



## ***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*

*October to December 2017*



## Executive Summary

*October to December 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 October through December 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 34.9%<sup>1</sup>. During this quarter, there were a total of 1,607 calls to the TBH. When asked about intention to continue breastfeeding, 98.5% of callers responded that they intended to continue breastfeeding (pg. 34, Table 14A). At 4-week follow-up, 78.7% of the moms reached were still breastfeeding (pg. 22, Table 14B).

---

<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/dnpao\\_dtm/rdPage.aspx?rdReport=DNPAO\\_DTM.ExploreByLocation&rdRequestForwarding=Form](https://nccd.cdc.gov/dnpao_dtm/rdPage.aspx?rdReport=DNPAO_DTM.ExploreByLocation&rdRequestForwarding=Form) (Category = Breastfeeding; Topic = Breastfeeding Behavior; Year = 2014)

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 asked to rate overall services received from the TBH. During this quarter, all callers for each follow-up period reported being satisfied or very satisfied with services received (pg. 24, Table 15). Similarly, 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. 24, 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

---

<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; October 20, 2011.

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:

- 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. 17, 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 5.1% of the callers during this quarter (pg. 17, Table 9C). When examining age, the hotline received the highest proportion of calls (41.5%) from callers between the ages of 26 and 30 (pg. 16, Table 9A).

### Notable Findings

The TBH had three notable instances to highlight:

1. *At the end of October, the TBH received a call from a breastfeeding mother regarding her alpha-gal allergy. Alpha-gal allergy is an allergy to mammalian meat and is caused by being bitten by an infected Lone Star tick. The mother has had this allergy since she was seven years old. The mother had a six week old baby boy, and was concerned about producing enough milk. This caused her to seek out a donor mother for extra milk to supplement her son's feedings. The mother recently had to visit the emergency room to be treated for an anaphylactic reaction. Her concern was that this reaction may have been caused by contact with the donor mother's milk (the donor mother eats meat). She inquired if storing the milk in the same freezer would have caused her reaction or if it was being transferred from her baby (who was drinking donor milk from a bottle and then breastfeeding). The lactation professional*

---

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

- consulted with Dr. Stiles about this caller. Dr. Stiles recommended an article about alpha-gal that was emailed to the caller. The lactation professional also reviewed natural ways of stimulating the mother's supply (encouraging skin-to-skin, breast massage, hand expression, etc.). The lactation professional discussed the challenges of demand feeding and encouraged the mother to continue her effort at naturally increasing her supply.*
2. *Another notable call received this quarter was from a mother who had been diagnosed postpartum with thyroid disease. The mother had stopped taking her medication as she reported feeling symptoms of hyperthyroidism. The mother was referred to her PCP for evaluation and a local lactation professional for a more in-depth assessment of her breastfeeding concerns. The mother called back later seeking more information. The lactation professional referred her to a local breastfeeding advocate who could help address her concerns and refer her to more local resources.*
  3. *Finally, a grandmother called on behalf of her daughter-in-law who was breastfeeding her 3 week old son and had developed mastitis. The mother had been treating the mastitis for 9 days with Dicloxacillin. Unfortunately, the mastitis had progressed to an abscess that required drainage and culture to determine the appropriate course of antibiotics. The lactation professional congratulated the grandmother on her new grandbaby and empathized with her on her daughter-in-law's diagnosis. While the daughter-in-law's mastitis had improved, the baby was having a difficult time latching onto the breast where the mastitis had developed. The lactation professional reviewed positioning to encourage a deep latch, breast massage, and hand expression. Despite the trouble latching, overall the baby was doing well, gaining weight appropriately and meeting intake and output goals. The mother reporting an improvement in the baby's latch upon utilizing this information, and agreed to follow recommendations and call for assistance if needed. At follow up, the mother was still breastfeeding, despite having to endure another drainage of her abscess. The lactation professional commended the mother for her commitment to breastfeeding and encouraged her to call any time she had concerns. The grandmother was very appreciative of this information and the support received by the TBH, commenting on how important this service is to breastfeeding mothers and babies and their families.*

### **Conferences and Continued Education**

- **October 8<sup>th</sup>-11<sup>th</sup>, 2017.** Connecting for Children's Justice Conference in Murfreesboro, TN. Attended multiple educational sessions and presentations on behavior modification in children and adults.
- **November 2<sup>nd</sup>, 2017.** Baptist Memorial Hospital for Women in Memphis, TN. TBH staff attended a Memphis Area Lactation Consultant Association membership meeting. Speaker Maggie Garcia, RN, LMT, Ph.D., presented on craniosacral therapy.
- **November 16<sup>th</sup>, 2017.** Methodist Germantown Hospital in Germantown, TN. TBH staff attended an IBCLC panel discussion with Linda Bowman RN, IBCLC and Ashley Smith RN, IBCLC. This event was moderated by TBH CAB member Ginger Carney, MPH, RDN, FAND, IBCLC, RLC, FILCA.
- **December 5<sup>th</sup>, 2017.** TBH staff participated in a United States Lactation Consultant Association webinar. Jarold "Tom" Johnston, MSN, CNM, IBCLC, presented on "The Role of the Father."

