



Tennessee Breastfeeding Hotline Quarterly Report

Submitted to:

State of Tennessee, Department of Health

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October to December 2016



Executive Summary

October to December 2016

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 Tennessee Breastfeeding Hotline 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 2016 through December 2016, 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%.¹ During the 2nd quarter, there were a total of 1,609 calls to the TBH. When asked about intention to continue breastfeeding, 98% responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 86.4% of the moms reached were still breastfeeding (pg. 21, 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

¹ 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 the 4-week follow-up and 99.1% of callers at the 8-week follow-up reported being satisfied or very satisfied with services received (pg. 23, Table 15). High satisfaction of services remained at 12-week follow-up as well. When asked about the likelihood to recommend TBH services to another person, 100% of callers at 4 weeks and 8 weeks 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 need 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)². 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 include³:

- 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

² 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

³ 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.

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 2nd quarter, 77.4% of the callers were white, 17.1% were black, and 2% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Only 3.5% of callers were of multiple or mixed race (pg. 15, 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.⁴ Hispanic women comprised 4.3% of the callers for the 2nd quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (42.5%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

Notable Findings

The TBH had three notable findings to highlight this reporting quarter. First, TBH received six unique calls from the same mother, demonstrating some of the different ways callers rely on the TBH for guidance and support.

On the first call, this mother called regarding the compatibility of her allergy medication and breastfeeding. The mother was reassured that the medication was compatible and was referred to Infant Risk website for more information. She shared that her 5-week-old baby boy had been diagnosed with reflux and treated with Zantac. The TBH also discussed symptoms of oversupply with this mother, and shared information on laid back positioning and reflux precautions. She was encouraged to call back if she needed further assistance.

⁴ U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates, Accessed: Monday, 3-Feb-2017 3:18:00 EST

On the second call, a week later, the mother reported her now 6-week-old baby's refusal to breastfeed. The TBH shared information on helping the mother get her baby to return to breastfeeding.

The third call occurred the following week. On this occasion, the mother expressed concern that her overactive letdown was affecting the baby's feedings. The lactation professional gave the mother suggestions on how to manage her overactive letdown.

The fourth call occurred a month later. The mother called from work reporting that her left breast was red. The lactation professional reviewed her latch to determine if the now 3-month-old baby was obtaining a deep latch and discussed techniques to prevent further issues or escalation of this issue. She was referred to her doctor if there was no improvement.

The fifth call was received a month later and the mother called to discuss taking over-the-counter pain medication while breastfeeding her 4-month-old. The lactation professional reassured her that these pain medication options were compatible with breastfeeding and she was referred to a resource on medications and breastfeeding.

Finally, at an 8-week follow-up call, the mother reported that she had returned to work the previous month and noticed her milk supply had decreased from 6 ounces to 3 ounces. The mother also shared that her baby boy was diagnosed with a milk and soy protein allergy at 4 weeks. She eliminated dairy and soy from her diet. The mother reported that her baby's reflux was still being treated with Zantac. The lactation professional praised the mother for persevering with breastfeeding her baby boy for 4 months and acknowledged the challenges she had experienced. The lactation professional informed the mother that lack of rest plus the stress of the holidays and returning to work could have affected her supply. The lactation professional reviewed the pumping routine, discussed the importance of relaxing when pumping, provided techniques the mother could use to stimulate her supply, and reiterated the reflux precautions previously discussed with the mother. As always, the mother was encouraged to call if she had any further concerns.

This series of calls from one mother shows the different ways the TBH can be utilized. A baby diagnosed with severe reflux can be challenging for the mother and family as the symptoms can last from 6 months to a year. Babies with reflux are fussy, often vomit, cry frequently after feeding, and can be difficult to console. If a mother is unfamiliar with the recommended reflux precautions, then they may feed the baby in ways that exacerbate the reflux (such as too-frequent feedings), which can result in increased discomfort and vomiting. This case study shows a mother receiving evidence-based lactation support, information, and the encouragement that she needed. She felt comfortable calling back to obtain more information as new concerns arose on her breastfeeding journey.

Next, the TBH received a letter from an appreciative mother who had used the hotline. The letter is quoted below:

"I am a new mother and am breastfeeding my 5 month old son. I want to express how helpful the breastfeeding hotline has been to me over the past 5 months. I have called the hotline often, and the representatives who answer the phone are always so kind, helpful, and understanding. Prior to having my baby, I attended a breastfeeding class at St Thomas Hospital Midtown in Nashville. The class was very informative and helpful to me as well. It prepared me as to what I should expect. Moreover, St Thomas has a free breastfeeding clinic. However, it was difficult for me to drive that far from my home. It was especially impossible for me when I was recuperating from a C section

and caring for my son. However, I found out about your breastfeeding hotline through the class. Your hotline was just as helpful via phone as I imagine going to the breastfeeding clinic would have been.

Again, thank you for providing this service to breastfeeding mothers in Tennessee. My experience with breastfeeding would not have been as successful if it had not been for you and the other representatives. I understand that the hotline is supported by a grant award that may be ending soon. I hope that this email will serve as a supporting document as to why the State of Tennessee should continue this service to breastfeeding moms."

