

# IMPROVING THE EFFECTIVENESS OF A BREASTFEEDING ALGORITHM IN A BABY-FRIENDLY HOSPITAL: A QUALITY IMPROVEMENT INITIATIVE

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## INTRODUCTION

- Breastfeeding leads to significantly improved maternal and infant health outcomes across socioeconomic boundaries (AAP, 2012)
- A significant number of lives and health care dollars could be saved in the U.S. with improved breastfeeding rates (Bartick & Reinhold, 2010; Bartick et al., 2013)
- 79% of births in the U.S. do not occur in hospitals with recommended practices (Baby-Friendly USA, 2017)
- Mothers with  $\leq 12$  years education exposed to Baby-Friendly Hospital Initiative (BFHI) practices demonstrate an 8.6% increase in breastfeeding initiation (Hawkins et al., 2014)
- Mothers experiencing at least six of the Ten Steps To Successful Breastfeeding were almost three times more likely to meet their exclusive breastfeeding intention ( $p < .0001$ ) (Perrine, Scanlon, Li, Odom, & Grummer-Strawn, 2012)

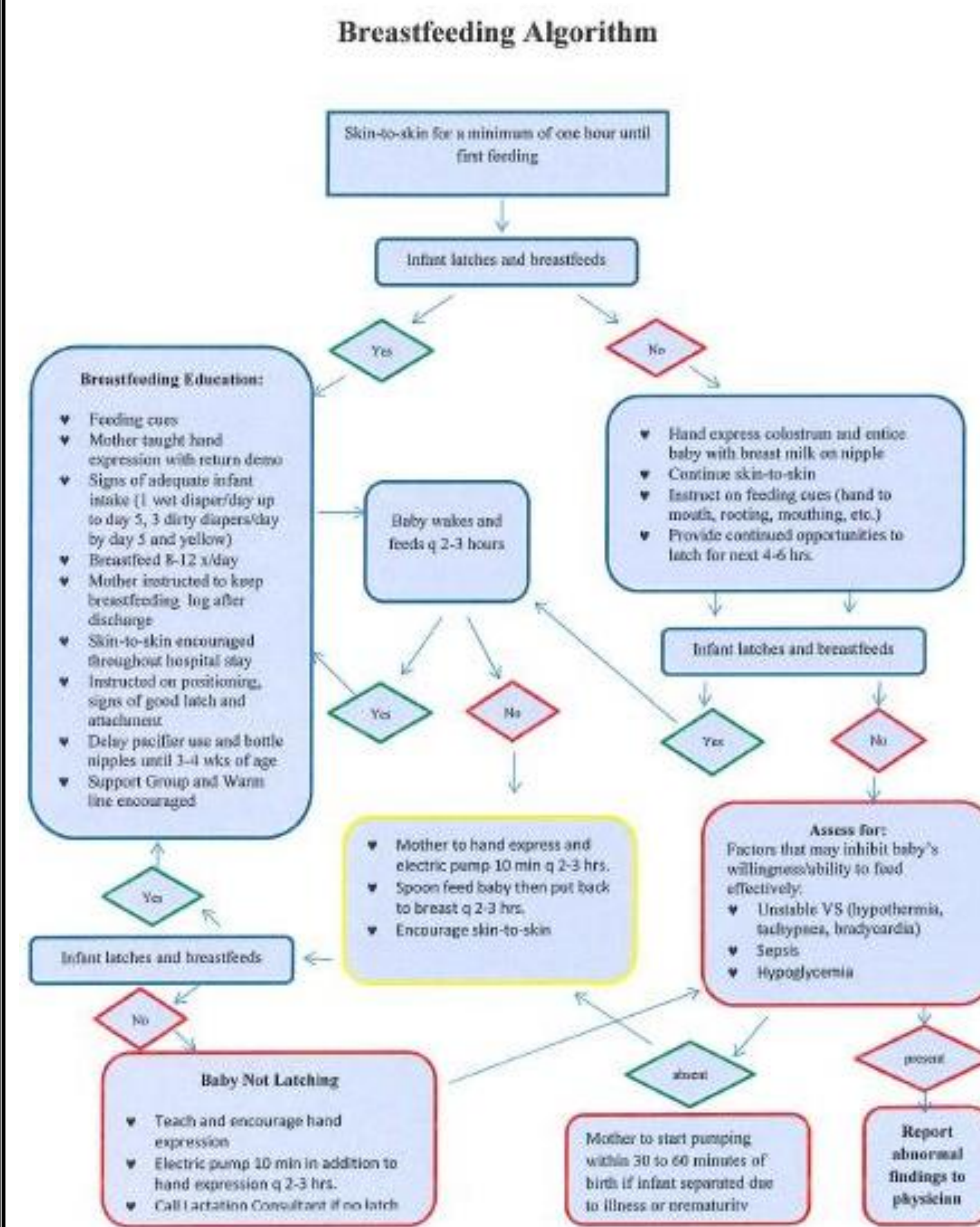


### Development of the Breastfeeding Algorithm

- Followed hospital breastfeeding policy
- Baby-Friendly guidelines and criteria
- Utilized American Academy of Pediatrics recommendations

## METHODS

**Setting:** Obstetric unit in a Baby-Friendly designated Northeast Missouri community hospital  
**Population:** Breastfeeding mother/baby dyads delivering at this facility

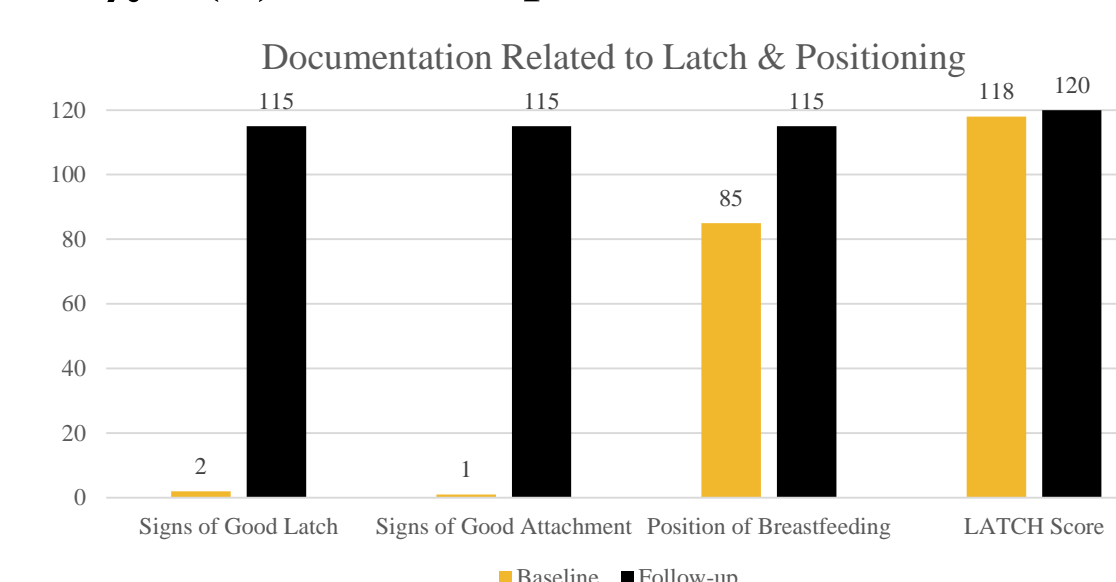


- Design:** Descriptive, longitudinal, quality improvement project conducted using a purposive, convenience sample of breastfeeding mother/baby dyads
- Intervention:** Optimization of the EMR to include documentation of critical elements of the breastfeeding algorithm; Nurse education on use of the new breastfeeding documentation method in the EMR
- Data Collection:** Using a confidence level of 95%, a maximum of a 5% margin of error, a population size of 170, with a 50% response distribution, a minimum of 120 charts were required at baseline and follow-up; Simple random sampling utilized at baseline to obtain breastfeeding mother/baby charts ( $n = 120$ ); All available breastfeeding mother/baby charts were utilized at follow-up ( $n = 120$ )
- Measures:** Descriptive statistics were used to summarize the demographic data, determine the number of patients with all components of the algorithm documented in the EMR, and determine the percentage of nurses completing education; Nominal level data was analyzed with the Chi-square of Independence and the  $\phi$  coefficient ( $\phi$ ) was used as an index to describe the magnitude of the effect from the intervention with values .10, .30, and .50 corresponding to small, medium, and large respectively; Ratio level data was analyzed with the Independent t-test; The level of significance was set at  $p \leq .05$