### **TBH Staff Updates**

- Jada Wright Nichols OT, IBCLC, RLC, left the TBH after a year of service.
- Stephanie Richardson, RN, BSN, IBCLC, RLC, resigned from the TBH due to school commitments.
- Kirby Burford, BSN, CLC RN, resigned from the TBH due to family commitments.
- Elizabeth Pletz, BSN, IBCLC, RN and Helen Scott, RN, IBCLC, RLC took the IBCLC exam (initial and 10-year recertification, respectively) and received passing results.

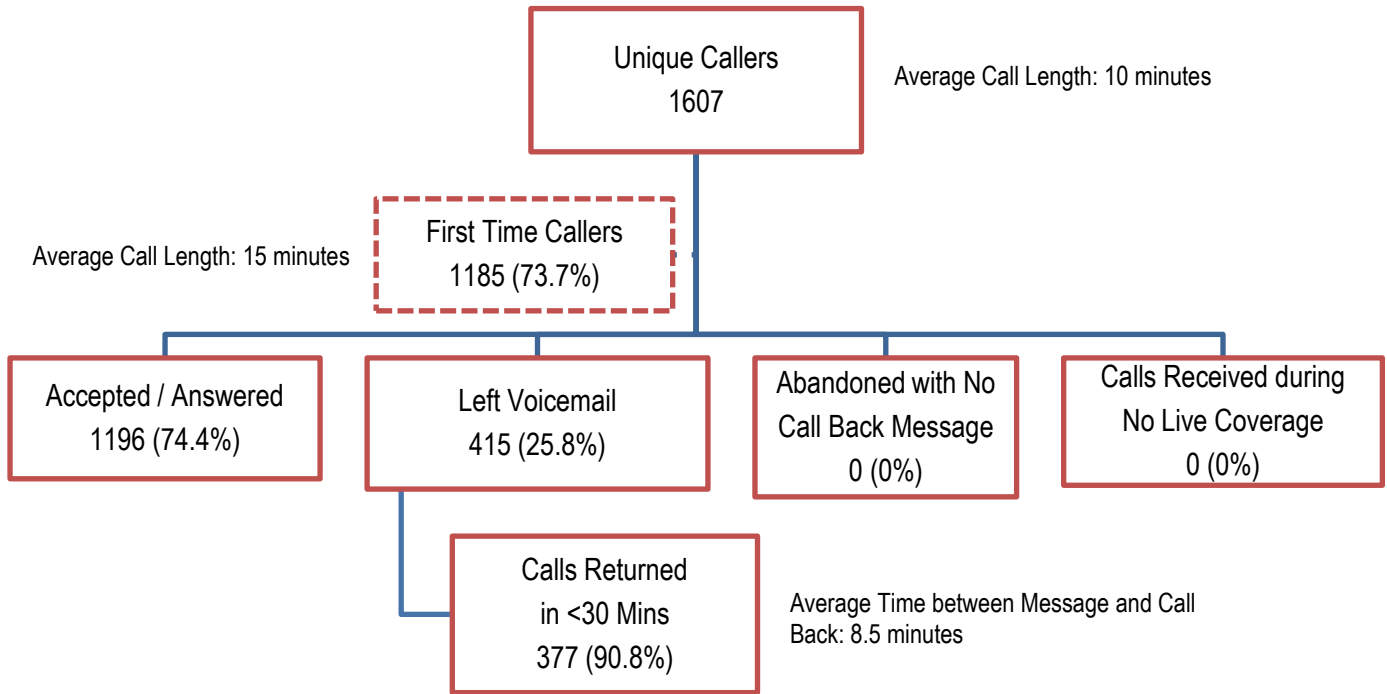
### **TBH Form Changes**

- “Breastfeeding with complementary foods” was added as an option under “Breastfeeding Exclusivity.”

## Tables and Figures

### (1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 2<sup>nd</sup> Quarter (October - December 2017)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from October through December 2017. During this period, the TBH had 1,607 unique callers. Of those total unique callers, 1,185 (73.7%) 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, 1,196 (74.4%) were answered and accepted live by TBH staff and 415 (25.8%) callers left a voicemail for TBH staff. About 91% of calls were returned within 30 minutes of the initial voicemail.

