



## ***Tennessee Breastfeeding Hotline Quarterly Report***

### **Submitted to:**

*State of Tennessee, Department of Health*

### **Prepared by:**

*Sandra Madubonwu MSN, CLC, RN*

*Helen Scott, RN, IBCLC, RLC*

*Christina Underhill, Ph.D.*

*August Marshall, M.A.*

*Of:*

*Le Bonheur Community Health and Well-Being*

*50 Peabody Place, Suite 400*

*Memphis, TN 38103*

*July to September 2017*



## Executive Summary

*July to September 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 July through September 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 productivity 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 this quarter, there were a total of 1,684 calls to the TBH. When asked about intention to continue breastfeeding, 98.1% of callers responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 71.7% 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>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/#](https://nccd.cdc.gov/NPAO_DTM/#).

asked to rate overall services received from the TBH. During this quarter, 98.4% of the callers at the 4-week follow-up period reported being satisfied or very satisfied with services received; 100% of callers at subsequent follow-up periods reported high service satisfaction (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 or very 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, 18.9% 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 81.1% to 57.0%. Although there have been improvements, Tennessee rates for breastfeeding initiation and 6 months duration remain slightly 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

---

<sup>2</sup> Center for Disease Control, 2015/2016 National Immunization Survey State Estimates. [https://www.cdc.gov/breastfeeding/data/nis\\_data/rates-any-exclusive-bf-state-2014.htm](https://www.cdc.gov/breastfeeding/data/nis_data/rates-any-exclusive-bf-state-2014.htm)

<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; July 20, 2011.

Consultants (IBCLC) and/or Certified Lactation Counselors (CLC). These lactation professionals answer questions and provide information about:

- 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 quarter, 77.7% of the callers were white, 14.8% were black, and 1.8% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. In addition, 5.7% of callers were of multiple or mixed race (pg. 16, Table 9B). According to the United States Census Bureau's 2016 estimates, 78.7% of Tennessee residents are white, 17.1% are black, and 2.3% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. In addition, 1.9% percent of Tennessee residents are of multiple or mixed race<sup>4</sup>. Hispanic women comprised 5.2% of the callers during this quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (43.4%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

### Notable Findings

The TBH had one notable instance to highlight:

1. *The TBH received a call from a WIC counselor in Tennessee on behalf of a participant. The participant was curious if going on a ketogenic diet (a strict low-carbohydrate diet) would help her 5 month old baby. The baby had a history of seizures. The lactation professional who took this call informed the counselor that she would consult with the TBH's coordinator and get back to her, as this question was beyond the lactation professional's scope of practice. After talking to the lactation professional, the TBH coordinator consulted with Dr. Stiles and two dietitians who serve on the TBH's Community Advisory Board. The consensus from these professionals was that the mother should contact her physician before attempting this diet while breastfeeding.*
2. *In July, the Journal of Nutrition Education and Behavior published its WIC-Breastfeeding Supplemental Issue. This issue included the article "Statewide Breastfeeding Hotline Use Among Tennessee WIC Participants," authored by Sierra Mullen and co-authored by Dr. Michael Warren*

<sup>4</sup> U.S. Census Bureau, QuickFacts Tennessee. <https://www.census.gov/quickfacts/fact/table/TN/RHI125216>

*and August Marshall. The article was a collaborative effort between the Tennessee Department of Health and the TBH.*

### **Conferences and Continued Education**

- **August 2<sup>nd</sup>, 2017:** World Breastfeeding Week Grand Rounds in Memphis, TN. Le Bonheur Children's Hospital's grand rounds were aimed towards breastfeeding to celebrate World Breastfeeding Week. Dr. Alyssa Throckmorton presented "How Breast Anatomy May Impact Milk Supply." After Dr. Throckmorton's presentation, Marie Biancuzzo gave a Skype presentation on preparation for the IBCLC exam. TBH also had a booth at this event.
- **August 5<sup>th</sup>, 2017:** Memphis Latch On was held at Trinity Baptist Church in Memphis, TN. Around 300 individuals attended the event with 220 breastfeeding children latched, exceeding last year's count. TBH promotional items were available at this event.
- **August 16<sup>th</sup>, 2017:** TBH Community Advisory Board (CAB) Meeting in Memphis, TN. At this quarterly CAB meeting, the TBH Coordinator presented data from the TBH's 4<sup>th</sup> year of operation and discussed events celebrating World Breastfeeding Week and National Breastfeeding month.
- **August 26<sup>th</sup>, 2017:** Breastfeeding Sisters who Are Receiving Support (BSTARS) 3K Walk in Memphis TN. In honor of Black Breastfeeding Week (August 25<sup>th</sup> – 31<sup>st</sup>), BSTARS hosted a 3K walk in downtown Memphis. Four TBH staff members attended in support of these women.
- **July - September:** The IBCLC study group has met regularly preparing for the IBCLC examination in October.

