into clinics and labs for tests before giving them treatment?

The pharmacist I interviewed had an opinion on why antibiotics for UTIs aren't sold over the counter. He imagined that if antibiotics were over the counter, people would just take them for "a case of the sniffles." This would cause more resistant strains of bacteria and make antibiotics less effective over time. I questioned his judgement that people would grab packaging for UTIs and take the medication inside for colds, but he thinks that antibiotics are so desirable that people wouldn't care.

One woman I interviewed said she gets UTIs so often that her doctor has written her a prescription to refill as needed. This is not the norm, however, and most women can't get the antibiotics needed to cure a UTI without a doctor's

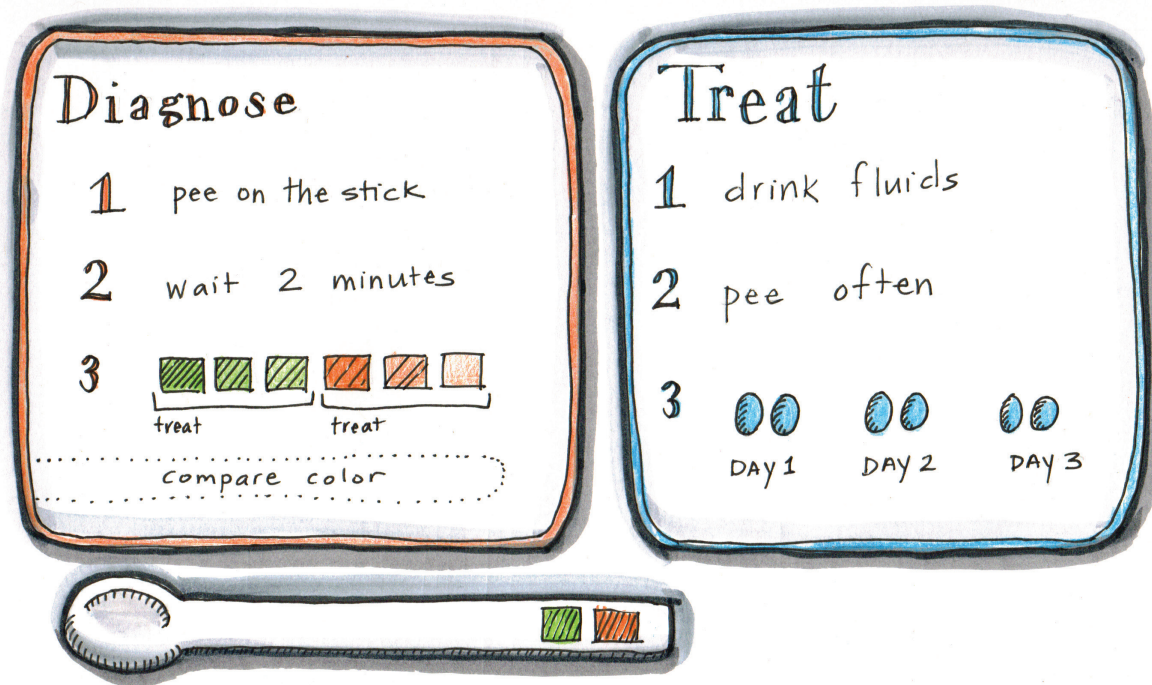
visit. The urinary pain relief sold over the counter in drug stores helps with pain, but doesn't treat the infection. Articles mentioned recent medical studies confirming that antibiotics are needed to cure UTIs and home remedies like cranberry juice are less effective. (Beerepoot 2011)

When I researched antibiotics, I found there are a few standard types for UTIs. (Simon 2011) I also looked at the UTI test strips I'd bought and noticed that they were different than other tests I'd read about. The home test strips check for leukocytes (white blood cells) and nitrites, which is produced by the bacteria in the urine. (AZO 2012) Urine culture, on the other hand, is done when the doctor wants to find out exactly what type of bacteria is present. (WebMD 2010) While the home test takes about two minutes, a urine culture takes 1-3 days, so it wouldn't be practical for a woman who is really suffering. So why are women

made to come into clinics when an at-home test will do? Or an over-the-phone diagnosis? This disconnect between the suffering patient and the treating provider is why I feel an intermediary product could help.

Female health packaging

I did some research on packaging for female hygiene products and found two standouts: Summer's Eve and U by Kotex. Summer's Eve is the infamous douche company that carries a large range of "deodorizing" products for your lady business. I'm suspicious of their products because there is so much medical advice against douching, yet still they sell it at every grocery store. Douche is like cigarettes for your vagina. As one friend of mine says, "why do we need our [vaginas] to smell like strawberries? It should smell like [a vagina]." However, another



An early sketch for a diagnostic and self-treatment kit. Its simple design was influenced by the packaging for Help Remedies.

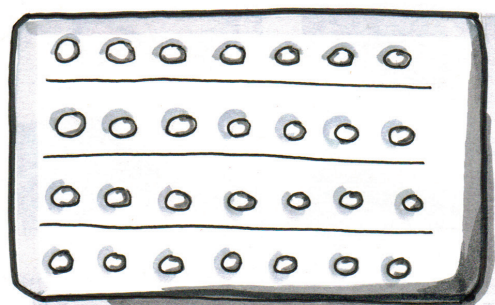
woman I interviewed said she had a friend who was terrified of having people smell her monthly period, and used of perfumes to mask the smell. I notice that pads and tampons come with perfume as well. So, although Summer's Eve has really attractive packaging, I put it in the old-school mentality bin, because it seems to encourage women to do bad things to their lady business.

U by Kotex underwent a pretty big re-design in recent months, with new black packaging and bright orange, pink, yellow and green tampons and pads. (Newman 2011) Tampax responded by making fun of them in their ads, showing a cheerleading teen saying "I don't care if my tampon came in a little black box," but side by side, the Kotex packaging is cuter and

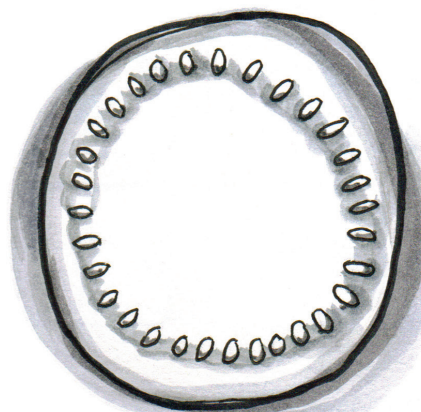
sleeker. (Neff 2011) They also use a small, organic looking print, like Summer's Eve, that looks like a small handmade doodle repeated in a pattern. They have sparkly packaging for teens and small packaging for people who want to conceal the product, but neither company seems to be breaking ground with their product offering by addressing other female complaints like STIs, UTIs, contraception or yeast infections.

On the other hand, the Help packaging that has come out recently did break some ground by offering everyday medicines in smaller amounts, without extra strength formulas, fancy names, or extreme marketing. (Help Remedies 2012) They point out that medicine combinations confuse patients into taking more medicine than they really need. The small amounts discourages the perception that the medicine is not strong enough in a normal dose. The pharmacist I

interviewed lamented that tylenol and ibuprofen can be purchased from Costco in enormous bottles, giving the impression that it is safe as candy, while many people die from overdoses. I also designed the Lady Business self-care kits for one-time or one-incident use, not as a way to stockpile up on medications. Some of my early sketches of self-care kits look a lot like Help products.