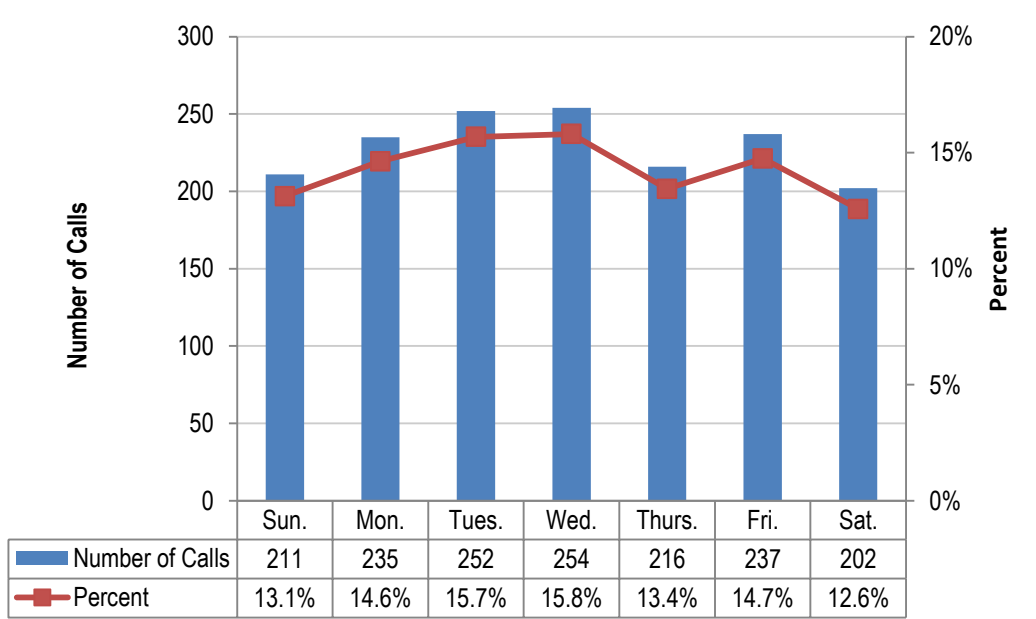
**(2) Call Volume & Time**

**Table 2A. Call Volume, by Time of Day (N=1607)**

Time of Call	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
12 AM - 7 AM	49	55	51	155	9.6%
8 AM - 12 PM	182	149	167	498	31.0%
1 PM - 6 PM	216	191	237	644	40.1%
7 PM - 11 PM	98	85	127	310	19.3%
<b>TOTALS:</b>	<b>545</b>	<b>480</b>	<b>582</b>	<b>1607</b>	<b>100%</b>

The majority of calls (40.1%) 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=1607)**



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

During this quarter, the TBH experienced its highest call volume on Wednesdays. Call volume was lowest on Saturdays (12.6%).

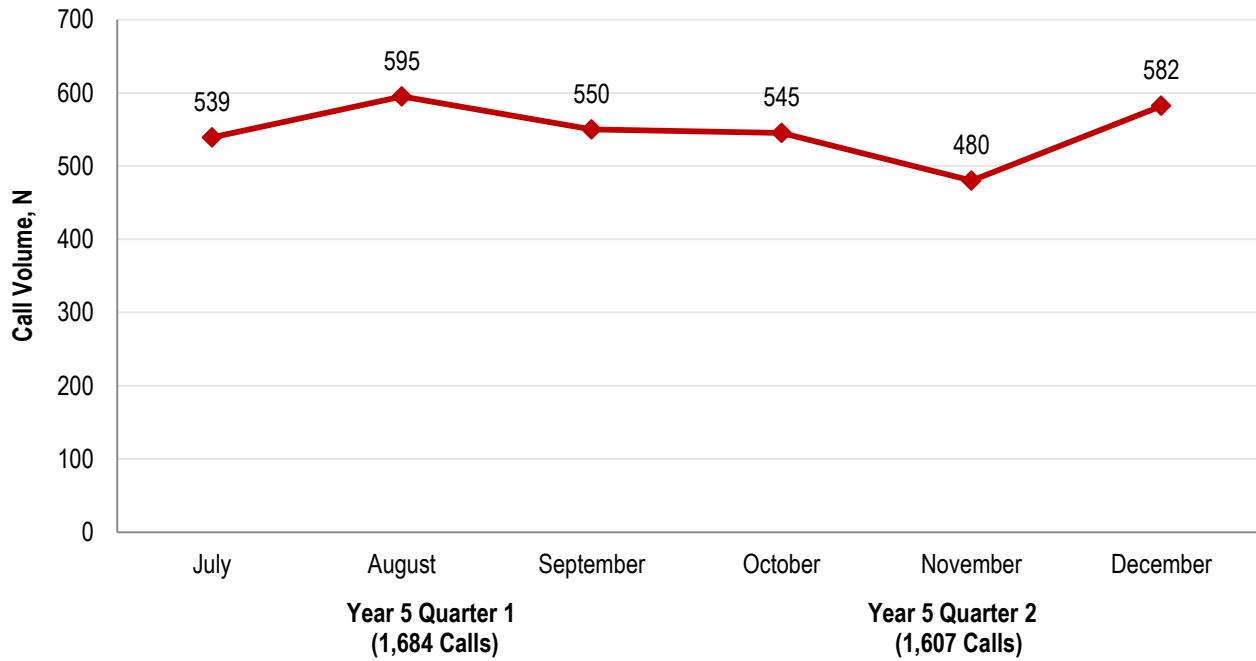


**Table 2B. Call Volume, by Month (N=1607)**

Month	Number of Calls	Percent
October	545	33.9%
November	480	29.9%
December	582	36.2%
<b>TOTALS:</b>	<b>1607</b>	<b>100%</b>

Call volume was highest in December. Overall, call volume in the 2<sup>nd</sup> quarter was slightly lower than in the 1<sup>st</sup> quarter.