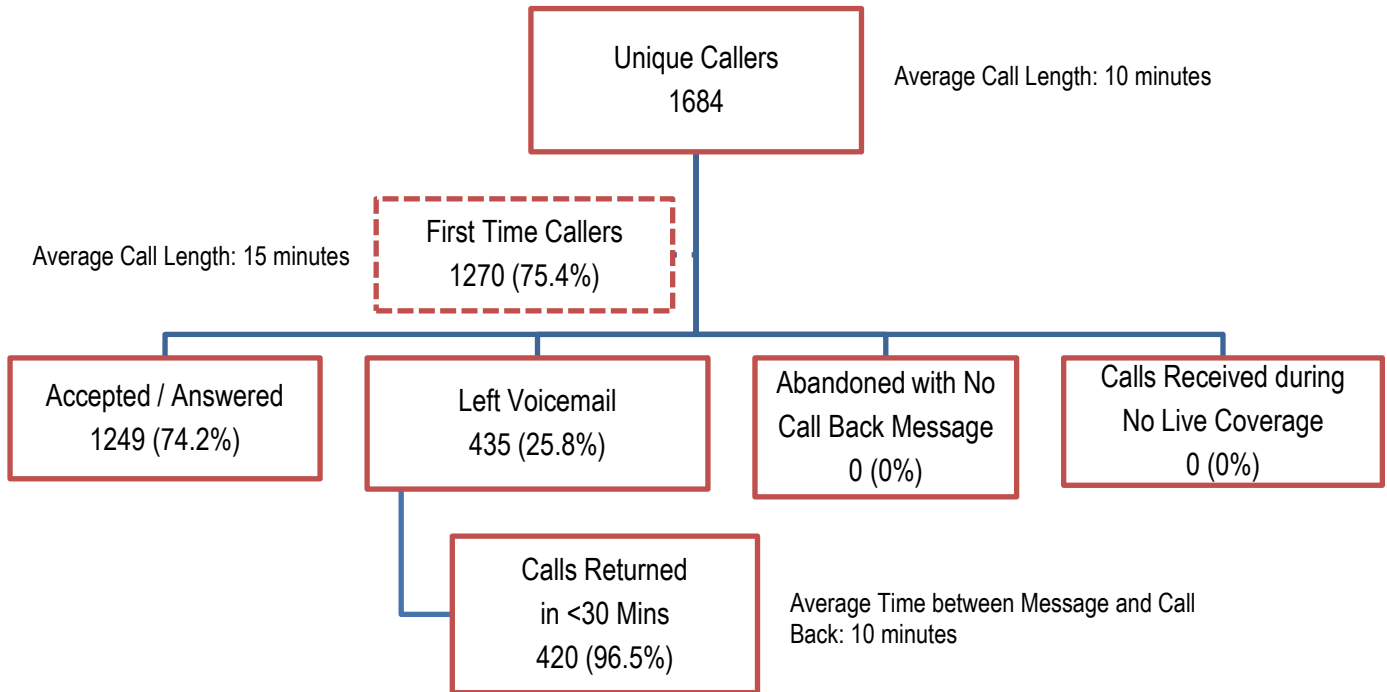
### **TBH Staff Updates**

- Meredith Raney, RN, BSN, CLC, resigned from the TBH to accept a full-time position.
- Cymon Miller, BA, CLC, has been hired as a PRN.

## Tables and Figures

### (1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 1<sup>st</sup> Quarter (July - September 2017)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from July through September 2017. During this period, the TBH had 1,684 unique callers. Of those total unique callers, 1,270 (75.4%) were first time callers to the TBH. Overall, average call length was 10 minutes; first-time callers were just slightly longer (15 minutes).

Of all calls received, 1,249 (74.2%) were answered and accepted live by TBH staff and 435 (25.8%) callers left a voicemail for TBH staff. About 97% of calls were returned within 30 minutes of the initial voicemail.

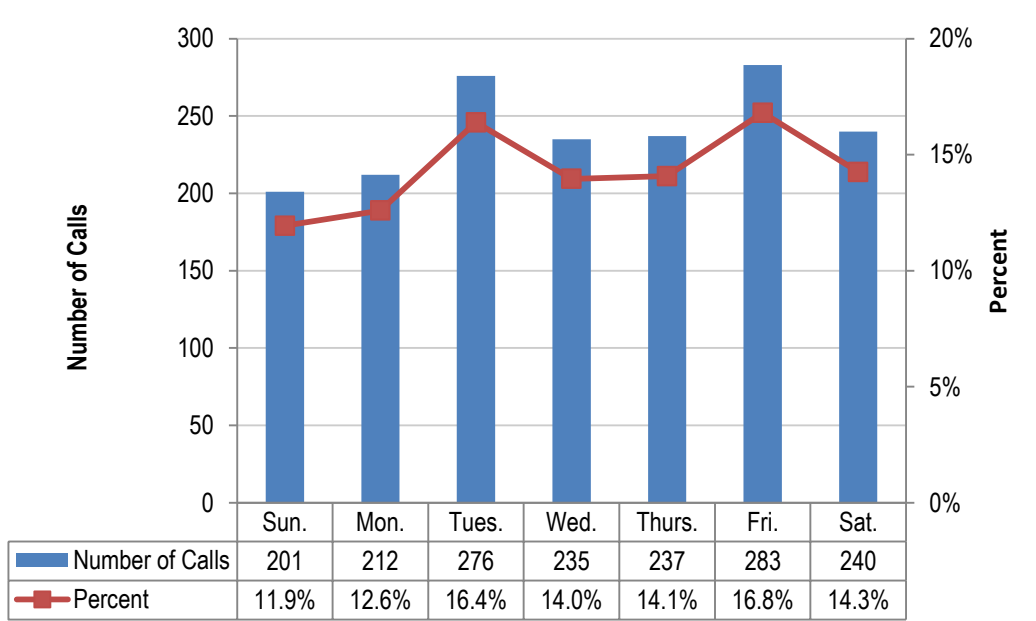
**(2) Call Volume & Time**

**Table 2A. Call Volume, by Time of Day (N=1684)**

Time of Call	July	August	September	1st Quarter Totals	1st Quarter Percent
12 AM - 7 AM	54	60	51	165	9.8%
8 AM - 12 PM	168	174	180	522	31.0%
1 PM - 6 PM	212	233	209	654	38.8%
7 PM - 11 PM	105	128	110	343	20.4%
<b>TOTALS:</b>	<b>539</b>	<b>595</b>	<b>550</b>	<b>1684</b>	<b>100%</b>

The majority of calls (38.8%) were received between 1 PM and 6 PM. About 70% of calls were received during the traditional workday (8AM – 6 PM).