Finally in October, Helen Scott collaborated with Marilyn Smith (Manager of the Maternal Child Department at Le Bonheur) to develop a brochure for the TBH. The brochures were printed and made available for distribution at the 2016 Tennessee Hospital Association Leadership Summit at the Omni Hotel in Nashville and at the November Community Advisory Board (CAB) meeting.

Conferences and Continued Education

- **October 14th, 2016:** Sandra Madubonwu and Helen Scott attended the Breastfeeding Strategic Planning Meeting at the Tennessee Hospital Association in Nashville. We met with our assigned groups and developed a timeline to meet our group assignments.
- **October 19th, 2016:** Helen presented the TBH poster at the 2016 Tennessee Hospital Association Leadership Summit at the Omni Hotel in Nashville.
- **November 30th 2016:** The TBH staff attended a panel discussion with the Shelby County Breastfeeding Coalition and Memphis Area Lactation Consultant Association. The panel was led by Dr. Alison Stiles, and also included CAB members Genae Strong and Jennifer Kmet. The discussion mostly revolved around a recent article in JAMA Pediatrics, titled *Unintended Consequences of Current Breastfeeding Initiatives*. A summary of the article was distributed to the TBH staff with a take-away message of ensuring that safety is addressed when recommending skin to skin. Research shows that when a newborn is placed skin-to-skin with the mother, the oxytocin hormone calms and relaxes the mother. If the mother has received a sedative, this relaxed state is enhanced. The baby needs to be safely positioned on the chest. In this way, the mother can observe the baby's face and nose to ensure an open airway for the baby to breathe comfortably. For skin-to-skin referrals, the TBH staff refers callers to www.kangaroomothercare.com, a resource with instructions on how to safely use skin-to-skin.
- **January 11th 2016:** TBH staff collaborated with Sierra Mullen and other Tennessee Department of Health staff to submit a manuscript to the Journal of Nutrition Education and Behavior. The manuscript is currently under review.

Call Report Changes

Since the previous quarterly report, we have:

- Made no changes to the call report forms.

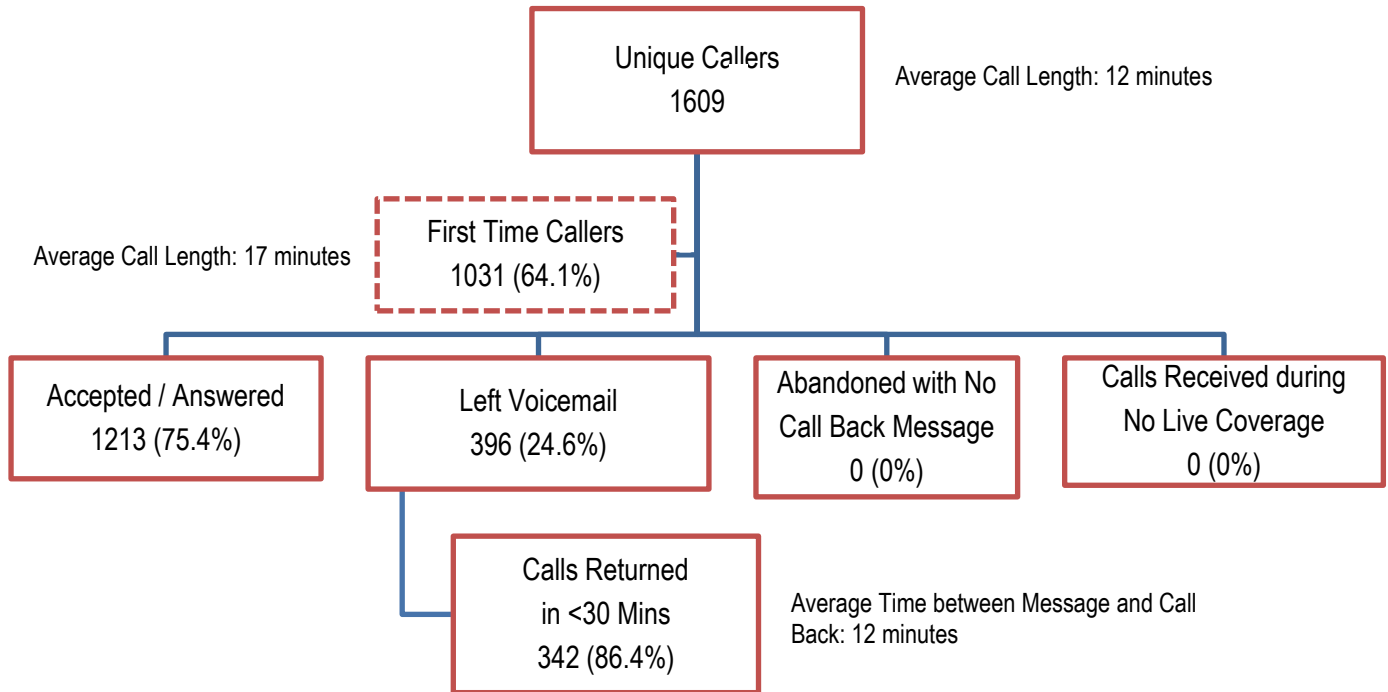
TBH Staff Updates

- Jessica Bain, CLC, is no longer working regular TBH shifts but has agreed to help out as needed.