**Figure 2. Call Volume Trend, Previous Quarter (Y5Q1) Compared to Current Quarter (Y5Q2)**



**(3) Call Length****Table 3. Number and Proportion of Calls within 2nd Quarter, by Call Length (N=1607)**

Length of Call	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
0-9 minutes	816	50.8%
10-19 minutes	594	37.0%
20-29 minutes	148	9.2%
30-39 minutes	35	2.2%
40-49 minutes	9	0.6%
50-59 minutes	3	0.2%
1 hour or more	2	0.1%
<b>TOTALS:</b>	<b>1607</b>	<b>100%</b>

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

Almost 88% of calls lasted between less than 20 minutes during the 2<sup>nd</sup> quarter. Two calls lasted more than an hour.

**(4) Referrals****Table 4A. Referral Source Reported by Caller (N=1201)**

Referral Source	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Hospital	277	240	264	781	65.0%
Website/Search Engine	56	79	129	264	22.0%
Providers office	38	37	31	106	8.8%
WIC clinic	6	12	10	28	2.3%
Family or Friend	8	7	6	21	1.7%
Brochure	1	0	0	1	0.1%
Billboard	0	0	0	0	0.0%
Public transit advertisement	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>386</b>	<b>375</b>	<b>440</b>	<b>1201</b>	<b>100%</b>

Missing or not applicable n=406

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 65% of callers, followed by information found on a website or via search engine (22%).

**Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1579)**

Referral Status	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
No referral given	506	442	545	1493	94.6%
Referred to own provider	26	28	29	83	5.3%
Referred to other provider in the vicinity	2	1	0	3	0.2%
<b>TOTALS:</b>	<b>534</b>	<b>471</b>	<b>574</b>	<b>1579</b>	<b>100%</b>

Missing or not applicable n=28

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

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 5.5% of callers were referred to a provider, predominantly their own.

**Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1559)**

Medical Reference Given	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
No	520	454	559	1533	98.3%
Yes	11	9	6	26	1.7%
<b>TOTALS:</b>	<b>531</b>	<b>463</b>	<b>565</b>	<b>1559</b>	<b>100%</b>

Missing or not applicable n=48

Only 26 (1.7%) 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=1482)**

Referred to a Lactation Professional	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
No	474	381	476	1331	89.8%
Yes	42	48	61	151	10.2%
<b>TOTALS:</b>	<b>516</b>	<b>429</b>	<b>537</b>	<b>1482</b>	<b>100%</b>

Missing or not applicable n=125

During the 2<sup>nd</sup> quarter, the TBH advised 151 (10.2%) callers to seek out a local lactation professional.

**(5) First Time or Repeat Caller****Table 5. TBH Caller by Call Type (N=1607)**

Caller Type	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
First Time	368	365	452	1185	73.7%
Repeat Caller	177	115	130	422	26.3%
<b>TOTALS:</b>	<b>545</b>	<b>480</b>	<b>582</b>	<b>1607</b>	<b>100%</b>

The majority (73.7%) of calls received were from first-time callers.

**(6) Interpretive Services****Table 6. Use of Interpretive Services (N=1607)**

Interpretive Services	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Not Used	537	472	571	1580	98.3%
Used	8	8	11	27	1.7%
<b>TOTALS:</b>	<b>545</b>	<b>480</b>	<b>582</b>	<b>1607</b>	<b>100%</b>

Only 27 (1.7%) callers required interpretive services in the 2<sup>nd</sup> quarter.

