



HeyMama

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Postpartum depression (PPD), also called postnatal depression, is a type of clinical depression that occurs after childbirth, typically arising from the combination of hormonal changes, the psychological adjustment to motherhood, and fatigue. It's the most common complication of childbirth — up to 1 in 7 women experience it, and it affects approximately 600,000 women each year in the U.S. alone¹.

Although it is treatable and temporary with professional help, only 15% of mothers with PPD ever get help². The most common treatment for PPD is medication and behavior therapy, and it works very well and fast. However, not every therapist or psychologist is well equipped to help mothers with PPD. And those who are very knowledgeable aren't widely available. This makes it even worse since it makes mothers feel that they already tried to do what they could — they sought help but it didn't work. Then it can lead to a greater sense of blame and hopelessness.

Left untreated, not only does it affect the mothers negatively, but also the impact on the children cannot be underestimated. Children of depressed parents have a heightened risk of many emotional, intellectual and behavioral problems. PPD has been linked to anger issues and withdrawal in infancy, aggression, anxiety and lower IQ scores in school-age children, and drug use, alcoholism and ADHD in teenagers³.

Becoming a parent is one of the most profound and important life transitions we ever face as adults. It changes our lifestyle, relationships and our whole sense of who we are. Women are more at risk of experiencing emotional difficulties following the birth of a baby than at any other time in their lives. Dramatic physical and hormonal changes, chronic sleep deprivation, new responsibilities and a new identity can be very stressful and anxiety provoking. So how could we prepare new mothers for this challenge? How could we help mothers who are suffering in silence to get the support that they need?

¹ <http://postpartumprogress.org/the-facts-about-postpartum-depression/>

² <http://psychcentral.com/lib/5-damaging-myths-about-postpartum-depression/>

³ <http://www.kevinmd.com/blog/2013/10/postpartum-depression-affects-children.html>

PROCESS

1 DEFINE

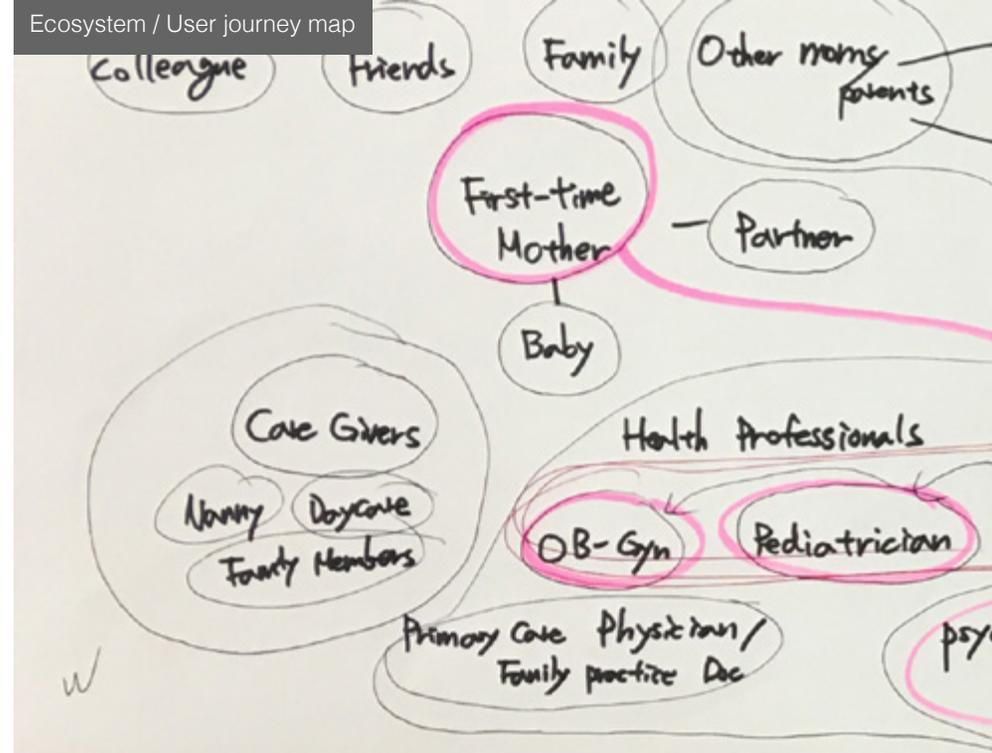
SCOPE

First, I wanted to better understand the space that I have chosen to work in. So I **mapped out the ecosystem and user journey** to identify stakeholders and potential entry points for my intervention.

I was able to see that the mothers interact closely with their partners, friends and family and are influenced by health professionals, caregivers and other mothers. I found prenatal checkups and well-child visits to be good opportunities to engage mothers regularly. Also, events such as the baby shower or the birth could be interesting windows to engage mothers and the people around them.

Looking into the user journey map, from evaluation and diagnosis to treatment happens within the clinic. If a mother has successfully placed her first appointment with a mental health professional, later steps are likely to follow. However, the process until that point — from discovery and screening to the first contact with professional help — seems to be most daunting.

In fact, recently the U.S. Preventative Service Task Force recommended that



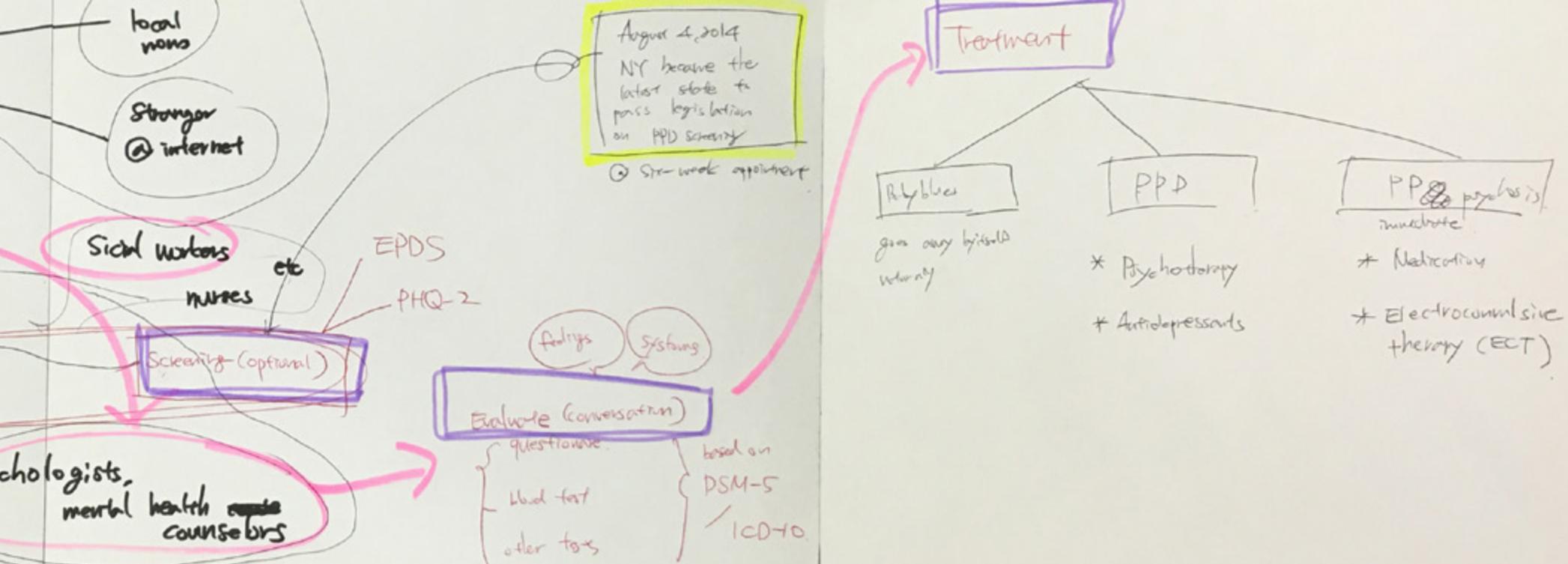
all pregnant women and new mothers should be screened for depression¹. But currently less than half of health professionals makes a point of asking mothers about possible depression². And only 14% of women who screened positive actually made an appointment for evaluation and care³.

Screening is the problem and opportunity
in overcoming PPD

¹ <http://jama.jamanetwork.com/article.aspx?articleid=2484345>

² <http://journals.lww.com/jrnldbpp/pages/articleviewer.aspx?year=2016&issue=02000&article=00001&type=abstract>

³ <https://www.seleni.org/advice-support/article/do-laws-on-postpartum-depression-screening-help-women>



The importance of screening became even more evident as I spoke with more mothers. There are different degrees of depression, from baby blues to postpartum psychosis, but the kind of stories that mothers knew from the media were only the extreme cases.

"I knew I didn't have PPD. You almost have to have a desire to harm your child so I knew I wasn't PPD" - Research participant

From the perinatal mood and anxiety disorders (PMAD) screening training from Seleni Institute, I learned that more than 80% of mothers experience baby blues and 15-20% experience PMAD, yet only 0.1-0.2% experience postpartum psychosis, which has the symptom that the above research participant describes. So it's critical for mothers to know what is normal sad (e.g. baby blues that will fade away on its own 6 weeks after the childbirth) versus worrisome sad (e.g. symptoms of PPD), and the screening has a huge role in helping mothers to know whether they should be concerned and seek medical help.

TARGET AUDIENCE

According to some research⁴, women living in big cities have higher rates of poor social support and higher rates of PPD. And first-time mothers are at higher risk, especially during the first year after the birth. Most mothers experience baby blues during the first 6 weeks, but if those symptoms continue after 6 weeks, it's considered to be PPD. So my thesis was focused on **first-time mothers with a baby 6 weeks to 12 months old living in the New York City metropolitan area**. It's important to note that New York became the 3rd state to mandate PPD screening in August 2014⁵, yet all 8 mothers that I have been working with said that they haven't been screened.

4 <http://www.cmaj.ca/content/early/2013/08/06/cmaj.122028>

5 <https://www.governor.ny.gov/news/governor-cuomo-signs-legislation-provide-support-new-mothers-and-families>



INITIAL APPROACH

RESEARCH: IN-HOME INTERVIEWS

To understand the underlying reasons for the problem, I started my research by doing **in-home interviews** with mothers that met the above criteria. Through this process I was able to hear their stories of the pregnancy, birth and motherhood. More importantly, I was able to learn about various emotions that they went through and their perception of PPD.

LACK OF PREPARATION

The first theme that was common from all mothers was that they were not emotionally prepared for the challenge of motherhood.

“I don’t think anyone could be prepared. Being single and suddenly you are responsible for another life is such a big responsibility. In a way it’s a little burden too.” - Research participant

“They don’t prepare you for what’s to come after, they only prepare you for what to do while you are pregnant. When the baby is born how to take care of them. But no one teaches you how hard it is just as a female because

you have a physical pain, breastmilk and you don’t know what to do” -
Research participant

Apparently cultural nuances make it even harder for mothers to share the full picture of motherhood, worsening the stigma, fear and misunderstanding around PPD.

“It is a subject we find too uncomfortable, too dark and too shameful to talk about. In our minds and culture becoming a mother is a subject that should only be a positive one. A topic only littered with talk of baby names, growing bellies and hopes and dreams of the future. It is a subject we shouldn’t be seen to ‘tarnish’ with talk of anxiety, depression, self-harm and trauma.” - Olivia Siegl, Huffingtonpost UK blogger⁶

SOCIAL CONTEXT & SENSE OF ISOLATION

Second, mothers greatly struggled with a sense of isolation. Especially not being understood by people around her and getting unmatched help or unwanted advice made a mother want to shut herself in. Key insights were:

- During pregnancy and after birth, a mother’s circle of friends often shrinks to a just handful of important people.
- It’s hard to predict who will be most helpful until it actually happens: “A lot of times the people you think are going to be the bigger helpers are not always, and the ones you least expect are.”
- Mothers feel isolated, not because they don’t have people to be in touch with, but because they are doing it — parenting — by themselves. They appreciate the mental support, but it isn’t enough: “End of the day, you have to do it.”
- Mothers automatically take parenting responsibilities onto themselves — it’s guided by natural instinct, rather than a thought-through process. “In that way, we are more like an animal. You forget how hard it was, you don’t

6 http://www.huffingtonpost.co.uk/olivia-siegl/postnatal-depression-stigma_b_6217350.html

think about it, you just do it.” It means mothers are not even aware that they can get help, and/or share responsibilities with others. “No I’ll just do it. I’ll just do everything myself.”