**Figure 2. Call Volume, by Day of Week (N=1684)**



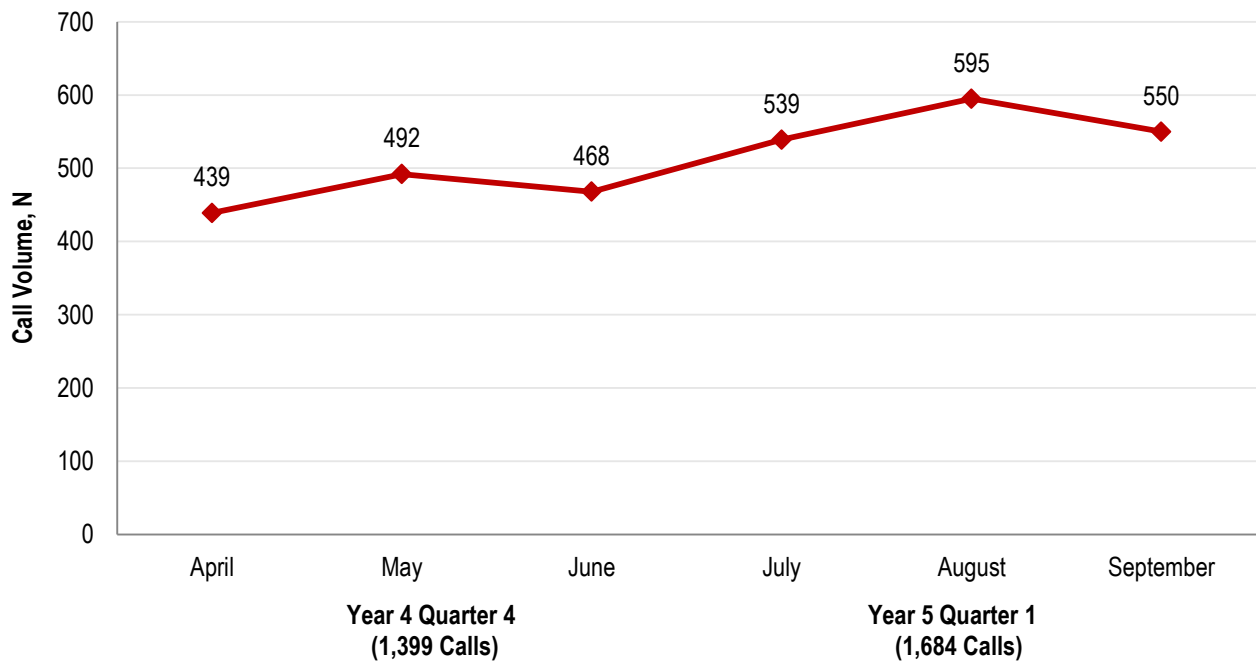
During this quarter, the TBH experienced its highest call volume on Fridays. Call volume was lowest on Sundays (11.9%).

**Table 2B. Call Volume, by Month (N=1684)**

Month	Number of Calls	Percent
July	539	32.0%
August	595	35.3%
September	550	32.7%
<b>TOTALS:</b>	<b>1684</b>	<b>100%</b>

Call volume was highest in August, increasing about 20% from the previous quarter's call volume (1,399).

**Figure 2. Call Volume Trend, Previous Quarter (Y4Q4) Compared to Current Quarter (Y5Q1)**





**(3) Call Length****Table 3. Number and Proportion of Calls within 1st Quarter, by Call Length (N=1684)**

Length of Call	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
0-9 minutes	846	50.2%
10-19 minutes	599	35.6%
20-29 minutes	179	10.6%
30-39 minutes	43	2.6%
40-49 minutes	9	0.5%
50-59 minutes	4	0.2%
1 hour or more	4	0.2%
<b>TOTALS:</b>	<b>1684</b>	<b>100%</b>

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

Almost 86% of calls lasted between less than 20 minutes during the 1<sup>st</sup> quarter. Four calls lasted more than an hour.

**(4) Referrals****Table 4A. Referral Source Reported by Caller (N=1122)**

Referral Source	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Hospital	267	250	239	756	67.4%
Website/Search Engine	60	71	57	188	16.8%
Providers office	33	40	39	112	10.0%
WIC clinic	10	10	12	32	2.9%
Family or Friend	14	6	12	32	2.9%
Brochure	0	1	1	2	0.2%
Billboard	0	0	0	0	0.0%
Public transit advertisement	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>384</b>	<b>378</b>	<b>360</b>	<b>1122</b>	<b>100%</b>

Missing or not applicable n=562

During the call, clients were asked how they heard about the TBH. Hospital was the most common referral source, referring 67.4% of callers, followed by information found on a website or via search engine (16.8%).

**Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1643)**

Referral Status	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
No referral given	494	533	499	1526	92.9%
Referred to own provider	34	48	31	113	6.9%
Referred to other provider in the vicinity	1	1	2	4	0.2%
<b>TOTALS:</b>	<b>529</b>	<b>582</b>	<b>532</b>	<b>1643</b>	<b>100%</b>

Missing or not applicable n=41

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 7.1% of callers were referred to a provider, predominantly their own.

**Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1629)**

Medical Reference Given	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
No	512	558	521	1591	97.7%
Yes	7	19	12	38	2.3%
<b>TOTALS:</b>	<b>519</b>	<b>577</b>	<b>533</b>	<b>1629</b>	<b>100%</b>

Missing or not applicable n=55

Only 38 (2.3%) callers were advised by a certified lactation professional to seek immediate medical attention.

**Table 4D. Number and Proportion of Callers Referred to a Local Lactation Professional (N=1548)**

Referred to a Lactation Professional	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
No	447	507	459	1413	91.3%
Yes	48	44	43	135	8.7%
<b>TOTALS:</b>	<b>495</b>	<b>551</b>	<b>502</b>	<b>1548</b>	<b>100%</b>

Missing or not applicable n=136

During the 1<sup>st</sup> quarter, the TBH advised 135 (8.7%) callers to seek out a local lactation professional.

**(5) First Time or Repeat Caller**

**Table 5. TBH Caller by Call Type (N=1684)**

Caller Type	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
First Time	406	461	403	1270	75.4%
Repeat Caller	133	134	147	414	24.6%
<b>TOTALS:</b>	<b>539</b>	<b>595</b>	<b>550</b>	<b>1684</b>	<b>100%</b>

The majority (75.4%) of calls received were from first-time callers.

### (6) Interpretive Services

**Table 6. Use of Interpretive Services (N=1684)**

Interpretive Services	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Not Used	533	589	541	1663	98.8%
Used	6	6	9	21	1.2%
<b>TOTALS:</b>	<b>539</b>	<b>595</b>	<b>550</b>	<b>1684</b>	<b>100%</b>

Only 21 (1.2%) callers required interpretive services this quarter.

### (7) Caller Location

**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1320)**

Region	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Davidson	337	25.5%
Mid-Cumberland	252	19.1%
Shelby	241	18.3%
Knox	97	7.3%
South Central	75	5.7%
East	65	4.9%
Hamilton	64	4.8%
Upper Cumberland	47	3.6%
West	46	3.5%
Northeast	38	2.9%
Southeast	37	2.8%
Sullivan	13	1.0%
Madison	8	0.6%
<b>TOTALS:</b>	<b>1320</b>	<b>100%</b>

Missing n=20

The table above depicts call volume by the Tennessee Department of Health regions during the 1<sup>st</sup> quarter. A total of 1,340 (79.6%) calls were from Tennessee residents. Of callers who reported a county of residence, close to 45% of calls were from callers residing in Davidson and Mid-Cumberland regions.