## RESULTS

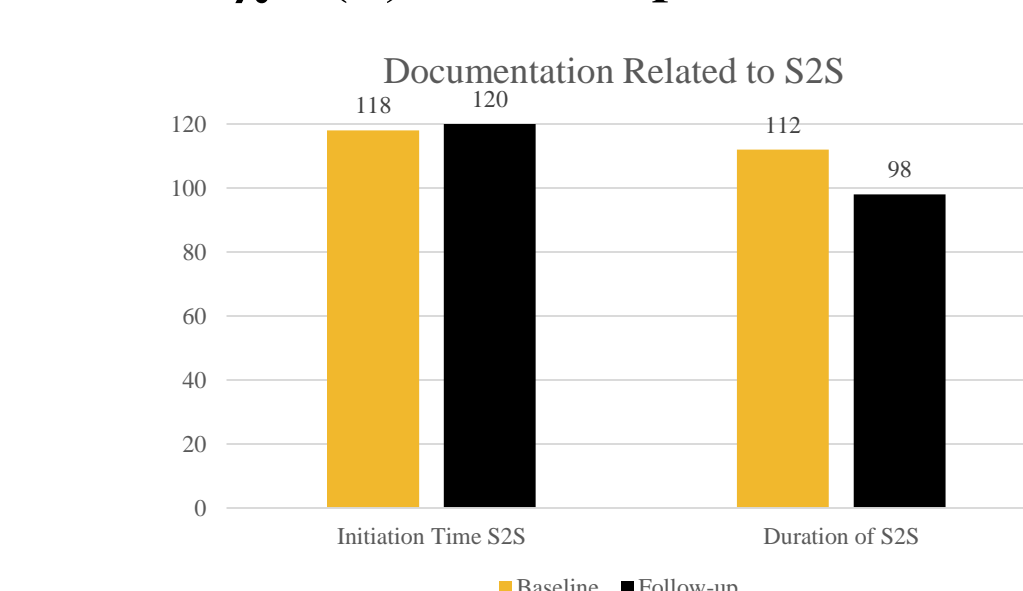
### Documentation Related to Latch and Positioning

- Signs of Good Latch:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 216, p = .000, \Phi = .9$
- Signs of Good Attachment:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 220, p = .000, \Phi = 1$
- Positioning:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 32.2, p = .000, \Phi = .4$
- LATCH Score:** Small increase in documentation was not statistically significant,  $\chi^2 (2) = 2.33, p = .31, \Phi = .1$



### Documentation Related to S2S

- Initiation Time for S2S:** Small increase in documentation was not statistically significant,  $\chi^2 (2) = 2.33, p = .31, \Phi = .1$
- Duration of S2S:** Statistically and clinically significant decrease in documentation,  $\chi^2 (2) = 7.48, p = .02, \Phi = .2$



### Outcomes

- Objective partially met: 8 of the 13 documentation elements increased by 25% or more, 2 documentation elements increased by 2%, 2 were 100% at both baseline and follow-up, and 1 element decreased by 11%
- Objective met: 100% of obstetric nurses attended education on EMR

## PICOT STATEMENT

In a Baby-Friendly hospital (P), how does modification of the current EMR (I) affect utilization and documentation of a breastfeeding algorithm during the postpartum hospital stay (O) over a four month time frame (T)?

## OBJECTIVES

- 25% increase in correct utilization of the breastfeeding algorithm as demonstrated by nursing documentation
- 90% of nursing staff will attend education on use of the modified EMR