- Mothers express a strong desire for partner engagement. “I want him to understand what we go through, every little thing, so they could be extra grateful, extra thankful, extra sensitive. I just want them to be more in touch with me and my feelings.” But husbands don’t know how to help even though they really want to. Often their conversations are like:

Husband - “I want to be helpful, but tell me what should I do?”

Wife - “Why do I have to tell you? Why do I know?”

“He wanted to, he just didn’t know what he could do. I was so in it emotionally that I couldn’t express what I needed.”

- Mothers have different identities for different environments and social circles (e.g. when she’s at work she wants to be seen as a businesswoman, not a mother). When people treat her differently than her self-identity, it makes her feel isolated.
- Not all forms of help are helpful. For example, when a mother gets help from a professional setting, she doesn’t like it because she feels that being a mother has overwritten her professional identity. Also, some help is seen as “bothering” rather than being helpful (e.g. too frequent visits).
- Kind advice doesn’t really help mothers feel better, and sometimes it makes them feel worse.

THE MOTHER’S PARENTAL JOURNEY

Third, I was able to learn more about the mother’s emotional journey, broken down into a specific segment of time. The key insights were:

- The first year is blurry for most of the mothers.
- Mothers use fewer parenting resources at the postnatal stage (e.g. they were checking the Baby Center daily during the pregnancy but not looking for any resources once the baby is born).

- Since it’s really hectic at the beginning (especially birth to 6 weeks), the mother wants to be left alone. Even when their partner wants to talk they reply, “I just want to be alone”.

- There’s a progression of the mother’s need according to the development of the child (e.g. in the first 6 weeks, all she wants is more sleep and a decent meal, but later she wants to gain a sense of self).

- There’s a strong link between the baby’s physical development and the mother’s emotions and mental status (e.g. as interaction between mother and baby increases, it confirms that she’s doing a good job and she becomes more confident in parenting).

- Over time, not only does the mother become more confident with parenting, but she also starts having a better sense of her capacity and awareness of the limit of what is realistically achievable each day. She accepts having limited time and resources, and finds her own way to work out the solutions and be balanced. She learns to compromise, reset priorities, and set up needed boundaries. However, it’s a step-by-step process — learning to adjust as a parent and finding a happy medium in a new identity takes time, and it can’t be a one-time fix.

- It’s important for mothers to be aware that it will pass. “There’s a start and there’s end. You are going to recover. You are going to feel better, it’s a process.”

- Having “me time” helps mothers to reflect on their feelings and be more rational about parenting, whereas before having that, they were too emotional.

RESEARCH: OBSERVATION

Currently, postpartum depression screening is done by using questionnaires like the Edinburgh Postnatal Depression Scale (EPDS) or Patient Health Questionnaire-2 (PHQ-2) that asks mothers whether they've been feeling down, depressed, hopeless or having suicidal thoughts. To test my assumption that the current screening tool is uncomfortable for mothers, I **went out and observed** how they reacted to the questionnaire. I went to a grocery store and stopped mothers and showed them the questions on the paper without telling them what it was — the heading of the questionnaire was removed.

Interestingly, a lot of mothers said they felt OK answering those questions. But I could understand why once I heard the following:

“I feel comfortable to answer those questions, because I feel good now. But if you are someone who needs help with moods, probably you wouldn't feel as comfortable as me.”

I noticed that a lot of mothers emphasized that they were feeling good and happy now. And when I brought up the topic of depression, they talked only about someone else's story. I realized that before they even answered the questionnaire, pre-screening was happening in their heads. They were asking themselves, “What is this for? Who is she? How do I want her to see me? Do I feel good? Do I want to get help?” So unless they were aware that they were in need of help and knew that the person who presented the questionnaire was someone they could trust in getting help, they wouldn't necessarily answer correctly or honestly. That gave me the insight that mental health screening isn't like a blood test — it highly relies on subjective answers from the mother at the moment of enquiry.

Another thing that I learned from this observation was that actually mothers were not afraid to talk about PPD. It was more about how we frame it and in what context we are talking about it. The problem was not the topic itself but the fact that we don't know how to talk about PPD and don't always have the space and time for this kind of conversation. People were much more ready than I thought — especially if they were at the pre-birth stage.





Conversation around PPD is much easier if they are at the prenatal stage or they aren't experiencing any symptoms of depression yet

DESIGN CRITERIA

These insights from the initial research helped me to come up with the following design criteria for my intervention:

- Involves others
- Shifts attention to the mother
- Fits with the current routine
- Credibility (professional medical person should be involved)
- Makes it easier to have the conversation
- Addresses underlying fear (child being taken away, effect on insurance and job, judgments or conflict from/with others)
- Relies less on the mother: intervention proactively reaches out to mothers and follows up
- Engages mothers when they are not already overwhelmed by the baby and depression



IDEATION

To get started with collecting ideas for my intervention, I did a **competitive analysis**. Through that I could see that there's no intervention during pregnancy. And most interventions rely on the mother to initiate the program/ service to get the benefit.

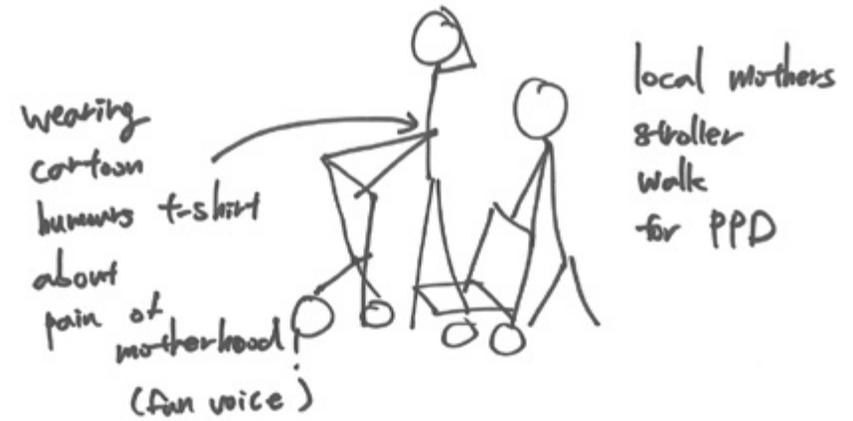
Competitive Audit

	Mood Matters by Ginger.io	Screening Mental Health	BabyCenter Community	Listening Mothers	Edu & Support Sessions	MY THESIS...?
On/Off Site	Off site (app)	Off site (online screening) & On site (kiosk)	Off site (online)	On site	On site	Off & On site
Privacy	Private	Anonymous	Online profile	In-person closed group	In-person session	Anonymous
Credibility	Healthcare providers & MIT data scientist	Healthcare professionals	Word of mouth	Trained facilitator	Psychotherapist	
Frequency	On demand	On demand	On demand	Weekly for 8 weeks	Set of sessions (1 or more)	
Participation	Continual active use of app is required. Push notification provided.	User initiated instant screening	User needs to check out forum actively	Need to sign up and physically attend the classes	Need to sign up and physically attend the classes	Service actively reaches out for moms
Collaboration / Support	No	No	Yes	Yes	Yes	Yes
Screening	Yes	Yes	No	No	No	Yes
Referral	No	Link, No follow-up	Maybe	No	Maybe	Yes
Information	Provides tips	Provides articles via resources	Based on user contribution	Based on curriculum	Provided through educational session	Yes
Pre/Postnatal			Postnatal	Postnatal (birth – 6 months)	Postnatal	Pre + Postnatal
Self-reflection	Notes + Tracking Symptoms	No	No	Encourages	No	Journal + Help them to recognize symptoms
Self-help Actions	Calm Down Kit, Exercises	No	No	Encourages	No	
Cost/Access	Free Smartphone	Free Internet	Free Internet	\$195 (partial scholarship available) Local group with 5-8 moms	Free Local organization/ provider	

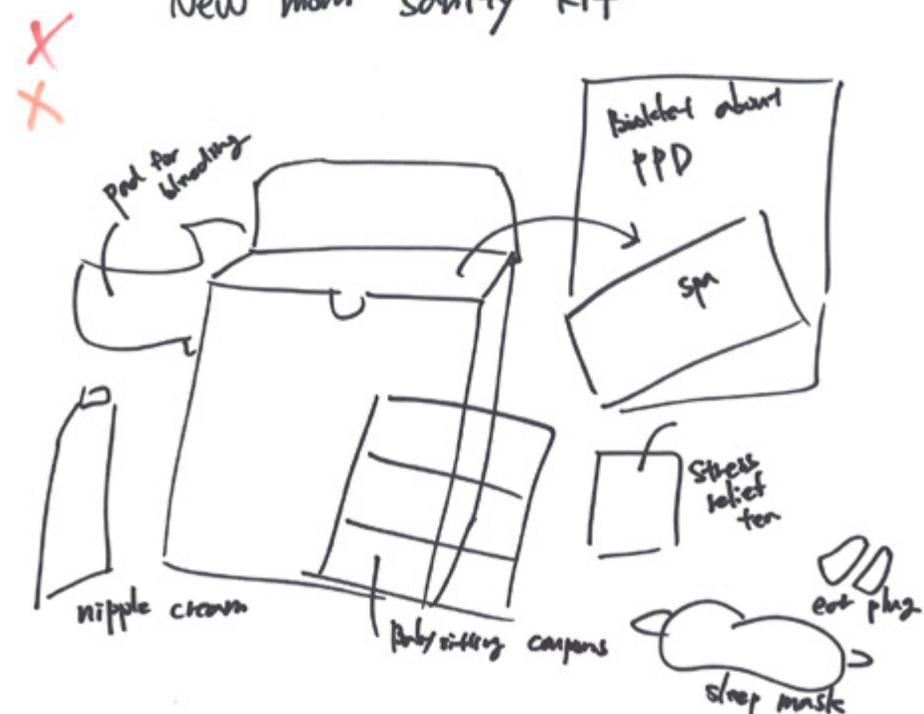
Stroll to Speak

Then I looked around for **inspiration** from other industries and did quick sketches of ideas around my key questions as follows:

- How could women share their feelings about this uncomfortable topic? How could they open up?
- Once a mother notices that she might be at risk of PPD, how could she go about getting the right information regarding available PPD resources and treatment?
- How could people around the mothers pay attention to them and identify symptoms of PPD?



New mom' sanity kit



Nanny' Emoji

1-B



Emoji set of both positive + negative experience of motherhood

Sistalk

2-A



help line call

+



+



online chat



preselect topic



Card game

3-B



game to talk about PPD symptoms and learn what to expect norm vs. need help

Daily 30mins Complain/whine time

3-C

No sleep for ...



kept crying...

or



As I was collecting and sharing those ideas with others, my questions evolved into:

- How could women share/open up/talk about uncomfortable info/feelings? (taboo issues)
- How would they then go about getting the right information?
- How could people around them identify the symptoms of PPD?
- How could mothers not feel that they are doing it by themselves?
- How can mothers identify symptoms?
- How can someone else collaborate with mothers?
- How could we be emotionally prepared for motherhood?

Then under each question, I threw as many as ideas as I could think of by taking quick notes and sketches on stickies. I left that board in my room for a week, adding new ideas as they came up. By the end of the week I had about 50 ideas, but they were all over the place and I wasn't clear how they really addressed the problem of PPD screening. So I grouped those ideas under the journey of motherhood and was able to spot three buckets of ideas.



3rd Trimester
29-40 weeks

Birth!