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 2nd Quarter (October - December 2016)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from October through December 2016. For the 2nd quarter of SFY 2016, the TBH had 1,609 unique callers. Of those total unique callers, 1,031 (64.1%) 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, 1,213 (75.4%) were answered and accepted live by TBH staff and 396 (24.6%) callers left a voicemail for TBH staff. About 86% of calls were returned within 30 minutes of the initial voicemail.

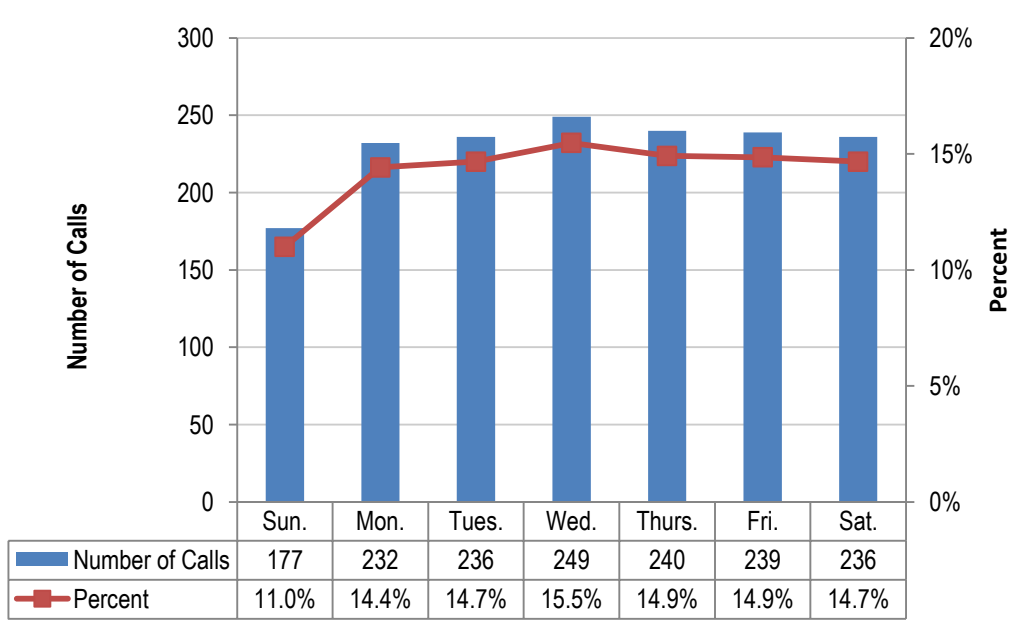
(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1609)

Time of Call	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
12 AM - 7 AM	31	28	39	98	6.1%
8 AM - 12 PM	185	161	144	490	30.5%
1 PM - 6 PM	258	213	216	687	42.7%
7 PM - 11 PM	127	111	96	334	20.8%
TOTALS:	601	513	495	1609	100%

During the 2nd quarter, the majority of calls (42.7%) were received between 1 PM and 6 PM. About 73% of calls were received during the traditional workday (8AM – 6 PM).

Figure 2. Call Volume, by Day of Week (N=1609)



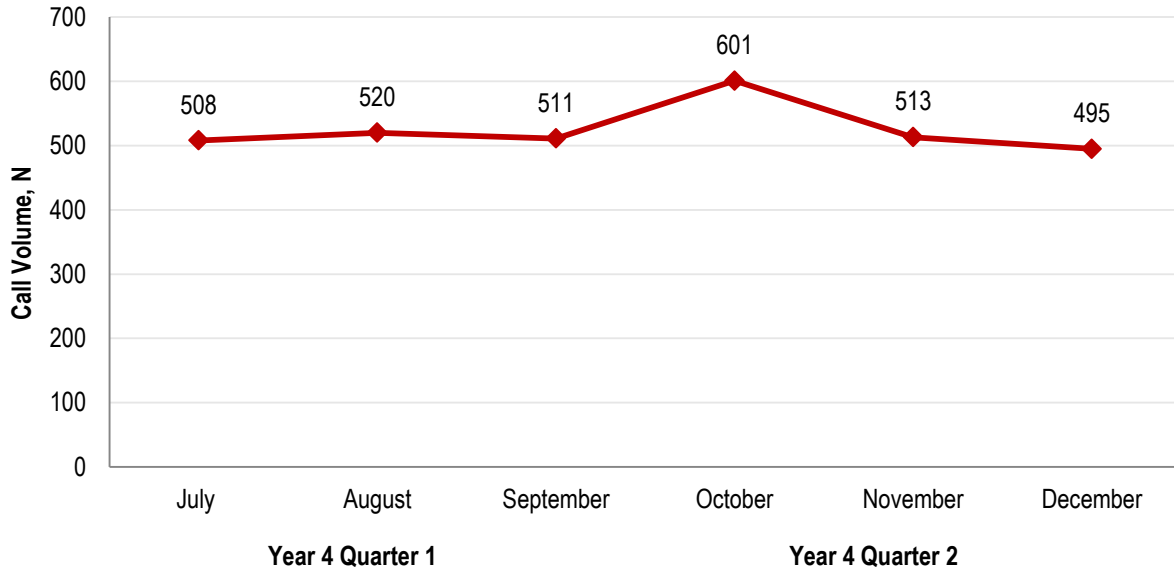
During the 2nd quarter, TBH experienced its highest call volume on Wednesdays (15.5%). Call volume was lowest on Sundays (11%).

