

# Rapid screening test for gestational diabetes

## PROBLEM

### The global diabetes epidemic impacts pregnant women and their babies

- Gestational diabetes (GDM) is a global epidemic —some urban areas in India have found rates as high as 20%.\*
- It can have serious and life-threatening consequences for mother and baby.
- GDM can also lead to type 2 diabetes later in life for both mother and child.
- Current screening practices (the oral glucose tolerance or challenge tests) are cumbersome, require a special visit to the clinic, and make many patients uncomfortable or nauseous.
- Most antenatal care facilities cannot perform the test for GDM because of their complexity.

\* NCD Alliance. Non-Communicable Diseases: A Priority for Women's Health and Development. 2011. Available at: [www.who.int/pmnch/topics/maternal/2011\\_women\\_ncd\\_report.pdf](http://www.who.int/pmnch/topics/maternal/2011_women_ncd_report.pdf).

## SOLUTION

### A rapid, low-cost, non-fasting screening assay at antenatal care visits allows interventions to prevent or delay diabetes in mother and child

- An antenatal care visit represents the best opportunity to prevent or treat GDM and to put both mother and child on a health care track that allows prevention, delay, and/or treatment of type 2 diabetes and its consequences.
- PATH's proposed rapid test is based on the immunological detection of the level of glycated albumin, a protein that develops in response to elevated glucose levels, in finger-stick blood.
- The test allows opportunistic screening without patient preparation at the first or only antenatal care visit, reducing cost and complexity and avoiding loss to follow-up.

Pregnant women with gestational diabetes have a reduced ability to control glucose levels in both their bodies and that of their fetus, leading to babies with very high birth weight.

Both mother and child are at risk for birth complications as well as for developing type 2 diabetes later in life.



PATH researchers have identified a new biomarker, glycated albumin, that allows screening pregnant women for gestational diabetes without the need for fasting or an oral glucose challenge test.

The research team has begun to evaluate assay reagents and to demonstrate a proof-of-principle assay in rapid strip format. The University of Washington Department of Laboratory Medicine provides samples, testing services, and clinical expertise to this project. The Madras Diabetes Research Foundation in Chennai, India, has agreed to evaluate the assay prototypes in clinical settings.

