

CDC BREASTFEEDING SUPPORT INITIATIVE - TEAM PROGRESS REPORT

We Didn't Start the FHIR

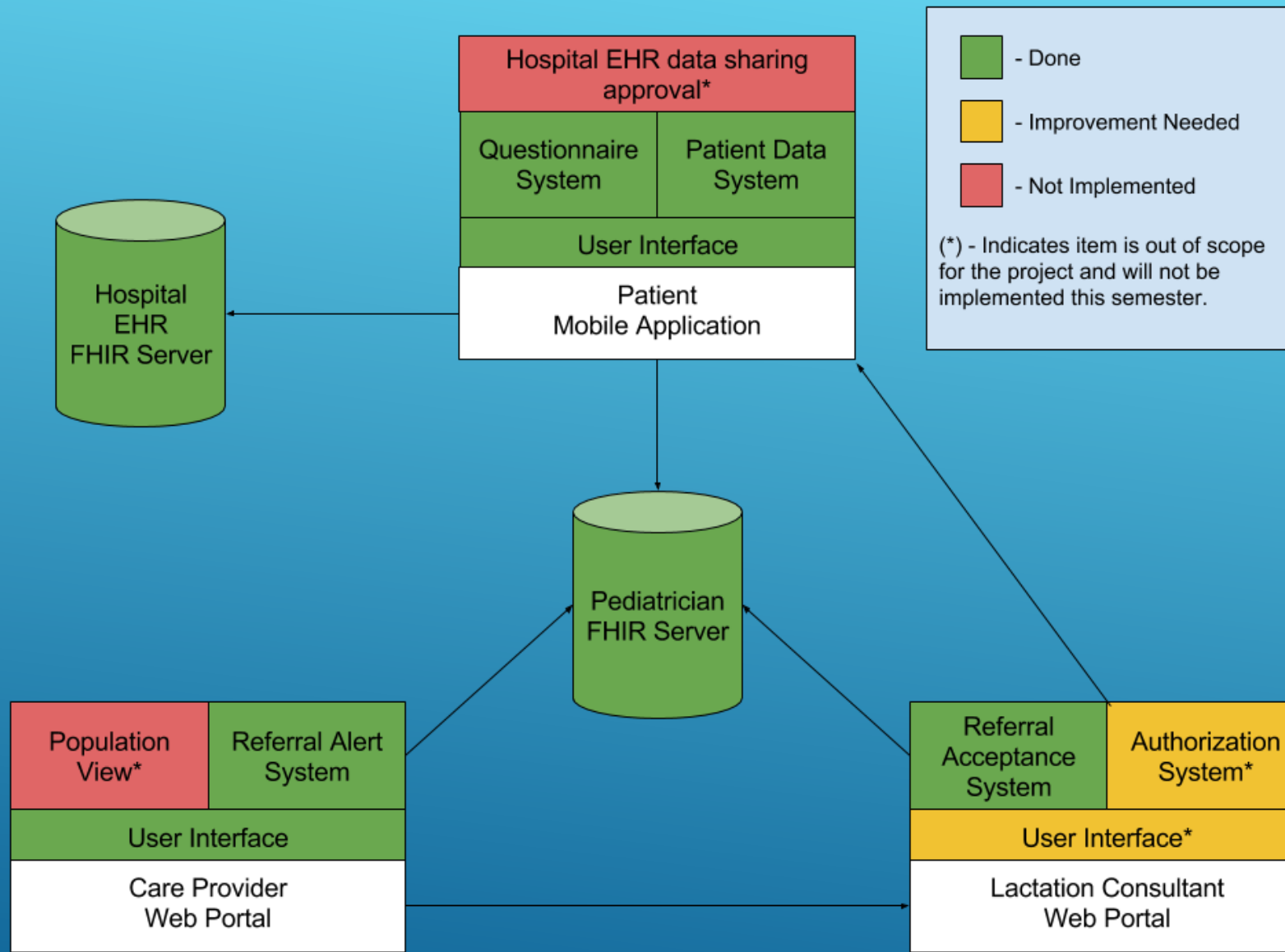
Jamon Bowen, Justin Kristensen, John Van Wageningen, Philip Baxley, Zeyu Yang

Presented By: Jamon Bowen, Zeyu Yang

- ▶ Identify data of Interest for initiating a lactation consultation referral and map to FHIR resources.
- ▶ Enable easy collection of data from a patient of breastfeeding via a smartphone app.
- ▶ Collect data from hospital EHR, pediatrician EHR, and patient reported data.
- ▶ Display the collected data in a pediatrician EHR SMART app with clinical decision support to recommend and initiate a lactation consultation referral.

