

# Tennessee Breastfeeding Hotline Quarterly Report

**Submitted to:** State of Tennessee, Department of Health

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January to March 2017



# Executive Summary

January to March 2017

The Tennessee Breastfeeding Hotline (TBH) is a telephonic breastfeeding support program that is free to nursing mothers, their families and partners, expectant parents, and to health care providers. Participants who call the TBH speak with a certified lactation professional who collects the mother's and baby's information using self-reporting techniques. This information is gathered for the purpose of making assessments, attending to the client's individual needs, referring the client to available resources and ensuring that the lactation professional is able to follow-up with the client.

Lactation professionals offer strategies to empower clients to breastfeed, identify barriers to successful breastfeeding, and provide techniques to cope with and overcome barriers to breastfeeding. Participants receive individualized counseling for common breastfeeding issues. If the caller's issues are beyond the scope of the lactation professional's expertise, or require treatment, the mother is directed to a health care provider or an outside agency better able to offer the necessary support. Some participants receive a 24-hour follow-up call, if the caller's situation requires additional support and encouragement.

The measurement period for this report is January through March 2017, but the report may make comparisons to previous quarters. Lactation professionals collected quantitative data through the use of a conditional questioning workflow. These workflow data analyzed characteristics such as breastfeeding trends, call volume and repetition, and patterns in caller's age, race, and ethnicity. After the initial call, TBH also conducts follow-up calls that occur at 4, 8, and 12 weeks to assess self-reported outcomes and client satisfaction with services. Over the course of the measurement period, these data are collected to aid in the construction of a continuous quality improvement plan, vital in ensuring the sustainability and productiveness of the TBH.

Participants receive follow-up calls at 4, 8 and 12 weeks for two purposes. First, it is to encourage the women to continue breastfeeding. In Tennessee, the percentage of breastfed infants that were supplemented with formula before three months was 26.5%.<sup>1</sup> During the 3<sup>rd</sup> quarter, there were a total of 1,594 calls to the TBH. When asked about intention to continue breastfeeding, 98.7% responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 78.8% of the moms reached were still breastfeeding (pg. 22, Table 14B).

The second purpose of the three follow-up calls is to acquire necessary information used to determine the effectiveness and quality of the program from the viewpoint of the user. For each follow-up call, clients are

<sup>&</sup>lt;sup>1</sup> Nutrition, Physical Activity and Obesity Data, Trends and Maps web site. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity and Obesity, Atlanta, GA, 2015. Available at https://nccd.cdc.gov/NPAO\_DTM/#.

asked to rate overall services received from the TBH. During this quarter, 100% of the callers at each follow-up period reported being satisfied or very satisfied with services received (pg. 23, Table 15). When asked about the likelihood to recommend TBH services to another person, all callers for each follow-up period reported that they were likely to refer someone else to the hotline (pg. 23, Table 15).

Clients are welcome to call the hotline any time they need support, regardless of language barriers. An auto attendant greets callers in both English and Spanish. Interpretive services are available for more than 200 languages. Special operators are available to assist hearing-impaired callers.

#### **Data Limitations**

TBH understands and balances the need to provide an important service as well as the desire to collect data for evaluation. TBH staff attempt to capture complete information from all of its callers. However, missing data may be present due to TBH's priority to high quality service, repeat callers, or non-response from a caller. Also, TBH is available to a wide range of individuals who may seek breastfeeding support, so some questions may not be applicable to all callers.

### Introduction

Breastfeeding is widely accepted as an effective strategy to promote positive health outcomes for both mothers and their babies. Despite growing data on these benefits, 28.9% of babies born in Tennessee were never breastfed, according to the Centers for Disease Control and Prevention's most recent National Immunization Survey (NIS)<sup>2</sup>. By the time their baby reached 6 months of age, the proportion of Tennessee mothers breastfeeding decreased from 71.1% to 42.5%. Tennessee rates for breastfeeding initiation and six months duration are lower than Healthy People 2020's goal of 81.9% and 60.6%, respectively.

This report was created to examine how the TBH is currently fostering the healthy development of children by promoting and supporting the practice of breastfeeding in Tennessee. By addressing common barriers to breastfeeding in the state, the hotline reinforces the national goal of higher breastfeeding rates, over longer periods of time. Prevalent barriers to breastfeeding include<sup>3</sup>:

- Lack of knowledge
- Lactation problems
- Poor family and social support
- Social norms
- Embarrassment
- Employment and child care
- Health services

The TBH addresses these obstacles in a multifaceted approach designed around the individual needs of each client. The primary medium for doing so is through International Board Certified Lactation Consultants (IBCLC) and/or Certified Lactation Counselors (CLC). These lactation professionals answer questions and provide information about:

<sup>&</sup>lt;sup>2</sup> Center for Disease Control, 2014/2015 National Immunization Survey State Estimates. https://www.cdc.gov/ breastfeeding/data/nis\_data/rates-any-exclusive-bf-state-2013.htm

<sup>&</sup>lt;sup>3</sup> U.S. Department of Health and Human Services. Executive Summary: The Surgeon General's Call to Action to Support Breastfeeding. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; January 20, 2011.

- Inadequate milk production
- Nursing rejection by baby
- Breast or nipple pain
- Medications and breastfeeding
- Working and breastfeeding
- Breast pumps and rentals
- Breastfeeding in public
- Tennessee laws that relate to breastfeeding
- Weaning
- State-approved online breastfeeding support groups
- State-approved online breastfeeding resource material

The topics of information covered by the lactation professionals acknowledge the barriers to breastfeeding experienced by women nationally.