**(7) Caller Location****Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1246)**

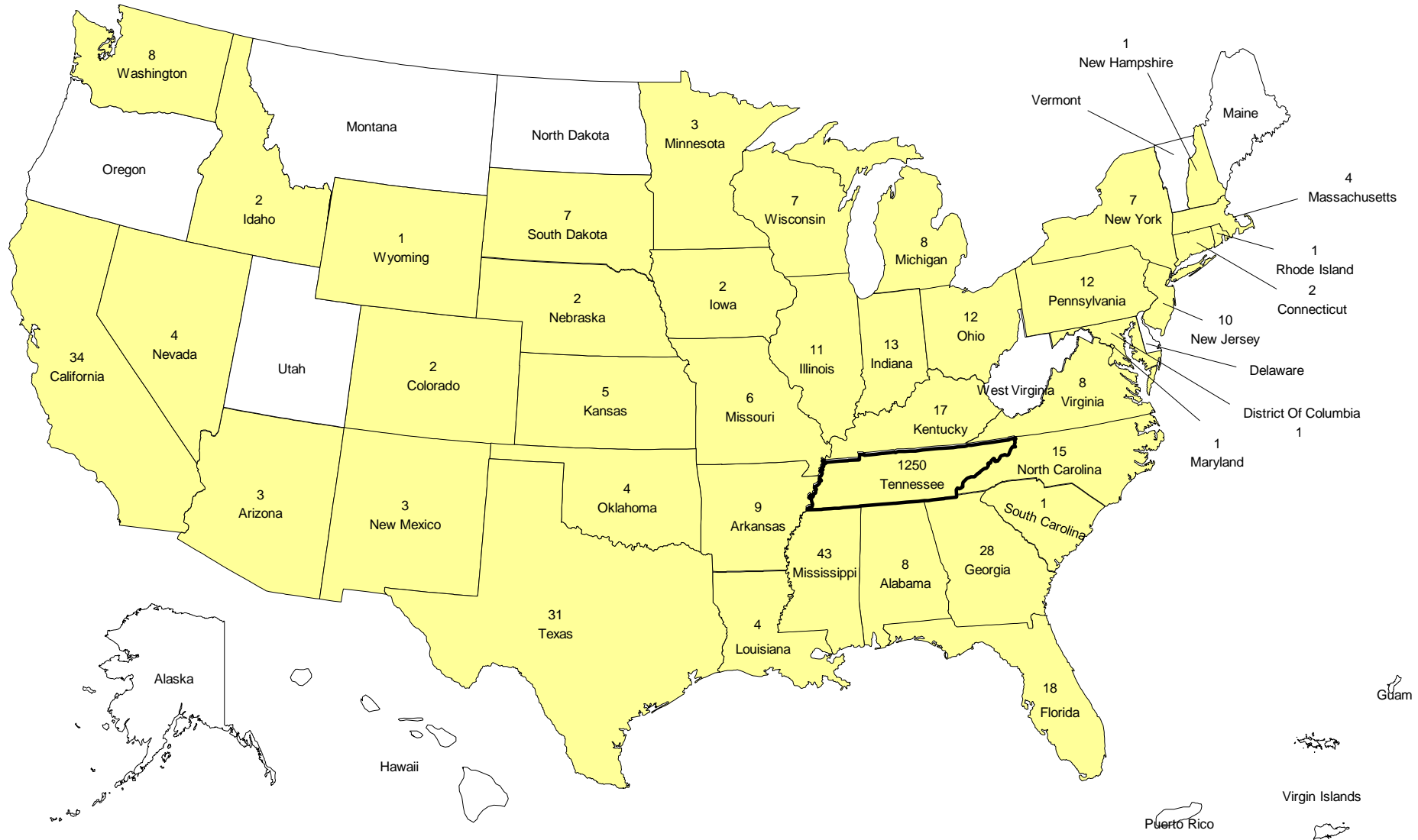
Region	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Davidson	322	25.8%
Shelby	246	19.7%
Mid-Cumberland	225	18.1%
Knox	70	5.6%
Hamilton	67	5.4%
East	65	5.2%
West	64	5.1%
South Central	61	4.9%
Upper Cumberland	43	3.5%
Northeast	30	2.4%
Southeast	23	1.8%
Madison	20	1.6%
Sullivan	10	0.8%
<b>TOTALS:</b>	<b>1246</b>	<b>100%</b>

