



Google Novi Research Findings

Renee Bruhn

Ashley Des Marais

29 May 2020

Market Research

- Pregnancy products are classified as medical products, which are meant to manage physical changes in pregnant women during and after pregnancy. ([source](#))
- High prices and side effects associated with the products are expected to be the key restraints for the growth of the pregnancy products market.
- According to an article published in Drug Store News, in 2013, it was noted that the women were significantly self-conscious about the appearance of scars and stretch marks and 33% of women have reported that their self-confidence was adversely affected.
- 47% of women have tried to hide stretch marks.
- Physical products include pregnancy test kits, toning and body firming gel, restructuring gel, other products, stretch mark minimizers. ([Source](#))
- At the end of 2019, there were one billion women with a capable device (a smartphone or a tablet) who could make use of a digital women's health solution.
- Most of the 3,000 digital women's health solutions, which are available today, offer fertility, prenatal and/or postpartum services. All other segments are currently niche markets.
- The market's major segments include fertility management, prenatal care, postpartum support, menopause management, gynecological support.

- In the next five years, digital women's health solution providers will also concentrate on new revenue streams, such as sales of connected medical devices, digital coaching services, and bundled digital packages to drive further market growth.

Secondary Research

- New standards are being released July 2020. Some of the standards require Joint Commission-accredited hospitals to:
 - Develop written evidence-based procedures to identify and treat the conditions.
 - Stock easily-accessed hemorrhage supply kits.
 - Provide role-specific education to all staff and providers who treat pregnant/postpartum patients at least every two years.
 - Conduct response procedure drills at least annually.
 - Educate patients on signs and symptoms that warrant care during hospitalization and after discharge. ([Source](#))
- USA Today examined the causes of more than 150 women whose deliveries had severe complications.
 - The research into these cases revealed a dismissal of safety recommendations. Most women experience typical births and delivery, however, every year more than 50,000 are severely injured and 700 mothers die.
 - Less than half of the maternity patients whose records were obtained by USA TODAY were treated for high blood pressure that put them at risk of stroke. Less than 15% of mothers received recommended treatments. ([Source](#))
 - In the last 20 years, countries have been steadying or reducing the rates of maternal complications, while rates in the U.S. have climbed.
 - The American Hospital Association put on a series of closed training sessions in 2016. One of the trainers said that 60% of studied deaths from

pre-eclampsia were preventable "because we failed to control the blood pressure or to recognize other emergencies were happening."

- Records show that among 40 maternity hospitals in New York state, less than 50% of mothers experiencing dangerously high blood pressure received proper treatment.
- 49 to 67% of the time, mothers in Pennsylvania hospitals were treated promptly.
- 65% of mothers at Bon Secours St. Francis Hospital in Charleston, South Carolina didn't receive the proper treatment.
- Only of 48 maternity patients received proper treatment for dangerous blood pressure levels.
- Records show that many states fail to provide the prompt treatment leading to serious complications and death that could have been prevented.
- Dangerously high blood pressure is the leading cause of mothers dying and suffering from strokes. ([Source](#))

Competitive Analysis

loss of control led to significant feelings of helplessness, fear, confusion, frustration and sadness.

- Several women received care from multiple hospitals and experienced negative consequences from **lack of communication** between providers and lack of agreement on symptom significance and procedures. A couple of related themes were **advocacy and trust** between providers and patients, as sometimes women felt their preferences and concerns were brushed off. One woman shared that she had to trust her intuition and advocate for herself despite confusing test results, and that her midwife was a crucial ally in getting her the attention needed to save her life. Other women reported their medical providers being on top of their diagnosis and receiving timely information and interventions.
- Most of our participants could not remember specifics regarding their postpartum recovery, due to a number of reasons including being focused on their baby's wellbeing; but they did report different experiences with the quantity and quality of aftercare appointments. Most could not recall being informed that pre-e/HELLP could have **life-long health implications** or being put on a plan for monitoring beyond six weeks postpartum.
- Another unplanned outcome of a pre-e/HELLP pregnancy for most of our interviewees was adjusting to having their newborn in the **NICU**. While the kinds of intervention needed and the length of stay varied, the effects on postpartum recovery were similar, with lack of sleep or the ability to maintain a home/work life as primary concerns. The stories we heard centered around the topics of stress, confusion, isolation, frustration, fear, comfort, empowerment, and community.
- Participants who went on to have more pregnancies reported becoming better **advocates** for the kind of care they wanted for themselves and their babies. Discovering that they do have options and a voice was a powerful step toward being a partner in, instead of a recipient of, decisions made about their health.
- The importance of connecting with other parents who had similar stories became a theme, as many people who experience a life-threatening trauma need **therapeutic supports**. Participants shared that they felt they had very few people to tell their story to, because they didn't want to scare or bore