Table 2B. Call Volume, by Month (N=1609)

Month	Number of Calls	Percent
October	601	37.4%
November	513	31.9%
December	495	30.8%
TOTALS:	1609	100%

Call volume within the 2nd quarter was highest in October. Call volume increased 4.5% since last quarter and reached a record high for monthly call volume, exceeding 600 calls in October.

Figure 2. Call Volume Trend, Previous Quarter (Y4Q1) Compared to Current Quarter (Y4Q2)



Call volume in the 2nd quarter rose 4.5% between the 1st and 2nd quarters of Year 4, increasing from 1539 to 1609; this is largely due to the record number of calls in October.

(3) Call Length

Table 3. Number and Proportion of Calls within 2nd Quarter, by Call Length (N=1609)

Length of Call	2 nd Quarter Totals	2 nd Quarter Percent
0-9 minutes	711	44.2%
10-19 minutes	635	39.5%
20-29 minutes	191	11.9%
30-39 minutes	53	3.3%
40-49 minutes	10	0.6%
50-59 minutes	3	0.2%
1 hour or more	6	0.4%
TOTALS:	1609	100%

Over 83% of calls lasted between 0 and 19 minutes during the 2nd quarter. Six 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=979)**

Referral Source	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Hospital	287	226	223	736	75.2%
Website/Search Engine	51	43	45	139	14.2%
Providers office	22	12	16	50	5.1%
WIC clinic	16	11	12	39	4.0%
Family or Friend	5	4	4	13	1.3%
Brochure	2	0	0	2	0.2%
TV	0	0	0	0	0.0%
Total	383	296	300	979	100%

Missing or not applicable n=630

During the call, clients were asked how they heard about the TBH. Hospital was the most common referral source, referring 75.2% of callers, followed by information found on a website or via search engine (14.2%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1573)

Referral Status	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Referred to own provider	61	47	50	158	10.0%
Referred to other provider in the vicinity	2	2	1	5	0.3%
No referral given	517	455	438	1410	89.6%
TOTALS:	580	504	489	1573	100%

Missing or not applicable n=36

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 10.3% of callers were referred to a provider, predominantly their own.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1544)

Medical Reference Given	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
No	554	488	459	1501	97.2%
Yes	21	8	14	43	2.8%
TOTALS:	575	496	473	1544	100%

Missing or not applicable n=65

Only 43 (2.8%) callers were advised by the certified lactation professionals 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.

Table 4D. Number and Proportion of Callers Referred to a Local Lactation Professional (N=1457)

Referred to a Lactation Specialist	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
No	488	427	403	1318	90.5%
Yes	54	42	43	139	9.5%
TOTALS:	542	469	446	1457	100%

Missing or not applicable n=152

During the 2nd quarter, the TBH advised 139 (9.5%) callers to seek out a local lactation professional.

(5) First Time or Repeat Caller

Table 5. TBH Caller by Call Type (N=1609)

Caller Type	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
First Time	378	317	336	1031	64.1%
Repeat Caller	223	196	159	578	35.9%
TOTALS:	601	513	495	1609	100%

The majority (64.1%) of calls received were from first time callers.

(6) Interpretive Services

Table 6. Use of Interpretive Services (N=1609)

Interpretive Services	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Not Used	592	511	487	1590	99.0%
Used	9	2	8	19	1.0%
TOTALS:	601	513	495	1609	100%

Only 19 (1%) of callers required interpretive services. Of those 19 calls, eight were for Spanish-speaking callers, five were for Chinese-speaking callers, and one was for an Arabic-speaking caller. The remaining five calls did not denote the language used.

(7) Caller Location**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1328)**

Region	2nd Quarter Totals	2nd Quarter Percent
Davidson	314	23.6%
Mid-Cumberland	297	22.4%
Shelby	234	17.6%
Knox	76	5.7%
South Central	66	5.0%
Hamilton	57	4.3%
Upper Cumberland	56	4.2%
East	54	4.1%
Northeast	40	3.0%
West	36	2.7%
Sullivan	35	2.6%
Northwest	30	2.3%
Madison	17	1.3%
Southeast	16	1.2%
TOTALS:	1328	100%

Missing n=27

The table above depicts call volume by the Tennessee Department of Health regions during the 2nd quarter. There were a total of 1355 (84.2%) calls from Tennessee residents. Of callers who reported a county of residence, 46% of resident calls were from the Davidson and Mid-Cumberland regions.