Missing n=4

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

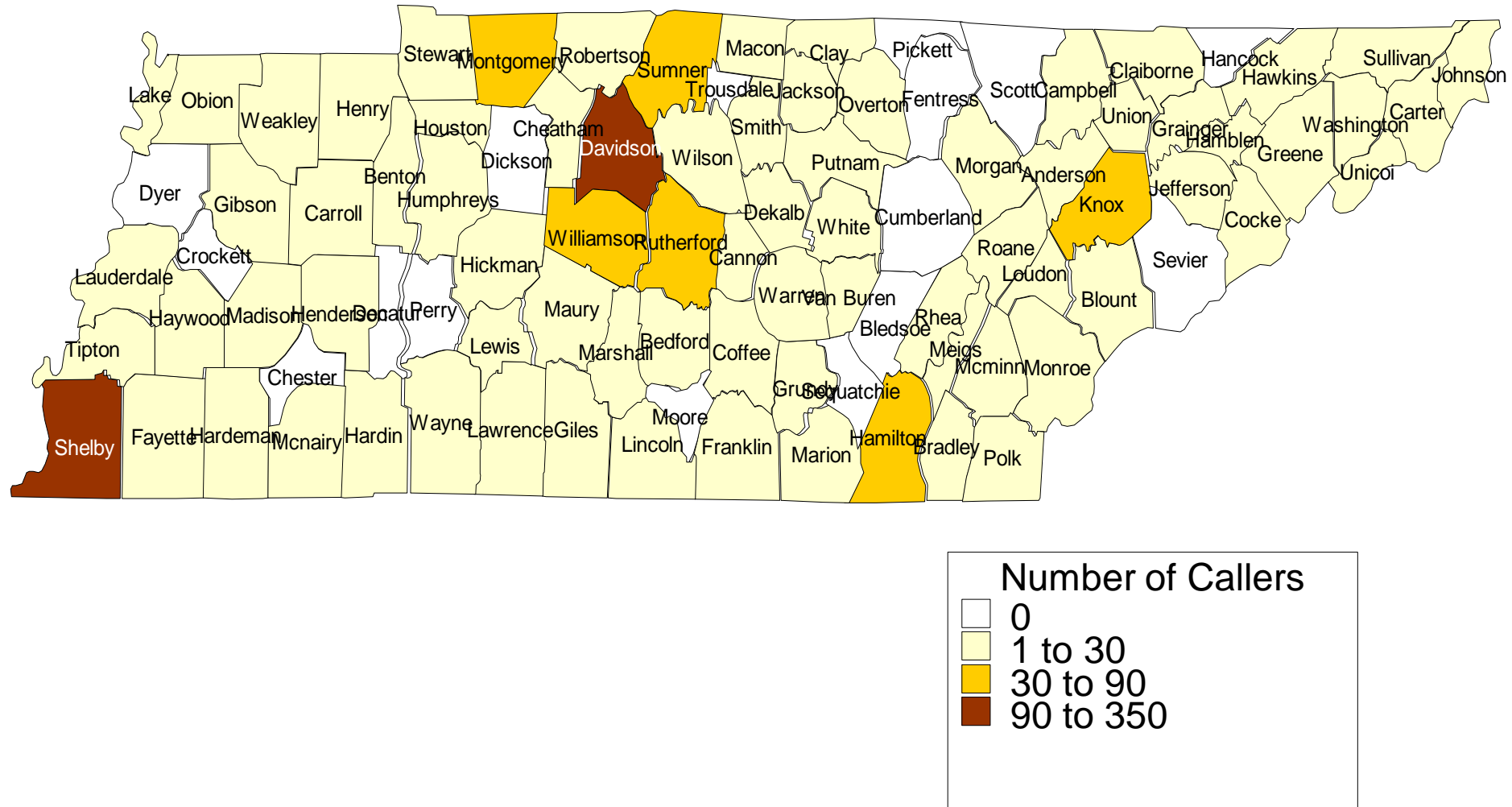
The table above depicts call volume by the Tennessee Department of Health regions during the 2<sup>nd</sup> quarter. A total of 1,250 (77.7%) calls were from Tennessee residents. Of callers who reported a county of residence, just over a quarter (25.8%) were from the Davidson region, followed by Shelby (19.7%) and Mid-Cumberland (18.1%).

Figure 3. Call Volume, by Caller's County of Residence, October to December 2017



Overall, the TBH received calls from 243 unique counties across 41 states.

Figure 4. Call Volume, by Caller's State of Residence, October to December 2017



**(8) Caller’s Relationship to Mother**

**Table 8. Number and Proportion of Calls, by Caller’s Relationship to Mother (N=1541)**

Relationship to Mother	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Self	498	435	529	1462	94.9%
Spouse or partner	26	19	13	58	3.8%
Family or household member	2	4	9	15	1.0%
Healthcare provider	0	3	3	6	0.4%
<b>TOTALS:</b>	<b>526</b>	<b>461</b>	<b>554</b>	<b>1541</b>	<b>100%</b>

Not applicable n=66

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

During the 2<sup>nd</sup> quarter, 94.9% 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=1177)**

Maternal Age	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	2	2	1	5	0.4%
18 - 20	12	5	11	28	2.4%
21 - 25	71	54	61	186	15.8%
26 - 30	167	158	163	488	41.5%
31 - 35	124	118	131	373	31.7%
36 - 40	35	22	36	93	7.9%
41 - 45	0	1	1	2	0.2%
≥ 46	1	1	0	2	0.2%
<b>TOTALS:</b>	<b>412</b>	<b>361</b>	<b>404</b>	<b>1177</b>	<b>100%</b>

Missing or not applicable n=430

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

During the 2<sup>nd</sup> quarter, call volume was highest (41.5%) among mothers between 26 and 30 years old.



**Table 9B. Number and Proportion of Calls, by Maternal Race (N=1187)**

Maternal Race	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
White	320	262	327	909	76.6%
Black	61	59	61	181	15.2%
Multiple Races	18	21	23	62	5.2%
Asian	9	12	11	32	2.7%
American Indian/Alaskan Native	0	1	1	2	0.2%
Native Hawaiian/Pacific Islander	0	0	1	1	0.1%
<b>TOTALS:</b>	<b>408</b>	<b>355</b>	<b>424</b>	<b>1187</b>	<b>100%</b>

Missing or not applicable n=420

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 76.6% were white, followed by black (15.2%).

**Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1270)**

Ethnicity	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Not Hispanic	398	366	441	1205	94.9%
Hispanic	29	19	17	65	5.1%
<b>TOTALS:</b>	<b>427</b>	<b>385</b>	<b>458</b>	<b>1270</b>	<b>100%</b>

Missing or not applicable n=337

Of those with ethnicity documented, 65 (5.1%) callers identified as Hispanic/Latina.

