



Tennessee Breastfeeding Hotline Quarterly Report

Submitted to:

State of Tennessee, Department of Health

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April to June 2018



Executive Summary

April to June 2018

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 April through June 2018, but the report may make comparisons to previous quarters. Lactation professionals collected quantitative data using 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%¹. During this quarter, there were 1,475 calls to the TBH. When asked about intention to continue breastfeeding, 98.2% of callers responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 71.1% of the moms reached were still breastfeeding (pg. 22, Table 14B).

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

¹Nutrition, 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 (Category = Breastfeeding; Topic = Breastfeeding Behavior; Year = 2014)

asked to rate overall services received from the TBH. During this quarter, almost all (range: 98.4% - 100%) callers for each follow-up period reported being satisfied or very satisfied with services received (pg. 23, 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. 23, Table 15).

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

Data Limitations

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

Introduction

Breastfeeding is widely accepted as an effective strategy to promote positive health outcomes for both mothers and their babies. Despite growing data on these benefits, 18.9% of babies born in Tennessee were never breastfed, according to the Centers for Disease Control and Prevention's most recent National Immunization Survey (NIS)². 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 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

²Center 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

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; April 20, 2011.

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

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

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

Caller Demographics

The target population of the TBH includes nursing mothers, their families and partners, expectant parents, and health care providers. During this quarter, 76.2% of the callers were white, 15.9% were black, and 2.5% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. In addition, 5.5% of callers were of multiple or mixed race (pg. 16, Table 9B). According to the United States Census Bureau's 2016 estimates, 78.7% of Tennessee residents are white, 17.1% are black, and 2.3% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. In addition, 1.9% percent of Tennessee residents are of multiple or mixed race⁴. Hispanic women comprised 3.8% of the callers during this quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (42.2%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

Notable Findings

The TBH had several notable instances to highlight in our final quarter:

1. *One unique call this quarter was from a Tennessee mother who planned to adopt a baby from Arizona. She had breastfed her first child for two and a half years and had adopted a second baby in that time period, and was thus able to tandem breastfeed her biological and adopted children. She had called to inquire about re-lactation for this third child, whom she also wanted to breastfeed. The lactation professional praised the mother for breastfeeding and reassured her that with her extended breastfeeding history, re-lactation was possible. The lactation professional shared re-lactation guidelines with this mother and encouraged her.*
2. *Another unique call received was from a nurse who reported that her 4-week-old baby had been spitting up, as well as having increasingly green-colored stools with streaks of bright red blood over the past 24 hours. The mother had researched these symptoms and wanted to know if this could be a dairy allergy. In addition, this mother was experiencing a forceful*

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

- letdown with an oversupply of breast milk, resulting in her baby spitting up. The lactation professional congratulated the mother on breastfeeding her baby and acknowledged the challenges that come with oversupply and forceful letdown. The lactation professional shared instructions on management of these issues, reassuring her that with a protein dairy allergy, breastfeeding can continue by eliminating dairy from her diet temporarily as directed by her MD. The lactation professional referred the mother to her pediatrician for the baby's concerns.*
3. *Finally, a mother (who was a repeat caller to the TBH) contacted the TBH. She was calling to inquire about a job opportunity, as she had recently obtained her CLC certification and was working towards her IBCLC. Staff shared the opportunities available to her. Following that call, the mother sent the following email:*

"The counselors at the TN Breastfeeding Hotline were invaluable while I was breastfeeding. I'm a first time mom and the only one in my family who has breastfed. So I needed a lot of support. I was very grateful to be able to call the hotline whenever I had questions or concerns. The counselors were extremely knowledgeable and empathetic. They provided me with strategies and information to make breastfeeding a comfortable, rewarding experience. During my first few months of breastfeeding, I was calling about 3-4 times a week. I called so often that I knew who would be working on certain days and times. It was nice to have this consistency. I was able to call when I knew that the lactation counselor that I had the best rapport with would be in. I give the hotline's number to any new or expecting mom that I meet who is interested in breastfeeding. I was grateful to have such excellent resources available within my community".

Conferences and Continued Education

- **April 5th, 2018:** Baptist Women's Hospital in Memphis, TN. TBH staff attended the monthly Memphis Area Lactation Consultation Association (MALCA) meeting. Dr. Sri Naidu presented on ankyloglossia.
- **June 8, 2018.** Panera Bread Restaurant in Memphis, TN. MALCA Journal Club attended by TBH staff, where Chanielle Talbird CLC presented on "Understanding Mothers' Infant Feeding Decisions and Practices."
- **June 15th, 2018.** Tennessee Breastfeeding Symposium in Chattanooga, TN. TBH staff attended the all-day TN Breastfeeding Symposium.