### **Caller Demographics**

The target population of the TBH includes nursing mothers, their families and partners, expectant parents, and health care providers. During this 3<sup>rd</sup> quarter, 78.7% of the callers were white, 16.2% were black, and 2.3% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Only 2.8% of callers were of multiple or mixed race (pg. 16, Table 9B). According to the United States Census Bureau, 77.8% of Tennessee residents are white, 16.8% are black, and 2% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Two percent of Tennessee residents are of multiple or mixed race.<sup>4</sup> Hispanic women comprised 4.3% of the callers for the 3<sup>rd</sup> quarter (pg. 17, Table 9C). When examining age, the hotline received the highest proportion of calls (42.1%) from callers between the ages of 26 and 30 (pg. 16, Table 9A).

#### **Notable Findings**

The TBH had two notable instances to highlight in the 3<sup>rd</sup> quarter.

- 1. A mother called with concerns about bacterial transmission. She explained that her dog had leptospirosis (a bacterial disease that can affect both animals and humans), and wanted to know if it was safe to breastfeed her baby. The lactation professional who answered the call informed the mother that she needed to consult with Dr. Stiles, the TBH medical consultant, and would call her back. In the meantime, the lactation professional recommended that the mother pumped and labeled the milk. The mother was encouraged to offer her baby her PREVIOUSLY stored breastmilk. The lactation professional also referred the mother to the baby's pediatrician, her doctor, as well as Infant Risk. Upon speaking to mother, Dr. Stiles shared a fact sheet on leptospirosis from the World Health Organization, as well as information from the CDC. Staff attempted both a 24-hour and 4-week follow up; however, the phone was busy both times. The mother did not return any messages.
- 2. The TBH received multiple calls from a mother during her premature baby's first month and staff provided recommendations and support that included a referral to the TBH medical consultant. The

<sup>&</sup>lt;sup>4</sup> U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates, Accessed: Monday, 3-Feb-2017 3:18:00 EST

mother also had the support of an IBCLC, a dietitian, and received visits from a Certified Postpartum Doula and Licensed Medical Social Worker while breastfeeding her newborn baby.

The baby was born prematurely (37 weeks) and received formula while at the hospital, though the mother planned to breastfeed. After being discharged from the hospital, the mother consulted with her physician, who scheduled a visit with a local lactation professional due to a weight concern when the baby was one week old. The baby had lost 8oz since birth and was being supplemented with one ounce of expressed breastmilk at this time. At the time of the first call, TBH staff reassured the mother that the baby was meeting the intake and output goals. The lactation professional recommended that the mother continued to monitor the intake and output to ensure that the baby met these goals. The lactation professional informed the mother of these expectations and her breastfeeding routine were reviewed.

The mother called back later that day with questions about feeding cues, skin to skin, and pacifier use. The lactation professional addressed these issues and shared resources with the mother. Two days later, the mother called again with questions about supplementation and positioning. Since the baby was meeting the intake and output goals, the mother had decided to stop supplementing. The lactation professional discussed utilizing skin to skin prior to breastfeeding and reminded the mother to watch for feeding cues that would indicate the best time to breastfeed her baby.

The next morning, the mother called back to say that her baby appeared to be demand feeding and she had supplemented with one ounce so that she could rest. The mother reported that the baby was meeting the intake and output goals. The lactation professional provided the mother with support, reassurance, and encouragement. That afternoon, the mother called once more, this time with concerns about her baby getting enough milk. The lactation professional reassured her that, based on the reported number of wet and dirty diapers and feedings, the baby was receiving an adequate amount.

The mother called TBH about a week later to report that her baby was waking more often at night. The lactation professional listened to the mother and offered reassurance. The following day, the mother called and asked for resources concerning postpartum depression. The lactation professional shared resources with her, and praised her for reaching out for help. Two weeks later, the mother called again and reported that baby had some episodes of spitting up. She had been breastfeeding exclusively and discontinued supplementing with formula. The mother was wondering if she should be concerned. The lactation professional shared information about precautions to take for spitting up, and advised the mother to follow up with her pediatrician if there was no improvement.

At three weeks, the mother called to report that she was experiencing sharp shooting pain after breastfeeding and she was concerned about plugged ducts. The lactation professional reviewed the treatment for plugged ducts with the mother, and reviewed her breastfeeding routine to ensure that the mother was comfortable and that the baby was getting a deep latch. The lactation professional encouraged the mother to call back for any concerns, and advised her to follow up with her physician if the situation did not improve. At the scheduled 4-week follow-up, the mother reported that the baby was still very slow to gain weight, and had been diagnosed with reflux and a possible dairy allergy. In addition, the mother was on medication for postpartum depression. The

lactation professional praised the mother for persevering with breastfeeding the baby for a month, considering all the challenges that had arisen. The lactation professional acknowledged the mother's concern about the baby's slow weight gain, advising that stress can affect the mother's milk supply. The mother was considering supplementing, as she felt that the emotional toll of her difficult breastfeeding journey was interfering with the relationship between her and her baby. Once again, the lactation professional commended the mother for breastfeeding for a month, but advised that she needed to do what works for her. The lactation professional discussed the gradual weaning process with the mother, and referred her to her pediatrician to further monitor her supplementation.

This series of calls to the TBH exemplified how interventions and barriers to breastfeeding can both physically and emotionally affect a mother's breastfeeding experience. It showed a dedicated mother whose breastfeeding journey had significant challenges that resulted in her weaning at one month. In addition to her 15 calls to the TBH for support, she also received medical intervention from her pediatrician and other professionals to address her concerns and needs. It was her decision to wean her baby at this stage and the TBH supported her in her decision.

### **Conferences and Continued Education**

- January March 2017: A study group including 4 TBH staff has been meeting regularly to prepare for the IBCLC certification exams in April and October 2017.
- March 5-7<sup>th</sup>, 2017: Annual Meeting for the Tennessee Initiative for Perinatal Quality Care in Franklin, TN. Helen Scott, Crystal Gilreath and Jada Wright Nichols represented the TBH. Staff attended the informative presentations that included the breastfeeding breakout session and the Breastfeeding Coalition. Laura Campbell, State Breastfeeding Coordinator at the Tennessee Department of Health, facilitated the Breastfeeding Strategic Planning meeting. The three workgroups (Provider Education, Lactation Access and Support, Community Education and Engagement) and Steering Committee created 2 to 3 action items to complete over the next 3 months and report on their progress/accomplishments at the next quarterly meeting.