Figure 3. Call Volume, by Caller's County of Residence, July to September 2017

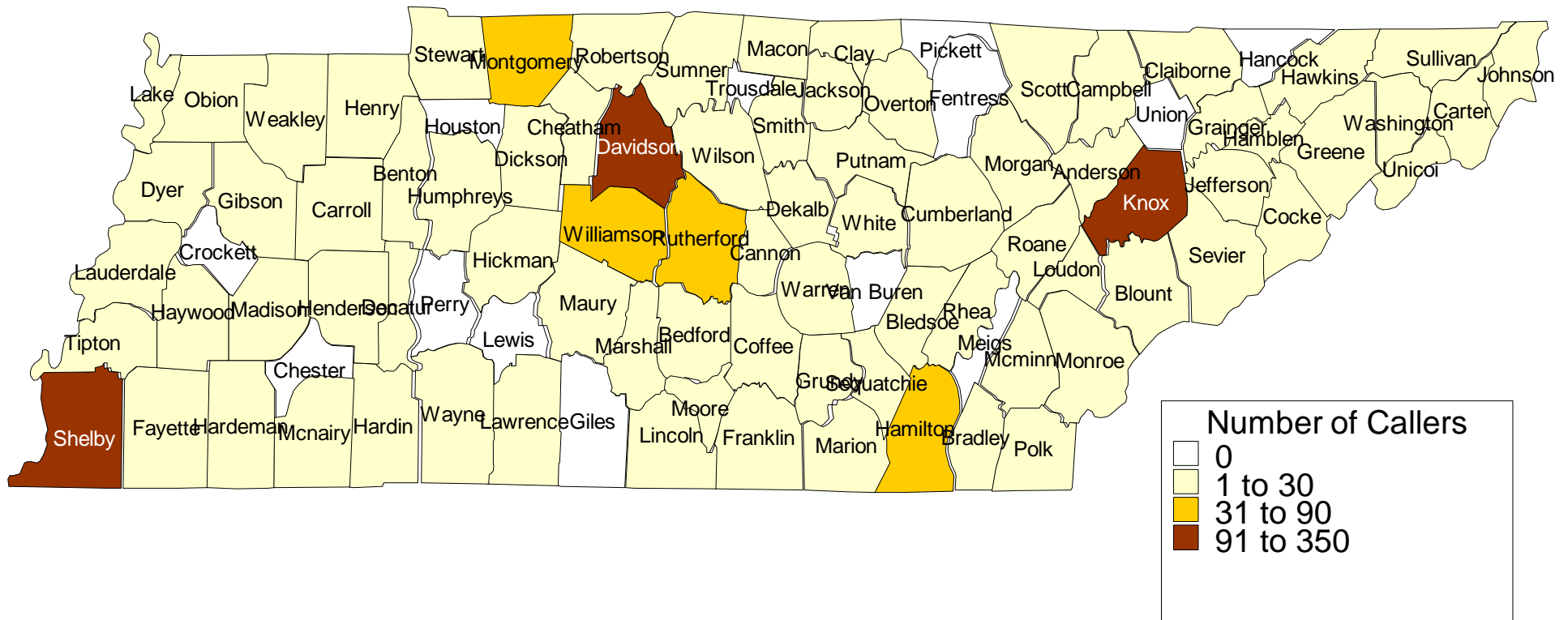
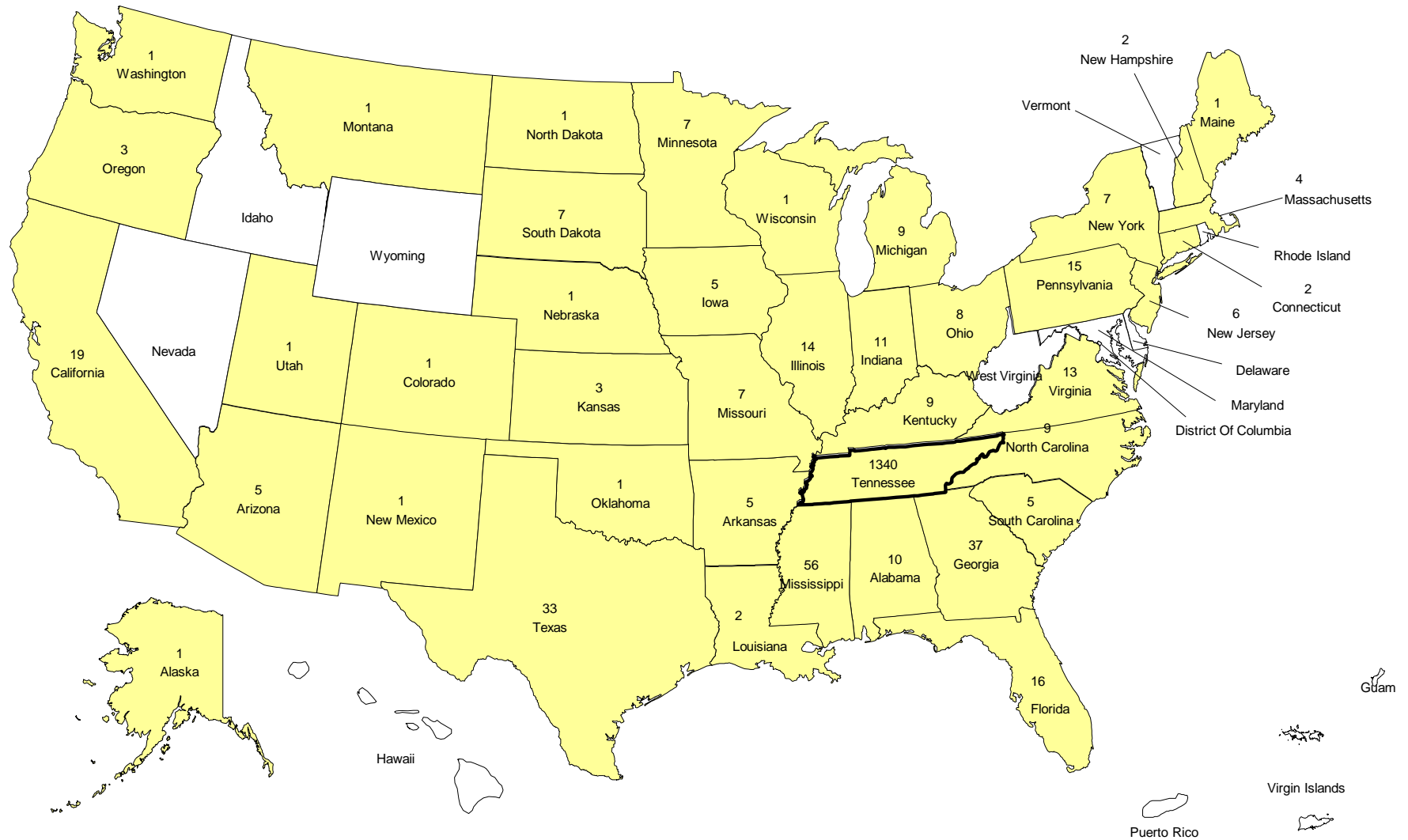


Figure 4. Call Volume, by Caller's State of Residence, July to September 2017



Overall, the TBH received calls from 232 unique counties across 40 states.

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

**Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1601)**

Relationship to Mother	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Self	497	534	495	1526	95.3%
Spouse or partner	12	21	18	51	3.2%
Family or household member	6	5	5	16	1.0%
Healthcare provider	5	2	1	8	0.5%
<b>TOTALS:</b>	<b>520</b>	<b>562</b>	<b>519</b>	<b>1601</b>	<b>100%</b>

Not applicable n=83

During the 1<sup>st</sup> quarter, 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=1157)**

Maternal Age	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	0	3	0	3	0.3%
18 - 20	5	11	6	22	1.9%
21 - 25	58	63	58	179	15.5%
26 - 30	159	183	160	502	43.4%
31 - 35	125	99	120	344	29.7%
36 - 40	25	37	33	95	8.2%
41 - 45	7	2	3	12	1.0%
≥ 46	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>379</b>	<b>398</b>	<b>380</b>	<b>1157</b>	<b>100%</b>

Missing or not applicable n=527

During the 1<sup>st</sup> quarter, call volume was highest (43.4%) among mothers between 26 and 30 years old.