**(10) Mother’s Pregnancy History**

**Table 10A. Number and Proportion of Calls, by Caller’s Pregnancy History (N=384)**

Number of Prior Pregnancies	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
1	75	70	84	229	59.6%
2	31	32	37	100	26.0%
3	5	15	13	33	8.6%
4	8	7	2	17	4.4%
5	2	1	1	4	1.0%
6	0	0	0	0	0.0%
7	0	0	0	0	0.0%
8	0	1	0	1	0.3%
9	0	0	0	0	0.0%
10 +	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>121</b>	<b>126</b>	<b>137</b>	<b>384</b>	<b>100%</b>

Missing or not applicable n=1223

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=625)**

Number of Prior Live Births	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
1	134	111	140	385	61.6%
2	57	53	54	164	26.2%
3	5	21	17	43	6.9%
4	9	7	6	22	3.5%
5	3	4	1	8	1.3%
6	1	0	1	2	0.3%
7	0	0	0	0	0.0%
8	0	1	0	1	0.2%
9	0	0	0	0	0.0%
10 +	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>209</b>	<b>197</b>	<b>219</b>	<b>625</b>	<b>100%</b>

Missing or not applicable n=982

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, 61.6% of women had only one previous live birth.

**Table 10C. Number and Proportion of Calls, by Infant's Gestational Age\* at Birth (N=1180)**

Gestational Age	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
< 37 weeks (pre-term)	16	22	22	60	5.1%
37 to <39 weeks (early term)	69	65	68	202	17.1%
39 to <41 weeks (full term)	312	256	295	863	73.1%
41 to <42 weeks (late term)	19	16	20	55	4.7%
≥ 42 weeks (post term)	0	0	0	0	0.0%
<b>TOTALS:</b>	<b>416</b>	<b>359</b>	<b>405</b>	<b>1180</b>	<b>100%</b>

\*Recommended classifications from American College of Obstetricians and Gynecologists

Missing or not applicable n=427

During this quarter, 73.1% of mothers reported delivering at full-term. Only 5.1% reported delivering prematurely.

**(11) Baby's Birth Information****Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1361)**

Age of Infant	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
< 1 week	99	88	129	316	23.2%
1 week - < 1 month	92	108	125	325	23.9%
1 - < 3 months	90	86	110	286	21.0%
3 - < 6 months	84	59	77	220	16.2%
6 - < 9 months	38	27	31	96	7.1%
9 - < 12 months	11	23	16	50	3.7%
12 - 18 months	11	17	21	49	3.6%
19 - 24 months	6	9	4	19	1.4%
<b>TOTALS:</b>	<b>431</b>	<b>417</b>	<b>513</b>	<b>1361</b>	<b>100%</b>

Missing or not applicable n=246

**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. Most (47.1%) calls were made when the infant was less than 1 month old.

**Table 11B. Number and Proportion of Calls, by Delivery Method (N=285)**

Delivery Method	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Vaginal	76	93	71	240	84.2%
Cesarean	14	14	17	45	15.8%
<b>TOTALS:</b>	<b>90</b>	<b>107</b>	<b>88</b>	<b>285</b>	<b>100%</b>

Missing or not applicable n=1322

Of those who responded, 84.2% of women indicated that they had a vaginal delivery. Five 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=500)**

Breastfeeding Status	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Breastfeeding exclusively	88	79	80	247	49.4%
Both breastfeeding and pumping	40	32	45	117	23.4%
Breastfeeding with supplemental nutrition	31	32	31	94	18.8%
Pumping exclusively	20	8	13	41	8.2%
Breastfeeding with complementary foods	0	0	1	1	0.2%
<b>TOTALS:</b>	<b>179</b>	<b>151</b>	<b>170</b>	<b>500</b>	<b>100%</b>

Missing or not applicable n=1107

TBH collected information about the breastfeeding status of mothers during the initial call. Of the mothers who disclosed their breastfeeding status, just under half (49.4%) were breastfeeding exclusively.

**Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=355)**

Breastfeeding within 24 Hours?	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Yes	118	101	123	342	96.3%
No	3	3	7	13	3.7%
<b>TOTALS:</b>	<b>121</b>	<b>104</b>	<b>130</b>	<b>355</b>	<b>100%</b>

Missing or not applicable n=1252

Table 12B shows number and proportion of callers who initiated breastfeeding within 24 hours of delivery. Of the callers who responded, 96.3% 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=1452)**