#### **Call Report Changes**

Since the previous quarterly report, we have:

• Made no changes to the call report forms.

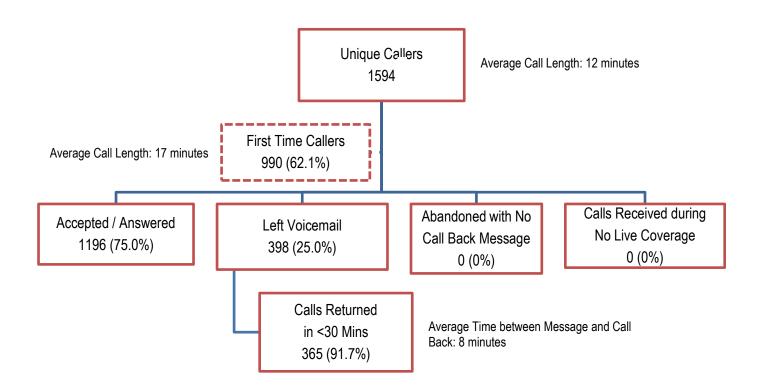
### **TBH Staff Updates**

- Julie Flynn, RN, CLC has changed her schedule, reducing her shift to once a month.
- Meredith Raney, BSN, CLC decreased her schedule to work 1 to 2 shifts a month.
- Tracey Davis has not worked since December 2016 due to a family commitment and her regular work schedule.
- As a result of these staffing changes, the TBH is in the process of hiring 2 more PRN staff members to ensure 24/7 coverage over the weekend and during holidays/vacations.

## **Tables and Figures**

## (1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 3<sup>rd</sup> Quarter (January - March 2017)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from January through March 2017. For the 3<sup>rd</sup> quarter of SFY 2016, the TBH had 1,594 unique callers. Of those total unique callers, 990 (62.1%) were first time callers to the TBH. Overall, average call length was 12 minutes; first-time callers were just slightly longer (17 minutes).

Of all calls received, 1,196 (75%) were answered and accepted live by TBH staff and 398 (25%) callers left a voicemail for TBH staff. About 92% of calls were returned within 30 minutes of the initial voicemail.

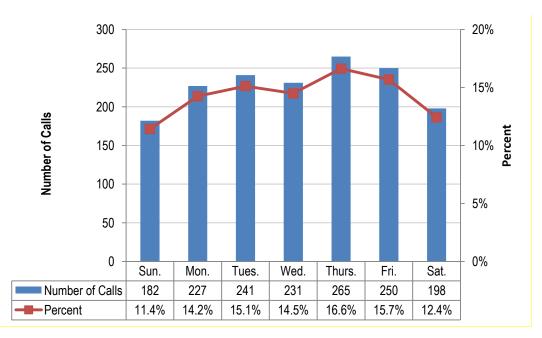
Time of Call	January	February	March	3rd Quarter Totals	3rd Quarter Percent
12 AM - 7 AM	53	47	45	145	9.1%
8 AM - 12 PM	171	181	181	533	33.4%
1 PM - 6 PM	188	201	216	605	38.0%
7 PM - 11 PM	103	103	105	311	19.5%
TOTALS:	515	532	547	1594	100%

### (2) Call Volume & Time

### Table 2A. Call Volume, by Time of Day (N=1594)

During the 3<sup>rd</sup> quarter, the majority of calls (38%) were received between 1 PM and 6 PM. About 71% of calls were received during the traditional workday (8AM – 6 PM).



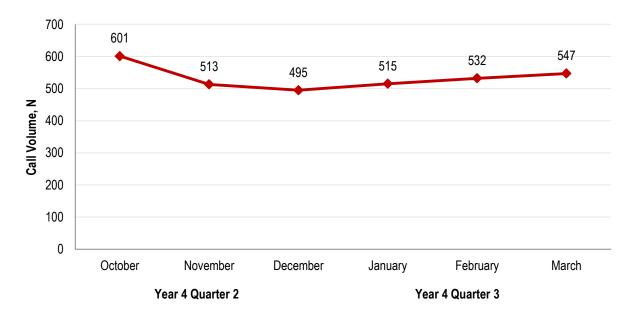


During the 3<sup>rd</sup> quarter, TBH experienced its highest call volume on Thursdays (16.6%). Call volume was lowest on Sundays (11.4%).

Number of						
Month	Calls	Percent				
January	515	32.3%				
February	532	33.4%				
March	547	34.3%				
TOTALS:	1594	100%				

Call volume within the 3<sup>rd</sup> quarter was highest in March. Compared to the previous quarter, call volume decreased about 1% from 1,609 calls to 1,594 (Figure 2).

Figure 2. Call Volume Trend, Previous Quarter (Y4Q2) Compared to Current Quarter (Y4Q3)



### (3) Call Length

Length of Call	3rd Quarter Totals	3rd Quarter Percent
0-9 minutes	731	45.9%
10-19 minutes	606	38.0%
20-29 minutes	180	11.3%
30-39 minutes	55	3.5%
40-49 minutes	12	0.8%
50-59 minutes	5	0.3%
1 hour or more	5	0.3%
TOTALS:	1594	100%

#### Table 3. Number and Proportion of Calls within 3rd Quarter, by Call Length (N=1594)

Over 83% of calls lasted between 0 and 19 minutes during the 3<sup>rd</sup> quarter. Five calls lasted more than an hour. These longer calls are usually due to the certified lactation professional having to utilize a language line and interpreter, which can significantly extend call time.

