
NICOLE CARLSON

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Required Skills:

Mobile App, Web Development, Stand Alone App Development, Responsive Web Design, Human Centered Design, Workflow/Process Optimization, Project Management, Communications

Preferred Team Communications:

WEBEX, Skype or Conference call

Data Sources:

Georgia Tech synthetic data will be sufficient for the project.

Other Items:

Project has timezone flexibility. Mentors and students will determine a good time for virtual meeting

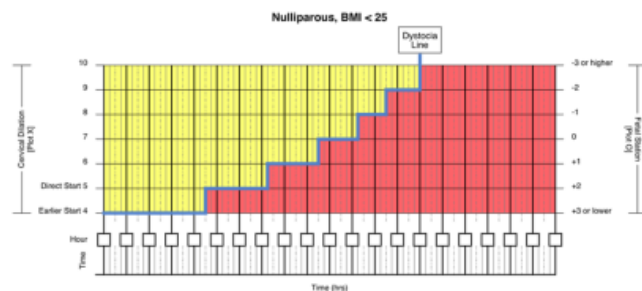
THE LABOR TRACKER

Obese women (BMI \geq 30 kg/m²) are at elevated risk for cesarean delivery, with rates up to 5 times higher than normal weight women. Cesarean deliveries are most often indicated for obese women because of abnormally slow labor progression, a complication known as labor dystocia. In clinical practice, expectations of labor progress are not individualized by degree of maternal obesity, but instead are standardized based on the average rate of cervical dilation among healthy-weight women (about 1cm/hour). As a result, obese women are at increased risk of cesarean delivery simply because they do not proceed through labor as expected by the nurses and doctors who provide their intrapartum care.

This project involves the development of a tool, the Labor Tracker, that would allow clinicians caring for obese women during labor to view a woman's cervical dilation progress on a graph that represents normal and abnormally slow labor progression according to that woman's BMI. Although information about cervical dilation among women with different degrees of obesity is available from large, multi-site studies, this data is not typically used by clinicians to guide their care of obese women. The Labor Tracker would, for the first time, provide easy access to BMI-individualized labor progression tracking for clinicians at the bedside.

PROJECT OBJECTIVES

1. Using existing BMI-individualized partograph designs (see below example), create a web application that collects information about a particular woman (parity, age, BMI, type of labor onset) and produces her individualized partograph for view by clinician or laboring woman. This partograph can be viewed online, or downloaded as a pdf by the client.



2. Create interface whereby cervical examination data (centimeters dilation, time of exam) is used to plot on woman's individualized partograph.
3. Based on partograph plots, indicate whether the laboring woman is in the 'green zone' (normal labor progression) or 'red zone' (slow labor progression) based on her most recent cervical exam.
4. Create ability for partograph to be viewed over time by client, with each subsequent cervical exam entered and plotted alongside previous exam data.

Intellectual Property: Project involves a government agency so the resulting project is made available to the public. Students do not own IP. Students will be recognized as contributors

5. Once above objectives met (for use by a single client), additionally create ability for a single client to track several women's labors simultaneously (for use by a clinician, for example). Identification of laboring women in this application should not use personal protected information of the pregnant women.

SUCCESSFUL PROJECT

Production of a web-based tool that combines clear graphics, easy navigation, and stores information over time, allowing client to view labor progression against national standards and based on the laboring woman's individual characteristics.