2-4 days in Hospital

First Birthday

2 yrs

Weekly prenatal checkups
Week 26 - birth (optional)

1 month well-child visit

6 week OB/GYN appointment

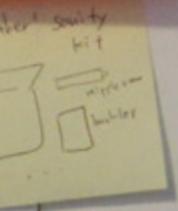
2 month Well-child visit

4, 6, 9, 12 month well-child visits

12, 18, 24 months well-child visit

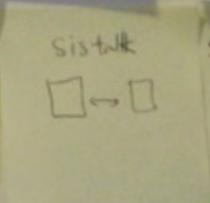
Baby shower

Birth classes

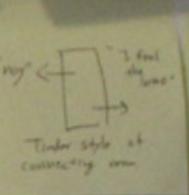


Stop talking
Education to set right expectations and what to look for

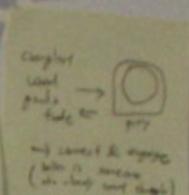
PPD driver or Cafe + Documentary



Smaller walking buddy



Arranged support by musician's



Engage if aware when others are talking to: + practice making connections + question in pointing or baby's body/development

Emoji

Invite-out storytelling

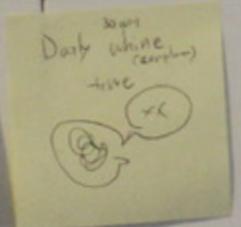
Notice ^X and start to have a Concern

(optional) ^X Screen Decide what to do about the result

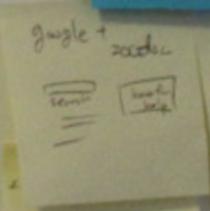
Looking for solution/help

Make a First Appointment

First Appointment & Evaluation



Household device that detects motion/mood + journal



+ Youtube search + plan to velocity + Baines

Card game
new names vs word help

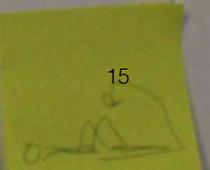
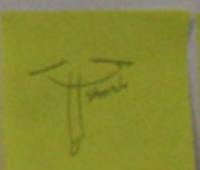
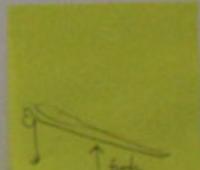
* Alert
* Monitor
* What to look out for

* Self report: frame or build tracking app Swags

Ask people around (so) Ask parents GP, OB/GYN

* help line, center + build into picture + Signs

* Books + Journals
* Workshops, courses
* Self-report table

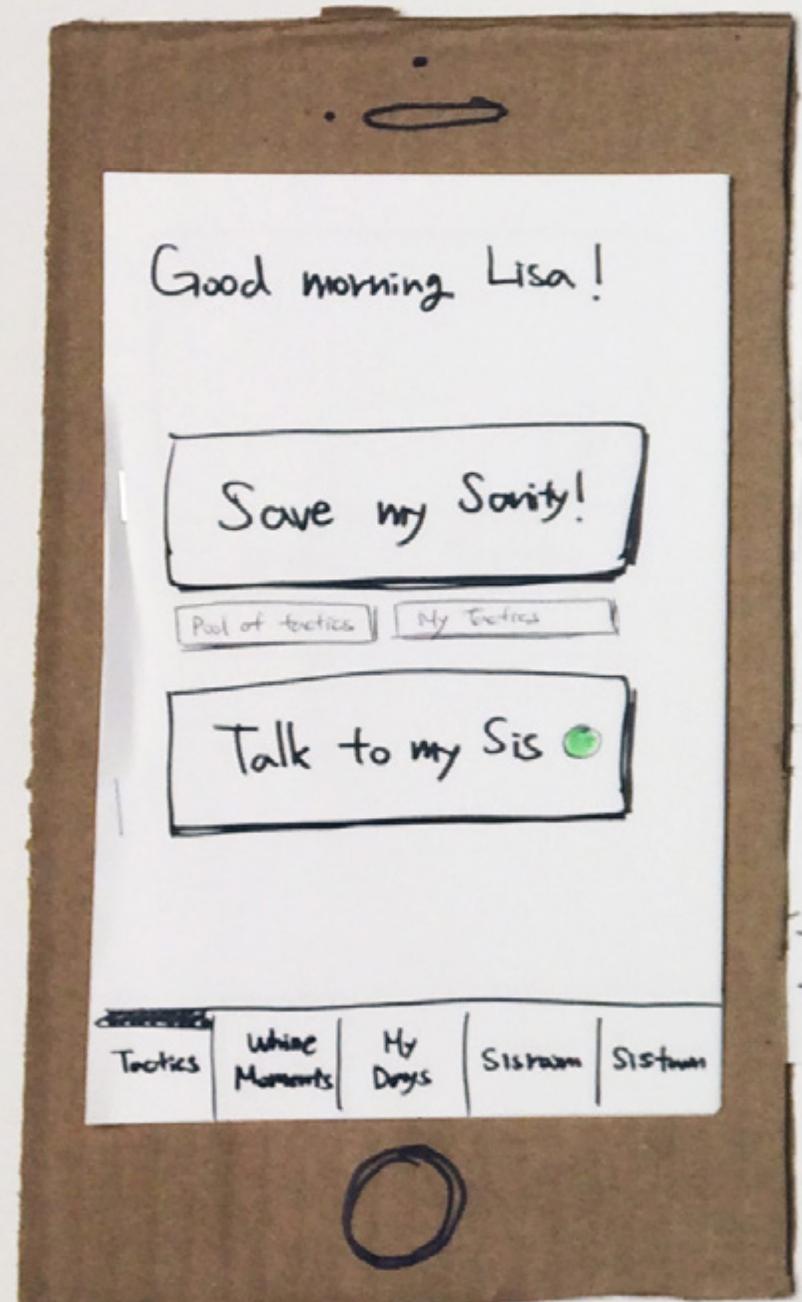


CONCEPT 1. MAMA SANITY APP

What if there's an app for mothers to use when they are stressed? She can tap the "Save my sanity!" button and it will give her stress relief tactics (e.g. breathing exercises). She can also talk to her mate (this person can be chosen from her existing friends or family, or she could be matched to another mother in the Mama Sanity community) and share the moment of stress. Based on her record and pattern of stressful moments, the app will determine whether she might be at risk of PPD and pop up questions from the screening questionnaire for her to take. The app will also make regular suggestions to help her manage perinatal stress.

Another important piece of the app is recording her day. At the end of each day, the app will prompt the mother to evaluate her day with questions that ask about her appetite, energy level and sleep quality. The daily questionnaire also asks her to choose any statement or emotions that she's felt that day, such as, "Today I worried, cried," "Today I felt happy, overwhelmed, upset, guilty, hopeless," "I look forward tomorrow, I blame myself." Those are all based on the symptoms of PPD, and by keeping a daily record of them the mother can have data about her moods in one place.

Key point	Peer + Self Help
Mental connection	Moments of discomfort or stress, when she is bothered by some thoughts or feelings
Screen	Daily quick records (My Days data & trend), whine moment journal notes or messages
Access to treatment	After the initial suggestion by mate or data tips/ suggestions, staff makes referral and follows up
Motivation	Stress relief, troubleshooting, reduce risk and/or protect her wellness - "save my sanity!"
Remind/follow up by	Mate or staff/volunteer mother



Mama Sanity App

Motivation: stress relief, reduce risk & protect her wellness.

Prep	Notice/Have Concerns	Screen	Search + Make Decisions	Make a First Appointment
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<Entry>
 * Google search
 * Mother's sanity kit
 Gift set @ baby shower

<Match up> optional
 * Tinder-type
 * Stroller walk/speed dating (educate event)
 * Local product trading

<Education>
 * welcome video
 * what to look out for to stick to the forge + quick tips
 * other sis stories
 * be a goal sis training

moment of stress, discomfort or when something bothers

Quick record what that is

- Daily quick record of (stricker)
 - 1) appetite, energy level, sleep quality
 - 2) mood highlights
 - 3) daily wine time
 => Data trend

- Quick record what that is
 - choice { verbal msg / journal
 - { written msg / journal

(can integrate with other match app or wearable)

* Your sis bring up her concerns

* Data track recommendations
 -> "would you like to talk to nurse/volunteer/warrior sis?"

referral managed by staff

offer option for introvert and extrovert.

reward each record with tips, resources for Mama's sanity, stress relief. Not only suggestions but try to be REAL help.

New sis ^{in town}

Warrior sis

↑ advanced training, advocate role

Follow up: SISTERS

Self help + peer

+ game

CONCEPT 2. MY VILLAGE

What if we use the baby shower to not only celebrate the upcoming arrival of the new life but also to build a support system that the mother needs? The guests at the baby shower are invited to be the mother's village citizens, and after the birth they will have an online group that is dedicated to supporting the mother.

The mother will record her happiness level daily -- which will be viewable by all village citizens -- and regularly share updates on how she is doing, like a Facebook timeline. From the list of citizens, the mother can see who is available for a talk at any moment and reach out to them for help. There will be regular announcements on what kind of help the mother is currently looking for, and any citizens can comment on which part they are volunteering to do (e.g. babysitting, cleaning, preparing meals).

As part of the village, there's a counselor who will check in with the mother via weekly calls. The counselor will ask generally about how she is doing emotionally and give any needed advice.

Key point	Social Support
Mental connection	Help her to regularly check and focus on how happy she feels (whether she's enjoying the moment or not)
Screen	Weekly call by counselor (part of village citizens)
Access to treatment	Counselor makes referral and follows up
Motivation	To connect and be supported by people around her, share & celebrate, memoir
Remind/follow up by	Village citizens



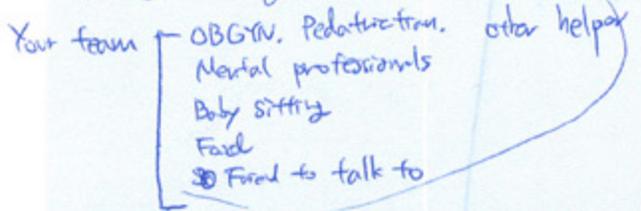
My Village

Motivation: supported by people around her. share & celebrate, memore.

Prep	Notice/Have Concerns	Screen	Search + Make Decisions	Make a First Appointment
------	----------------------	--------	-------------------------	--------------------------

<Entry>
 Baby registry / Baby shower
 Shopping baby products

<Build your village>



<Village Education>

Documentary Dinner (or baby shower)

Village welcome letter.

Village training / team building session

- weekly check-in call to verbally
 - EPDS
 - PHQ-2

with mental professionals.

X closest friend (name this role).
 this team member is responsible for helping man, making decisions and appointments.

- Daily status: (to measure happiness level)

Do I feel happy?
 Am I enjoying Motherhood?
 If not, how can I make it to be more enjoyable?

- prompt man to reflect at:
 - walk
 - wait
 - feed baby / eat
 - going to bed.
 - shower
 - coffee / tea

- Village people should help man to have her own moment she can do what she usually enjoy to do and prompt to use that moment to reflect herself.

Follow-up: village people

larger social

CONCEPT 3. TOTAL RECOVERY

What if there's a dedicated postnatal coach from when the mother leaves the hospital until the end of the first year after the birth? This person is professionally trained to help the mother to recover not only physically but also emotionally after the birth. The coach will make weekly visits to the mother, and after each session the mother's workbook will have detailed recommendations on her diet, sleep and stress management.

Then the mother will record the highlights and her mood on each day there and review with the coach during every visit. The workbook has weekly guidelines on what to expect emotionally, and whenever there are well-child visits (e.g. 1, 2, 4, 6, 12 months) the workbook has EPDS to screen the mother as well. The coach is making a long-term commitment to take care of the mother and will be available to chat with the mother at any time via online chat.

Key point	Clinics + Professionals
Mental connection	Emphasizing the importance of mental wellness after the birth and adjustment period of the motherhood
Screen	Daily + weekly record questions -> used/reviewed during coach visits
Access to treatment	Personal coach is responsible for referrals and follow-ups
Motivation	To recover well from pregnancy and birth - both physically and mentally, desire to "find herself again"
Remind/follow up by	Personal coach

As I was putting together those concepts, I kept in mind:

- If I were a new mother, how would I react to this?
- What am I forgetting to solve?
- What motivates them to do this? What are the incentives?
- What am I measuring (metrics)?



Total Recovery

Motivation: to recover well from pregnancy and birth — both physically and mentally.

