#### CDC Breastfeeding Support Initiative

We Didn't Start The FHIR

Jamon Bowen, Phillip Baxley, Justin Kristensen, John Van Wagenen, and Zeyu Yang

https://www.youtube.com/watch?v=s3ZHLwE3KwU&feature=youtu.be

## Project Description

- "Specify breastfeeding referral transactions and data elements. Map these data elements to FHIR resources. Further, develop a technology solution that supports an EHR based referral mechanism using these FHIR resources, including bidirectional transmission of referral information"
- Our successful project will implement a technological solution for implementing bidirectional breastfeeding referrals.
  - A bidirectional referral system takes into account the information flowing from a healthcare system to the support service as well as information gained from that program back to the healthcare system

# Why is breastfeeding important?

- Health Benefits for Baby
  - Increased survival rate in first year, including decreased risk of SIDS
  - Boosts immune system against common childhood illnesses
  - Decreased risk of chronic conditions such as diabetes, asthma and obesity
- Emotional Benefits for Mother and Baby
- Promotes closeness between mother and baby via skin to skin contact
  - Psychological benefits for the mother in addition to the release of beneficial hormones
  - Potential long term cognitive benefits for baby
- It's free!
  - Especially important for low income families (Formula is expensive)
  - Decreased risk for baby to suffer from malnutrition

https://www.nichd.nih.gov/health/topics/breastfeeding/conditioninfo/Pages/benefits.aspx

### Barriers to Successful Breastfeeding

- Lack of education
  - Lack of knowledge concerning benefits
  - Lack of knowledge on how to breastfeed
- Health issues for mother
  - Producing too little or too much milk
  - Sore or cracked nipple
  - Painful inflammation of breast (Mastitis)
  - Post-partum depression can leave mother feeling bad when breastfeeding

- Issues for baby
  - Oral thrush
  - Tongue ties
  - Issues keeping a latch
- Lack of social support
  - No contacts for advice
  - Cultural norms that discourage breastfeeding
  - How to work around employment and child care
  - Lack of support when breastfeeding is a challenge

# What help is available?

- Pediatricians
- Family doctors
- Lactation consultants (in-hospital and off-site)
- Support groups
- In house support
- WIC for low income families

#### What can our project do?

- Develop an environment where referrals can be made for baby and/or mother to specialists that can assist with a multitude of issues or questions related to breastfeeding.
- The information gained from the use of this environment, such as success and drop out rates, can be used to determine the efficacy of physicians and support services in addressing specific issues.
- Potential for additional metrics to be gathered in the future, developing improved metrics on the benefits of breastfeeding and what helps to encourage its practice.

PROJECT TITLE CDC Breastfeeding Support Initiative	TEAM NAME We Didn't Start The FHIR							
PROJECT MANAGER Jamon Bowen	<b>DATE</b> 10/1/2017 - 12/09/2017							
TEAM MEMBERS Phillip Baxley, Justin Kristensen, John Van Wagenen, and Zeyu Yang	TA MENTOR Arunmozhi Madhulekha (madhulekha@gatech.edu)							
STAKEHOLDERS Dr. Sridev Wilmore (eur3@cdc.gov) and Dr. Jennifer Nelson (JMNelson@cdc.gov)								

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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	JB, JK	10/5/17	10/8/17	3	100%																				
1.4	Deliverable 1 - Topic Presentation Powerpoint	PB, JV	10/5/17	10/8/17	3	100%																				
2	Requirements & Design																									П
2.1	Gather Project Requirements	JB - All Members	10/8/17	10/22/17	14	0%																				
2.2	Use Case Model / Stories	All Members	10/8/17	10/22/17	14	0%																				
2.3	Project Status Report 1	All Members	10/13/17	10/15/17	2	0%																Т				
2.4	Design Document Architectural Diagram	All Members	10/15/17	10/22/17	7	0%																				
2.5	Dashboard Wire Frame	All Members	10/15/17	10/22/17	7	0%																				
2.6	Deliverable 2 - Technical Presentation Powerpoint	JV	10/15/17	10/22/17	7	0%																				
2.7	Test Plan	PB	10/15/17	10/22/17	7	0%																				
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NUMBER	TASK TITLE	OWNER	DATE	DATE	DURATION	COMPLETE 2	22	23	24	25	26 2	7 28	29	30	31	1 2	3	4	5	6	7	8 9	10	11	12
3	Implementation																								
3.1	Backend - Referral Transaction on FHIR resources		10/22/17	11/5/2017	13	0%																			
3.2	Frontend - Referral Initiation Interface	JV	10/22/17	11/5/2017	13	0%																			
3.3	Frontend - Dashboard		10/22/17	11/5/2017	13	0%																			
3.4	Project Status Report 2		10/27/17	10/29/17	2	0%																			8
3.5	Project Status Report 3		11/3/17	11/5/17	2	0%																			9
3.6	Deliverable 3 - Team Progress Report Powerpoint		11/5/17	11/12/17	7	0%																			
3.7	Prototype - Integration		11/5/17	11/12/17	7	0%																			
3.8	Software Testing	PB	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		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		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%																			9
4.3	Team Evaluation		12/3/2017	12/10/2017	7	0%																			