CDC Breastfeeding Support Initiative

Team - We Didn't Start the Fhir.

Background

There has been substantial progress from a previous team toward the CDC Breastfeeding support initiative and this project is expected to continue after this semester. The ultimate goal is to improve the success of new mothers Breastfeeding of infants through the use of a patient app, a physician lactation referral support decision system, and method of sending referrals and receiving feedback on progress from independent lactation consultants.

The eventual solution would include the following key components:
1. A patient App that does the following: A questionnaire for new mothers and mother breastfeeding tracking mechanism. Transmit data supplied by mother's to pediatrician using FHIR resources.
2. Use a service to check the questionnaires' responses and other data sources and determine if the mother and newborn meet specified criteria/algorithm to trigger a referral and have an alert/flag on mother in the EHR for physician to review and initiate a referral to a lactation consultant.
3. Mechanism for mother to authorize the referral to a community agency and for the physician to monitor the success of referrals.

Substantial work is completed on item 1, and the FHIR implementation of item 2 (with a stand alone web application) without the referral decision support.

Fall 2017 Objectives:
1. Pediatrician lactation referral decision support and patient/lactation consultant population dashboard.
    a. This will be developed as a SMART app in the EMR.
    b. *This will likely replace the current Physician web app.*
2. Addition of feedback mechanism from Lactation consultant portal that will feed data to the dashboard in the EMR.
    a. *This will build on the existing Web app.*
3. **(Out of scope with current schedule)** Update iOS app to include training material, more details for Decision support item 1, and patient feedback questionnaire on success of lactation consultation. We will scope what should be added in the future.
    a. *There may be some minor updates as needed for the decision support logic that will be added as required.*
    b. *If Items 1 & 2 are completed ahead of schedule we will look at adding this into scope.*

As part of the deliverables we will document the project in greater depth with use case stories and architecture documents to facilitate the transition of this project to future teams and production.

<u>Future work:</u>
Completion of Item 3.
After the decision support is in place, the usage of the platform and the metrics it is collecting could be used as training data to improve the decision support with machine learning techniques.   This could be expanded to include a CDC level view of the full population of Pediatricians using the platform and their patient population.