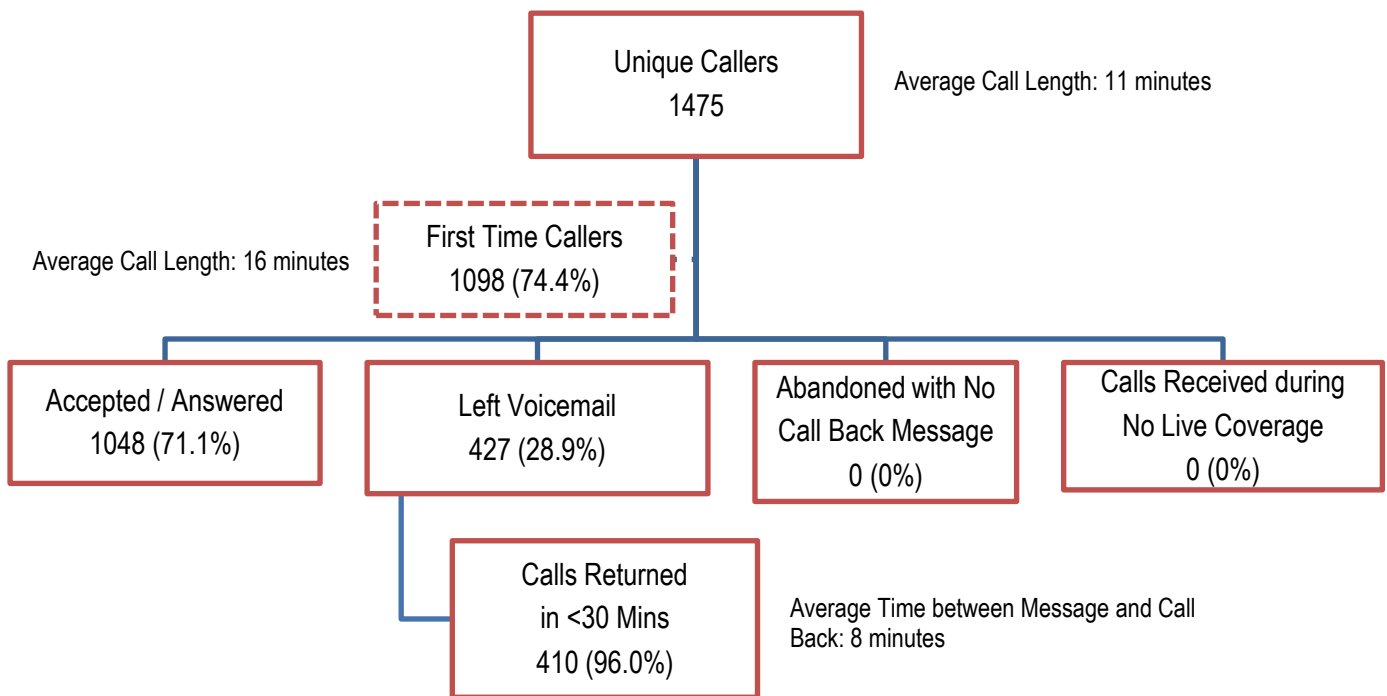
TBH Staff Updates

- Crystal Gilreath and Christie Evans received their passing IBCLC results, bringing the total number of IBCLCs on the TBH to 11 (10 staff members and the TBH medical consultant).

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 4th Quarter (April - June 2018)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from April through June 2018. During this period, the TBH had 1,475 unique callers. Of those total unique callers, 1,098 (74.4%) were first time callers to the TBH. Overall, average call length was 11 minutes; first-time callers were just slightly longer (16 minutes).

Of all calls received, 1,048 (71.1%) were answered and accepted live by TBH staff and 427 (28.9%) callers left a voicemail for TBH staff. About 96% of calls were returned within 30 minutes of the initial voicemail.

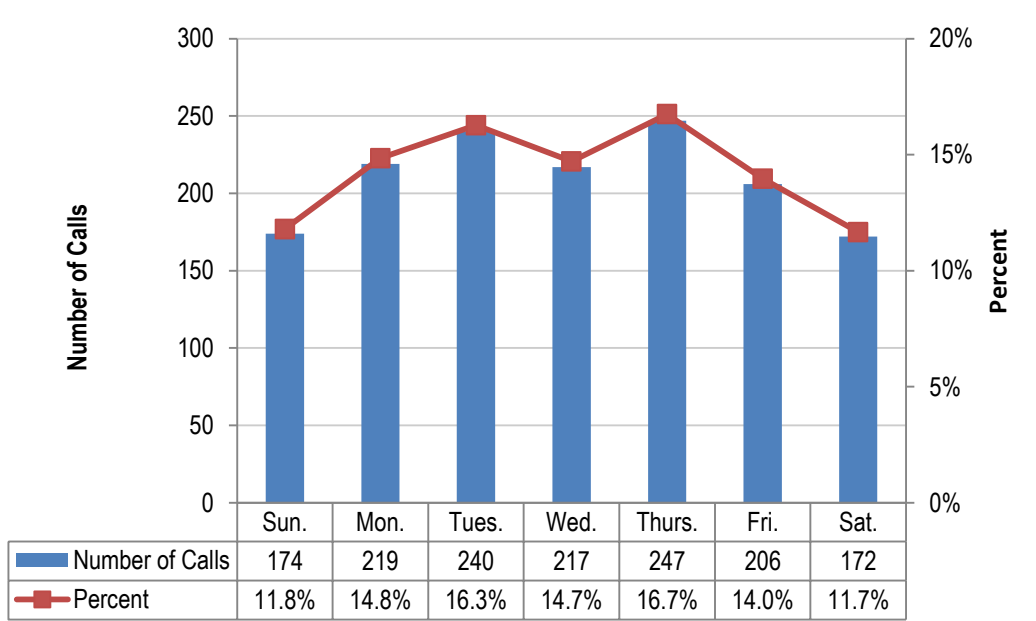
(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1475)