Reasons for Calling	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Breast-Related Problems	103	102	118	323	22.2%
Maternal Health Behaviors	81	78	91	250	17.2%
Lactation or Milk Concerns	52	56	71	179	12.3%
Breastfeeding Management	41	34	56	131	9.0%
Milk Expression	47	45	38	130	9.0%
Infant Health Concerns	48	39	28	115	7.9%
Breastfeeding Technique	41	23	27	91	6.3%
Infant Health Behaviors	29	14	26	69	4.8%
Breastfeeding Support	12	25	18	55	3.8%
Maternal Health Concerns	11	15	26	52	3.6%
Medical Condition (Infant)	16	6	12	34	2.3%
Supplemental Nutrition	7	7	9	23	1.6%
<b>TOTALS:</b>	<b>488</b>	<b>444</b>	<b>520</b>	<b>1452</b>	<b>100%</b>

Missing or not applicable n=155

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, 22.2% of calls were regarding breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by maternal health behaviors (17.2%). The top five individual reasons for calling the TBH were: medications and breastfeeding, breast/nipple pain, not making enough milk, breast engorgement, and baby feeding too much or too little.

**Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=103)**

Top Additional Reasons for Calling	October	November	December	2 <sup>nd</sup> Quarter Total
Pumping	5	5	7	17
Breast engorgement	4	3	7	14
Breast or nipple pain	2	3	6	11
Sleepiness (baby)	3	4	3	10
Not making enough milk	1	5	4	10
Appropriate feeding by age/weight	5	2	2	9
Supplemental feeding	3	1	4	8
Sore nipples	2	4	2	8
Baby refusing to nurse	2	3	3	8
Overactive letdown/too much milk	1	2	5	8
<b>TOTALS:</b>	<b>28</b>	<b>32</b>	<b>43</b>	<b>103</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 2<sup>nd</sup> quarter, TBH attempted a total of 1,445 calls to clients to follow-up about breastfeeding status; only 334 (23.1%) callers were reached for follow-up.

**Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1351)**

Intention to Continue Breastfeeding	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Yes	454	398	479	1331	98.5%
No	6	4	10	20	1.5%
<b>TOTALS:</b>	<b>460</b>	<b>402</b>	<b>489</b>	<b>1351</b>	<b>100%</b>

Not applicable n=256

When asked about their intention to continue breastfeeding, 1,331 (98.5%) 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	580	413	167 (28.8%)	150	118 (78.7%)
8 week	389	301	88 (22.6%)	72	45 (62.5%)
12 week	395	316	79 (20.0%)	67	45 (67.2%)

**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, 118 (78.7%) callers were still breastfeeding. This proportion drops to 62.5% at the 8-week follow up, but then rises again to 67.2% at the 12-week follow-up.

**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	118	88	27 (30.7%)	61 (69.3%)
8 week	45	32	11 (34.4%)	21 (65.6%)
12 week	45	27	10 (37.0%)	17 (63.0%)

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=1333)**

Comfort with Breastfeeding	October	November	December	2 <sup>nd</sup> Quarter Totals	2 <sup>nd</sup> Quarter Percent
Yes	451	392	475	1318	98.9%
No	5	3	7	15	1.1%
<b>TOTALS:</b>	<b>456</b>	<b>395</b>	<b>482</b>	<b>1333</b>	<b>100%</b>

Not applicable n=274

TBH staff reported that almost all (98.9%) 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	580	413	167 (28.8%)	37	36 (97.3%)	1 (2.7%)
8 week	389	301	88 (22.6%)	5	5 (100%)	0 (0.0%)
12 week	395	316	79 (20.0%)	8	8 (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, most callers reached reported improved confidence and comfort with breastfeeding (range: 97.3% - 100%).

**(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	580	413	167 (28.8%)	79	79 (100%)	80	80 (100%)
8 week	389	301	88 (22.6%)	41	41 (100%)	39	39 (100%)
12 week	395	316	79 (20.0%)	38	38 (100%)	40	40 (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=31)**

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	31	30 (96.8%)	1 (3.2%)

During the 2<sup>nd</sup> quarter, TBH received 31 follow-up texts regarding breastfeeding status. Of those responses received, 30 (96.8%) responded that they were still breastfeeding.

**Table 16B. Caller’s Satisfaction with TN Breastfeeding Hotline (N=30)**

Follow-Up Method	Texts Received	Satisfied N (%)
Text	30	30 (100%)

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

TBH received 30 responses regarding caller’s satisfaction with services provided. All responded that they were satisfied or very satisfied with services received.



**Table 16C. Caller's Likelihood to Recommend TN Breastfeeding Hotline (N=28)**

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	28	27 (96.4%)

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

TBH received 28 responses with regard to caller's likelihood to recommend the TBH to others, with 96.4% 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=30)**

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	30	29 (96.7%)	1 (3.3%)

TBH received 30 responses with regard to caller's increase in confidence and comfort with breastfeeding. Of the 30 texts received, 29 (96.7%) 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 (6)	IBCLCs (8)
<p>Sandra Madubonwu, MSN, RN, CLC                      Crystal Gilreath, MS, CLC                      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                      Holly Sparkman, RN, BSN, IBCLC, RLC                      Lori Jill Lewis, BSN, IBCLC, RN                      Elizabeth Pletz, 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 Madubonwu 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 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>