PROJECT OVERVIEW – CDC

OBJECTIVE: IMPROVE THE SUCCESS OF MOTHERS EFFORTS TO RAISE A HEALTHY BREASTFEED BABY.



Hospital Data

Baby's birth time – patient, _birthDate, extension, valueDateTime (in the babies patent record)

Baby's birth weight – observation, vital-signs, Birth weight Measured (associated with baby)

Baby's discharge weight - observation, vital-signs, Body weight Measured (associated with baby)

Mother's risk factors:

Age - patient

Maternal obesity – BMI -observation, vital-signs, BMI (associated with mother)

Type I/II diabetes – Claim, diagnosis, diagnosisCodeableConcept (associated with mother)

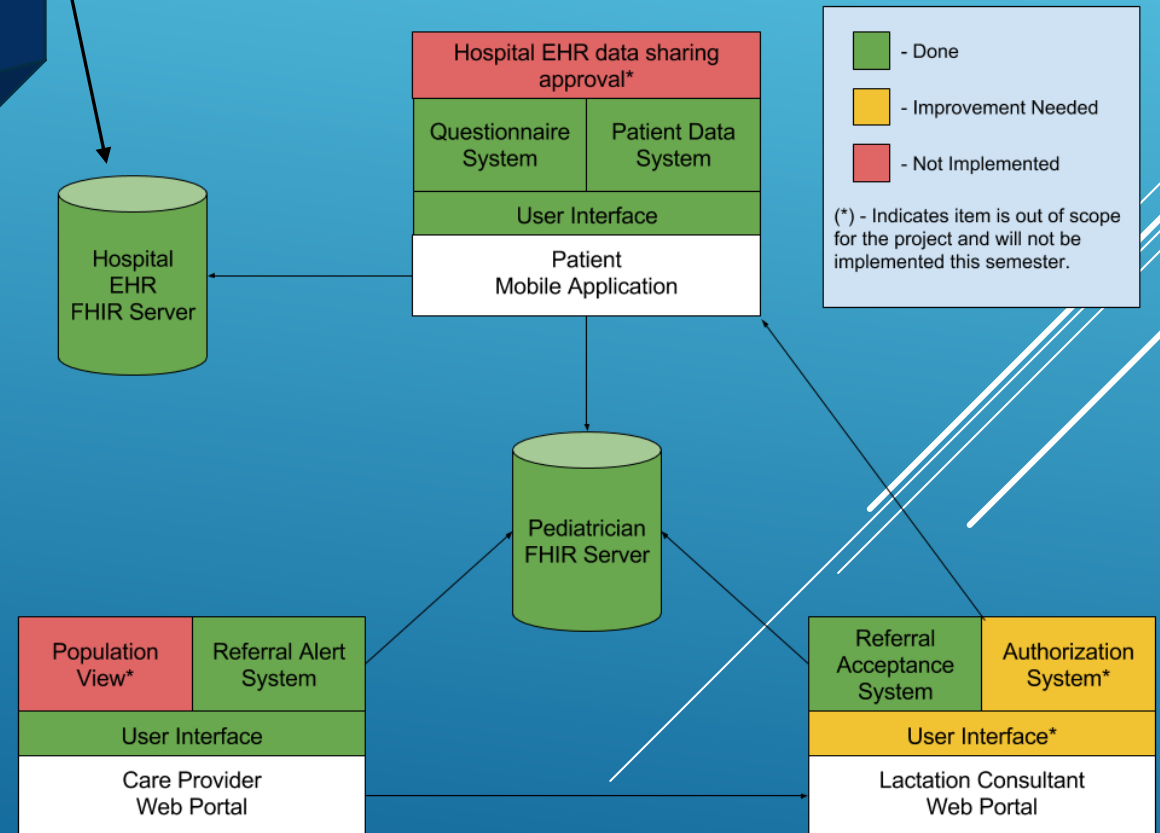
Polycystic ovarian syndrome - Claim, diagnosis, diagnosisCodeableConcept (associated with mother)