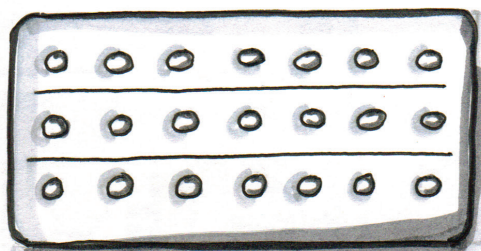
one month (28)



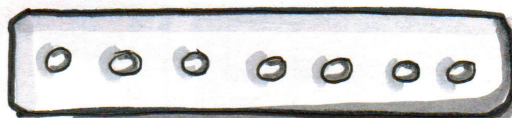
one month (28)



bracelet
refill-at-will



three weeks



one week



one day

After an interview participant told me, "My dog ate my pill—twice!" I thought about ways that packaging could make birth control pills easier to refill or replace. A single lost pill can't be easily replaced as they are sold in a one-month supply. Refills are regulated by pharmacists and insurance coverage, not available on demand. Although these products didn't end up in the final solution, they helped shape the idea that medication should be available in single doses and at the convenience of the customer.

Design Process & Approach

Design phases

The Lady Business project was researched and designed following a strategy of distinct phases.

DEFINITION

- write thesis proposal
- develop research plan

DISCOVERY

- observe the environment
- market and brand audit
- identify customer needs

SYNTHESIS

- create a service blueprint
- map the customer journey
- track stakeholder perceptions

IDEATION

- write new customer journey
- imagine service moments

- brainstorm ideas
- determine solution focus

REALIZATION

- experience prototyping
- act out scenarios
- summarize process
- illustrate system

Existing products

I began my project researching as much as I could on existing technology, products and medications used for women's health. I often read health news online to keep up with the current changes in health care policy. Public debates unfolded this year about birth control coverage for health insurance, changes in exam requirement timelines for pap smears, and the falling rate of teen pregnancies. I looked for medical studies that included self-diagnosis or self-treatment options, such as studies done



Women see the restroom as a place to get some peace and privacy. One woman reported she felt “enlightened” in the stall. “Not staring at a computer screen allows me to think. This is the only time I’m not staring at a computer screen.”

on the US-Mexico border, where birth control is over the counter, or in rural Mexico, where women were given self-screening kits for HPV. (Smith 2011) I also spent time perusing the aisles of my local grocery stores, drug stores and big box chains to see what kinds of products were for sale. I purchased as many different products as I could so I could study the packaging, price and instructions, and find out what was missing.

Observing bathrooms

At the same time, I began paying more attention to public restrooms, and even did a group project in my service design class on campus bathrooms. We placed sheets of paper on the back of toilet stalls and asked women how being in the bathroom made them feel. Many women reported that they wished bathrooms were nicer and cleaner, because this was the only time of day when they had a break from studying

or work. Women also noticed signs that people cared about making the bathroom nice for others—such as a woman who went into the restroom during a job interview and was delighted to discover a buffet of lotions and feminine products put there by other employees. I also found the same, sad feminine product vending machine in nearly every bathroom I visited, and photographed it.

False evidence

Because women's restroom vending machines are held in such low esteem, I knew that to convince others that this was possible, I'd need to develop pieces of physical "evidence" demonstrating the self-service. (Gronroos 2007) The concept of "false evidence" comes from service design, which I studied with Miso Kim in Fall 2011. See the Appendix for a detailed

discussion of service evidence. In this approach, designers use the tool of artificiality to manipulate a user's perception of reality in order to improve the experience. Evidence is the tangible part of an intangible service. (Aristotle and Freese 1926) Because my idea was such a departure from the known model of care, I needed to make it feel real and desirable to women. I spent time on the typography, color, and humorous titles of my prototypes to sell this idea to potential users.

Self-service care

To help women overcome the pain points of the face-to-face experience, I reshaped the customer journey into an anonymous self-service. I mapped current customer journeys for several female health issues and proposed new ones using a vending machine, eliminating extra steps along the way.

Service Blueprint

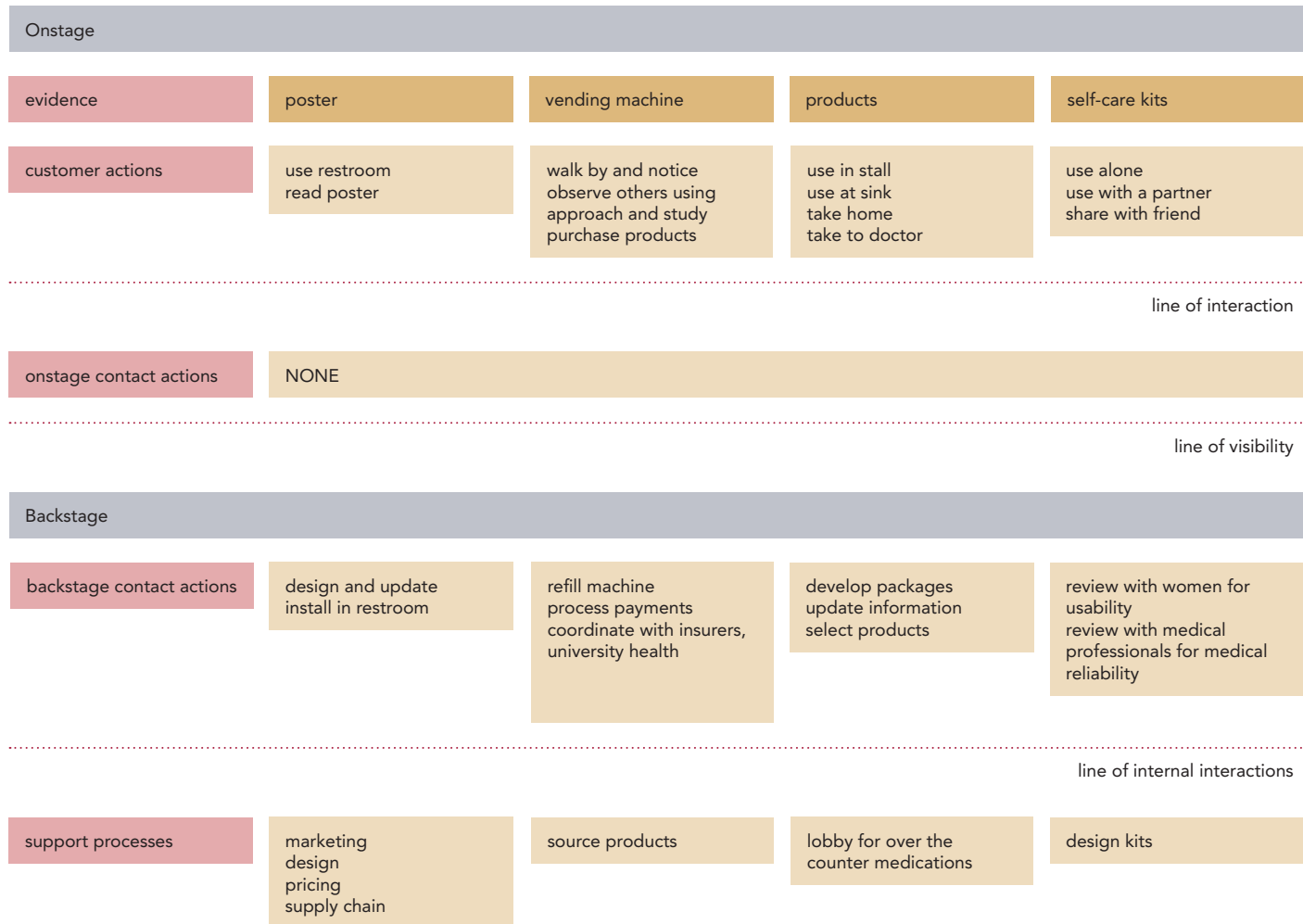
Creating a blueprint for the self-service allowed me to realize the major difference between my design and the current experience: no customer interaction. (Bitner 2007) While behind-the-scenes support staff would be necessary to design and supply the products, any interaction that currently relied on another person to speak with the woman would have to be re-designed. Steps like diagnosing, sending samples to a lab, administering treatment, giving advice and making payments must be supported through the vending machine or product.

