



# ONPAGE AIDS MATERNAL HEALTH STUDY AT UNIVERSITY OF OTTAWA



uOttawa

# UNIVERSITY OF OTTAWA RESEARCH STUDY CHOOSES ONPAGE TO HELP IN KEY CHILDHOOD OBESITY STUDY

*OnPage was chosen to provide its alerting technology to U. of Ottawa for key placental research study*

The University of Ottawa's Dr. Kristi Adamo is focused on pediatric obesity and its antecedents laid out in pregnancy. The focus of her lab is on early intervention and upstream prevention of the intergenerational cycle of obesity and metabolic disease. Specifically, Kristi and her colleagues are investigating the relationship between pregnancy and downstream health or the Developmental Origins of Health and Disease (DOHaD).

Alysha Harvey is the Clinical Research Associate managing Dr. Adamo's study called "Physical Activity and dietary implications Throughout pregnancy (PLACENTA)" looking at behavioral modifications during pregnancy and the multi-faceted impact of these behaviors on the placenta regarding nutrient transport, gene expression, and the metabolome.

The placenta is the key interface of nutrient and oxygen transport between a mother and her fetus. Introductory evidence suggests that physical activity (PA) induces changes in placenta biology which may aid in optimal fetal development. The PLACENTA study is the first of its kind to take a comprehensive look at the role of PA during pregnancy in regulating gene expression and metabolic function in the placenta.

*The PLACENTA team is looking to answer questions such as:*

- *Is there an association between maternal PA and nutrient transport and clearance rates in the placenta?*
- *Do dietary behaviors impact the placenta metabolome?*
- *How was the intrauterine environment affecting the potential growth and development of the child changed by maternal lifestyle behaviors?*

To better answer these questions, the PLACENTA team follows women from shortly after they become pregnant until the birth of their child, observing and evaluating at several time-points along the way for various biomarkers. Then, once the child is born, Dr. Adamo's researchers gather the mother's placenta and perform multiple tests. These tests include tests on mitochondria and RNA to check for biomarkers associated with fetal growth and downstream health.

## PROBLEM DEFINITION

To effectively study the placenta for the important RNA markers, the PLACENTA team must receive the placenta within 30 minutes of the infant's birth. After 30 minutes, the mitochondria from the placenta are no longer viable and the RNA begins to degrade.

During the pilot trials, practitioners at the hospitals would page one of the members of Dr. Adamo's team when a woman was going into labor. Often, these alerts would come in the middle of the night and needed to wake up the team member who was responsible for the pager.



The alerted team member would need to call the other team members. One or two team members would then need to head directly to the hospital. The other team member would need to run to the lab to get the liquid nitrogen for the placenta and meet their team members at the hospital.

Unfortunately, the alerts were not always heard by the sleeping team member. When the team member did not hear the alert, they were unable to alert their colleagues who also needed to go to the hospital and collect the placenta or get the liquid nitrogen. This chain of events often led to the loss of the medical and research value of the placenta.

The costs associated with failed pagers were significant. Every placenta marked the final data point in the study of a particular mother. Each mother was tested two to three times prior to the birth of her child. However, without having the placenta, the Dr. Adamo's team could not really validate the data they received from the previous several months of study. In effect the data gathered over the previous several months was useless.