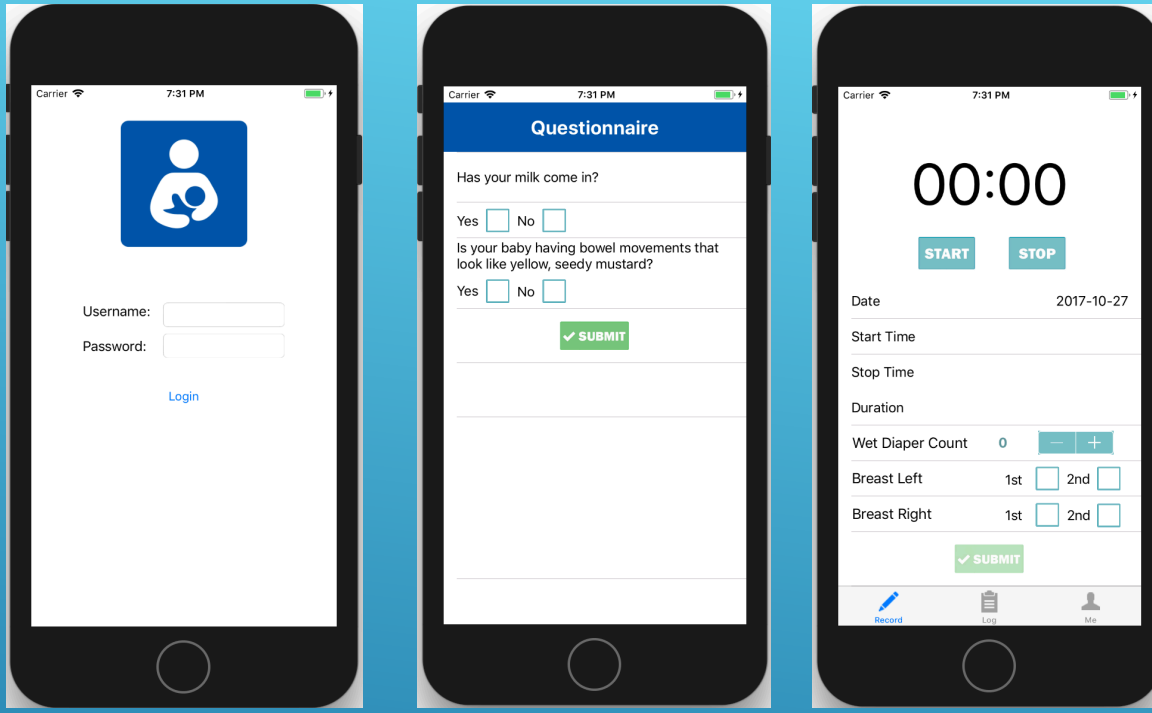
Hyperthyroidism - Claim, diagnosis, diagnosisCodeableConcept (associated with mother)

Hypothyroidism - Claim, diagnosis, diagnosisCodeableConcept (associated with mother)

Mode of delivery – Claim, procedure, procedureCodeableConcept (associated with mother)

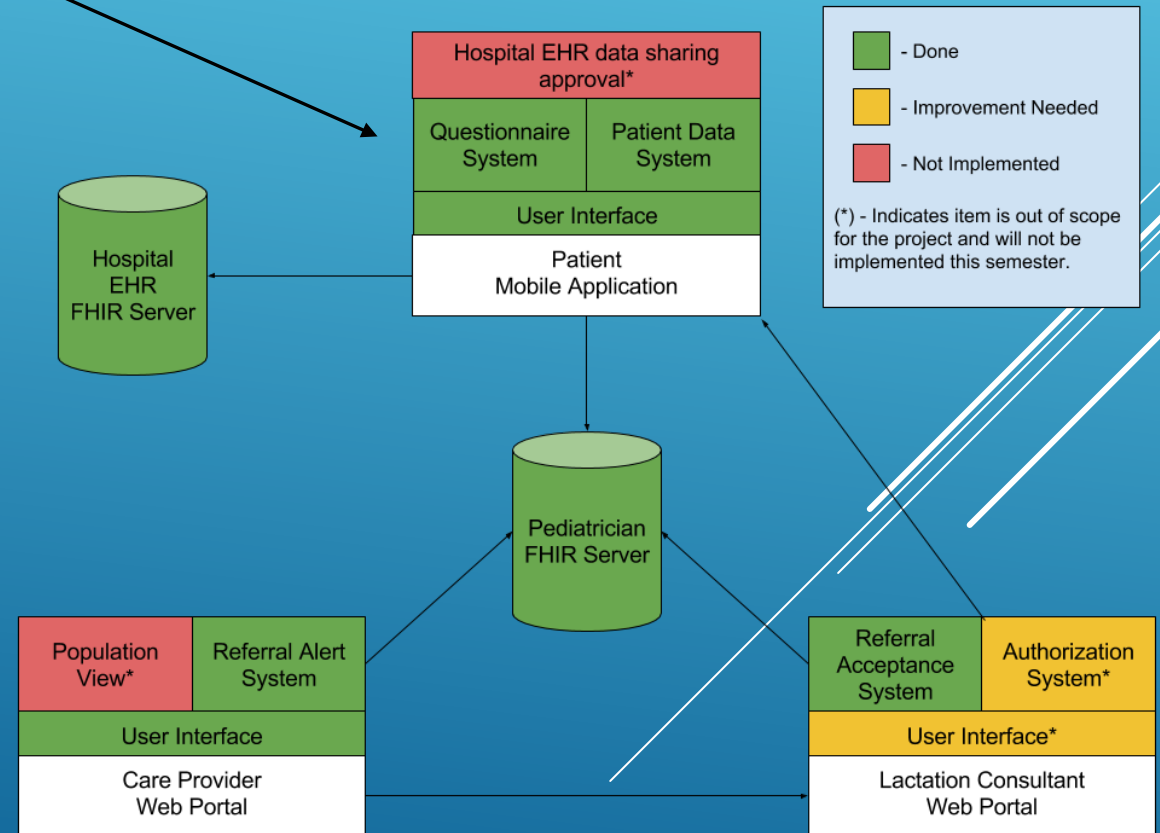
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Data collect for 30 Days (as Questionnaire Response):