Prep	Notice/Have Concerns	Screen	Search + Make Decisions	Make a First Appointment
<p><Entry> OB/GYN + Well child visits Hospital or birth center</p> <p><Education> Coach visit or Edu session at hospital or clinic</p>	<p>* prompt to reflect and record (short ones) of: walk, feed, wait etc</p> <p>* Text to Coach at any moment she need a help.</p> <p><Find myself back></p> <ul style="list-style-type: none"> - Nutrition - Energy (Exercise) - Sleep - Habituation (Mindfulness technique) <p>< Adjusting to a new self ></p> <ul style="list-style-type: none"> - New values. identity 	<p>* combination of daily & weekly record. (option to share with coach) PHQ-2 of weekly record.</p> <p>* EPDS at well-visits</p>	<p>Coach is responsible of referral and.</p>	

Follow up: coach

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PROTOTYPING & ITERATION

PROTOTYPING: MY VILLAGE

To test out those concepts, first, I did a roleplay of the baby shower and regular check-in call with an expectant mother.

I learned that the counselor just appearing during the baby shower was awkward. And the mother felt too exposed at the baby shower. Also, although the mother appreciated that her friends and family had thought about her and prepared the gift of “My Village,” she wasn’t that comfortable about the idea since she hadn’t opted in first.

And during the check-in call with the counselor, it was too difficult to control the conversation. The script couldn’t cover the scope of topics that could happen during the conversations.

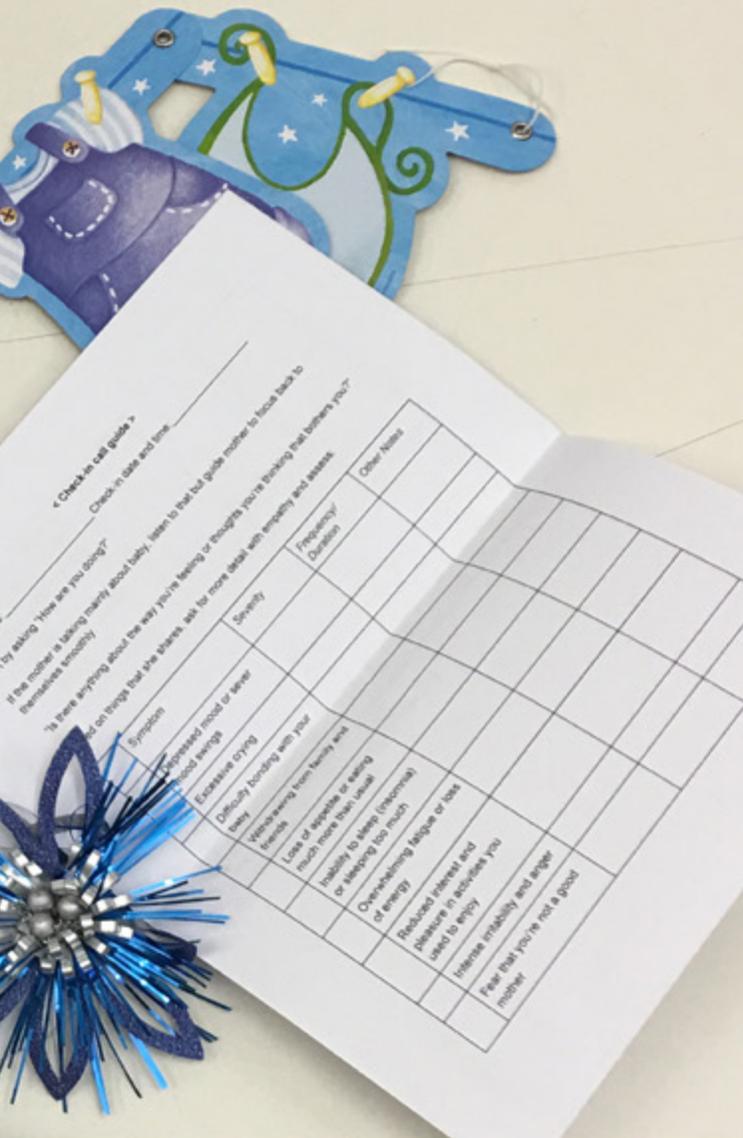
I realized that I needed to let go of my urge to have all conversations within my intervention. In reality, as long as the mothers weren’t isolated, it was OK regardless of how and where those conversations happened. Also, this prototyping experience led me to focus more on:

- What is the minimum social support that a new mother really needs? What format and channel should that be (e.g. calls vs. text)?
- How can my intervention facilitate difficult and private conversations? I need to make more private room for mothers.

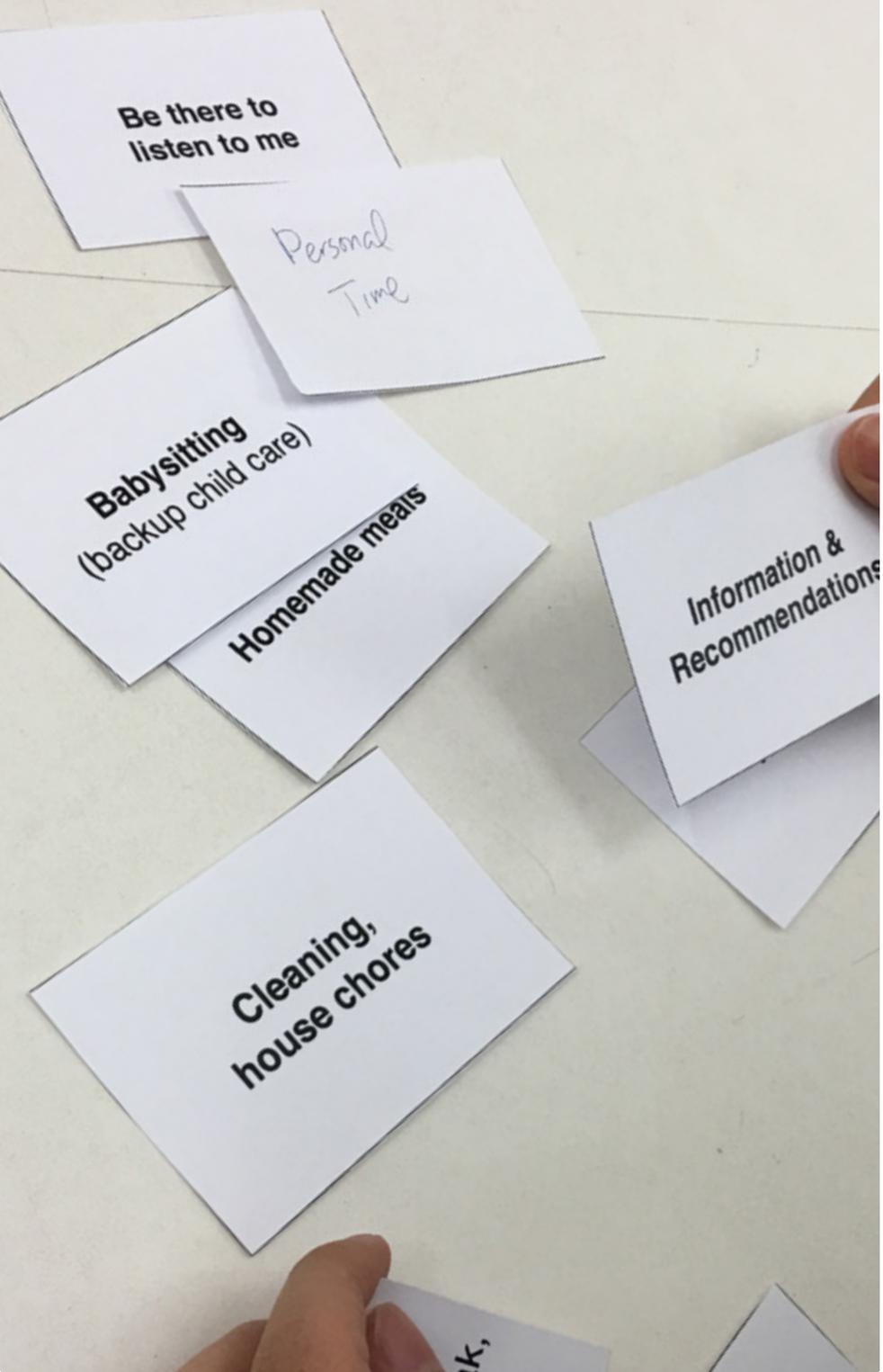


Mother' baby shower guest list

Friend, Former C
Friend from Colle
Sister
Mother
College Roomma
Friend
Friend, Former C
Friend, Former C
Friend from High
Boss of 11 years
Wife of Mark's fa
Sister-in-law



Caroline	Lives In:	Notes	Email	your physical	your	parenting or baby	career	personal finance	your lifestyle
colleague	NYC	No kids			X		X		
ge	NYC	No kids			X		X		
	Northern California	Mother of 9 and 11 year old boys		X	X	X	X	X	X
	Southern California	Mother of 4, grandmother of 5.5 ;)		X	X	X	X	X	X
te	Washington DC	Mother of 2.5 year old		X	X	X	X	X	X
	France, soon NYC?	No kids, married		X	X		X	X	X
colleague	NYC	New Mother		X		X	X		
colleague	NYC	No kids							
School	NYC	No kids			X		X		
Mentor	NYC	No kids					X	X	
family friend	NYC	Mother of 1.5 year old							
	NYC	Mother of 11, 9, and 3.5 year old		X	X	X			



those 2-3 people do not know each other nor live nearby, so it's tricky to get together as a "team".

- They don't want to over-burden others (especially for their own parents) or don't want to be seen in a certain way (e.g. weak or failing to be a mother).
- Backup childcare from the partner, friends and family seems to be most valued and needed. Mothers emphasize that this has to happen in order for them to have a little "me time" or catch up on sleep.
- Getting friends and family to help them with chores (such as cooking or picking up groceries) isn't appealing to some mothers. They feel that they are burdening others, even though other people offered first. They think parenting is something that everybody does, and they don't want to act as if they are the only one that struggles with everyday life.
- Mothers list third-party services (especially online services such as Amazon, FreshDirect, and Seamless) as helping hands, and prefer them over help from friends and family. "Why would I ask my friends to do this, if that's not what they are best at? It's a waste of their time and effort."
- On the other hand, some mothers really appreciate that they are getting practical help — especially frozen homemade meals and occasional babysitting — but don't like the idea of friends and family coming to the mother's home to clean. "I don't want people to bother me when it's so crazy day-to-day. But I appreciate resources being sent to me."
- Depending on their personalities and situations, the packages of help that mothers want are different. For one mother it was hard for her to have "me time" and she was a "do it all" type, but for another mother it wasn't as hard for her to have a daily routine of "me time", yet she still found it difficult to ask for help. For one mother, a cooked meal was really appealing, whereas it wasn't for another mother. I learned that not everyone needs the same kind of help.

Overall, the implication for my thesis is that one size doesn't fit all — there's more personalization needed for a) help from others b) who they want to share their feelings and get support from.