New Opinions

I was familiar with my own trials and tribulations around women's health care, but did others feel the same? I solicited input from women during

several phases of the project to build my understanding. I met with 17 women and 6 medical professionals for conversational interviews at the beginning of the project to hear more experiences with female health care. Later, I held participatory co-design sessions with ten women to solicit product preferences, build self-care kits and imagine scenarios of use for the vending machine. As I designed the vending machine shape, I asked three women to walk up to full-size cardboard models and pretend they were buying products so I could test how private and fast the transaction felt.

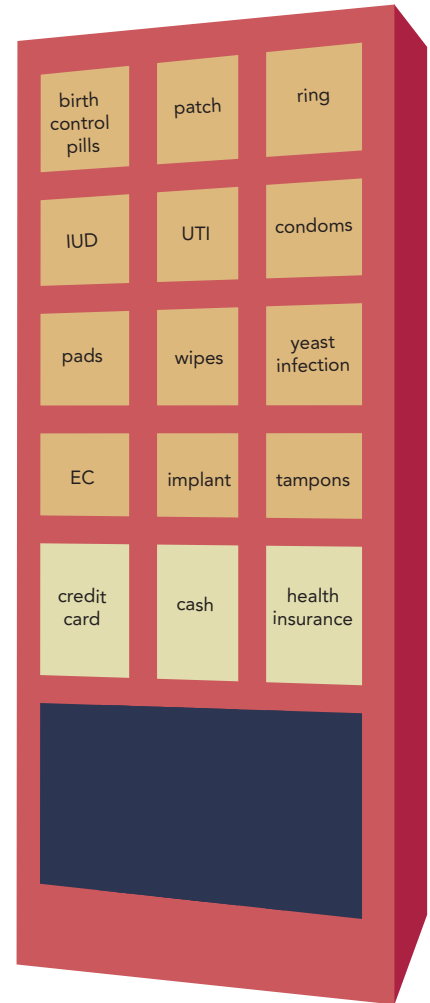
Lady Business self-service blueprint



A blueprint of the Lady Business service shows the elimination of onstage contact actions between customer and employee. This is a departure from the current norms of traditional face-to-face customer service in healthcare. These actions have been eliminated in many other self-services such as laundromats, car sharing, fast food, gas stations, grocery stores and online shopping. Several women mentioned preferring the “self checkout” at grocery and drug stores when buying feminine items.



Early light prototypes allowed me to explain my concept to others. First, I imitated an existing feminine hygiene vending machine. Then on the other side, I added more female health products and more payment options.



Research & Exploration

Interviews

Through a series of private interviews, I gathered stories about women's health experiences from reproductive issues like contraception and pregnancy, to problems like common infections such as yeast or urinary tract infections. Women talked about what it was like for them to visit the doctor and the pharmacy and how intimate and family relationships impacted their care.

For many women, getting access to and staying on contraception was a challenge. Others complained about the suffering they experienced when dealing with common infections. Some had unpleasant memories of doctor's exams, while others loved seeing their doctor, but couldn't easily get an appointment. Women confessed to lying to their mothers to get medical appointments for birth control

and helping younger friends buy emergency contraception.

I also wanted to hear about what medical providers thought of self-care. I spoke with six medical professionals: a doctor, a physician's assistant, a registered nurse, a pharmacist, and two pharmacy technicians. Feelings on self-care were mixed, with the pharmacist being most defensive of the need to keep antibiotics and hormonal contraception by prescription only. The doctor was the most supportive of self-care methods, acknowledging that young women should be able to buy contraception more easily and that many diagnosis tests were simple enough to be done in private. The physician's assistant said that many international patients she saw were surprised to learn they'd need an exam and a prescription to buy birth control in the US. The pharmacy techs voiced concern over whether the average woman would be savvy

enough to follow instructions to self-diagnose and self-treat without a medical professional's advice.

Key findings

I discovered three main areas of concern that women face when trying to get health care.

TIME

Women spend a lot of time waiting for care. They spend time on the phone or computer making appointments, they spend time going to doctors offices and pharmacies, waiting in line, waiting to be seen, waiting to be handed a prescription only to go to another place and wait in line again. When urgent issues come up, like a urinary tract infection, it can be hours or even days between the time she starts feeling symptoms and the time she's able to access care, take medication and get some relief.

QUOTES FROM INTERVIEWS

"I hate student health. I ran out of my birth control pills, went a week without pills, then went to student health. They gave me one pack and told me to come back later. I went back the same day to try to get a new prescription, they gave me birth control counseling, and told me to come back a third time. I didn't come back."

"I wish I could stock up on pills. It's a pain to go every month—I'd rather spend \$150 at once and buy them in bulk at Costco."

"I wish my birth control would arrive magically at my house when I'm down to my last pack. I have to call and make an appointment at Planned Parenthood to get my pills."

"If I don't need a prescription I'm not going to the doctor just to go to the doctor. That's a lot of time out of my day."

ACCESS

Not being able to get medications or face time with a health care professional came up again and again in interviews. Some young women don't have a regular doctor, some don't have health insurance, and some just need an easier way to answer the question "What's wrong with me?" One woman, for example explained that she doesn't use birth control because you have to go to a pharmacy every month to pick it up.

QUOTES FROM INTERVIEWS

"In California the state covers birth control for students. I got it at school, but my friends didn't know about it."

"My insurance keeps changing. I switched from my mom's, now I'm back in school, but I can't set it up online."

"I stayed on my parents insurance because I wouldn't be able to afford my own. I feel bad about going to Planned Parenthood, so they don't know I go."

"It's really tough getting a good doctor. My mom's doctor is renowned in her field—I really like her. It costs \$300 a visit, though."

"I've switched health insurance with every job I had."

"Between college I was waitressing and I had no health insurance."

SHAME

Embarrassment is a big problem for women to overcome in order to access care. Nearly every woman reported feeling ashamed to buy a product, talk to a doctor, pharmacist or other provider, undergo an exam or even discuss issues with a partner. Women of all ages, single and married, feel shame doing anything from buying tampons to condoms at a cash register, to calling a clinic and having to reveal symptoms over the phone to the receptionist to get an appointment. When designing prototypes, women came up with all sorts of ideas to hide the transaction from the view of others, many of which I used in my final solution.

QUOTES FROM INTERVIEWS

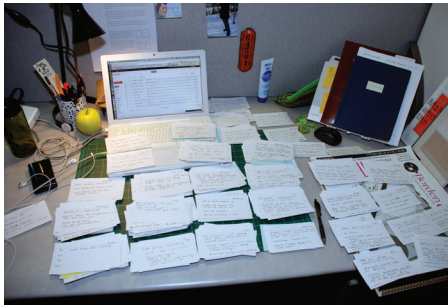
"My husband won't buy condoms anymore—he hates going to Rite Aid. The first time he did it

he ran into someone he knew holding a box of condoms and a bunch of bananas."

"Where I'm from it's highly embarrassing to get condoms."

"When I was younger I told my mom I wanted tampons. She said, 'how do you know what a tampon is?' I wasn't allowed to have them. I had to hide them. I would buy them with my friends in high school."

"It would be nice to have Plan B or condoms in a vending machine. I don't like having to go to the cash register. It's like I'm announcing 'I'm having sex' at the check out."



I interviewed 17 women and 6 health care professionals during my initial research phase. I spoke with each woman face-to-face in the cafe of her choice or via Skype. My notes filled 400 index cards with their stories and observations on topics ranging from health care and contraception to relationships and family. These interviews helped me identify my three main barriers to health care: time, access and shame.