### (4) Referrals

#### Table 4A. Referral Source Reported by Caller (N=958)

Referral Source	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Hospital	219	247	260	726	75.8%
Website/Search Engine	51	37	35	123	12.8%
Providers office	18	14	14	46	4.8%
WIC clinic	14	8	10	32	3.3%
Family or Friend	5	7	10	22	2.3%
Brochure	2	3	1	6	0.6%
Billboard	3	0	0	3	0.3%
TOTALS:	312	316	330	958	100%

Missing or not applicable n=636

Note: Percent total may not sum to 100 due to rounding.

During the call, clients were asked how they heard about the TBH. Hospital was the most common referral source, referring 75.8% of callers, followed by information found on a website or via search engine (12.8%).

Referral Status	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Referred to own provider	35	42	33	110	7.1%
Referred to other provider in the vicinity	3	2	1	6	0.4%
No referral given	468	482	491	1441	92.5%
TOTALS:	506	526	525	1557	100%

#### Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1557)

Missing or not applicable n=37

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 7.5% of callers were referred to a provider, predominantly their own.

#### Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1551)

Medical Reference Given	January	February	March	3rd Quarter Totals	3rd Quarter Percent
No	493	508	517	1518	97.9%
Yes	12	10	11	33	2.1%
TOTALS:	505	518	528	1551	100%

Missing or not applicable n=43

Only 33 (2.1%) callers were advised by a certified lactation professional to seek immediate medical attention. Reasons that the mother would have been advised could include if the mother had symptoms of mastitis or a yeast infection, or any issue above and beyond the scope of practice.

#### Referred to a **3rd Quarter 3rd Quarter** January February March **Lactation Specialist** Percent **Totals** No 420 440 442 1302 89.2% 56 55 46 157 10.8% Yes TOTALS: 476 495 488 1459 100%

### Table 4D. Number and Proportion of Callers Referred to a Local Lactation Professional (N=1459)

Missing or not applicable n=135

During the 3<sup>rd</sup> quarter, the TBH advised 157 (10.8%) callers to seek out a local lactation professional.

### (5) First Time or Repeat Caller

Caller Type	January	February	March	3rd Quarter Totals	3rd Quarter Percent
First Time	320	345	325	990	62.1%
Repeat Caller	195	187	222	604	37.9%
TOTALS:	515	532	547	1594	100%

#### Table 5. TBH Caller by Call Type (N=1594)

The majority (62.1%) of calls received were from first time callers.

### (6) Interpretive Services

#### Table 6. Use of Interpretive Services (N=1594)

Interpretive Services	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Not Used	508	529	541	1578	99.0%
Used	7	3	6	16	1.0%
TOTALS:	515	532	547	1594	100%

Only 16 (1%) of callers required interpretive services. Of those 16 calls, four were for Spanish-speaking callers and one was for a language listed as 'Other.' The remaining 11 calls did not denote the language used.

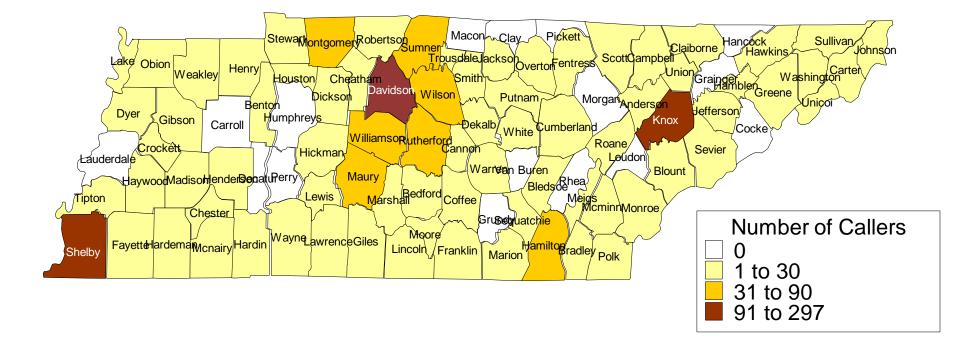
### (7) Caller Location

Region	3rd Quarter Totals	3rd Quarter Percent
Davidson	297	22.1%
Shelby	275	20.4%
Mid-Cumberland	254	18.9%
Knox	94	7.0%
South Central	84	6.2%
East	72	5.3%
Hamilton	64	4.8%
Northeast	41	3.0%
Upper Cumberland	40	3.0%
West	36	2.7%
Southeast	34	2.5%
Northwest	32	2.4%
Sullivan	16	1.2%
Madison	7	0.5%
TOTALS:	1346	100%

#### Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1346)

Missing n=10

The table above depicts call volume by the Tennessee Department of Health regions during the 3<sup>rd</sup> quarter. A total of 1,356 (85.1%) calls from Tennessee residents. Of callers who reported a county of residence, 42.5% of resident calls were from the Davidson and Shelby regions.



#### Figure 3. Call Volume, by Caller's County of Residence, January to March 2017



Figure 4. Call Volume, by Caller's State of Residence, January to March 2017

Overall, the TBH received calls from 197 unique counties across 41 states.

### (8) Caller's Relationship to Mother

Relationship to Mother	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Self	467	494	491	1452	95.3%
Spouse or partner	14	10	13	37	2.4%
Family or household member	10	5	7	22	1.4%
Healthcare provider	5	4	3	12	0.8%
TOTALS:	496	513	514	1523	100%

#### Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1523)

Not applicable n=71

**Note:** Percent total may not sum to 100 due to rounding.

During the 3<sup>rd</sup> guarter, 95.3% of calls to the TBH were from the mother.

### (9) Maternal Age, Race, and Ethnicity

#### Table 9A. Number and Proportion of Calls, by Maternal Age (N=920)

Maternal Age	January	February	March	3rd Quarter Totals	3rd Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	0	3	1	4	0.4%
18 - 20	16	14	6	36	3.9%
21 - 25	55	62	48	165	17.9%
26 - 30	113	142	132	387	42.1%
31 - 35	93	67	99	259	28.2%
36 - 40	23	21	17	61	6.6%
41 - 45	3	3	1	7	0.8%
<u>&gt;</u> 46	0	0	1	1	0.1%
TOTALS:	303	312	305	920	100%

Missing or not applicable n=674

During the 3<sup>rd</sup> quarter, call volume was highest (42.1%) among mothers between 26 and 30 years.