- Date of survey data
- Daily Breastfeeding metrics (average length, number of feedings, median interval, maximum gap)
- Daily wet diaper counts
- If the Mother's Milk has come in
- If bowel movements have transitioned from Meconium to normal breastfeed baby bowel movements.
- If mother signaled a concern




Referral Decision support:

- Poor Daily Breastfeeding metrics
- Low Daily wet diaper counts
- If the Mother's Milk late.
- If bowel movements not transitioning
- Babies weight gain/loss
- If mother signaled a concern

Lactation Counseling Referral Portal

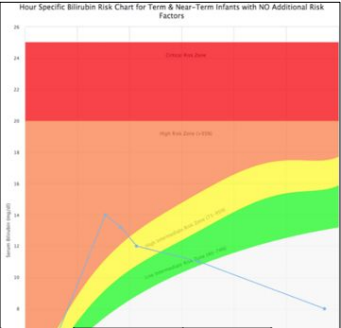
Overview
Record
Questionnaire
Education

Patient Overview



Patient Name:	Jane Doe
Date of Birth:	1 January 1970
Phone:	1-800-636-1334
Email:	jane.doe@gmail.com
<Other Data>...	<Other Data>...

Hour Specific Bilirubin Risk Chart for Term & Near-Term Infants with NO Additional Risk Factors



Lactation Referral: **Recommended**

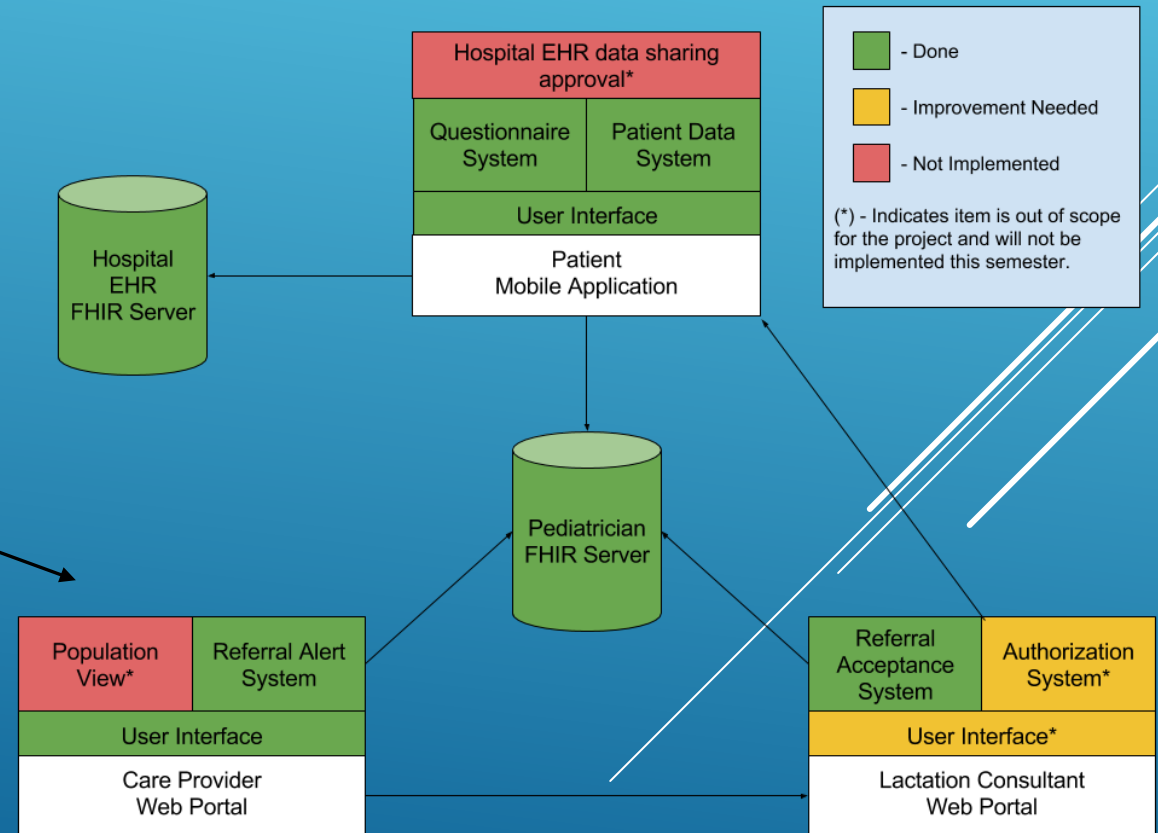
Newborn has lost 10% of birthweight in first two weeks.