Customer Journeys

Based on interviews with women and health care professionals, I mapped the current customer journeys for common female health issues. The proposed journey replaces face-to-face interactions with purchases from a vending machine, reducing the number of steps between the woman and relief.

STI TESTING

Current journey



Call for appointment



Go to clinic



Sit in waiting room

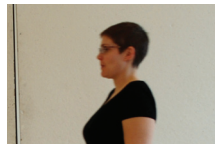


Have medical exam

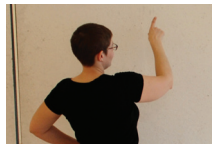


Await results

Proposed journey



Go to restroom



Buy from vending machine



Take test in stall



Have quick results

GETTING BIRTH CONTROL PILLS

Current journey



Call for appointment



Go to clinic



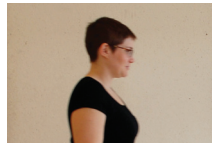
Sit in waiting room



Have medical exam



Get prescription



Go to pharmacy

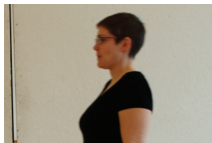


Wait for Rx fill

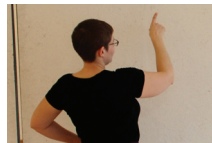


Take pill daily

Proposed journey



Go to restroom



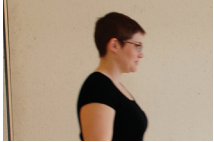
Buy from vending machine



Take pill right away

BUYING CONDOMS

Current journey



Go to store



Find on shelf

OR

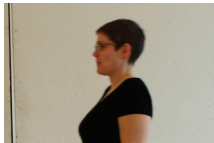


Ask cashier



Face-to-face checkout

Proposed journey



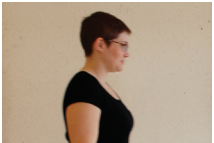
Go to restroom



Buy from vending machine

BUYING EMERGENCY CONTRACEPTION

Current journey



Go to store



Find product
card on shelf



Ask pharmacist
for product

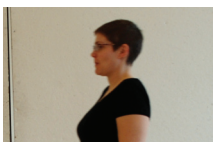


Face-to-face checkout

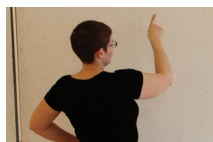


Take pill at home

Proposed journey



Go to restroom



Buy from vending
machine



Take pill right away

URINARY TRACT INFECTION

Current journey



Feel symptoms



Call for appointment



Go to clinic



Sit in waiting room



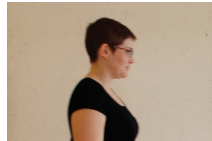
Consult with doctor



Take urine test



Get prescription



Go to pharmacy



Wait for Rx fill

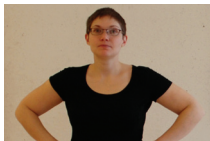


Buy juice and
painkillers



Go home and
take meds

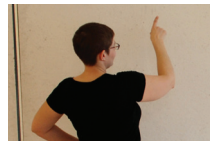
Proposed journey



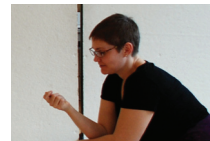
Feel symptoms



Go to restroom



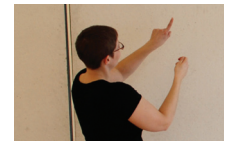
Buy UTI test



Take urine test



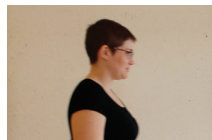
Call doc with results



Buy pain relief



Take meds right away



Go to pharmacy



Wait for Rx fill

Prototypes & Evaluations

Co-design sessions

This spring I held participatory design sessions to help generate ideas for the Lady Business vending service. First, I asked women to imagine their ideal ladies room vending machine that sold anything they wanted. I provided a paper template with eight available spaces and small slips of paper with a few dozen sketches of over-the-counter and prescription products. Next, I then asked them each to pick a scenario and design a self-care kit for that situation. Women made kits for dealing with STIs, new intimate partners, unprotected sex, urinary tract infections, unplanned pregnancy and periods. The kit could contain any product, as well as services like phone support, mobile app, a website, mail-away testing, instructions or informational brochures.

Experience prototyping

After collaging a paper vending machine and assembling a self-care kit, participants were able to do experience prototyping by using their product in a mock-up bathroom. I pulled together some whiteboards to create a stall, a chair for a toilet and a table for a sink. I asked them to where they might place the vending machine, and then how they would go through the process of using their self-care kit. Their input revealed their own concerns around privacy and their preferences for buying and using health care purchases in a public bathroom. Top concerns were remaining hidden from view, doing as much work as possible in the stall, and not being spotted holding a telltale product.

The themes of convenience and privacy surfaced again and again as women remarked on their preferences for the service.

DON'T MAKE ME GO TO THE DOCTOR

"I hate having to go somewhere every month to get birth control. Because that's what prevents me from doing it."

"I don't want to go to the doctor to find out or have to ask ten people, do I have a yeast infection?"

"I don't want to go to the doctor if I just have a "feeling" something is wrong."

"I chose antibiotics and urine test strips because I get UTIs sometimes and I don't want to go to the doctor every time."

"I got a UTI recently and I didn't know what to do. I was traveling. It was embarrassing and painful. I went to the pharmacy and got cranberry pills. It would be nice to get antibiotics."

"UTIs suck when you're out and about or traveling. Antibiotics are hard to get. you can only buy temporary relief from the pharmacy."

"I need it right away"

"I want a little shot of water to take the pills, so everything's in the stall."

"I'd want to buy emergency contraception and take it right now."

"UTI and yeast infection tests will help me figure out rather than speculate."

"More directions and explaining things better. Simple language. Less medical terms."

"I imagine most women would want Emergency Contraception now. They might go to the bathroom as a safe retreat. EC is harder to get and it might be embarrassing to go up to the register."

HELP ME HIDE

"The bathrooms is private. It's a good place to pull yourself together and contemplate."

"I'm too embarrassed to pick up condoms, pregnancy tests or Plan B at a pharmacy"

"Maybe I'm a prude, but I don't like the sales person knowing my sex life."

"The self-care kit has to be hideable."

"I need the packaging to stick in the waistband of my clothes. What if I ran into my boss?"

"I would like a STI test you could do on a man while he's sleeping. A stealth test."

"If the vending machine is on a back wall, people washing their hands can't see what I'm getting out of it."

DON'T MAKE ME PAY

"Free means somebody cares"

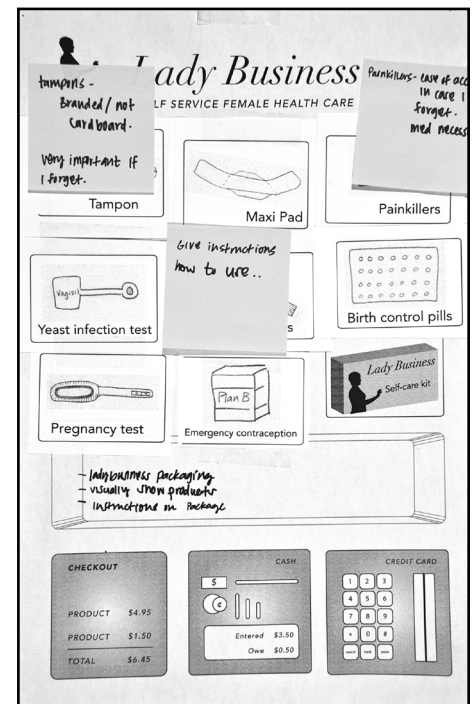
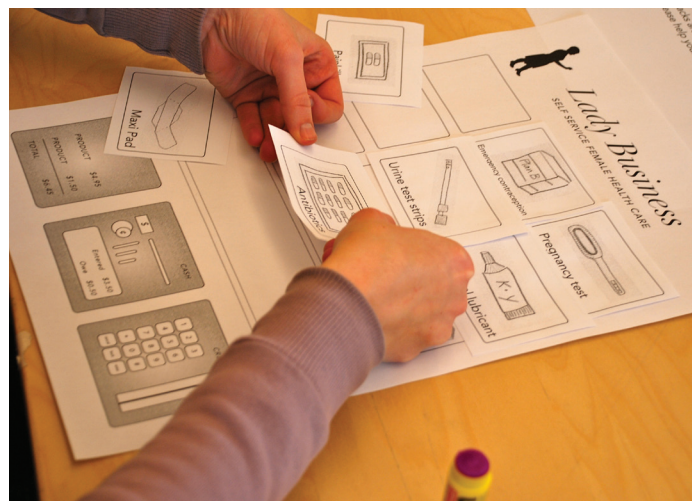
"It makes you feel supported to have feminine products available for free"

"Maybe free every once in a while? I always feel such goodwill when they are free on campus."