**Table 9B. Number and Proportion of Calls, by Maternal Race (N=1168)**

Maternal Race	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
White	299	311	297	907	77.7%
Black	57	59	57	173	14.8%
Multiple Races	27	19	21	67	5.7%
Asian	2	7	10	19	1.6%
American Indian/Alaskan Native	0	1	0	1	0.1%
Native Hawaiian/Pacific Islander	0	0	1	1	0.1%
<b>TOTALS:</b>	<b>385</b>	<b>397</b>	<b>386</b>	<b>1168</b>	<b>100%</b>

Missing or not applicable n=516

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 77.7% were white, followed by black (14.8%).

**Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1267)**

Ethnicity	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Not Hispanic	401	410	390	1201	94.8%
Hispanic	22	26	18	66	5.2%
<b>TOTALS:</b>	<b>423</b>	<b>436</b>	<b>408</b>	<b>1267</b>	<b>100%</b>

Missing or not applicable n=417

Of those with ethnicity documented, 66 (5.2%) callers identified as Hispanic/Latina.



**(10) Mother's Pregnancy History****Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=396)**

Number of Prior Pregnancies	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
1	75	85	76	236	59.6%
2	36	47	28	111	28.0%
3	8	11	11	30	7.6%
4	2	6	4	12	3.0%
5	0	3	3	6	1.5%
6	0	0	0	0	0.0%
7	0	0	0	0	0.0%
8	0	0	0	0	0.0%
9	0	1	0	1	0.3%
10 +	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>121</b>	<b>153</b>	<b>122</b>	<b>396</b>	<b>100%</b>

Missing or not applicable n=1288

Of those who reported pregnancy history, 59.6% of callers reported just one prior pregnancy.

**Table 10B. Number and Proportion of Calls, by Prior Live Births (N=629)**

Number of Prior Live Births	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
1	122	134	129	385	61.2%
2	50	67	45	162	25.8%
3	18	25	19	62	9.9%
4	4	6	3	13	2.1%
5	1	4	2	7	1.1%
6	0	0	0	0	0.0%
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%
<b>TOTALS:</b>	<b>195</b>	<b>236</b>	<b>198</b>	<b>629</b>	<b>100%</b>

Missing or not applicable n=1055

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, 61.2% of women had only one previous live birth.

**Table 10C. Number and Proportion of Calls, by Infant's Gestational Age\* at Birth (N=1175)**

Gestational Age	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
< 37 weeks (pre-term)	10	18	19	47	4.0%
37 to <39 weeks (early term)	57	51	70	178	15.1%
39 to <41 weeks (full term)	315	295	279	889	75.7%
41 to <42 weeks (late term)	17	20	22	59	5.0%
≥ 42 weeks (post term)	1	0	1	2	0.2%
<b>TOTALS:</b>	<b>400</b>	<b>384</b>	<b>391</b>	<b>1175</b>	<b>100%</b>

\*Recommended classifications from American College of Obstetricians and Gynecologists  
Missing or not applicable n=509

During this quarter, 75.7% of mothers reported delivering at full-term. Only 4% reported delivering prematurely.

### (11) Baby's Birth Information

**Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1209)**

Age of Infant	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
< 1 week	93	111	98	302	25.0%
1 week - < 1 month	107	103	85	295	24.4%
1 - < 3 months	79	100	92	271	22.4%
3 - < 6 months	59	48	42	149	12.3%
6 - < 9 months	28	31	36	95	7.9%
9 - < 12 months	10	14	7	31	2.6%
12 - 18 months	14	16	14	44	3.6%
19 - 24 months	6	7	9	22	1.8%
<b>TOTALS:</b>	<b>396</b>	<b>430</b>	<b>383</b>	<b>1209</b>	<b>100%</b>

Missing or not applicable n=475

Callers were asked to indicate infant's age during the initial call to the TBH. Almost half of all calls (49.4%) were made when the baby was less than 1 month old.

**Table 11B. Number and Proportion of Calls, by Delivery Method (N=307)**

Delivery Method	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Vaginal	83	84	71	238	77.5%
Cesarean	26	23	20	69	22.5%
<b>TOTALS:</b>	<b>109</b>	<b>107</b>	<b>91</b>	<b>307</b>	<b>100%</b>

Missing or not applicable n=1410

Of those who responded, 77.5% of women indicated that they had a vaginal delivery. Three 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=507)**

Breastfeeding Status	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Breastfeeding exclusively	79	100	85	264	52.1%
Both breastfeeding and pumping	37	48	43	128	25.2%
Breastfeeding with supplemental nutrition	19	35	26	80	15.8%
Pumping exclusively	13	12	10	35	6.9%
<b>TOTALS:</b>	<b>148</b>	<b>195</b>	<b>164</b>	<b>507</b>	<b>100%</b>

Missing or not applicable n=1177

TBH collected information about the breastfeeding status of mothers during the initial call. Of the mothers who disclosed their breastfeeding status, just over half (52.1%) were breastfeeding exclusively.

**Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=375)**

Breastfeeding within 24 Hours?	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Yes	108	129	121	358	95.5%
No	5	7	5	17	4.5%
<b>TOTALS:</b>	<b>113</b>	<b>136</b>	<b>126</b>	<b>375</b>	<b>100%</b>

Missing or not applicable n=1309

Table 12B shows number and proportion of callers who initiated breastfeeding within 24 hours of delivery. Of the callers who responded, 95.5% 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=1526)**

Reasons for Calling	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Breast-Related Problems	119	137	114	370	24.2%
Maternal Health Behaviors	63	79	82	224	14.7%
Lactation or Milk Concerns	60	73	67	200	13.1%
Infant Health Concerns	66	49	47	162	10.6%
Breastfeeding Management	43	40	59	142	9.3%
Milk Expression	39	44	52	135	8.8%
Breastfeeding Technique	33	39	24	96	6.3%
Infant Health Behaviors	23	24	14	61	4.0%
Breastfeeding Support	20	20	17	57	3.7%
Maternal Health Concerns	15	15	9	39	2.6%
Medical Condition (Infant)	10	10	5	25	1.6%
Supplemental Nutrition	6	4	5	15	1.0%
<b>TOTALS:</b>	<b>497</b>	<b>534</b>	<b>495</b>	<b>1526</b>	<b>100%</b>

Missing or not applicable n=158

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, almost 1 in 4 calls (24.2%) was to address breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by maternal health behaviors (14.7%). 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.

**Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=122)**

Top Additional Reasons for Calling	July	August	September	1 <sup>st</sup> Quarter Total
Pumping	12	9	6	27
Breast engorgement	6	7	4	17
Breast or nipple pain	6	1	6	13
Appropriate feeding by age/weight	3	2	6	11
Overactive letdown/too much milk	6	1	4	11
Breastfeeding technique	7	4	0	11
Not making enough milk	5	3	1	9
Abnormal stools/voids (baby)	2	5	2	9
Sore nipples	1	4	2	7
Baby refusing to nurse	3	2	2	7
<b>TOTALS:</b>	<b>51</b>	<b>38</b>	<b>33</b>	<b>122</b>

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 engorgement.

#### (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 1<sup>st</sup> quarter, TBH attempted a total of 1,291 calls to clients to follow-up about breastfeeding status; only 306 (23.7%) callers were reached for follow-up.

**Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1423)**

Intention to Continue Breastfeeding	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Yes	454	497	445	1396	98.1%
No	4	13	10	27	1.9%
<b>TOTALS:</b>	<b>458</b>	<b>510</b>	<b>455</b>	<b>1423</b>	<b>100%</b>

Not applicable n=261

When asked about their intention to continue breastfeeding, 1,396 (98.1%) callers reported they would continue breastfeeding at the end of the initial call.

**Table 14B. Caller’s Breastfeeding Status, by Follow-Up Period**

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Still Breastfeeding N (%)
4 week	507	378	129 (25.4%)	106	76 (71.7%)
8 week	446	339	107 (24.0%)	94	67 (71.3%)
12 week	338	268	70 (20.7%)	63	40 (63.5%)

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, 76 (71.7%) callers were still breastfeeding. This proportion drops slightly to 71.3% at the 8-week follow up, and drops again to 63.5% by 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	76	55	17 (30.9%)	38 (69.1%)
8 week	67	48	15 (31.3%)	33 (68.7%)
12 week	40	28	7 (25.0%)	21 (75.0%)

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.

During each follow-up period, a larger percentage of mothers were exclusively breastfeeding over using supplemental nutrition.

**Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1403)**

Comfort with Breastfeeding	July	August	September	1 <sup>st</sup> Quarter Totals	1 <sup>st</sup> Quarter Percent
Yes	451	496	443	1390	99.1%
No	2	3	8	13	0.9%
<b>TOTALS:</b>	<b>453</b>	<b>499</b>	<b>451</b>	<b>1403</b>	<b>100%</b>

Not applicable n=281

TBH staff reported that almost all (99.1%) callers had increased comfort and confidence with breastfeeding by the end of their interaction.

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

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Improved N (%)	Did Not Improve N (%)
4 week	507	378	129 (25.4%)	17	17 (100%)	0 (0.0%)
8 week	446	339	107 (24.0%)	19	19 (100%)	0 (0.0%)
12 week	338	268	70 (20.7%)	12	12 (100%)	0 (0.0%)

**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 all follow up intervals, 100% of callers reached reported improved confidence and comfort with breastfeeding.

**(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.

**Table 15. Caller’s Satisfaction and Likelihood to Recommend the TN Breastfeeding Hotline, by Follow-Up Period**

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Satisfaction with TBH		Recommend TBH	
				Answered Question	Satisfied N (%)	Answered Question	Likely to Recommend N (%)
4 week	507	378	129 (25.4%)	61	60 (98.4%)	67	67 (100%)
8 week	446	339	107 (24.0%)	52	52 (100%)	52	52 (100%)
12 week	338	268	70 (20.7%)	29	29 (100%)	31	31 (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). All of the respondents stated that they were likely to recommend TBH services to another person during each follow-up period.

**(16) Texting Follow-Up**

If callers cannot be reached by telephone for follow up, TBH staff sent an automated text message prompting the caller to take a brief four-question survey and reminding them to call the TBH if they have any additional questions. Unlike the telephone follow-ups, the texts cannot be separated by time period.

