A Rural, Medically Underserved Community Breastfeeding Intervention in Pediatric Primary Care
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Practice Setting
Rural North Georgia, southern Appalachia, medically underserved area
6 Providers
- 2 FT MDs, 2 PT MDs, 1 FT PNP, 1 PT FNP/RLC
Spanish speaking population = 4.83%; Employs 2 Spanish-speaking translators
Practice panel= 3500 patients
Breastfeeding rates
- 23.7% exclusively breastfeeding at 2 months
  (U.S. 40.7% & GA 27.2% exclusively breastfeeding/3 months)
- 14.3% exclusively breastfeeding at 4 months
  (U.S. 18.8% & GA 14.5% exclusively breastfeeding/6 months)

QI Project Aim and Goals
Overall Aim: to increase breastfeeding rates through a NP-led breastfeeding intervention
- Aiming to improve breastfeeding rates in primary care even in a setting with historically low breastfeeding rates.
Goals:
- To increase “exclusive,” “partial” and “any” breastfeeding by at least 10% after implementing the ABM’s (2013) Clinical Protocol #14: Breastfeeding Friendly Physician’s Office Optimizing Care for Infant and Children, at 1. breastfeeding initiation (as measured at the newborn visit) and 2. continuation (as measured at the 1-month, 2-month and 4-month well child visits)

Methods
Procedure
- ABM’s (2013) “Clinical Protocol #14” was implemented, refining the breastfeeding care already provided in this diverse population.
- Implementation was led by a dually-certified Nurse Practitioner/Lactation Consultant.
- Of the 19 recommendations within this protocol, current practice already included, partially or fully, 12 of the recommendations. These 12 recommendations were further clarified and/or utilization was improved, and the additional 7 recommendations were put into practice as part of this new implementation

Data Collection and Plan
- Before-and-after design
- Two independent groups of healthy mother-infant couples
  - Pre-implementation (N=43) November 2013-June 2014
  - Post-implementation (N=45) July 2014-February 2015
- Evaluated at newborn visit, 1-month, 2-month and 4-month WCC
- Approved by the Duke University IRB and classified exempt

Data Analysis
- Relationships for the two groups were compared using two-sample t-tests, Chi square, and Fisher’s exact tests.

Results

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Pre</th>
<th>Post</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Age</td>
<td>26.00(4.79)</td>
<td>28.71(5.86)</td>
<td>.02*</td>
</tr>
<tr>
<td>Parity</td>
<td>1.79 (.91)</td>
<td>2.02 (.94)</td>
<td>.25*</td>
</tr>
<tr>
<td>Infant Birth weight (g)</td>
<td>3417(444)</td>
<td>3381(435)</td>
<td>.71*</td>
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<tr>
<th>Demographic Characteristic</th>
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<tbody>
<tr>
<td>Insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>7(16.3)</td>
<td>16(35.6)</td>
<td>.08*</td>
</tr>
<tr>
<td>Public</td>
<td>35(81.4)</td>
<td>29(64.4)</td>
<td></td>
</tr>
<tr>
<td>Self-Pay</td>
<td>1(2.3)</td>
<td>0(0.0)</td>
<td></td>
</tr>
<tr>
<td>Previous Breastfeeding</td>
<td>11(30.6)</td>
<td>19(43.2)</td>
<td>.35*</td>
</tr>
<tr>
<td>Delivery Type</td>
<td></td>
<td></td>
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<tr>
<td>Vaginal</td>
<td>33(78.6)</td>
<td>33(73.3)</td>
<td>.62*</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>9(21.4)</td>
<td>12(26.7)</td>
<td></td>
</tr>
<tr>
<td>WIC Participation</td>
<td>19(76.0)</td>
<td>24(53.3)</td>
<td>.08*</td>
</tr>
</tbody>
</table>

Demographic Characteristics for Pre- and Post-Intervention Groups
Note: *denotes two sample t-test; *denotes Fisher’s exact test; *denotes Chi Square test.

Summary of Findings
- A relationship existed between implementing a breastfeeding-friendly office protocol and improved breastfeeding rates over the four time intervals.
- Although none reached significance, post-implementation rates for any breastfeeding progressively increased for each time point. Exclusive breastfeeding rates increased by .40.98% at the 1-month visit (p=.05), 27.4% at the 2-month visit (p=.62), and 139% at the 4-month visit (p=.06).
- An inverse relationship exists within the post-implementation exclusive breastfeeding rates and partial breastfeeding rates; as exclusive breastfeeding rates increased, partial breastfeeding rates decreased.

Application to Future Practice
- This NP-led QI project supports primary care office implementation of the ABM’s Clinical Protocol #14
- Establishing “breastfeeding-friendly primary care offices” is feasible with the adaptable ABM clinical protocol #14
- Results support improved breastfeeding rates in primary care even in a setting with high risk for low breastfeeding rates.