## WHEN THE TEAM USED PAGERS, THEY LOST 6 PLACENTAS. A LOSS OF \$48,000 (CN)

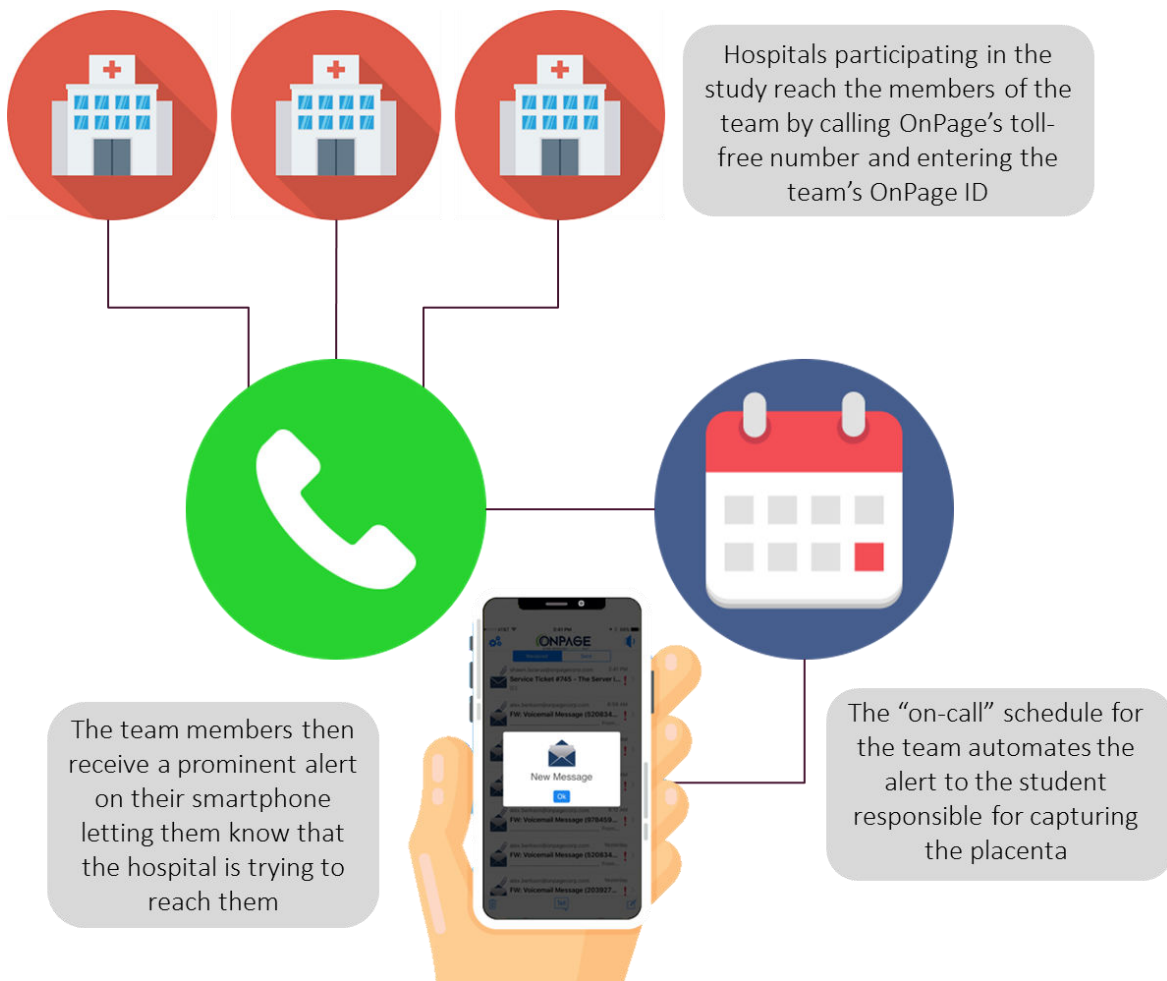
When the team used pagers, they lost six placentas because they were not awoken in time. Based on the cost levers in the study, Alysha approximated that each placenta is worth approximately \$8,000 (CN) to the lab. Thus, the cost of six lost placentas was approximately \$48,000 (CN). Additionally, there was the time lost in researching the participating subjects as well as the wasted time of the PhDs who conducted the research.

### SOLUTION

Given the importance of studying each placenta in the study, Alysha realized that they could not continue to use pagers. As such, two of the graduate students in the lab were tasked with researching pager alternatives. These MSc and PhD students investigated smartphones, different pagers as well as different smartphone apps. After much research, Alysha's team turned to OnPage because its critical alerting technology was able to reliably alert the PhDs and MSc students tasked with retrieving the placentas.

Now, the hospitals participating in the study reach the members of the team by calling OnPage's toll-free number and entering the team's OnPage ID. The team members then receive a prominent alert on their smartphone letting them know that the hospital is trying to reach them.

Alysha chose the OnPage Silver package so her team could have access to the automated scheduler that comes with the subscription. By using OnPage Silver, Alysha can upload the "on-call" schedule for her team and know that the student responsible for capturing the placenta will be alerted and go to the hospital.



## SUMMARY AND BENEFITS

With the introduction of OnPage, Alysha no longer needs to worry that the team is missing placentas. According to Alysha,

*"OnPage has been incredibly helpful for our study in obtaining placentas which are critical for meeting our study objectives. The app allows our team to be deployed effectively, reducing the likelihood of delays, missed calls and lost opportunities to collect samples. Without OnPage we would struggle to meet our study objectives and as a result, we are grateful for discovering it altogether."*

Alysha no longer needs to worry about the study being compromised, either. Now, Dr. Adamo, Alysha and the PLACENTA team can look forward to focusing their energy on improving maternal health and minimizing the risk of childhood obesity.

## ONPAGE CAN HELP

OnPage's **HIPAA compliant** critical messaging service enables healthcare providers to receive alerts via encrypted and secure text communication methods. OnPage messages are **SSL encrypted** and can only be viewed by message participants. Furthermore, OnPage has **remote wipe** capabilities to further ensure HIPAA compliance.



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By decreasing the number of false alerts that physicians and nurses receive, OnPage can significantly decrease the level of practitioners' alert fatigue and improve overall patient care.

CONTACT ONPAGE TO LEARN MORE ABOUT HOW WE CAN HELP YOU WITH YOUR IT NEEDS.

TO LEARN MORE, VISIT OUR WEBSITE OR CALL: [ONPAGE.COM](http://ONPAGE.COM)

CONTACT- US 781-916-0040 OR DOWNLOAD THE APP