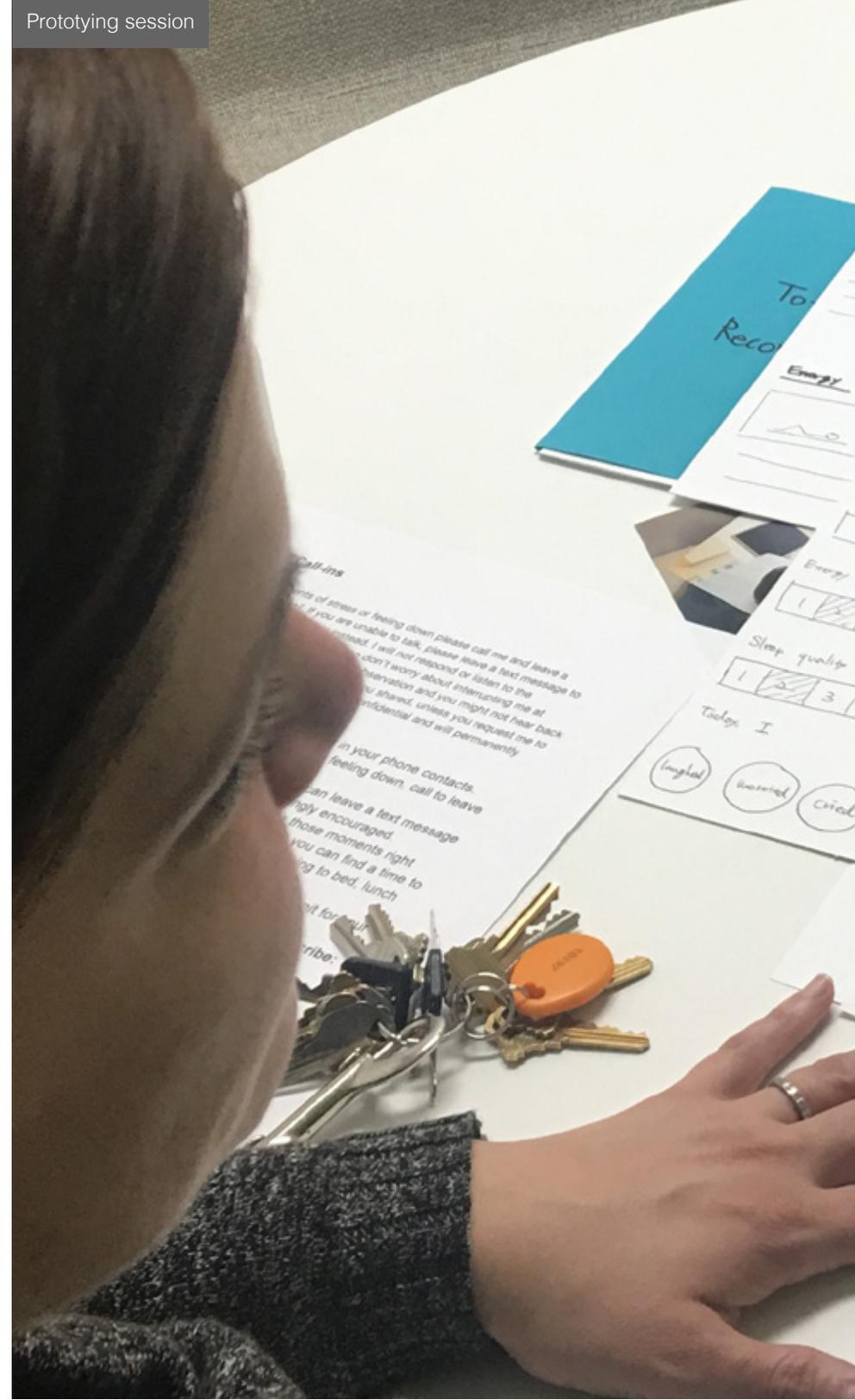
PROTOTYPING: MAMA SANITY APP & TOTAL RECOVERY

When I tested out the Mama Sanity App concept using the low-fidelity paper prototypes, I learned that:

- The daily questionnaire had too many questions, and the mothers just summarized their feelings at the end of the day instead of selecting as many as they had been experiencing throughout the day.
- Mothers valued having a place to reflect their moods back, but weren't sure if they could continue to keep up with recording it daily.
- Mothers expressed a strong desire to connect with peer mothers in similar situations (e.g. working mothers, stay-at-home mothers, mothers with more than one child, single mothers, mothers living with in-laws, mothers in schools, mothers with children with special needs, mothers with their own physical or emotional illness or disorder). That helped them to open up more about their life and feelings.
- Hearing/seeing the stories of other mothers going through (or having already gone through) similar things gave mothers a sense of assurance.
- Mothers were more resistant to sharing their challenges during the time that they were experiencing them, but later, once they realized that it was normal, they wanted to share because they wanted people to be aware that it's normal and it's okay.

Then, from testing the concept of Total Recovery, I learned:

- Don't overkill with professional help. "You don't necessary need a counselor in those times. I think it is overkill unless you need it. Some women maybe need that, but I think most women just need someone who's looking out and been through it, understand it."



Sis Unk
 Neighbors

Today

My Appointments

1	2	3	4	5
---	---	---	---	---

Level

1	2	3	4	5
---	---	---	---	---

Help need

I got sick with an

No. _____

3 Committee

5 Com



Sis Match

Cupcake

don't mind doing it but the other

Sis-bun Sister

What to look out to save your sanity

- * If you are crazy
- * It's ok to fall
- fall us 2 weeks this can

Google

Mama Safety App. Shows, manages, and shares your own location. We know it's tough to take care of by the way. Download Mama Safety app and we will help you get through these moments.

My Village

Village N

To correct

02:00 - 2:00 P

M/W/F

No. def. call

5Q 50

5Q

0:03

Save

Share

private

My Private Journal

How to thank You

They

Patronician

Julie

Councillor

Gift Set

Breath Exercise

Show me another tactic

Supportive Tactics

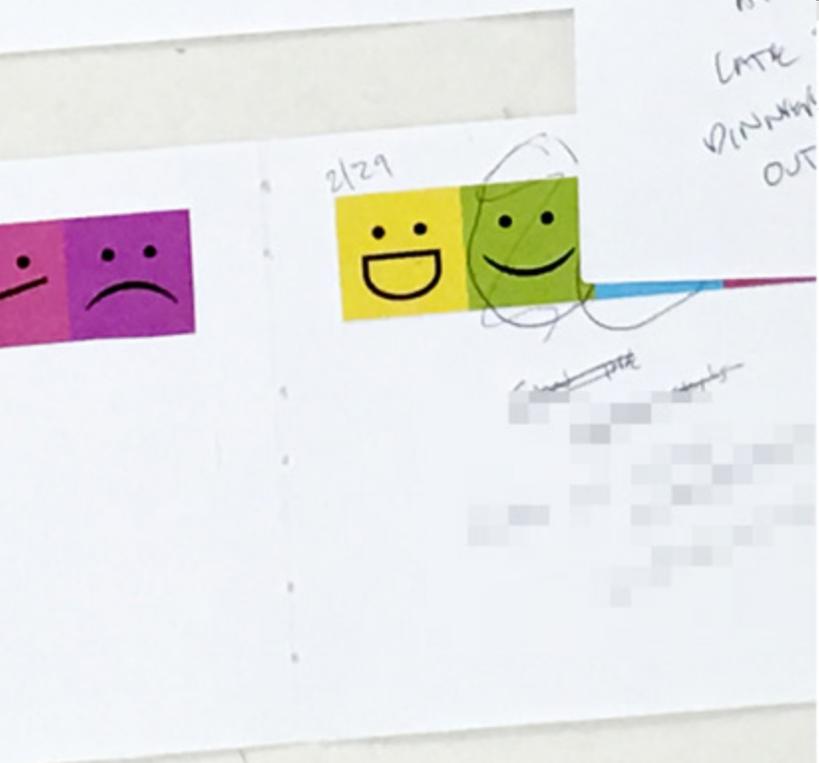
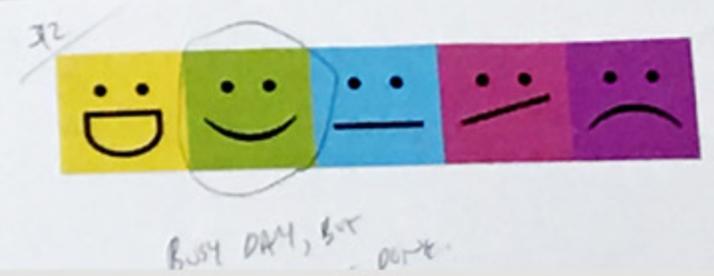
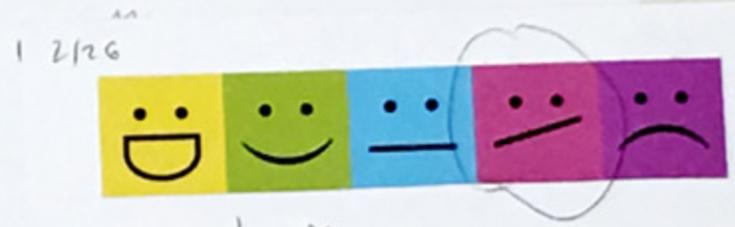


ADDITIONAL RESEARCH: CAPTURING THE MOTHER'S EMOTIONS

Also, to learn more about the mothers' emotions and how they noticed and reacted when they were stressed, I used **call-ins** and **self-documentary**. I set up VoIP voicemail and instructed them to leave a voicemail either at the moment of stress or at regular times (e.g. lunch time, before going to bed). And they were also given a small notepad with emojis to mark every day, with space to leave a note to themselves. My key insights were:

- It's hard to catch emotions when they're happening. It's better to have a routine to reflect (e.g. before going to bed, during the baby's nap).
- We all show our emotions differently. When they are stressed, one mother withdraws from others, but another mother responds sensitively to everything around her and expresses her irritation verbally.
- There's a need for consistency in recording one's mood. "In the morning I was upset but by evening I was giggly. No matter what, you are going to go through some emotions. Just trying to get more of an accurate measurement and overall of how are you doing will be helpful." It's more important to see the trend of moods (time, length and frequency) rather than noting every single emotion.





Research: call-ins

Yena

Voice

CALL TEXT

Inbox (2)

★ Starred

Voice-mails (1)

Texts (1)

History

More

Google Contacts

Voice in Hangouts

Make calls from Android

Your number: (929) 244-9464

Credit: \$0.00

Send feedback

2/18/16 7:42 PM 2 months ago

Transcript not available

03:01

Call Text more

Me to 2/16/16 9:24 PM 2 months ago

Me: Thanks I got your message! I appreciate that you remembered to do this for me, hope you will have a great evening! 9:23 PM

Karen: You are welcome. Hope tomorrow I have something to share. 9:24 PM

Karen: Good night 9:24 PM

Call Text more

2/16/16 6:49 PM 2 months ago

hi this is it's about 6:49 I guess today's been okay just working and I pick up around 5:30 no major issues just a regular day I'm not sure what I want to bring this to your attention today but everything's a regular day so far just calling in and checking in thank you bye bye

00:35

Call Text more

Transcript useful?

Me to 2/15/16 10:36 PM 2 months ago

Me: Hi I look forward to hear your voicemail tonight, thanks millions!!! - Yena 10:10 PM

Karen: Sorry I can't do it tonight. 10:14 PM

Me: No problem, hope you can try tomorrow. Good night! 10:36 PM

Call Text more

CONCEPT 4 + PROTOTYPING: MY ADVOCATE

During this testing and research, one mother told me an interesting story about how her sister had to call her husband out and tell him what exactly he should do to help her. At the end of the day, the couple really appreciated what the sister did. That inspired me with another concept that I called My Advocate.

What if a mother chooses one person from her current social network to be her advocate? That could be her best friend or a family member, and their role is to speak on behalf of the mother for her needs and arrange the mother's social support system. The advocate is guided by a health professional, and the mother and the advocate go through training during the pregnancy. Then the advocate is responsible for checking in with the mother and providing needed help through working with the team members of the mother's support system.

The advocate has to be someone that knows the mother well and really cares about the mother. And that person should be a mother with an older child — so she knows what it is like to be a mother. I've considered another option for that advocate to be selected from volunteers or doula.

When I prototyped this idea, I learned that:

- Mothers felt uncomfortable choosing/assigning/nominating just one person out of their connections to do the role of checking in with them and managing the community — they didn't want to hurt their other friends' feelings by not choosing them!!
- Mothers weren't comfortable initiating the program. The less I put pressure on the mother to start or do something, the better it seemed. The mothers wanted people around them to be more proactive and participate voluntarily.
- The mother's comfort level of discussing sensitive topics (e.g. emotions, personal finance, body image, etc.) with friends or family was very much case by case. Even if two people belong to the same group (e.g. family or

colleague), each person has a different level of comfort for different kinds of topic — her best friend is not always the one that she wants to talk to about everything either. There's a need for control over what is shared with whom in each communication.

- Depending on personality, some mothers just prefer to remain private. "I'm very private. I don't want to talk too much to my friends about everything." This mother preferred to keep her feelings, emotions and thoughts only to herself until they needed to be communicated. Therefore an outside party is helpful to have.
- Instead of requesting support from one particular person that they felt close to, mothers believed that there was a role for everyone to play.

I presented this idea to a doula and a psychologist and found that they saw their roles as providing expertise and specialized help, and asking them to be assigned as someone's advocate would be unnecessary and costly.

CONCEPT 5 + PROTOTYPING: HEYMAMA BETA

After all those trials and errors, I put together the parts that worked well from different concepts and made the beta version of the final intervention. The idea is: what if there's an app that facilitates the mother's support system by using props that help her friends and family to focus on the mother's emotional wellbeing? Through the app, a small circle of friends and family will be updated on how the mother is doing — presented by emoji — and they can reach out to her outside the platform. Meanwhile, based on the trend of moods/emojis, the app will push stress management tips and screening questionnaires. Also, the friends and family that were invited to the platform will receive guidance from experts on how they can better support the mother.