#### Table 9B. Number and Proportion of Calls, by Maternal Race (N=937)

January	February	March	3rd Quarter Totals	3rd Quarter Percent
243	245	249	737	78.7%
52	46	54	152	16.2%
4	8	14	26	2.8%
3	9	7	19	2.0%
1	0	2	3	0.3%
0	0	0	0	0.0%
303	308	326	937	100%
	243 52 4 3 1 0	243         245           52         46           4         8           3         9           1         0           0         0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	January         February         March         Totals           243         245         249         737           52         46         54         152           4         8         14         26           3         9         7         19           1         0         2         3           0         0         0         0

Missing or not applicable n=657

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 78.7% were white, followed by black (16.2%).

Ethnicity	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Not Hispanic	365	356	388	1109	95.7%
Hispanic	9	21	20	50	4.3%
TOTALS:	374	377	408	1159	100%

#### Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1159)

Missing or not applicable n=435

Mother's ethnicity was reported for 1159 (72.7%) calls. Of those with ethnicity documented, 50 (4.3%) callers identified as Hispanic/Latina.

#### (10) Mother's Pregnancy History

#### Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=405)

Number of Prior Pregnancies	January	February	March	3rd Quarter Totals	3rd Quarter Percent
1	80	93	61	234	57.8%
2	43	40	35	118	29.1%
3	14	11	7	32	7.9%
4	3	4	1	8	2.0%
5	1	3	3	7	1.7%
6	0	1	2	3	0.7%
7	1	0	1	2	0.5%
8	1	0	0	1	0.2%
9	0	0	0	0	0.0%
10 +	0	0	0	0	0.0%
TOTALS	143	152	110	405	100%

Missing or not applicable n=1189

Note: Percent total may not sum to 100 due to rounding.

Of those who reported pregnancy history, 57.8% of callers reported just one prior pregnancy.

Number of Prior Live Births	January	February	March	3rd Quarter Totals	3rd Quarter Percent
1	128	156	135	419	62.9%
2	72	56	54	182	27.3%
3	16	13	12	41	6.2%
4	3	5	4	12	1.8%
5	3	4	3	10	1.5%
6	0	1	1	2	0.3%
7	0	0	0	0	0.0%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	0	0	0	0.0%
TOTALS:	222	235	209	666	100%

#### Table 10B. Number and Proportion of Calls, by Prior Live Births (N=666)

Missing or not applicable n=928

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, 62.9% of women had only one previous live birth.

Gestational Age	January	February	March	3rd Quarter Totals	3rd Quarter Percent
< 37 weeks (pre-term)	18	16	11	45	5.1%
37 to <39 weeks (early term)	48	40	50	138	15.5%
39 to <41 weeks (full term)	207	225	231	663	74.5%
41 to <42 weeks (late term)	10	22	11	43	4.8%
> 42 weeks (post term)	1	0	0	1	0.1%
TOTALS:	284	303	303	890	100%

\*Recommended classifications from American College of Obstetricians and Gynecologists Missing or not applicable n=704

During this quarter, nearly 3 out of 4 mothers (74.5%) reported delivering at full-term. Only 5.1% reported delivering prematurely.

Age of Infant	January	February	March	3rd Quarter Totals	3rd Quarter Percent
< 1 week	83	79	70	232	21.1%
1 week - < 1 month	89	108	72	269	24.5%
1 - < 3 months	60	78	75	213	19.4%
3 - < 6 months	70	59	69	198	18.0%
6 - < 9 months	30	33	28	91	8.3%
9 - < 12 months	21	18	10	49	4.5%
12 - 18 months	15	7	14	36	3.3%
19 - 24 months	4	3	5	12	1.1%
TOTALS:	372	385	343	1100	100%

### Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1100)

Missing or not applicable n=494

Note: Percent total may not sum to 100 due to rounding.

Callers were asked to indicate infant's age during the initial call to the TBH. About 46% of calls were made when the baby was less than 1 month old.

#### Table 11B. Number and Proportion of Calls, by Delivery Method (N=357)

Delivery Method	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Vaginal	99	101	72	272	76.2%
Cesarean	32	31	22	85	23.8%
TOTALS:	131	132	94	357	100%

Missing or not applicable n=1237

Table 11B shows the number and proportion of calls by delivery method during the 3<sup>rd</sup> quarter. Approximately 76% of women indicated that they had a vaginal delivery. Two of the callers during this quarter were pregnant at time of the call (delivery method recorded as 'not yet born'). These instances were documented but were excluded with regard to the table above.

### (12) Feeding Information

#### Table 12A. Number and Proportion of Calls, by Breastfeeding Status (N=577)

Breastfeeding Status	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Breastfeeding exclusively	89	101	71	261	45.2%
Both breastfeeding and pumping	59	53	54	166	28.8%
Breastfeeding with supplemental nutrition	59	24	30	113	19.6%
Pumping exclusively	8	18	11	37	6.4%
TOTALS:	215	196	166	577	100%

Missing or not applicable n=1017

TBH collected information about the breastfeeding status of mothers during the initial call. Of the mothers who disclosed their breastfeeding status, just under half (45.2%) were breastfeeding exclusively.

Breastfeeding within 24 Hours?	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Yes	153	154	97	404	96.9%
No	3	6	4	13	3.1%
TOTALS:	156	160	101	417	100%

#### Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=417)

Missing or not applicable n=1177

Table 12B shows number and proportion of callers who initiated breastfeeding within 24 hours of delivery. Of the callers who responded, 96.9% of mothers had begun breastfeeding their baby within 24 hours of birth.