"Condoms should be free on campus already, like Free Condom Friday!"



Women chose from a variety of feminine products to create their vending machine template collages.



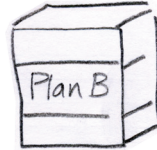
Yes, please

Ten women chose eight products each for their ideal vending machines.

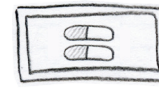


number of times
chosen out of ten

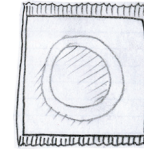
urine test strip
8/10



emergency
contraception
8/10



pain relief
8/10



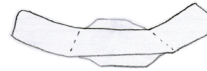
condom
7/10



personal lubricant
5/10



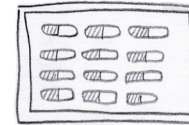
pregnancy test
5/10



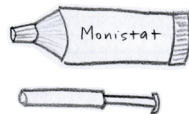
maxi pad
5/10



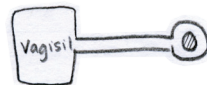
tampon
5/10



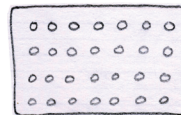
antibiotics
4/10



yeast infection
cream
4/10



yeast infection test
4/10



birth control pill
3/10



wipes
1/10



menstrual cup
1/10

No, thanks

None of these products were chosen. Women seemed more interested in tending to urgent situations than getting long-term care from a vending machine. Interestingly, some of these items were new to women.



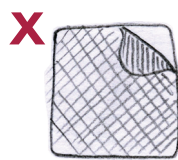
birth control ring



inter-uterine device (IUD)



birth control injection



birth control patch



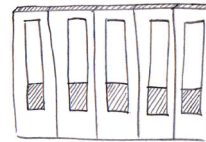
birth control implant



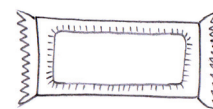
yeast infection pill

Anything else?

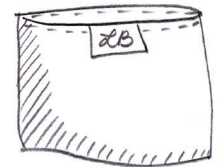
Women suggested several things I hadn't thought of for their vending machines and self-care kits. Their suggestions became part of the final solution.



STI test kit

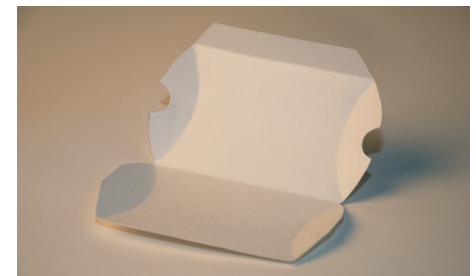


chocolate



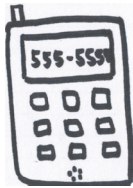
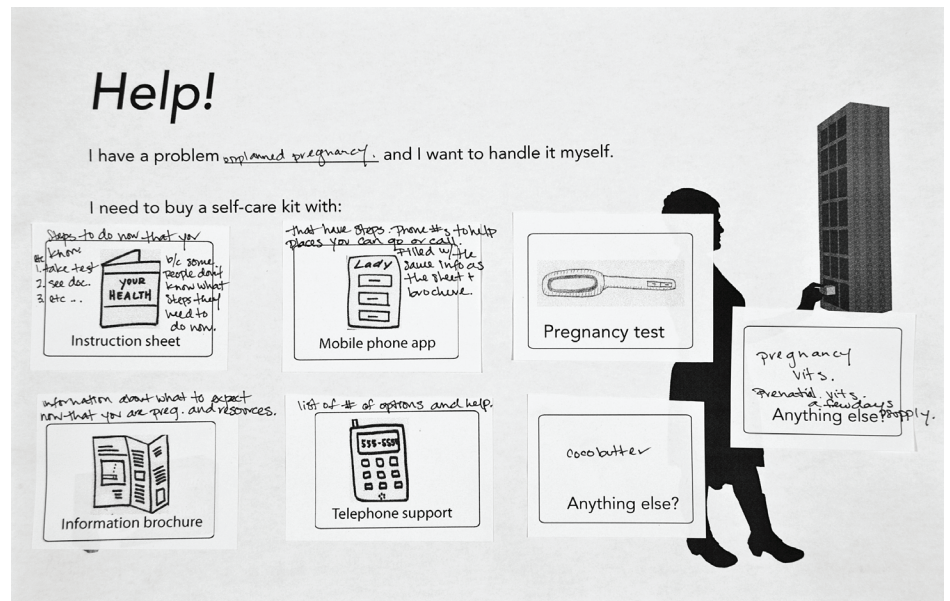
panties

The women used this early self-care kit prototype box to imagine using their kit in a mock-up restroom stall. Later, I changed the shape to make it easier to open with more space for instructions.



Services

The self-care kit exercise introduced supportive services that could be linked to the purchase of a product. The most desired service was having something informative to read while dealing with an urgent situation.