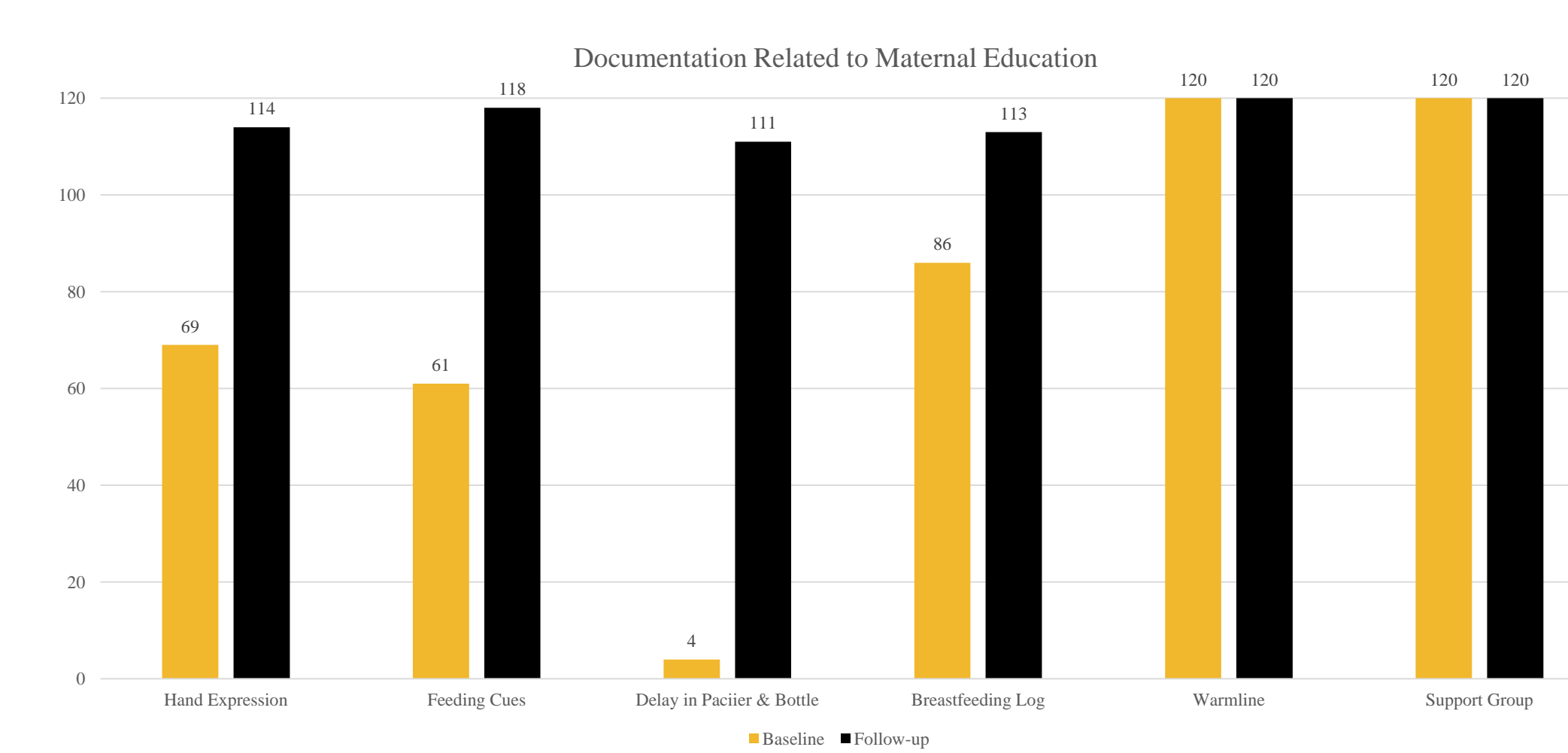
## ACKNOWLEDGEMENTS

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## RESULTS

### Documentation Related to Maternal Education

- Hand Expression:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 49.9, p = .000, \Phi = .5$
- Feeding Cue Education:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 75, p = .000, \Phi = .6$
- Delay in Pacifier & Bottle:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 194, p = .000, \Phi = .9$
- Breastfeeding Log:** Statistically and clinically significant increase in documentation,  $\chi^2 (2) = 21.8, p = .000, \Phi = .3$
- Warmline:** Documentation present in 100% of baseline and follow-up charts
- Support Group:** Documentation present in 100% of baseline and follow-up charts



## CONCLUSIONS

Optimization of the EMR improved overall documentation of care for the breastfeeding mother-baby dyads and nurse compliance with an algorithm. Recommendations are to continue using the modified EMR for breastfeeding documentation with the exception of duration of S2S time. It will be moved back to the birth record, where it had good baseline rate.

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