**Table 16A. Texting Follow-Up: Caller’s Breastfeeding Status (N=14)**

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	14	12 (85.7%)	2 (14.3%)

During the 1<sup>st</sup> quarter, TBH received 14 follow-up texts regarding breastfeeding status. Of those responses received, 12 (85.7%) responded that they were still breastfeeding.

**Table 16B. Caller’s Satisfaction with TN Breastfeeding Hotline (N=15)**

Follow-Up Method	Texts Received	Satisfied N (%)
Text	15	15 (100%)

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

TBH received 15 responses regarding caller’s satisfaction with services provided. All responded that they were satisfied with services received.

**Table 16C. Caller’s Likelihood to Recommend TN Breastfeeding Hotline (N=15)**

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	15	15 (100%)

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

TBH received 15 responses with regard to caller’s likelihood to recommend the TBH to others, with 100% indicating that they were likely or very likely to recommend the TBH to another person.

**Table 16D. Caller’s Increase in Confidence/Comfort with Breastfeeding (N=14)**

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	14	13 (92.9%)	1 (7.1%)

TBH received 14 responses with regard to caller’s increase in confidence and comfort with breastfeeding. Of the 14 texts received, 13 (92.9%) 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.

Jennilyn Utkov – Senior Director, Community Development  
Jennilyn provides oversight to the LCHWB division.

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 quarterly 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, 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, 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 Madubonwu 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, 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**

CLCs (8)	IBCLCs (9)
<p>Sandra Madubonwu, MSN, RN, CLC                      Crystal Gilreath, MS, CLC                      Elizabeth Pletz, BSN, CLC, RN                      Kirby Burford, BSN, CLC RN                      Christie Evans, RN, CLC                      LaSaundra Gentry, MA, CLC                      Katie Houston, RN BSN, CLC                      Cymon Miller, CLC</p>	<p>Helen Scott, RN, IBCLC, RLC                      Victoria Roselli, BS, IBCLC, RLC                      Pam Avant, BSN, IBCLC, RLC, RN                      Julie Bridger, RN, IBCLC, RLC                      Lakisha King Windle, RN, IBCLC, RLC                      Jada Wright Nichols OT, IBCLC, RLC                      Holly Sparkman, RN, BSN, IBCLC, RLC                      Stephanie Richardson RN, BSN, IBCLC, RLC                      Lori Jill Lewis, BSN, IBCLC, RN</p>

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

<b>Tennessee Department of Health – Central Office</b>
<p>Melissa Barbour Margaret T. Lewis Laura Campbell Sierra Mullen</p>
<b>Le Bonheur Community Health and Well-Being</b>
<p>Sandra Madubuonwu Helen Scott Crystal Gilreath Victoria Roselli Christina Underhill Cathy Marcinko August Marshall Marilyn Smith Trina Gillam Lauren Robinson Inayah Ahmed</p>
<b>Tennessee Department of Health – Metro Regions</b>
<p>Jolene Hare, Hamilton County Health Department Kelly Whipker, Metro Nashville Health Department Robin Penegar, Knox County Health Department Becky Burris, Sullivan County Health Department Jennifer Kmet, Shelby County Health Department Katie Baroff, Shelby County WIC</p>
<b>Hospital Affiliation or Private Practice</b>
<p>Dr. Allison Stiles, Internal Medicine &amp; Pediatrics – Memphis Dr. Anna Morad, Vanderbilt Hospital Ginger Carney, St. Jude Research Hospital Amanda Helton, Le Bonheur Children’s Hospital Kristen Heath, Methodist Le Bonheur Hospital Dr. Lauren Mutrie, Le Bonheur Children’s Hospital</p>
<b>Academic Affiliation</b>
<p>Dr. Genae Strong, University of Memphis - School of Nursing Jennifer Russell, University of Tennessee – School of Nursing</p>

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

CATEGORIES	REASONS / ISSUES
<b>Supplemental Nutrition:</b> Issues related to complementing breastfeeding with expressed human milk or some other fluid or food	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Public breastfeeding</li> <li>• Donor milk</li> <li>• TN breastfeeding laws</li> <li>• Seeking resources</li> <li>• Pre-birth information / counseling</li> </ul>
<b>Breastfeeding Technique:</b> Issues related to mother’s breastfeeding skill	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>

<p><b>Infant Health Behaviors:</b> Issues related to infant's actions that can impact mother's ability to breastfeed</p>	<ul style="list-style-type: none"> <li>• Baby biting breast</li> <li>• Baby refusing to nurse</li> <li>• Distraction during breastfeeding</li> <li>• Sleepiness</li> </ul>
<p><b>Maternal Health Behaviors:</b> Issues related to the practices (choices), of the mother that can impact her overall health and ability to breastfeed</p>	<ul style="list-style-type: none"> <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>
<p><b>Lactation or Milk Concerns:</b> Issues related to mother's anxiety or worry about milk production or quality</p>	<ul style="list-style-type: none"> <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>
<p><b>Infant Health Concerns:</b> Issues related to mother's anxiety or worry about infant's health state or condition</p>	<ul style="list-style-type: none"> <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>
<p><b>Maternal Health Concerns:</b> Issues related to mother's anxiety or worry about her own health state or condition</p>	<ul style="list-style-type: none"> <li>• Maternal postpartum vaginal bleeding</li> <li>• Menstruation / Return of menstrual cycle</li> <li>• Maternal sickness</li> <li>• Maternal postpartum depression</li> </ul>
<p><b>Other:</b> An issue indicated by mother that is other than what is currently listed</p>	<ul style="list-style-type: none"> <li>• Specify</li> </ul>