

## Menstrual Blood Profiling for Diagnostics in Women's Health

Joshua Scaralia<sup>1</sup>, John de la Parra<sup>1</sup>, Mansi Tolia<sup>1</sup>, George Diab<sup>2</sup>, Anna Villarreal<sup>2</sup>, William Hancock<sup>1</sup>, Jared Auclair<sup>1</sup>

<sup>1</sup>Northeastern University, <sup>2</sup>LifeStory Health, LLC

Abstract:

The reproductive health of a woman lends a significant contribution to overall health.<sup>1</sup> Unfortunately, 1 in 2 women will experience a reproductive disease at some point during their life.<sup>2</sup> Many of these diseases go undetected for long lengths of time. Menstrual blood can potentially be a powerful source of biomarkers for disease detection and identification of targeted treatments for a woman with a reproductive illness. However, an exhaustive protein profile necessary for disease targeting and identification does not yet exist. The purpose of this project is to create a protein profile for menstrual blood with the goal of developing a diagnostic platform for the identification of female prevalent diseases. We have successfully developed a protocol for the identification of unique proteins in our samples and have proven that we can observe differences in protein levels between patients.

Citations:

1. Hensel, Devon J., Jennifer Nance, and J. Dennis Fortenberry. "The Association Between Sexual Health and Physical, Mental, and Social Health in Adolescent Women." *Journal of Adolescent Health* 59.4 (Oct 2016): 416-21.
2. Gynecologists TAC of O and. *2011 Women's Health Stats & Facts.*; 2011.