When I tested this idea out with the friends of the mother, they felt honored to be trusted with such a role. And during testing, they felt as if they were wearing the hat of a mental supporter. However, finding a space where the partner doesn't feel offended by the app telling him how she is doing and what he should do, when they see each other daily and he believes that he knows what he should be doing, was quite tricky.

5

SYNTHESIS

As I was iterating and fine-tuning the final intervention, I was able to synthesize what I learned from my research and prototyping sessions. The issue with the PPD screening is quite complex, because a mental health screening tool isn't like a blood test. For a screening tool to be effective, mothers should be mentally ready to be screened (self-awareness) and they must feel safe and comfortable expressing their feelings honestly. If mothers can't reflect on their own feelings well, either because the baby is crying next to them and they're rushing to complete the questionnaire or because they're just too exhausted, it wouldn't work well. And if mothers feel they may be judged or misunderstood or are worried about what might happen afterwards, it wouldn't work well either.

Throughout my process, often I got feedback that I was trying to do too many things. But what I concluded is that, in order to solve this complex problem, more than one thing has to happen to ensure that the mother is 1) ready and 2) the context is set right for her. And my hypothesis is that reshaping the mother's support system is the way to address these two needs.



READINESS

“The first year was just stuck and overwhelming, like a blur looking back.” - Research participant

Unless there's a designated time and place for mothers to reflect regularly, a new mother's life is too overwhelming and busy. So having someone else to approach her and ask how she is doing is essential — but it has to be done in a way that: 1) motivates the mother to do it continually and 2) is quick and easy to do. So instead of asking many questions daily (like the Mama Sanity App concept's daily record), selecting one emoji seems to work well. And in order for mothers to be motivated to do it, friends and family asking her how she is doing is important. If she knows that people around her genuinely want to know how she is doing, it makes her feel cared for, and she wants to share her feelings. It is very important for this circle of people to be selective and small enough that she feels comfortable sharing anything she has, and the option to remain private (keeping it for her own record only) is a must.

CONTEXT

The problem with the context has three levels. First, with close friends and family, the issue is that they are too focused on the baby, making her feel uncomfortable sharing her struggles.

“Everybody was talking to me about the baby, the baby, the baby.” - Research participant

So helping them to focus on how the mother is doing, not just the baby, is imperative to make her feel supported. Also, unmatched help or unwanted advice makes her feel isolated because she feels nobody understands her.

“They suggest to go out for walks, just look at the baby, how beautiful and perfect and healthy he is. Then I would look at him, and he is perfect until he started to cry.” - Research participant

So helping the mother to communicate her specific needs and helping friends and family to know what kind of help is welcomed and not is very important to close that gap.

The second level is the community of mothers. Because the culture of baby talk is often focused only on positive things, it makes a mother feel that if she shares her struggles, she may be seen as weak or failing to be a mother.

“I would be broadcasting that I am a new mom and I am in a mess” - Research participant

“I don't want to be the complaining mom. Everyone is doing it anyway and I am not in the worst case.” - Research participant

Therefore we need to facilitate mothers to share the full picture of motherhood — not only the good things but also the struggles. The more mothers share about their difficulties, the more it will create a compassionate place where they can relate to each other and feel less isolated. And the mother will be encouraged to share her own dark feelings as well.

The third level is the relationship with professionals, whether that be OBGYN, pediatrician or therapist/counselor.

“The well visits... they check the baby but they never ask about you” - Research participant

“I don't want them to think I am weird or having a mental breakdown or psychologically weak. I would share just enough but not everything of how bad it is.” - Research participant

It is important for mothers to know that professionals are there for her, not only the baby. The more medical professionals can help the mother to see that her well-being is directly connected to the baby's wellness, the more it will help her to focus on taking care of herself. Especially in formal settings, a mother doesn't want to be seen as an inadequate mother, fearing her baby will be taken away. So it's very important for professionals to reassure her that depression doesn't make her a “bad mom” and it isn't her fault — the hormonal changes and adjustment to a new life make anyone vulnerable. When I talked with psychologists, they also emphasized that mothers should know that it is highly treatable with the right resources in order to make sure they don't feel hopeless.

INTERVENTION

USER NEEDS

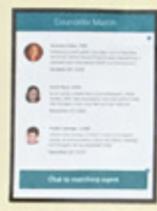
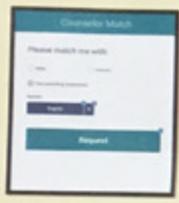
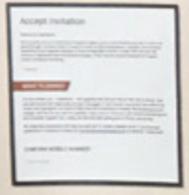
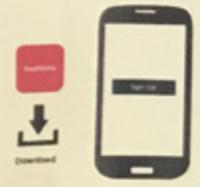
In order for the PPD screening to be effective, mothers should be able to reflect regularly and feel comfortable and safe sharing their struggles.

VALUE PROPOSITION

HeyMama is a platform that:

- helps mothers to be aware of their mental status continually by doing regular check-ins
- helps mothers to feel comfortable sharing their struggles by getting their friends and family focused on their emotions and needs
- turns an impersonal screening questionnaire into compassionate stories that mothers can relate to
- makes getting professional help accessible and fear-free
- integrates PPD screening into the system

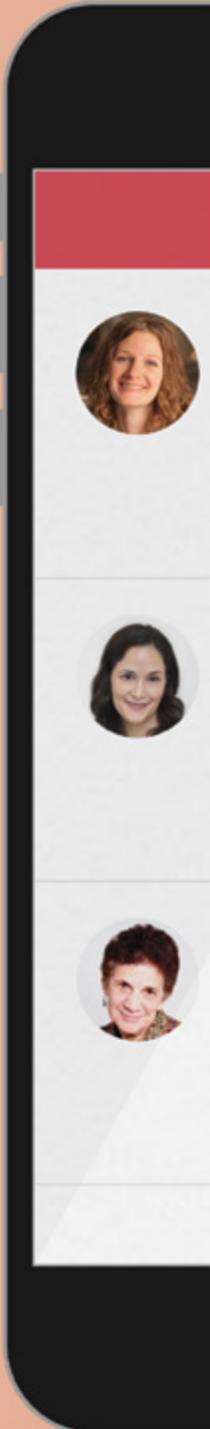
It's important to note that the decision to create an app was based on the finding from the research that mothers couldn't get outside of home easily and having a regular set call for even 10 minutes was hard to keep up with. So having a medium that is flexible and accessible was critical in engaging with the mothers. Also, the best friends and family member (e.g. mother or sister) of the mothers were often not in the same city so it was important to be digital, allowing them to support them from a distance.



HOW IT WORKS

STEP 1. PREP

The first step is preparing the mother. During the pregnancy, HeyMama helps a mother to set up her support system by inviting a small circle of friends and family that she would like to receive emotional support from. Also, she is paired with a local counselor who will guide her throughout the year with general advice on what to expect emotionally. I did that because through the research I found that once the baby is born and mothers are already in the midst of difficulties, it is very challenging for them to arrange professional help. That's why I wanted the mother to set that up during her pregnancy. And the platform does this in a delicate way by having a matching agent that makes personalized recommendations and arranges complimentary consultations until she finds the one that she is happy with.



HeyMama

Jeanette Cohen, PHD

Parenting is hard work! I can help. I am a Columbia University trained Clinical Psychologist specializing in maternal and child mental health and development.

[Hartsdale, NY 10530](#)

Sarah Best, LCSW

As an active, collaborative psychotherapist, I listen closely, offer fresh perspective, and help clients make real changes in how they feel and how they live.

[Manhattan, NY 10001](#)

Phyllis Lowinger, LCSW

I believe that therapy is helpful when the therapist creates an environment in which the client's feelings and thoughts can be expressed freely.

[Manhattan, NY 10024](#)