### (13) Reasons for Calling

### Table 13A. Number and Proportion of Calls, by Primary Reason for Call (N=1440)

Reasons for Calling	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Breast-Related Problems	86	112	89	287	19.9%
Maternal Health Behaviors	82	82	79	243	16.9%
Lactation or Milk Concerns	57	56	53	166	11.5%
Infant Health Concerns	47	33	58	138	9.6%
Milk Expression	38	37	52	127	8.8%
Breastfeeding Management	39	33	46	118	8.2%
Breastfeeding Technique	37	42	37	116	8.1%
Infant Health Behaviors	32	28	18	78	5.4%
Breastfeeding Support	14	22	30	66	4.6%
Maternal Health Concerns	11	19	9	39	2.7%
Supplemental Nutrition	13	8	13	34	2.4%
Medical Condition (Infant)	10	9	9	28	1.9%
TOTALS:	466	481	493	1440	100%

Missing or not applicable n=154

Callers were asked to indicate their primary reason for calling the TBH, which was then categorized into the reasons above (please see Appendix A for classification of individual reasons). During this quarter, about 1 in 5 of calls (19.9%) was to address breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by maternal health behaviors (16.9%). The top five individual reasons for calling the TBH were: medications and breastfeeding, breast/nipple pain, not making enough milk, breast engorgement, and appropriate feeding by age/weight.

Top Additional Reasons for Calling	January	February	March	3rd Quarter Totals
Pumping	8	5	14	27
Breast or nipple pain	5	8	7	20
Appropriate feeding by age/weight	5	4	6	15
Medications and breastfeeding	5	6	2	13
Not making enough milk	2	3	7	12
Weaning	4	4	1	9
Breast engorgement	5	1	3	9
Working and breastfeeding	2	4	2	8
Sore nipples	4	1	3	8
Breastfeeding technique	1	4	2	7
TOTALS:	41	40	47	128

#### Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=128)

In addition to the primary reason for calling, lactation professionals noted additional questions that were brought up during the course of the call. Many mothers did not bring up additional questions. Top additional concerns were related to pumping and breast/nipple pain.

### (14) Outcomes at Follow-Up

At the end of each initial call to the TBH, the lactation professionals asked the callers if they intended to continue to breastfeed (results in Table 14A). Continuation of breastfeeding was also asked during the 4-week, 8-week, and 12-week follow up calls (Table 14B).

Also, the lactation professionals asked the caller if they felt more comfortable and/or confident with breastfeeding by the end of the initial call (Table 14D). Similar to the question regarding the continuation of breastfeeding, caller confidence and comfort was also assessed by TBH staff at 4-week, 8-week, and 12-week follow-up calls (Table 14E).

During the 3<sup>rd</sup> quarter, TBH attempted a total of 1,275 calls to clients to follow-up about breastfeeding status; only 334 (26.2%) of callers were reached for follow-up. The percent of callers reached steadily decreased at each time period.

Intention to Continue Breastfeeding	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Yes	435	450	442	1327	98.7%
No	7	3	8	18	1.3%
TOTALS:	442	453	450	1345	100%

Table 11A	Number and Dre	nortion of Calla	by Intention to	Continuo Drog	offooding (N=1215)
Table 14A.	Number and Fro	portion of Galls,	by intention to	Continue Died	stfeeding (N=1345)

Not applicable n=249

When asked about their intention to continue breastfeeding, 1,327 (98.7%) callers reported they would continue breastfeeding at the end of the initial call.

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Still Breastfeeding N (%)
4 week	491	340	151 (30.8%)	137	108 (78.8%)
8 week	427	314	113 (26.5%)	108	78 (72.2%)
12 week	357	287	70 (19.6%)	66	55 (83.3%)

#### Table 14B. Caller's Breastfeeding Status, by Follow-Up Period

**Notes**: Reached = # of callers reached out of # of calls attempted

Still breastfeeding = # of callers still breastfeeding out of # of callers who answered the question

At the 4-week follow-up, 108 (78.8%) callers were still breastfeeding. This proportion drops to 72.2% at the 8-week follow up, but rises to 83.3% for the 12-week follow-up. Reasons reported by the mothers who ceased breastfeeding during the weeks in between the initial call and the follow up(s) included: not making enough milk, baby refusing to latch, going back to work, sore nipples, taking medications, baby not gaining weight, and stress.

#### Table 14C. Breastfeeding: Exclusive or Supplemental, by Follow-Up Period

Follow-Up Period	Number Still Breastfeeding (from Table 14B)	Answered Question	Supplemented N (%)	Exclusive N (%)
4 week	108	94	25 (26.6%)	69 (73.4%)
8 week	78	65	13 (20.0%)	52 (80.0%)
12 week	55	49	8 (16.3%)	41 (83.7%)

Callers who indicated that they were still breastfeeding during the follow-up call (Table 14B) were then asked if they were breastfeeding exclusively or with supplemental nutrition.

Of the callers who indicated that they were still breastfeeding, more mothers were exclusively breastfeeding their infants during each follow-up period.

Comfort with Breastfeeding	January	February	March	3rd Quarter Totals	3rd Quarter Percent
Yes	437	448	439	1324	99.0%
No	3	3	7	13	1.0%
TOTALS:	440	451	446	1337	100%

#### Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1337)

Not applicable n=257

TBH staff reported that almost all (99%) callers had increased comfort and confidence with breastfeeding by the end of their interaction.

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Improved N (%)	Did Not Improve N (%)
4 week	491	340	151 (30.8%)	59	58 (98.3%)	1 (1.7%)
8 week	427	314	113 (26.5%)	38	38 (100%)	0 (0.0%)
12 week	357	287	70 (19.6%)	34	34 (100%)	0 (0.0%)

#### Table 14E. Caller's Confidence and Comfort with Breastfeeding, by Follow-Up Period

Notes: Reached = # of callers reached out of # of calls attempted;

Improved= # of callers with improved confidence or confidence breastfeeding out of # of callers who answered the question

At the 4-week follow-up, 98.3% of callers reported increased confidence and comfort with breastfeeding; for subsequent time periods, all callers noted improved confidence and comfort.