Figure 3. Call Volume, by Caller's County of Residence, October to December 2016

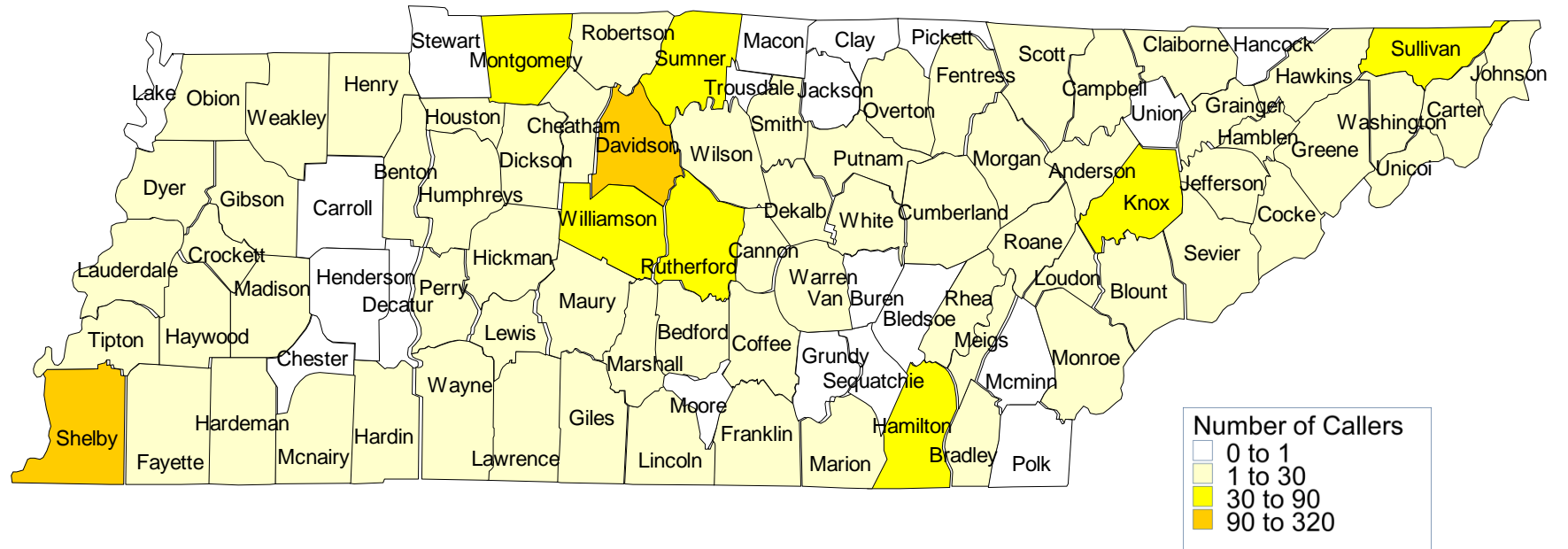
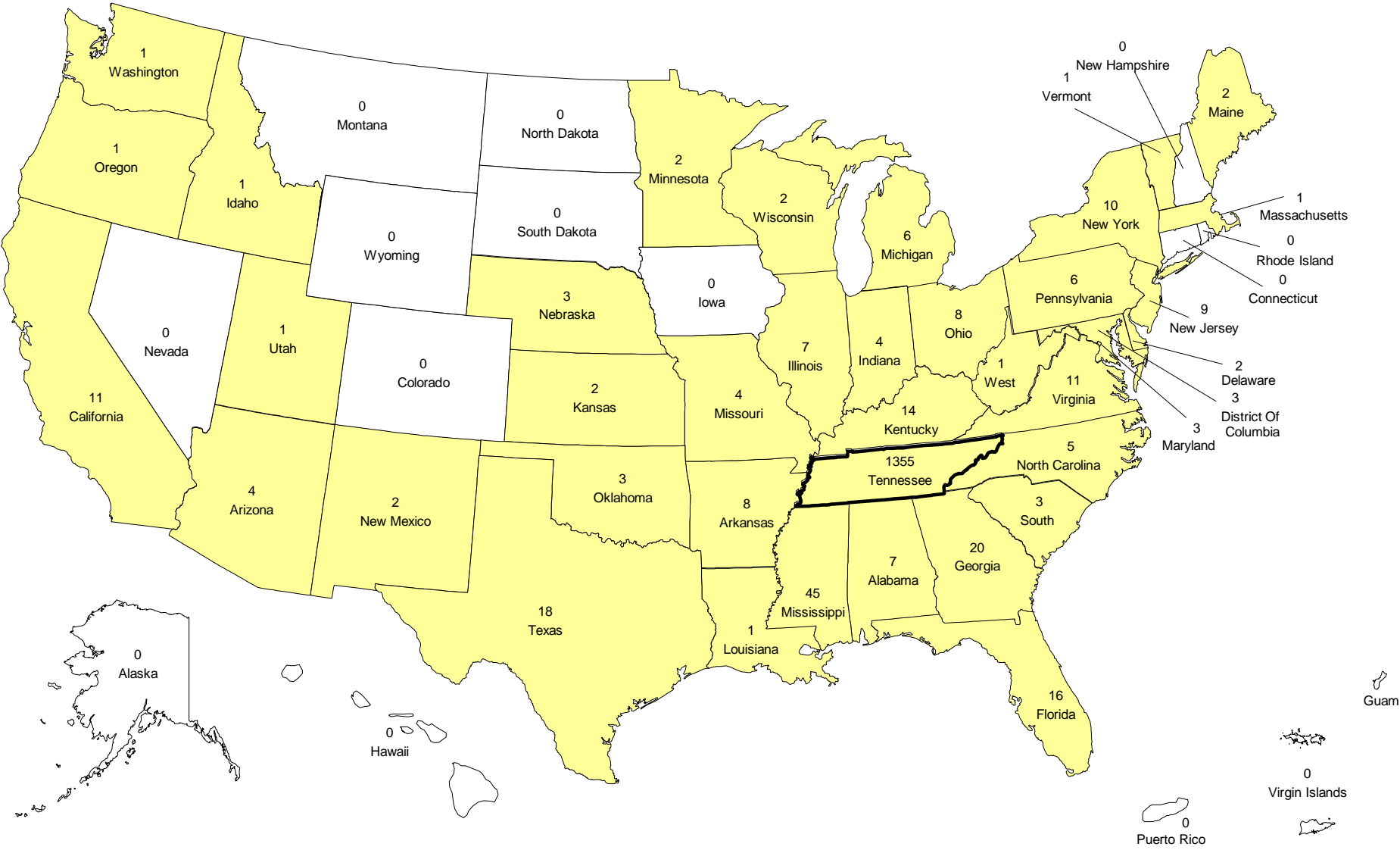