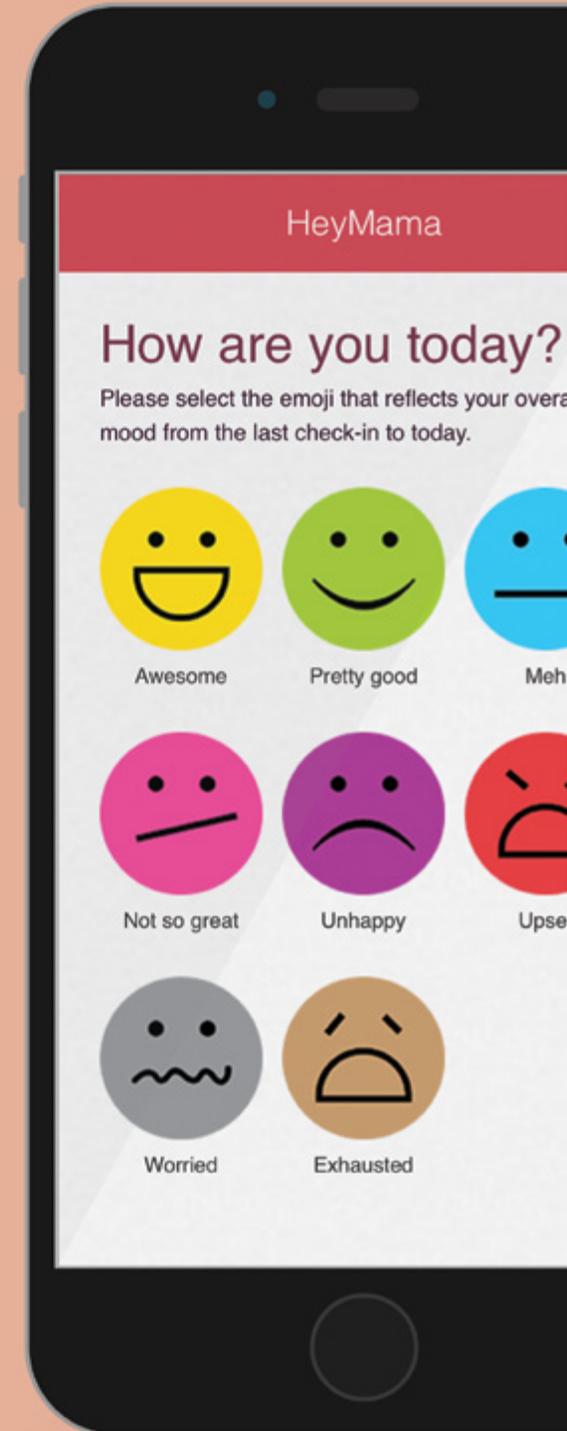
HeyMama

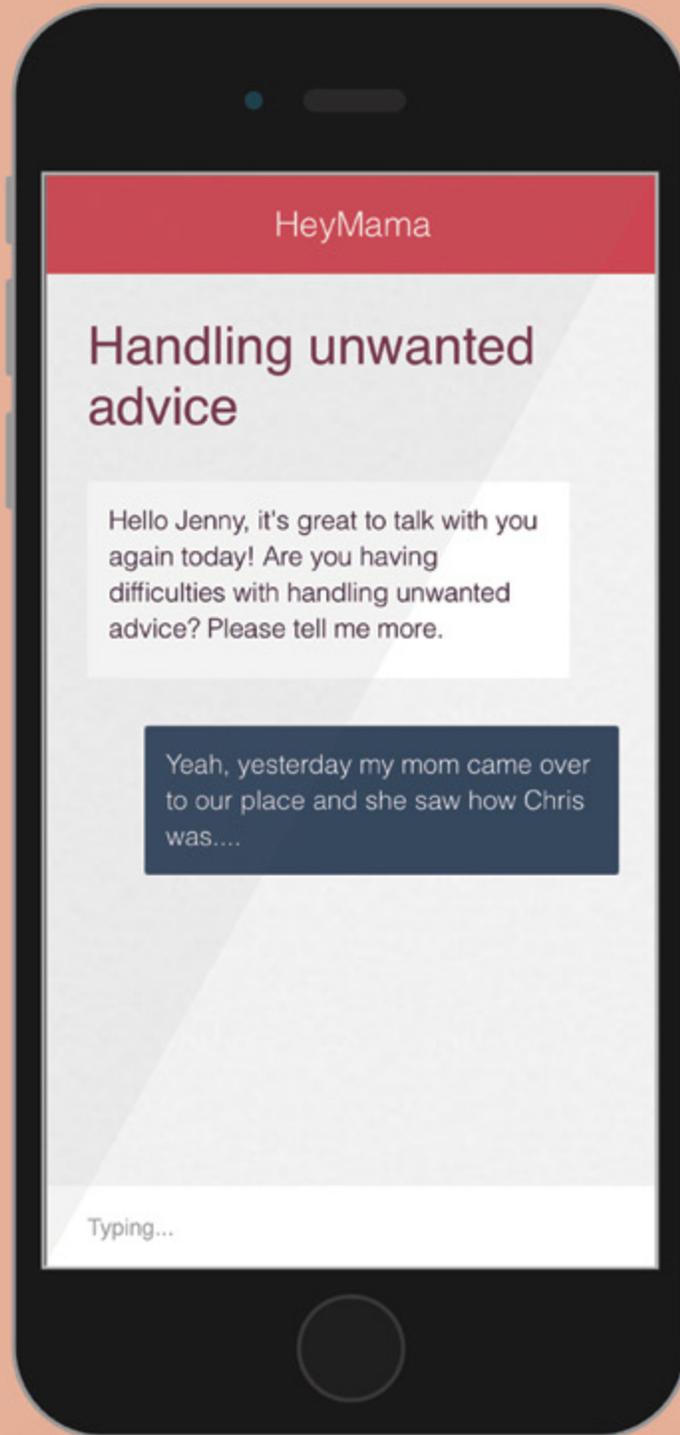
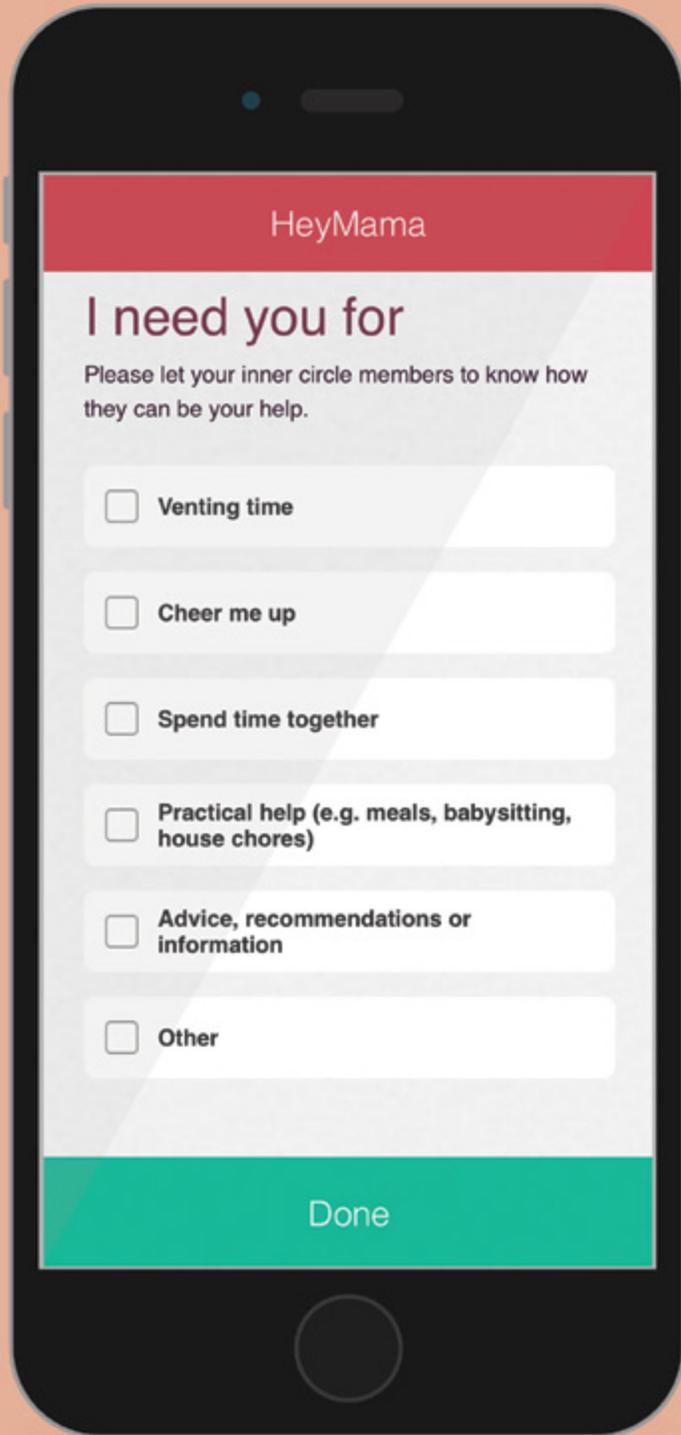


STEP 2. CHECK-INS

The second step is checking in with her regularly. Once a mother delivers the baby, throughout her first year, HeyMama checks in with her daily, asking how she is doing and what kind of help she is looking to receive from friends and family. I made this simple and easy to do, by using intuitive emojis and presenting a list of help that she can choose from. In only two tabs, the mother is able to reflect on her feelings and communicate her moods and specific needs with loved ones.

Also, as part of the regular check-ins, HeyMama presents a list of perinatal stressors on a weekly basis. Then the mother can choose the one that she is currently going through, and her counselor provides advice on how to deal with it via an online chat. This allows them to build an ongoing relationship rather than a transactional one, and the counselor becomes part of her support system. In this way the counselor isn't there only for the moment of crisis but instead becomes a valuable source of expertise, helping her to manage perinatal stress throughout her motherhood.

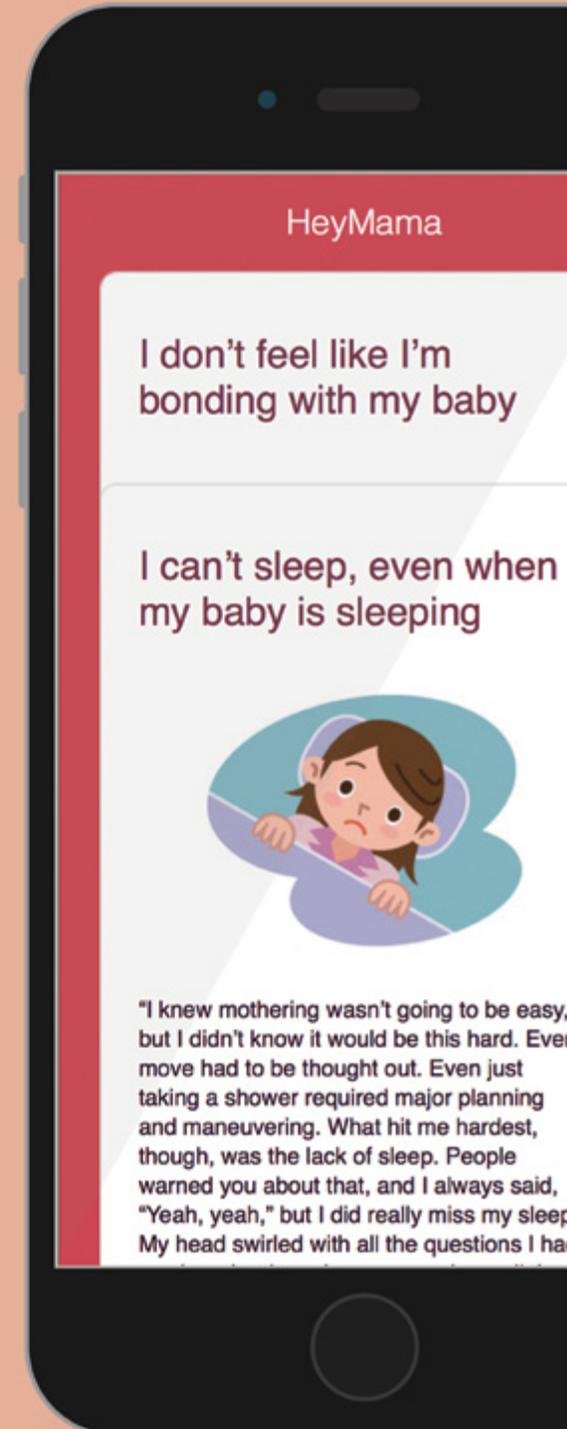




STEP 3. STORIES

The third step is using stories to screen and equip mothers. HeyMama regularly presents the mother with stories from a community of mothers who have gone through some of the most challenging emotions. Those stories portray the symptoms of postpartum depression and, based on the user's interactions with the stories, the platform can capture some of the early indicators that she might be at risk.

And each of the stories is followed by a self-help tip and clear information on when she should be concerned and seek medical help. In this way, the mother is consistently educated on what is normal and what isn't. And I created that information under the guidance of a psychologist to make sure that it is clinically accurate.



I don't feel like I'm bonding with my baby



"When my baby was born, I secretly wondered if I were worthy of motherhood. I kept waiting for that 'wonderful mothering instinct' to kick in. I experienced 'nonbonding' when she was born. It took me many weeks to get used to my daughter's demands. I've always been highly irritable and emotional my whole life, so of course any physical hormonal changes caused me to become excitable (periods, pregnancy, postpartum... gee, I can't wait for menopause!).

– Bracha, 30, Doula, California, USA

Things you can do to help

grow and develop.

Baby massage may help along the bonding process. As you massage your baby, it will come naturally to you to chat to her and make eye contact with her. You'll also learn to read your baby's cues as you massage her.

You may not have to do anything specific to develop an attachment to your baby. It may simply be the first time you see her smile that you realise you're completely and utterly filled with joy and love for her.

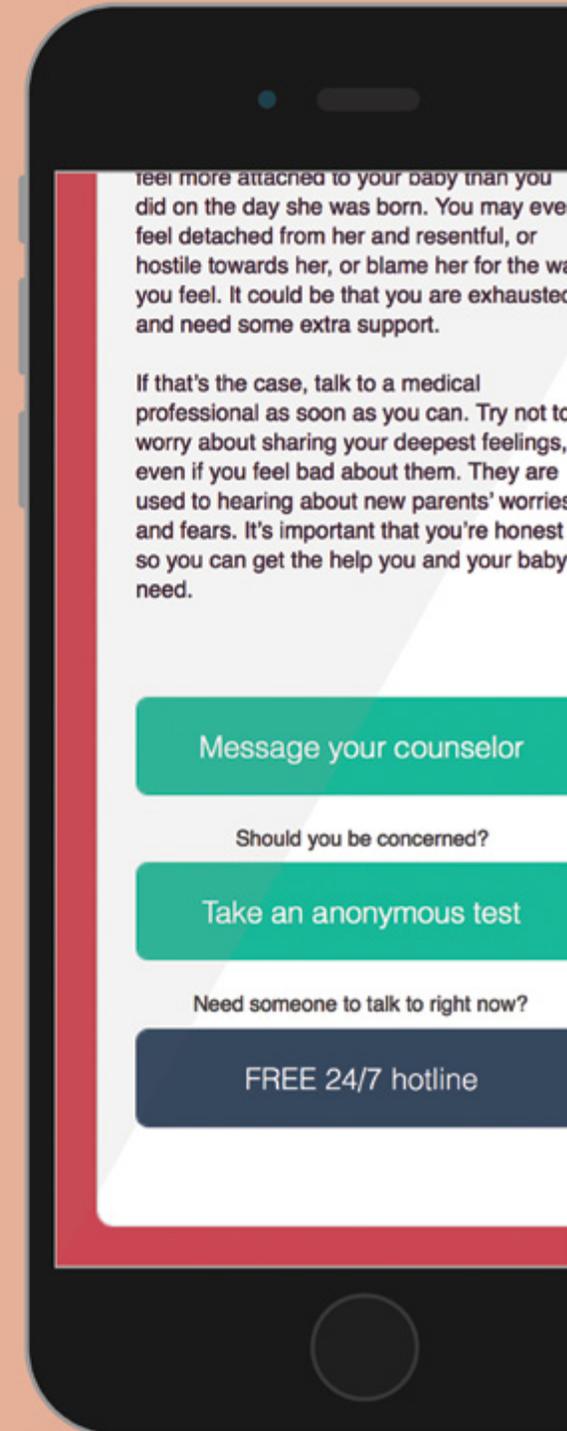
But if you are experiencing

It may be that, after a few weeks, you don't feel more attached to your baby than you did on the day she was born. You may even feel detached from her and resentful, or hostile towards her, or blame her for the way you feel. It could be that you are exhausted and need some extra support.