☐ Patient has authorized release of data to lactation Consultant

Initiate Referral

Risk Graph CDC Weight Growth <Other Tabs>...

Date	Age	Weight (pounds)	CDC Percentile
4/15/2009	Birth	7.5	50
4/18/2009	3 days	7.1	23
4/29/2009	2 weeks	7.4	15
7/15/2009	1 month	9.5	42
9/15/2009	3 months	12.75	49



DEMO



WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	PCT OF TASK COMPLETE	October					November					December	
							WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10		
1	Team Topic																	
1.1	Research	All Members	10/5/17	10/8/17	3	100%												
1.2	Business Case	All Members	10/5/17	10/8/17	3	100%												
1.3	Gantt Chart	Jamon, Justin	10/5/17	10/8/17	3	100%												
1.4	Deliverable 1 - Topic Presentation Powerpoint	Phillip, John	10/5/17	10/8/17	3	100%												
2	Requirements & Design																	
2.1	Gather Project Requirements	Jamon, All Members	10/8/17	10/22/17	14	100%												
2.2	Use Case Model / Stories	All Members - for the assigned implementation	10/14/17	10/18/17	4	100%												
2.3	Project Status Report 1	All Members	10/13/17	10/15/17	2	100%												
2.4	Design Document Architectural Diagram	All Members	10/15/17	10/22/17	7	100%												
2.5	Dashboard Wire Frame	All Members	10/15/17	10/22/17	7	100%												
2.6	Deliverable 2 - Technical Presentation Powerpoint	John, Justin	10/15/17	10/22/17	7	100%												
2.7	Test Plan	Phillip	10/15/17	10/22/17	7	100%												
3	Implementation																	
3.05	Backend - Mothers risk factors, FHIR data	Philip	10/22/17	11/12/2017	20	90%												
3.1	Backend - Referral decsision support logic.	Jamon	10/22/17	11/12/2017	20	80%												
3.2	Updates to the patient app to collect more detailed data	Justin	10/22/17	11/12/2017	20	80%												
3.3	Physician portal - Dashboard, population metrices, lactation consulton metrices	John	10/22/17	11/12/2017	20	80%												
3.4	Project Status Report 2	All Members	10/27/17	10/29/17	2	100%												
3.5	Project Status Report 3	All Members	11/3/17	11/5/17	2	100%												
3.6	Deliverable 3 - Team Progress Report Powerpoint	Jamon	11/5/17	11/12/17	7	50%												
3.7	Prototype - Integration	Zeyu	11/5/17	11/19/17	14	10%												
3.8	Software Testing	Phillip	11/12/17	11/29/17	17	0%												
3.9	Beta release		11/12/17	11/19/17	7	0%												
3.10	Project Status Report 4	All Members	11/17/17	11/19/17	2	0%												
3.11	User and Maintenance Manuals		11/19/17	11/26/17	7	0%												
3.12	Project Status Report 5	All Members	11/24/17	11/26/17	2	0%												
4	Transition & Handoff																	
4.1	Deliverable 4 - Team Final Project Presenation Powerpoint		11/26/2017	12/3/2017	7	0%												
4.2	Deliver Final Product		11/30/2017	12/3/2017	3	0%												
4.3	Team Evaluation	All Members	12/3/2017	12/10/2017	7	0%												

Team Roles:
Project Manager – Jamon Bowen
iOS App – Justin Kristensen
Pediatrician SMART App – John Van Wagenen
FHIR backend & Test– Philip Baxley
Integration – Zeyu Yang

This initiative is a mult-semester project. Left to do after Fall 2017 is improvements to the lactation consultant portal, a population view, and integration into production EHRs.