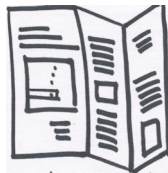
phone support



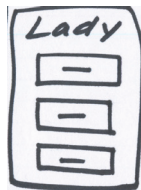
overnight mailing envelope



lab results via PDF email



instructions



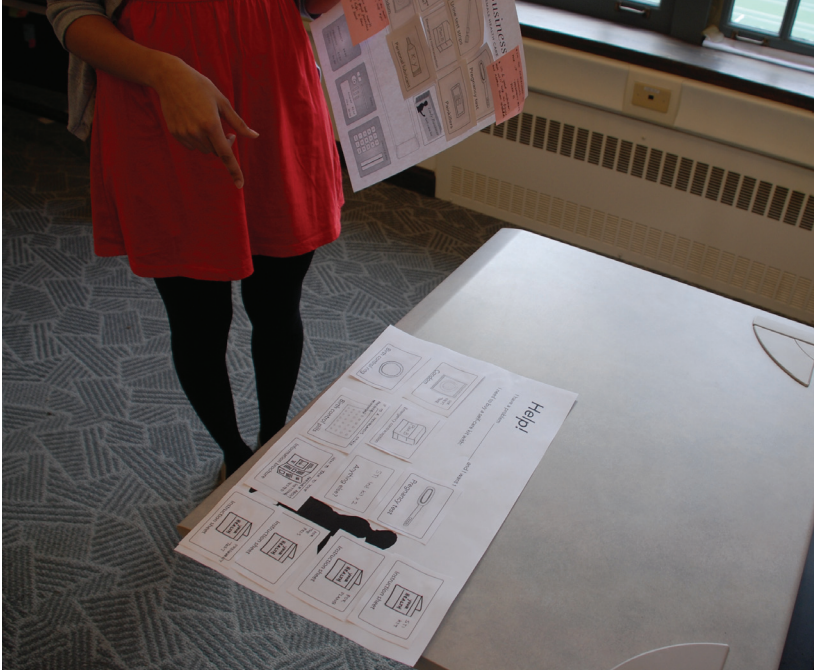
smartphone app



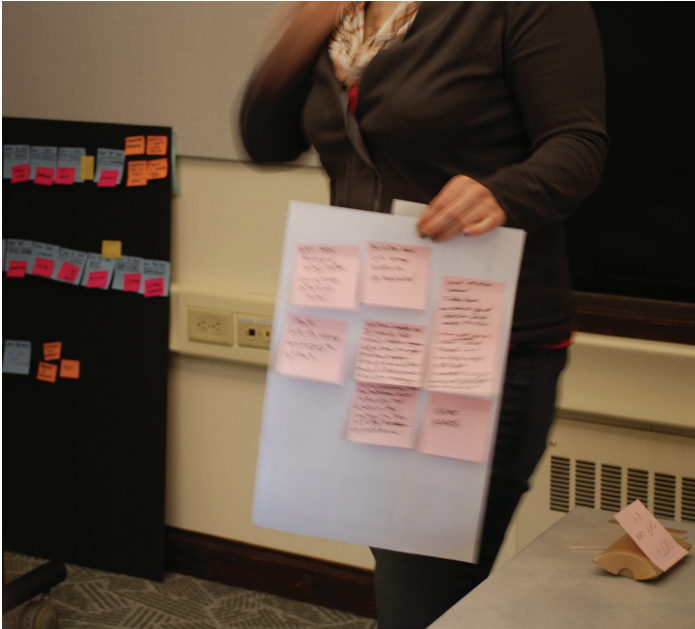
informational brochure

Session participants noted that having an unplanned pregnancy could mean different emotions for different women, and tried to provide a combination of support services for those who may wish to keep or end the pregnancy. This is tricky territory. Most online resources are geared for pregnancy support. The pregnancy test I purchased had no support information.

Next, women were asked to build a self-care kit with products and services to help them through an urgent situation like “unprotected sex” or “urinary tract infection.”



Then, they brought their self care kit and vending machine collage into a mock up restroom and walked through their scenario. This produced a lot of ideas about payment methods, privacy concerns and comfort levels with self-care.



Final Design

Process overview

The final design solution is a health care self-service for women's public restrooms. I demonstrated this service by developing its physical evidence. I designed the vending machine, selected the products for sale, created self-care kits and designed user-friendly packaging. All components of the design are meant to help women get relief, while protecting their privacy and minimizing time spent to get care.

While many products in the solution are available over the counter, I also designed products where do-it-yourself technology exists, but hasn't yet been brought to market for consumers, such as the all-in-one STI testing kits. After conversations with medical professionals and women, I believe the technology used to diagnose and treat many infections is often simple enough for a woman to do it herself.

Women can take urine, saliva, and even blood samples for diagnosis and swallow pills and apply creams for treatment. The self-service eliminates face-to-face situations that make women embarrassed and gives them the tools to diagnose and treat themselves so they're not waiting on others to provide the service.

Vending machine

After the session, I made multiple iterations of vending machine shapes in miniature, to quickly explore and experiment with different shapes that could help a woman stay out of view when using it. I then developed several into full size cardboard prototypes and asked women to talk aloud while making an imaginary purchase. Eventually, I created the final prototype. It has a triangular shape to fit into the corner of the restroom, so the woman naturally blocks it with her body during

use. She selects products from a dedicated keypad, instead of pushing buttons close to the products, so it's less easy to identify what she buys from her gestures. The waist-high dispenser means she can easily slip the product into a pocket or purse without having it exposed. Swiping a credit card or university ID for payment is less fussy than inserting bills and coins, and allows women to buy higher priced items without worrying about correct change.

Products

Women identified several types of products they'd like to buy from vending machines in public restrooms. Top concerns include diagnosing and treating common infections, safe sex, caring for periods, keeping clean and pain relief. Women asked for a mix of medical and convenience items. While most items are available

at pharmacies or convenience stores, buying them from a vending machine avoids a trip to the store and an encounter with a cashier. Because women asked for free products, I included free tampons, condoms and pads. Women seemed more interested in products that cater to urgent situations (feeling ill, getting a period, preparing for sex) than long-term use products (pack of birth control pills, antibiotics).

Packaging

Women don't want to be seen using the products they buy. During the session, many women wanted plain packaging with no indication of the product inside, or even a bag to conceal it. At the same time, some wanted to see the actual product, or at least a dummy version, before purchasing it to confirm it was their preferred brand or size. Women even admitted they'd

rather swallow pills without water while in a stall than go stand at the sink with the package and have someone see. I didn't go to this extreme with the packaging for the first prototypes, because I wanted to clearly communicate to women what was for sale in the boxes. However, I did incorporate the suggestion that the packages be designed for use in the restroom stall. Women even mentioned they didn't want anyone to see the package on the floor, so packages are small enough to be unfolded and used in the lap. Products would be adhered to the package with glue so nothing falls out when it's opened.

Self-care kits

Self-care kits provide women a way to test, treat, comfort and clean themselves using existing technology and products.

The "Don't Panic" kit contains emergency contraception and a pregnancy test. It is designed for someone who recently had unprotected sex and wants to avoid pregnancy. "Piss Off" is a urinary help kit for a woman who thinks she may have a UTI. It includes a test strip to diagnose infection and pain relief tablets. The "Yeast Beast" kit includes a yeast infection test and anti-fungal treatment. "Date Night" is a safe sex kit including a condom, personal lubricant, wipes and panties. "Aunt Flow" is a kit for periods and includes chocolate and pain relief as well as a tampon and pad. "Just Testing" is an STI test kit for couples. It uses "You" and "Me" in lieu of names and includes an overnight mailing label for sending to a lab.

Why Lady Business?

IT IMPROVES ACCESS

Getting your hands on female health care products can require jumping some hurdles. The Lady Business service puts self-care tools within women's reach. Women don't always have a caring doctor on speed dial, and see getting to the doctor as a burden. Gaps in health insurance coverage also keep women away from clinics and pharmacies. Women are interested in affordable self-tests and treatment so they can avoid the hassles of the medical world.

IT REDUCES DELAY

Using a self-service simply saves time. Public restrooms at school or work are always open and don't require travel or an appointment. Making phone calls, waiting for

exams and prescriptions, and driving from place to place are all time-consuming parts of the process that offer women little value. They would rather spend their time getting results and information about their health.

IT SAVES FACE

Women want to take care of themselves without the judgement of others. Stigmas and taboos around female sexuality make many health care transactions so embarrassing, women dread or avoid them all together. Health care providers can't assist women who don't come in, and women end up with preventable problems like unplanned pregnancies or untreated infections. The vending system is designed to be used without forcing women to face anyone else. No asking, no permission, no shame.

Next steps

Because of the positive feedback I received from many women, including health care providers, I feel I made progress designing a solution for the problems I identified in my research. If the Lady Business project were to continue, next steps would include seeking support to build the machine, continuing to develop the product lines and building relationships with organizations to pilot the self-service in restrooms.

POSSIBLE PARTNERSHIP

I think Carnegie Mellon's University health services would be a great partner for Lady Business implementation. Early in my project I interviewed with an advanced care clinician, but didn't seek any official partnerships because I wanted the freedom to innovate beyond current health care policy restrictions

on prescriptions. After seeing the successful Shippensburg University implementation of a vending machine, I can easily envision a machine at the student health clinic, as well as others in dorms and campus bathrooms. Current vending machines at school offer free pads and tampons, and I think a good first step would be to also provide free condoms.