Figure 4. Call Volume, by Caller's State of Residence, October to December 2016



Overall, the TBH received calls from 197 unique counties across 40 states. In addition, the TBH received 1 call from Canada.

(8) Caller's Relationship to Mother

Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1540)

Relationship to Mother	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Self	547	464	440	1451	94.2%
Spouse or partner	20	24	15	59	3.8%
Family or household member	8	4	9	21	1.4%
Healthcare provider	4	1	4	9	0.6%
TOTALS:	579	493	468	1540	100%

Not applicable n=69

During the 2nd quarter, nearly 95% 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=929)

Maternal Age	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	1	0	1	2	0.2%
18 - 20	13	6	12	31	3.3%
21 - 25	60	60	59	179	19.3%
26 - 30	162	111	122	395	42.5%
31 - 35	104	92	71	267	28.7%
36 - 40	24	11	13	48	5.2%
41 - 45	2	3	2	7	0.8%
≥ 46	0	0	0	0	0.0%
TOTALS:	366	283	280	929	100%

Missing or not applicable n=680

During the 2nd quarter, call volume was highest (42.5%) among mothers between 26 and 30 years.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=945)

Maternal Race	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
White	290	224	217	731	77.4%
Black	59	52	51	162	17.1%
Multiple Races	14	10	9	33	3.5%
Asian	10	5	4	19	2.0%
Native Hawaiian/Pacific Islander	0	0	0	0	0.0%
American Indian/Alaskan Native	0	0	0	0	0.0%
TOTALS:	373	291	281	945	100%

Missing or not applicable n=664

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 77.4% were white, followed by black (17.1%).

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1131)

Ethnicity	October	November	December	2nd Quarter Totals	2nd Quarter Percent
Not Hispanic	415	342	325	1082	95.7%
Hispanic	19	9	21	49	4.3%
TOTALS:	434	351	346	1131	100%

Missing or not applicable n=478

Mother's ethnicity was reported for 1131 (70.3%) calls. Of those with ethnicity documented, 49 (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=440)

Number of Prior Pregnancies	October	November	December	2nd Quarter Totals	2nd Quarter Percent
1	111	92	79	282	64.1%
2	34	31	35	100	22.7%
3	17	10	9	36	8.2%
4	3	6	5	14	3.2%
5	1	2	1	4	0.9%
6	0	0	2	2	0.5%
7	0	0	1	1	0.2%
8	0	0	0	0	0.0%
9	0	0	1	1	0.2%
10 +	0	0	0	0	0.0%
TOTALS	166	141	133	440	100%

Missing or not applicable n=1169

Of those who reported prior pregnancies, nearly 2 out of 3 women (64.1%) reported just one prior pregnancy.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=753)

Number of Prior Live Births	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
1	192	160	141	493	65.5%
2	65	51	59	175	23.2%
3	20	20	24	64	8.5%
4	6	3	4	13	1.7%
5	0	1	1	2	0.3%
6	0	1	4	5	0.7%
7	0	0	0	0	0.0%
8	0	0	0	0	0.0%
9	0	0	1	1	0.1%
10 +	0	0	0	0	0.0%
TOTALS:	283	236	234	753	100%

Missing or not applicable n=856

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, 65.5% of women had only one previous live birth.

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age* at Birth (N=919)

Gestational Age	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
< 37 weeks (pre-term)	31	13	8	52	5.7%
37 to <39 weeks (early term)	57	42	48	147	16.0%
39 to <41 weeks (full term)	266	206	209	681	74.1%
41 to <42 weeks (late term)	12	15	11	38	4.1%
> 42 weeks (post term)	1	0	0	1	0.1%
TOTALS:	367	276	276	919	100%

*Recommended classifications from American College of Obstetricians and Gynecologists
Missing or not applicable n=690

Most (74.1%) mothers reported delivering at full-term. Only 5.7% reported delivering prematurely.

(11) Baby's Birth Information**Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1211)**

Age of Infant	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
< 1 week	103	78	106	287	23.7%
1 week - < 1 month	135	93	72	300	24.8%
1 - < 3 months	97	90	80	267	22.0%
3 - < 6 months	60	56	56	172	14.2%
6 - < 9 months	20	31	30	81	6.7%
9 - < 12 months	22	17	15	54	4.5%
12 - 18 months	18	10	13	41	3.4%
19 - 24 months	3	3	3	9	0.7%
TOTALS:	458	378	375	1211	100%

Missing or not applicable n=398

Callers were asked to indicate the age of their infant during initial call to the TBH. Almost half (48.5%) of calls were made when the baby was less than 1 month old.

