MoMba Live Long™ Project Summary:

Smoking is the single most costly health risk behavior and the leading cause of preventable death in the United States. Specific to pregnancy, smoking remains the leading cause of preventable poor pregnancy outcomes in the United States. While many women are able to obtain abstinence in pregnancy, relapse to smoking after delivery remains a challenge, with up to 80% of women who stop smoking in pregnancy relapsing within 12 months postpartum.

Current guidelines recommend medications and counseling for smoking cessation. One of the most effective methods to assist women in remaining abstinent in the postpartum period is contingency management (CM), or the provision of financial or other incentives to people for remaining abstinent. Although moderate to large effect sizes have been observed in the use of CM with perinatal women, this efficacy has been demonstrated only in well-controlled clinical settings, largely because the intervention, as currently delivered, requires frequent (on average, weekly) office visits. While the ongoing contact of office visits is a potential further source of reinforcement for abstinence, it may also be a deterrent to participation for some who would like to achieve and sustain abstinence, such as postpartum women who have a substantial childcare burden. Frequent, usually weekly, office visits with clinicians and study personnel are also difficult to generalize to the current health care system suggesting the need for alternative strategies to more widely disseminate smoking cessation strategies outside of clinical trials and into community settings. The utilization of technology holds promise to achieve this goal.

The technological intervention we will develop for this application consists of financial incentives, termed “contingency management” delivered via a smartphone application named MoMba Live Long™ and a carbon monoxide sensor designed to interface wirelessly with a smartphone to measure breath carbon monoxide. This project is sponsored by the National Cancer Institute.