PRODUCT REFINEMENT

Opportunities for further refinement would be the development of instructions to meet the needs of users in the restroom. Women voiced the desire to have something to read during times of urgency or discomfort. The instructions in current medications are often too detailed and scientific to be helpful. Lady Business would need instructions written in a simple, straightforward tone.

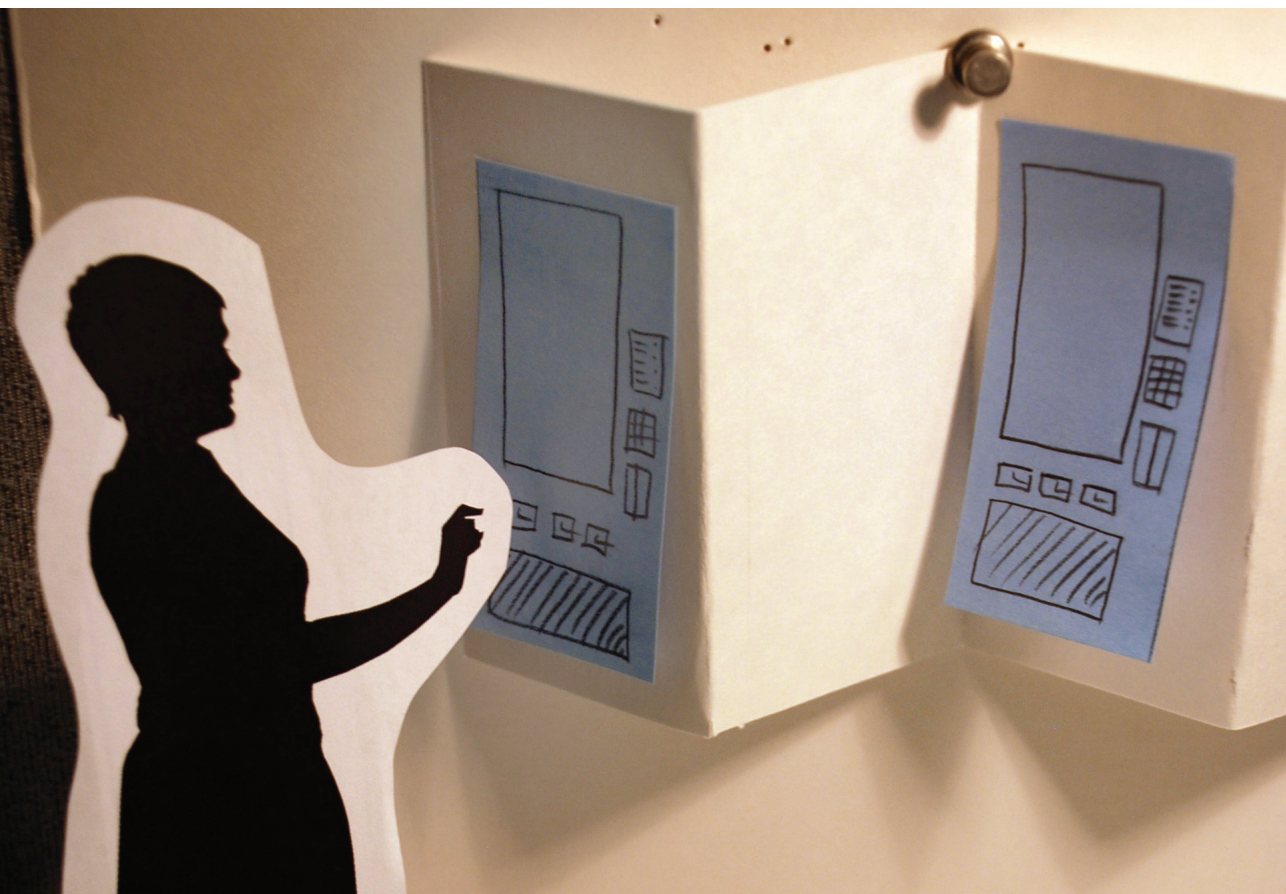


The vending machine form factor could be developed with the help of industrial designers to maximize the number of products available for sale while accommodating the packaging shape.

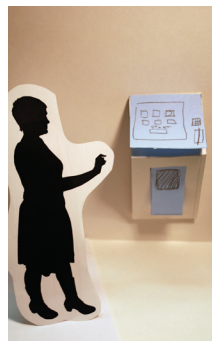
BUSINESS MODEL

Business strategy would need to be elaborated to determine cost and profit, as well as supply and distribution. Products could be purchased as white-label generics then re-packaged under the Lady Business brand.

Lady Business could be developed as a self-service for college campuses, women's clothing stores, or popular coffee chains. Other services could be bundled with the vending service, such as restroom cleaning and interior design. A "Lady Business" branded restroom could include both the products for sale as well as a guaranteed clean and pleasant experience.



Working in miniature allowed me to develop multiple iterations of the vending machine shape quickly. Ten tiny paper vending machine model are paired with a paper doll to experiment with the angle of approach for privacy.





Full size cardboard prototypes of the early designs were tested by women for ease of use and feeling of privacy. While women liked being shielded from view, they also felt that side panels took up too much space and could be clunky in a small restroom. The corner shaped design worked because the woman can naturally block it with her body. Having the product dispensed at waist height means she can slip it into a pocket quickly.





Vending machine

The final design. A triangle shaped vending machine with simple user interface. Offset buttons conceal product choice and payment can be made with a credit card or student ID. The vending machine offers a range of female health products as well as the self-care kits designed by women. Products include:

- Emergency contraception
- Pain relief
- Panties
- Wipes
- Yeast infection test and treatment
- Pregnancy test
- Urinary tract infection test and pain relief
- Oral contraception
- Tampons
- Maxipad
- Condoms
- Personal lubricant

How to use the self-service



The Lady Business vending machine prototype installed in a public women's restroom.



The woman can tuck the small package into a pocket or purse. She walks into a stall to open and use the product in private.



Self-care kits



lady business
just testing
TWO TESTS FOR
HPV + HIV + SYPHILIS
GONORRHEA + CHLAMYDIA

lady business
piss off
URINE TEST STRIP +
URINARY PAIN RELIEF

lady business
don't panic
PLAN B + PREGNANCY TEST



lady business

yeast beast

YEAST INFECTION TEST +
ANTIFUNGAL TREATMENT



lady business

aunt flow

TAMPON + PAD
PAIN RELIEF + CHOCOLATE



lady business

date night

CONDOM + LUBRICANT
WIPES + PANTIES

Proposed customer journey



Loretta's not feeling well, so she goes to the ladies' room



She uses her student ID to purchase a self-care kit



She takes it into a stall for some privacy



The diagnostic test tells her something is wrong—she'll make an appointment to see the nurse



In the meantime, she takes pain relief tablets and drinks water



She finishes up and gets back to class

Conclusion

This design departs from the current brick-and-mortar/face-to-face model we rely on now for care. The proposed self-service has potential to impact a woman's care and give her greater responsibility for meeting her own needs.

If a woman feels ill, she can go to the restroom, take a test, and get some relief. She can use the product right in the stall, or slip it into her clothes or purse and take it home. She doesn't have to drive

anywhere, talk to anyone, or have insurance to use the service. If she does need medical care, she is armed with information about her condition, such as a test result, and she's not waiting to be seen to get some relief.

This project addresses these obstacles to care and proposes a new model of care centered around women's comfort, convenience and self-knowledge.

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Appendix

"Falseness" in service design ethos

Designing for Service, Fall 2011
Instructor: Miso Kim

"Imagine worlds in which humans feel at home."
Klaus Krippendorf, *The Semantic Turn*

In pursuit of crafting authentic and meaningful service experiences, artificiality is a useful tool for designers. In this essay I will discuss my role as rhetor as I pursue my thesis project creating a self-service design for women's healthcare. Using Sudheer Gupta and Mirjana Vajic's framework for dimensions of service experiences (Gupta and Vajic 2000, 36), I will argue that the strategic manipulation of space, user participation, and social interaction can promote an ideal environment where a woman takes a leadership role in her own healthcare. By purposefully creating imaginary products and service mechanisms, my project will advocate for a shift in control of health care services from doctors and pharmacies to the patient herself.

