The University of North Dakota has identified biomarkers that are indicative of preeclampsia risk, and which are present early in pregnancy. These biomarkers enable identification of mothers destined to develop preeclampsia, so that early intervention and screening can be used to guide their clinical care. Getting ahead of preeclampsia should improve outcomes for mothers and their unborn babies.

Preeclampsia affects 5-8% of pregnancies, leading to increased health risk for mothers and babies. There is no way to predict who will get preeclampsia until mothers are symptomatic. By the time symptoms are detected, mother and baby have already experienced damage to organ systems and blood vessels throughout the body, which may result in reduced growth by the baby, and even serious illness or death of the mother and her unborn infant.

**Applications/Advantages**
- Detect preeclampsia risk early in pregnancy, or even before pregnancy
- Twenty genes ID’d as putative biomarkers, with as few as four being indicative of preeclampsia
- Detect using blood test and/or saliva
- Screening by detecting differential methylation

**Technology**
The biomarkers are based on differential methylation of specific cytosines within specific genes. This represented both gain (64%) and loss (36%) of methylation. This would be amenable to any screen that can identify differential methylation.