### (15) Client Satisfaction with Services

Clients rated TBH services at different intervals: 4 weeks, 8 weeks, and 12 weeks after services had been rendered. Callers were asked to rate their overall satisfaction with hotline services and indicate their likelihood to recommend TBH services to another person.

				Satisfactio	n with TBH	Recom	nend TBH
Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Satisfied N (%)	Answered Question	Likely to Recommend N (%)
4 week	491	340	151 (30.7%)	90	90 (100%)	91	91 (100%)
8 week	427	314	113 (26.5%)	69	69 (100%)	70	70 (100%)
12 week	357	287	70 (19.6%)	48	48 (100%)	48	48 (100%)

Notes: Reached = # of callers reached out of # of calls attempted;

Satisfied = # of callers satisfied or very satisfied with TBH services out of # of callers who answered the question

Likely to Recommend = # of callers likely or very likely to recommend TBH services out of # of callers who answered the question.

Callers were asked to rate their level of satisfaction of TBH from 1 (very dissatisfied) to 5 (very satisfied). Overall, clients had very high satisfaction with TBH services during each follow-up period. During each follow-up, callers were also asked to indicate their likelihood to recommend the TBH to others (1 - very unlikely to 5 - very likely). Similar to satisfaction, every respondent stated that they were likely to recommend TBH services to another person during each follow-up period.

### (16) Texting Follow-Up

In June 2015, TBH began pilot implementation of a texting follow-up program. Texts were sent only after a member of the TBH staff was unsuccessful in reaching the caller via voice call. Texting follow-up consisted of the following message, which was personalized for each caller contacted to include the caller's name:

#### "Thank you for taking the time to answer a few questions about your experience with the Tennessee Breastfeeding Hotline. Remember, if you have any questions, feel free to call us at any time at 1-855-423-6667 and we would be happy to help you."

Results are currently not separated by follow-up periods due to restraints by the texting platform; the TBH is working with iCarol to figure out a solution to this. Furthermore, not all questions asked during the traditional follow-up method were available for texting follow-up. Currently, TBH staff text 4 questions to callers about breastfeeding status, satisfaction of services, and level of comfort/confidence breastfeeding.

#### Table 16A. Texting Follow-Up: Caller's Breastfeeding Status (N=48)

Follow-Up Method	Texts	Yes	No
	Received	N (%)	N (%)
Text	48	39 (81.3%)	9 (18.7%)

During the 3<sup>rd</sup> quarter, TBH received 48 follow-up texts regarding breastfeeding status. Of those responses received, 39 (81.3%) responded that they were still breastfeeding.

#### Table 16B. Caller's Satisfaction with TN Breastfeeding Hotline (N=47)

Follow-Up Method	Texts Received	Satisfied N (%)
Text	47	41 (87.2%)

Note: Satisfied = # of callers satisfied or very satisfied with TBH services

TBH received 47 responses regarding caller's satisfaction with services provided. Of those responses received, 87.2% responded that they were satisfied with services received.

#### Table 16C. Caller's Likelihood to Recommend TN Breastfeeding Hotline (N=46)

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	46	43 (93.5%)

Note: Likely to Recommend = # of callers likely or very likely to recommend TBH services

TBH received 46 responses with regard to caller's likelihood to recommend the TBH to others. Of the 46 responses received, 43 (93.5%) indicated that they were likely or very likely to recommend the TBH to another person.

Follow-Up Method	Texts	Yes	No
	Received	N (%)	N (%)
Text	41	32 (78.0%)	9 (22.0%)

TBH received 41 responses with regard to caller's increase in confidence and comfort with breastfeeding. Of the 41 texts received, 32 (78.0%) indicated that they were more comfortable and confident breastfeeding.

### Our Team

Meri Armour – President, Le Bonheur Children's Hospital Meri provides oversight over the entire hospital.

Nikki Polis - SVP/Chief Nurse Executive Methodist Le Bonheur Health Care Nikki provides oversight for all the nurses in the MLH system.

Sharon Harris, MSN, RN – Administrative Director, Le Bonheur Children's Hospital. Sharon provides oversight of the Maternal Child Department.

August Marshall, M.A. – Evaluation Coordinator August updates iCarol survey questions as needed, provides general iCarol support to the TBH staff, analyzes hotline data, and helps write and submit guarterly and annual reports.

Cathy Marcinko, M.A. -- Grant Development Coordinator Cathy assists division departments in researching, developing and submitting funding proposals, and with other assignments, as needed. She has a Masters' Degrees in Community Planning and in Teaching, and has a BA in Art History.

Christina M. Underhill, Ph.D. -- Program Evaluation Manager for the LCHWB Division Christina coordinated the creation of the TBH quarterly report format and assisted with the development of the TBH quality improvement plan. She advises on the collection of outcome measures and ensures proper data management.

Gary R. Cook, LCSW -- Director of LCHWB Grant Administration Department Gary co-authored the TN Breastfeeding Hotline Proposal. He provides contract related and fiscal oversight of the project.

Nicole Gottier, M.A. -- Grant Reimbursement Supervisor Nicole tracks monthly expenses for the program for correctness, as well as alignment with budget projections, and creates and submits monthly invoices to the State.

Sandra Madubuonwu MSN, RN, CLC – Director, Maternal Child Department. Sandra was involved in the proposal process for the TN Breastfeeding Hotline and played an instrumental role in implementing the program. She provides administrative oversight to all the programs within the Maternal Child Department, including the TBH.

Helen Scott, RN/IBCLC/RLC -- Project Coordinator of the Tennessee Breastfeeding Hotline Helen coordinates the staff and ensures that the Hotline is working to meet identified purposes and goals.