people, and finding community in the NICU or online was/is a part of their healing.

- Using Erika Hall's grouping guidelines to understand our interview findings, we discovered the highest ranking subgroups on which to focus our app features:
 - **Goals:** preparation and a safe and healthy pregnancy
 - **Priorities:** the newborn's and the mother's health
 - **Tasks:** advocacy, education and taking proactive health measures
 - **Motivators:** loss of control, physical symptoms and relationship with healthcare providers
 - **Barriers:** relationship with healthcare and loss of control
 - **Habits:** healthcare appointments
 - **Relationships:** healthcare, family, and friends and community
 - **Tools:** drugs, medical equipment and tests, and websites and apps
 - **Environments:** medical and home
 - **Feelings:** overwhelm and fear
 - **Quotes:** advocacy

Conclusions

Out of all the developed countries, the United States ranks 65th in maternal mortality due to lack of standardized, enforced regulations. Each year over 50,000 American women are severely injured from giving birth, and 700 of them die. Other countries have used decades of research to improve practices, while the US has been slow to act: the Centers for Medicare and Medicaid Services do not require childbirth complication reports from hospitals and the Joint Commission, a private accreditation group that sets safety standards for thousands of hospitals, has had no reporting requirements for failure to follow maternal health guidelines. California alone implemented practices that reduced

their maternal death rate by 50%, while deaths continued to rise across the country. Only last year did the Joint Commission introduce two new standards set by AIM (The Alliance for Innovation on Maternal Health), to go into effect July 2020, addressing complications in the areas of maternal hemorrhage and severe hypertension/preeclampsia.

With education, standards and practices varying from hospital to hospital, it's no surprise that our interviewees knew very little to nothing about pre-e/HELLP syndrome. The stories we heard were woven through with themes of lack of trust, communication and information from healthcare providers, needlessly compounding the pain, fear, confusion, and helplessness they experienced as additional trauma. It's abundantly clear that the healthcare system has failed women, but how can they help themselves?

A majority of the 3,000 digital women's health solutions available offer fertility, prenatal and/or postpartum services dedicated to data, coaching and promotion, while other areas are niche markets. Shockingly, we were only able to locate one primitive app dedicated to pre-e information, and news of approximately two apps in development that provided predictive or wearable-based tracking. This leaves a lot of room for growth of life-saving and preventative digital services.

Women deserve better than this.

Utilizing a blood pressure wearable that allows women to track, predict and manage their pregnancy and postpartum symptoms at home or on the go, Google Novi places control back in women's hands. With accurate, up-to-date education and pre-e/HELLP specialists on staff to monitor, advise and advocate, women will receive the additional support and empowerment they need to protect themselves and their babies.

Google Novi is for women navigating:

- Pre-existing high-risk indicators such as age, BMI, and hypertension
- A prior (or genetic) history of pregnancy health issues
- Less access to quality healthcare
- A pre-e and/or HELLP Syndrome diagnosis
- The natural concerns and need for peace of mind between pre- and postnatal appointments

Preeclampsia and HELLP Syndrome can happen to any pregnant woman at any time during her pregnancy, with consequences that reach far into her future. Google Novi is changing the current maternal health narrative so that women and babies will no longer be sacrificed to inept, sluggish systems, but instead will take charge of their outcomes through data, education and advocacy.