Because service is an intangible experience, Christian Gronroos says that service providers will often "tangibilize" the interaction with "concrete, physical evidence" that helps shape the user's perception, (Gronroos 2007, 29). An everyday example of service evidence in women's health care might be the website of a health care clinic a patient uses to make an appointment. As a designer, I was first inspired to consider false evidence when I read about designer Ronen Kadushin's conceptual, open-source "Bearina" intra-uterine device (IUD). Made from a one-cent coin and shaped like the head of a teddy

bear, this piece of “design fiction” was not created as a product ready to sell, but as a “political product” intended to “disrupt” the monopoly of large pharmaceutical companies on contraceptive technology, (Kadushin 2011). It was shared as an open-source model in order to invite collaboration from forward-thinking organizations who could further develop the low-cost prototype.

In Aristotle’s Rhetoric, it is “artificial proofs” that make one a master of rhetorical argument. In a discussion of trial argument styles in a legal case, Aristotle compares the method of presenting only the facts and relevant laws (forensic argument) with the work of the evaluating character and arousing emotion (deliberative oratory), (Aristotle and Freese 1926, 7). Aristotle states that the function of rhetoric is “not so much to persuade but to find out the existing means of persuasion” (13). The rhetor does not argue for what is false, but chooses a communication strategy. She may seek to establish a strong moral character, to stir up emotions, or to present a strong line of reasoning (17). Aristotle recognizes that rhetoric “which is true and better is naturally always easier to prove and more likely to persuade.” As a designer and rhetor, I must identify the means of persuasion that will ring true with the potential consumers of my self-service design. By researching existing health care mechanisms and identifying their weaknesses in delivering service experience, I can also make a political statement through design fiction. While I do not intend for my thesis project to be fully operational at the end of the year, I do hope to present it to the public as a set of inspirational tools and ideas for the women’s health care community.

Gupta and Vajic's framework identifies three dimensions of a service experience: the physical space, user participation, and the social environment, (Gupta and Vajic 2000, 36). First, let's look at the current physical spaces for women's healthcare. If a woman wants to obtain long-term contraception or has a common infection, she must coordinate three layers of service: a medical facility for consultation, a pharmacy for her dispensed supplies and an insurance policy for payment. In an ideal situation a woman has access to all three and she is able to obtain the required care. However in reality, the service environments of these organizations can be problematic. Clinics may have limited hours, may not have available appointments, or may have complicated websites or phone trees. Once inside the clinic, a woman is in the domain of her health care provider and is no longer calling the shots. She is usually undressed, undergoes a pelvic exam, and is interrogated for her medical and sexual history. At the pharmacy, she again may encounter inconvenient hours, long wait times, or difficulty with her insurance information. Her supply is limited to the insurance company's regulation, so even though she may plan to use her form of contraception for a year, she can only get a monthly supply, forcing her to return again and again.

These environmental service constraints are significant because they place the woman at the bottom of the balance of power, and she knows it. Mary Jo Bitner links the "atmospherics" of the physical surroundings to the behavior of customers and employees in a service scape, (Bitner 1992, 57). With this knowledge, I hope to alter the architecture of the healthcare service scape to support my project's strategic goals. I suggest the installation of a mechanism for dispensing self-diagnosis, self-treatment, and contraceptive female care products

in women's public restrooms. Through rigorous prototyping, I hope to explicitly visualize the scenario where a woman is able to attend to her own healthcare needs in her existing environment. An accessible and semi-private space such as the restroom feels more familiar to women than the specialized environment of a clinic or pharmacy, which is designed around the needs of employees rather than the patients. While self-service healthcare is not appropriate for complex or life-threatening situations, the technology exists for women to administer their own dipstick or urinalysis tests for everyday ailments and certainly for them to swallow a pill for treatment. In obtaining contraception or diagnosing a common infection, a clinical environment is not always necessary and can ironically be a barrier to obtaining care.

Next let's explore the social environment for a self-service health care design. The means of persuasion for questioning the existing health care conventions lie in the unintended consequences of interactions between a woman and the "gate-keepers" of her health care needs: medical providers, pharmacists, and insurance companies. The current practice for obtaining long-term contraception entails a medical visit. She must deliver the "right answers" to her doctor in order to secure the method of her choice. At a recent gynecological exam, I was asked dozens of questions about my personal life, my family's medical history, and my body while sitting naked in a cloth gown on an examination table as my provider typed my responses into a computer. I knew that if I gave any indication that I was not completely healthy or brought up any questionable behavior, I'd be unable to obtain my contraception of choice.

Bitner states that “experiences are distinguished from products and services by the degree to which they interact with other customers and the employees” (Bitner 1992, 39). My service experience relied heavily on an intense one-to-one interaction with my provider, who was judging my fitness to receive the product I desired. In the self-service experience I propose, the customer does not necessarily have to consult anyone before obtaining care. Her social interaction may be limited to conversations with other women in the bathroom or may be completely private. In an attempt to prevent the feeling of privacy from becoming the feeling of isolation, I may explore a dimension of anonymous but open information contributed and shared by customers in an online feedback forum. As women use and evaluate the products, their experiences could be collected and visualized with those of other users to inform and empower their decisions.

Last, let’s discuss the aspect of customer participation in models of female health care. In the current system, a patient participates in her care by tending to the administrative details of appointment-making, insurance paperwork chasing, form-completing, and making requests to employees for her needs. Her role in the bureaucracy is to ensure accuracy and delivery of her personal information, then put herself in the hands of the provider who will dictate the course of treatment. While the burden of securing care is up to the patient, the right to decide the course of care is not. It is when a woman can’t get an appointment, is denied contraception, or is forced to bear discomfort in waiting to receive treatment that the “moment of truth” about the conventional system is revealed to the customer. Gronroos explains a moment of truth as “the time and place when and where the service

provider has the opportunity to demonstrate to the customer the quality of its services” (Gronroos 2007, 42).

Let’s consider a scenario where a patient has a moment of truth where she takes full control of her health care needs through self-service. A woman is out and about in town. She feels unwell and goes to a nearby coffee shop to use the restroom. Once there, she notices a female problem. She walks up to a vending system on the wall and purchases a self-diagnosis kit, which she performs in the stall. A few minutes later, she has the results of her test. She has an infection and needs a treatment. Again, she finds the medication in the vending machine and purchases it, then administers treatment by taking pills. She leaves the coffee shop and continues on her way. By the next day, she notices she’s feeling better. She checks the website of the vending system and reads reviews from other users. She logs in anonymously and reports which symptoms she had, what test she took, her results and her treatment.

By shifting the responsibility for decision-making to the customer, self-service sends a message that a patient is powerful and knowledgeable enough to care for herself. By informing the patient through informational packaging and instruction design, the consumer believes that she knows her body well enough to identify her symptoms and determine a course of action. A humble vending machine becomes a self-service healthcare experience by engaging the physical space, making the social interaction anonymous, and increasing the level of customer participation. This simple concept is an illustration of Gronroos’ argument that “a machine, or almost any product, can be turned into a service to a customer if the seller makes efforts to

tailor-make the solution to meet the most detailed demands of that customer,” (Gronroos 2007, 25).

I hope to make use of these fictional design stories and artifacts as the means of persuasion to argue for increased accessibility of women’s health care. Although my proposed self-service products and vending machines are not in the marketplace today, the components to build them certainly are, and the use of false evidence to suggest change and question current practice will be the core strategy of my thesis work.

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