### **Medical Lactation Consultant**

Dr. Allison Stiles, Internal Medicine & Pediatrics, MD, IBCLC, RLC

### **Lactation Consultants and Counselors**

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#### Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

Melissa Barbour, Tennessee Department of Health Margaret T. Lewis, Tennessee Department of Health Laura Campbell, Tennessee Department of Health Sierra Mullen, Tennessee Department of Health Jolene Hare, Tennessee Department of Health Kelly Whipker, Tennessee Department of Health Robin Penegar, Knox County Becky Burris, Sullivan Health Department Dr. Anna Morad, Vanderbilt Hospital, Nashville TN. Nancy H. Rice, South Central Region TN. Jennifer Kmet, Shelby County Health Department Katie Baroff, WIC Shelby County Health Department Dr. Allison Stiles, Internal Medicine & Pediatrics, Memphis TN. Dr. Lauren Mutrie, Le Bonheur Children's Hospital Dr. Genae Strong, University of Memphis, School of Nursing Ginger Carney, St. Jude Research Hospital Amanda Helton, Le Bonheur Children's Hospital Kristen Heath. Methodist Le Bonheur Healthcare Sandra Madubuonwu, Le Bonheur Community Health and Well-Being Helen Scott, Le Bonheur Community Health and Well-Being Crystal Gilreath, Le Bonheur Community Health and Well-Being Victoria Roselli, Le Bonheur Community Health and Well-Being Christina Underhill, Le Bonheur Community Health and Well-Being Cathy Marcinko, Le Bonheur Community Health and Well-Being August Marshall, Le Bonheur Community Health and Well-Being Marilyn Smith, Le Bonheur Community Health and Well-Being Trina Gillam, Le Bonheur Community Health and Well-Being Lauren Robinson, Le Bonheur Community Health and Well-Being Inayah Ahmed, Le Bonheur Community Health and Well-Being

<b>,</b>		
CATEGORIES	REASONS / ISSUES	
Supplemental Nutrition: Issues related to complementing breastfeeding with expressed human milk or some other fluid or food	<ul><li>Vitamin D supplementation</li><li>Supplemental feeding</li></ul>	
<b>Milk Expression:</b> Issues related to taking breastmilk from the mother's breast without the baby needing to suckle.	<ul><li>Breast pumps and rentals</li><li>Exclusive pumping</li><li>Milk storage</li></ul>	
<b>Breast-Related Problems:</b> Issues or problems mother can experience that are commonly associated with breastfeeding	<ul> <li>Breast mass</li> <li>Breast engorgement</li> <li>Sore nipples</li> <li>Breast or nipple pain</li> <li>Nipple abnormality</li> </ul>	
<b>Breastfeeding Management:</b> Issues related to the process of maintaining or integrating breastfeeding within a mother's routine or circumstances	<ul> <li>Tandem nursing</li> <li>Breastfeeding while pregnant</li> <li>Working and breastfeeding</li> <li>Managing multiple breastfeeding babies</li> <li>Weaning</li> <li>Bottle feeding</li> <li>Returning to work/school</li> <li>Baby feeding to much / too little</li> <li>Breastfeeding device/equipment (e.g. nipple shields)</li> </ul>	
<b>Breastfeeding Support:</b> Resources, guidance, or laws that can assist with breastfeeding	<ul> <li>Public breastfeeding</li> <li>Donor milk</li> <li>TN breastfeeding laws</li> <li>Seeking resources</li> <li>Pre-birth information / counseling</li> </ul>	
Breastfeeding Technique: Issues related to mother's breastfeeding skill	<ul> <li>Inability to latch</li> <li>Breastfeeding technique</li> <li>Clicking / Noisy nursing</li> </ul>	
<b>Medical Condition (Infant):</b> Issues related to an infant's disease, disorder, illness, or complication diagnosed by a health care provider that can impact mother's ability to breastfeed	<ul> <li>Feeding baby with hypotonia</li> <li>Feeding baby with Down Syndrome</li> <li>Feeding baby with cleft lip / palate</li> <li>Jaundice</li> <li>Late preterm newborn</li> <li>Managing premature infant breastfeeding</li> <li>Tongue-tie</li> <li>Allergies</li> <li>Baby spitting up (reflux)</li> </ul>	

# **APPENDIX A.** Categorization of the Primary Reason for Calling the Tennessee Breastfeeding Hotline

<b>Infant Health Behaviors:</b> Issues related to infant's actions that can impact mother's ability to breastfeed	<ul> <li>Baby biting breast</li> <li>Baby refusing to nurse</li> <li>Distraction during breastfeeding</li> <li>Sleepiness</li> </ul>
<b>Maternal Health Behaviors:</b> Issues related to the practices (choices), of the mother that can impact her overall health and ability to breastfeed	<ul> <li>Alcohol use</li> <li>Substance abuse / Illicit drug use</li> <li>Smoking / Smoking cessation</li> <li>Exercise and breastfeeding</li> <li>Diet</li> <li>Medications and breastfeeding</li> </ul>
Lactation or Milk Concerns: Issues related to mother's anxiety or worry about milk production or quality	<ul> <li>Overactive letdown / too much milk</li> <li>Not making enough milk</li> <li>Re-lactation</li> <li>Adoption</li> <li>Color change in milk</li> </ul>
<b>Infant Health Concerns:</b> Issues related to mother's anxiety or worry about infant's health state or condition	<ul> <li>Fussiness / Colic</li> <li>Gassiness</li> <li>Appropriate feeding by age / weight</li> <li>Abnormal stools / voids</li> <li>Lethargy</li> <li>Weight concerns</li> <li>Sick baby</li> <li>Constipation</li> </ul>
Maternal Health Concerns: Issues related to mother's anxiety or worry about her own health state or condition	<ul> <li>Maternal postpartum vaginal bleeding</li> <li>Menstruation / Return of menstrual cycle</li> <li>Maternal sickness</li> <li>Maternal postpartum depression</li> </ul>
<b>Other:</b> An issue indicated by mother that is other than what is currently listed	Specify