Table 11B. Number and Proportion of Calls, by Delivery Method (N=444)

Delivery Method	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Vaginal	141	98	108	347	78.2%
Cesarean	39	35	23	97	21.8%
TOTALS:	180	133	131	444	100%

Missing or not applicable n=1165

Table 11B shows the number and proportion of calls by delivery method during the 2nd quarter. Approximately 78% 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=663)**

Breastfeeding Status	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Breastfeeding exclusively	131	112	120	363	54.8%
Both breastfeeding and pumping	51	40	45	136	20.5%
Breastfeeding with supplemental nutrition	46	39	39	124	18.7%
Pumping exclusively	16	12	12	40	6.0%
TOTALS:	244	203	216	663	100%

Missing or not applicable n=946

TBH collected information about the breastfeeding status of mothers during the initial call. Breastfeeding status was reported for 663 (41.2%) callers. Of the mothers who disclosed their breastfeeding status, more than half (54.8%) were breastfeeding exclusively.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=527)

Breastfeeding within 24 Hours?	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Yes	194	153	165	512	97.2%
No	7	4	4	15	2.8%
TOTALS:	201	157	169	527	100%

Missing or not applicable n=1082

Table 12B shows number and proportion of callers who indicated breastfeeding within 24 hours of delivery. Of the callers who responded, 97.2% 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=1416)**

Reasons for Calling	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Breast-Related Problems	125	80	104	309	21.8%
Maternal Health Behaviors	113	78	84	275	19.4%
Lactation or Milk Concerns	87	71	63	221	15.6%
Breastfeeding Management	44	39	30	113	8.0%
Infant Health Concerns	41	38	34	113	8.0%
Milk Expression	33	41	37	111	7.8%
Breastfeeding Technique	20	37	25	82	5.8%
Infant Health Behaviors	25	25	19	69	4.9%
Breastfeeding Support	16	9	12	37	2.6%
Maternal Health Concerns	6	12	17	35	2.5%
Medical Condition (Infant)	7	11	8	26	1.8%
Supplemental Nutrition	13	6	6	25	1.8%
TOTALS:	530	447	439	1416	100%

Missing or not applicable n=193

Callers were asked to indicate their primary reason for calling the TBH, which TBH categorized into the reasons above (please see Appendix A for classification of individual reasons). During this quarter, 21.8% of calls were to address breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by maternal health behaviors (19.4%). The top five individual reasons for calling the TBH were: medications and breastfeeding, not making enough milk, breast/nipple pain, breast engorgement, and baby feeding too much/too little.

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=55)

Top Additional Reasons for Calling	October	November	December	2 nd Quarter Total
Pumping	5	5	10	20
Breast engorgement	5	3	9	17
Not making enough milk	6	5	5	16
Appropriate feeding by age/weight	4	2	6	12
Breast or nipple pain	3	5	3	11
Baby feeding too much/too little	2	3	5	10
Medications and breastfeeding	2	4	3	9
Maternal Sickness	0	2	6	8
Bottle feeding	2	1	4	7
Weaning	2	1	4	7
TOTALS:	31	31	55	117

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 (pg. 22, 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 (pg. 22, Table 14E).

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1379)

Intention to Continue Breastfeeding	October	November	December	2nd Quarter Totals	2nd Quarter Percent
Yes	513	423	415	1351	98.0%
No	10	10	8	28	2.0%
TOTALS:	523	433	423	1379	100%

Not applicable n =230

When asked about the intention to continue breastfeeding, 1351 (98%) of callers intended to 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	695	491	204 (29.4%)	198	171 (86.4%)
8 week	513	363	150 (29.2%)	146	111 (76.0%)
12 week	367	282	85 (23.2%)	84	65 (77.4%)

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

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

During the 2nd quarter, TBH attempted a total of 1,575 calls to clients to follow-up about breastfeeding status; only 439 (27.9%) of callers were reached for follow-up.

At the 4-week follow-up, 171 (86.4%) callers were still breastfeeding. This proportion drops to 76% at the 8-week follow up, but rises slightly 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	171	157	26 (16.6%)	131 (83.4%)
8 week	111	102	19 (18.6%)	83 (81.4%)
12 week	65	59	10 (16.9%)	49 (83.1%)

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.

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1359)

Comfort with Breastfeeding	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Yes	508	429	409	1346	99.0%
No	2	5	6	13	1.0%
TOTALS:	510	434	415	1359	100%

Not applicable n=250

TBH staff reported that almost all (99%) 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	695	491	204 (29.4%)	86	85 (98.8%)	1 (1.2%)
8 week	513	363	150 (29.2%)	74	74 (100%)	0 (0.0%)
12 week	367	282	85 (23.2%)	42	42 (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 the 4-week follow-up, 98.8% of callers reported increased confidence and comfort with breastfeeding, increasing to 100% for the 8- and 12-week follow-ups.

(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	695	491	204 (29.4%)	143	143 (100%)	142	142 (100%)
8 week	513	363	150 (29.2%)	113	112 (99.1%)	115	115 (100%)
12 week	367	282	85 (23.2%)	68	68 (100%)	69	69 (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). At all follow-up periods, every respondent stated that they were likely to recommend TBH services to another person.