If that's the case, talk to a medical professional as soon as you can. Try not to worry about sharing your deepest feelings, even if you feel bad about them. They are used to hearing about new parents' worries and fears. It's important that you're honest so you can get the help you and your baby need.

STEP 4. ACTIONS

The fourth step is encouraging her to take further action to get the help that she needs. At the end of those stories, the mother has several actions that she can take to ensure that she's getting the support that she needs. She can privately take an anonymous online test to screen herself. And she can send a message to her local counselor or use the helpline if she has any concerns. HeyMama ensures that she feels safe and comfortable using those services by presenting a set of frequently asked questions from the very beginning.



HeyMama

FAQ

How much does it cost?

Our complimentary consultation (15 mins) is free of charge. However, you are limited to 3 free sessions (with different counselors) per year.

The online messaging service with your counselor will be charged only when you initiate the conversation. Any week(s) that you had an active conversation will cost \$15/week.

Please note that our online messaging is not a treatment — you can ask questions and concerns that you may have, and our counselors are more than happy to listen to you and share general advice. However, at any time if you need proper therapy sessions, your counselor will request to see you in person and you will be responsible for the cost of the visits. Please use our online messaging as an initial conversation to assess your mental health status.

How do you protect my privacy?

At HeyMama, your privacy and safety are

How do you protect my privacy?

At HeyMama, your privacy and safety are always the first consideration. We go to great lengths to ensure that you and your data are always kept safe and confidential. Our technology is fully HIPAA compliant, and all of your activities are encrypted on the servers.

DID YOU KNOW?

One in seven women suffer from postpartum depression yet often remain in silence. Although it's highly treatable, you can't just snap out of it either. Just because you are struggling doesn't mean that you are not a good mother or it's your fault.

Your baby won't be taken away only because of the depression, nor you will be punished in any way, including any financial consequences.

Get the help that you need, because you mean the universe for your baby.

"Don't forget to take care of yourself — you can't give what you don't have."

		AWARE	INSTALL & SIGN UP	INVITE	MATCH	CHECK-INS	LEARN	TAKE ACTION
People	The Mom	Learned about HeyMama	Download the app Provide basic information	Invite few people to her inner circle	Review suggested counsellors Book for complimentary consultation (video call) Attend complimentary consultation sessions (video call) Assign counsellor	Submit the check-in when it's prompted	Browse and read tailored stories Select the one that she identifies herself with (or got interested) and find out more	Initial contact (chat) to the user' counsellor Call 24/7 helpline Take a online screening test (anonymous) Reach out one of the friends and family (including inner circle members) to talk about the issue
	Inner Circle Members			Got invitation email Learn about HeyMama Accept invitation		Receive check-in entries	Take time to read tailored tips	Reach out and support/help
	Local Counsellor		Sign up for HeyMama provider account Complete provider profile Select available timeslots for the complimentary consultations		Notified that the user booked for complimentary consultation (video call) Provide complimentary consultation sessions (video call)			
	App		Y	Y	Y	Y	Y	Y
	Text (SMS/MMS)			Y		Y	Y	Y
	Others (Online)	Recommendations from doctors or other moms	Website, App store	Email	Website, Email			Call, text, video chat, social media, email and more
Channels	Others (Offline)	Recommendations from doctors or other moms	Brochure				In person contacts	
Backstage	Backstage	Promotional partnerships	Based on the risk factors, categorize user	Initial setup for all users	Concierge service by the Matching Agent Compensate counsellor for complimentary consultations	Algorithm Data analysis	Personalize content	Helpline center (nurses) Compensate counsellors for the initial chat

PILOT

My pilot was done with three new mothers over a two-week period. I used the Wizard of Oz method using various online services (e.g. Google form, Typeform, Talkatone, WhatsApp, WordPress) to mimic the experience of the HeyMama app. Each mother invited two to four people to the platform and they received the results of the mother's check-in directly to their mobile phone via SMS/MMS messages. The counselor matching and stories were built on a WordPress website, and I used Google Analytics and Bitly to track users' behavior. All participants (mothers + friends and family that the mothers invited to the platform) were given an online survey before the pilot and after to give feedback about their experience during the pilot. Most of the content was drawn from books that my psychologist recommended and various websites such as BabyCenter and Postpartum Progress.

USER FEEDBACK

The user feedback that I got from the pilot was promising.

[DATA GRAPH]

Mothers agree that:

3/3 "It was easy to do the regular check-ins"

3/3 "I felt personally engaged with the counselor"

2/3 "I got to talk more about how I feel, rather than just equal exchange of how each of us are doing"

Friends and family of the mother agree that:

8/8 "During the time of the program, I felt much more equipped to support her"

6/8 "Getting updates from her was very helpful in nurturing our relationship"

The regular check-ins were so easy for mothers to do that all of my participants continued to do them and said that there would be no problem doing them throughout the year. Also, having a reference place that allowed mothers to reflect on how they'd been doing was highly valued.

"Seeing my emotions from the past week allowed me to reflect back to what happened and how I could've dealt with things differently." - Pilot participant

By sharing those check-ins with friends and family that the mother invited, those people were able to understand her better and provide support in a much more meaningful way. For example, one husband was happy to learn the ways that he could contribute. And a mother-in-law got to know what kind of help would be welcomed. And a best friend in another city appreciated having a meaningful way to stay in touch.

"Okay, these are the kind of things that I can do with her and I know how to do" - Pilot participant (husband)

"It was most helpful to remind me to listen and not be quick to offer my opinions or ideas." - Pilot participant (mother-in-law)

"I liked it much since we don't have time to always catch up and see how we are doing with parenthood. It gave me insight as to how she was and what she needed help with." - Pilot participant (best friend in another city)

What's more? Getting the stream of emojis helped them to focus on giving emotional support. As a result, participants felt a shift in the conversation and engagement with them — becoming much more proactive, frequent and accommodating.

"It was very helpful to see the feeling emoji as well as the written words. It allowed me to get a better understanding of her needs and emotional state." - Pilot participant (sister in another country)

Also, when mothers were presented with the stories, they felt empathetic, relatable and encouraged to see those. It gave a great assurance and relief that they were not alone.

"Seeing the different emotions that moms go through was appropriate and helpful. I was able to relate to it." - Pilot participant

"I am normal, I am not alone, I wasn't just neurotic, or crazy, or mentally weak. It's a normal state that moms go through." - Pilot participant

And most participants took advantage of the weekly chat with the counselor, asking advice on things that they'd been stressed about. All mothers said that they felt comfortable, safe, and personally engaged with the counselor.

Most importantly, one of the participants took the platform's online test to screen herself after reading the story about the mother who struggles with her anger. This proves to me that the intervention has potential to be an alternative to the current screening tool.

For an area of improvement, users wanted to see if the service could be also made for mothers who aren't first-timers.

IMPLEMENTATION PLAN

Based on the feedback and my own reflection after the pilot, for the next version of HeyMama I would like to make the following improvements:

- The content of the platform should have more playful/cheerful language. If the tone of voice can be tailored based on the mother's recent mood and individual contents, it will be even better.
- To further personalize, allow mothers to vote on which stories and guides were helpful and relevant to them.
- For the stories, following the self-help tip, develop content about how friends and family can help with that particular symptom. And allow mothers to be able to share that with their group.
- Test out different frequencies for regular check-ins. It is suggested to have them daily for the first three months and then space them out.

One major change is in how friends and family receive the information about the mother and how to improve that information to add more value to them. During the pilot it seems that sending every entry from mother to friends and family via SMS/MMS felt too pushy and directing. At some times they felt frustrated that they were getting those updates but couldn't provide the help that the mother was looking for, especially due to their geographic location.

So I plan to present the check-in entries like a social media timeline so there's no pressure for them to immediately act on them. Also, the more the platform allows the mother to tailor the list of help for each person of the group, the more valuable it will be. For example, the mother can curate different lists of help for her husband compared to her sister in another city. Then whenever those people interact with the platform, it will pick one out of the list that the mother pre-selected.

Also, I want to explore the way in which friends and family can be reminded to check the mother's timeline of emojis and help. Options that I am considering are: a) always getting a notification for each update b) scheduling the day that they would like to review and/or c) reminding them to review if they haven't been in touch with the mother for a while (based on the app interactions and phone usage).

During the pilot, I found that managing it manually was very time-consuming for me. So my next plan is to apply for a grant to build this app and roll it out to the first 50 mothers to use for a year. The feedback from this implementation will shape the final product before the official launch, which will be in partnership with nonprofits working on PPD.

REFLECTION

PROCESS IS THE DESIGN

One of the most important lessons that I got from the thesis process is the importance of making and failing early. I used to be very uncomfortable with ambiguity and tried to put things out only when I felt ready. For someone like me, who used to be a perfectionist, it meant a lot later with lots of preparation. But the process of human-centered design embraces rapid prototyping and iterative design. It wasn't easy at all to adapt to this new way of working, but by the end of the process I could totally see the value in it. What strikes me is that the process is not only a means of getting "there" — there being the solution. There's an endless cycle of research, ideation, prototyping and iteration, which are all design activities. We are making to explore, learn and test, and those outcomes hold huge value in themselves! Those learnings are like molding the clay. It is what it makes design thinking a problem-solving tool. By realizing that I could stop feeling as if I was failing or behind because I hadn't gotten "there" yet, I could enjoy the process of learning and testing and be proud of errors and trials. Whenever I felt nervous to move forward, faculty members told me that, "You can't learn if you don't make. Don't overthink, just jump into it." This encouraged me very much, and since then I literally printed those words on my desk. It was important to keep reminding myself that failure is not failure and the process is meant to be messy, not a clean and linear process of A-B-C.

It's not about getting it right
It's about getting started

LAY DOWN BRICKS EARLY

One thing that I wish I'd done better is how I built up my intervention through a series of prototypes and iterations. Although it was good that I remained scrappy and iterative, trying to put it all together at the end in a short time was very challenging. I wish I'd started to develop the content and some of the visuals little by little as I progressed, instead of doing everything in a minimal way and having to create it all at once at the end.

LET CURIOSITY LEAD THE WAY

In my process, it was always the list of assumptions and questions that shaped what I should do next. It was used to research, test and create. This list is always in development so I learned to keep it always handy and continue to update it as I make progress.

MY NEW FAV: STICKIES

During the ideation, I was able to find the process that worked well for me. It was done in the following steps:

1. Pick the trickiest part from my solution space
2. Name those challenges in the form of questions
3. Throw wild ideas under each question (referring to other inspiration at this point can be very helpful) — put each idea on a sticky note
4. Continue to throw in ideas. At least for a week
5. Gather all the ideas and place each idea where it might fit within the user journey map
6. Group them into common themes

WHAT IS UNDER THE SURFACE?

During the research, I learned that what was left unsaid or undone was just as important as what was said or done. I learned to see deeper and spot those invisible insights. Also, it was important not to jump in when the user came up with their own interpretations and suggestions. I learned to use those opportunities to learn rather than validate my ideas.

IT TAKES TIME

Lastly, I learned that social innovation takes a long time. The year and a half that we spent on the thesis is a tiny bit of the beginning. It could be a seed to a solution, but since many more cycles of research-ideation-prototyping-iteration are needed, and honestly by the time that you feel you have arrived

at the “thing” the world might have changed, we have to commit ourselves to the problem that we have chosen to work on and continue to work on it. Before going through this thesis process, I used to think that we could just become a social innovation consultant, doing 3 months of a project and making recommendations to the client. Then, boom, the client will solve the problem! But now I believe that meaningful changes and solutions can only come from long hours, actually years and decades, of hard work and commitment.

“Parents don’t just raise children; they raise the next generation of workers, innovators, and leaders. By helping them, we help their children, our society, and ourselves.”

- Nicole Letourneau & Justin Joschko
(Co-authors of Scientific Parenting)

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