(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 weeks 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, only information pertaining to breastfeeding status, satisfaction of services, and level of comfort/confidence breastfeeding is captured.

Table 16A. Texting Follow-Up: Caller’s Breastfeeding Status (N=73)

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	73	65 (89.0%)	8 (11.0%)

During the 2nd Quarter, TBH received 73 follow-up texts regarding breastfeeding status. Of those responses received, 65 (89%) responded that they were still breastfeeding.

Table 16B. Caller’s Satisfaction with TN Breastfeeding Hotline (N=73)

Follow-Up Method	Texts Received	Satisfied N (%)
Text	73	68 (93.2%)

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

TBH received 73 responses regarding caller’s satisfaction with services provided. Of those responses received, 93.2% responded that they were satisfied with services received.

Table 16C. Caller’s Likelihood to Recommend TN Breastfeeding Hotline (N=71)

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	71	67 (94.4%)

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

TBH received 71 responses with regard to caller’s likelihood to recommend the TBH to others. Of the 71 responses received, 67 (94.4%) indicated 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=66)

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	66	58 (87.9%)	8 (12.1%)

TBH received 66 responses with regard to caller’s increase in confidence and comfort with breastfeeding. Of the 66 texts received, 58 (87.9%) 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.

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 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 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 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 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

Sandra Madubonwu, MSN, RN, CLC
Helen Scott, RN, IBCLC, RLC
Crystal Gilreath, MS, CLC
Victoria Roselli, BS, IBCLC, RLC
Pam Avant, BSN, IBCLC, RLC, RN
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LaSaundra Gentry, MA, CLC
Julie Flynn, RN, CLC
Tracey Davis, MN, CLC
Meredith Raney, BSN, CLC

⁵ Denotes a lactation professional available as needed.

Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

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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
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Lauren Robinson, Le Bonheur Community Health and Well-Being
Inayah Ahmed, Le Bonheur Community Health and Well-Being

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

CATEGORIES	REASONS / ISSUES
Supplemental Nutrition: Issues related to complementing breastfeeding with expressed human milk or some other fluid or food	<ul style="list-style-type: none"> • Vitamin D supplementation • Supplemental feeding
Milk Expression: Issues related to taking breastmilk from the mother’s breast without the baby needing to suckle.	<ul style="list-style-type: none"> • Breast pumps and rentals • Exclusive pumping • Milk storage
Breast-Related Problems: Issues or problems mother can experience that are commonly associated with breastfeeding	<ul style="list-style-type: none"> • Breast mass • Breast engorgement • Sore nipples • Breast or nipple pain • Nipple abnormality
Breastfeeding Management: Issues related to the process of maintaining or integrating breastfeeding within a mother’s routine or circumstances	<ul style="list-style-type: none"> • Tandem nursing • Breastfeeding while pregnant • Working and breastfeeding • Managing multiple breastfeeding babies • Weaning • Bottle feeding • Returning to work/school • Baby feeding to much / too little • Breastfeeding device/equipment (e.g. nipple shields)
Breastfeeding Support: Resources, guidance, or laws that can assist with breastfeeding	<ul style="list-style-type: none"> • Public breastfeeding • Donor milk • TN breastfeeding laws • Seeking resources • Pre-birth information / counseling
Breastfeeding Technique: Issues related to mother’s breastfeeding skill	<ul style="list-style-type: none"> • Inability to latch • Breastfeeding technique • Clicking / Noisy nursing
Medical Condition (Infant): 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"> • Feeding baby with hypotonia • Feeding baby with Down Syndrome • Feeding baby with cleft lip / palate • Jaundice • Late preterm newborn • Managing premature infant breastfeeding • Tongue-tie • Allergies • Baby spitting up (reflux)
Infant Health Behaviors: Issues related to infant’s actions that can impact mother’s ability to	<ul style="list-style-type: none"> • Baby biting breast • Baby refusing to nurse

breastfeed	<ul style="list-style-type: none"> • Distraction during breastfeeding • Sleepiness
Maternal Health Behaviors: Issues related to the practices (choices), of the mother that can impact her overall health and ability to breastfeed	<ul style="list-style-type: none"> • Alcohol use • Substance abuse / Illicit drug use • Smoking / Smoking cessation • Exercise and breastfeeding • Diet • Medications and breastfeeding
Lactation or Milk Concerns: Issues related to mother's anxiety or worry about milk production or quality	<ul style="list-style-type: none"> • Overactive letdown / too much milk • Not making enough milk • Re-lactation • Adoption • Color change in milk
Infant Health Concerns: Issues related to mother's anxiety or worry about infant's health state or condition	<ul style="list-style-type: none"> • Fussiness / Colic • Gassiness • Appropriate feeding by age / weight • Abnormal stools / voids • Lethargy • Weight concerns • Sick baby • Constipation
Maternal Health Concerns: Issues related to mother's anxiety or worry about her own health state or condition	<ul style="list-style-type: none"> • Maternal postpartum vaginal bleeding • Menstruation / Return of menstrual cycle • Maternal sickness • Maternal postpartum depression
Other: An issue indicated by mother that is other than what is currently listed	<ul style="list-style-type: none"> • Specify