Time of Call	April	May	June	4 th Quarter Totals	4 th Quarter Percent
12 AM - 7 AM	41	51	40	132	8.9%
8 AM - 12 PM	164	125	116	405	27.5%
1 PM - 6 PM	197	203	209	609	41.3%
7 PM - 11 PM	105	118	106	329	22.3%
TOTALS:	507	497	471	1475	100%

The majority of calls (41.3%) were received between 1 PM and 6 PM. Just under 70% (68.8%) of calls were received during the traditional workday (8AM – 6 PM).

Figure 2. Call Volume, by Day of Week (N=1475)



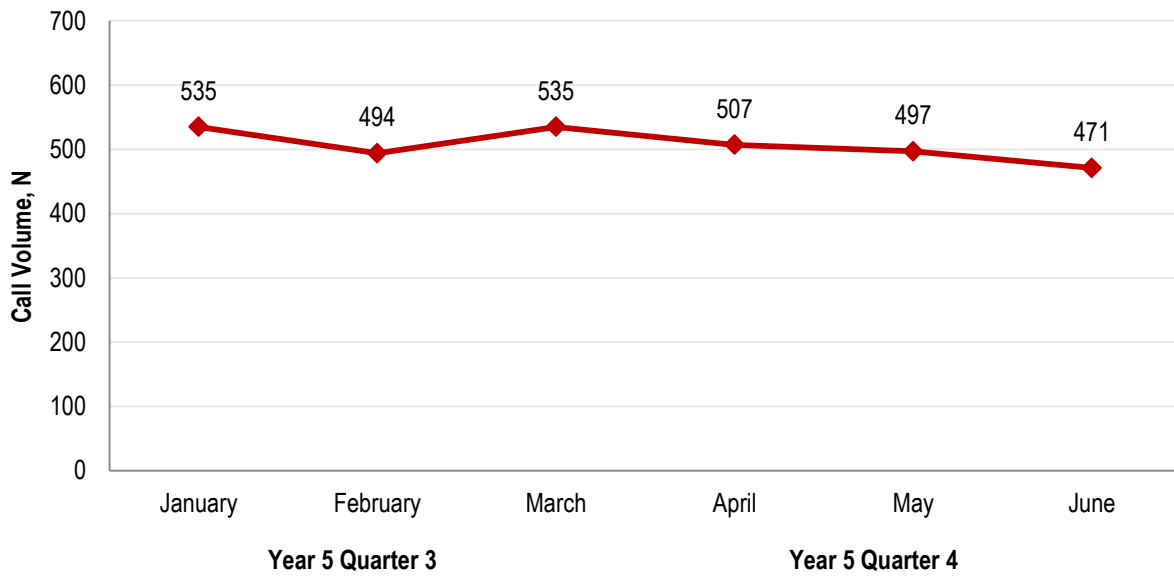
During this quarter, the TBH experienced its highest call volume on Thursdays (16.7%). Call volume was lowest on Saturdays (11.7%).

Table 2B. Call Volume, by Month (N=1475)

Month	Number of Calls	Percent
April	507	34.4%
May	497	33.7%
June	471	31.9%
TOTALS:	1475	100%

Call volume was highest in April. Overall, call volume in the 4th quarter was slightly lower than in the 3rd quarter.

Figure 2. Call Volume Trend, Previous Quarter (Y5Q3) Compared to Current Quarter (Y5Q4)



(3) Call Length**Table 3. Number and Proportion of Calls within 4th Quarter, by Call Length (N=1475)**

Length of Call	4 th Quarter Totals	4 th Quarter Percent
0-9 minutes	771	52.3%
10-19 minutes	516	35.0%
20-29 minutes	141	9.6%
30-39 minutes	37	2.5%
40-49 minutes	3	0.2%
50-59 minutes	1	0.1%
1 hour or more	6	0.4%
TOTALS:	1475	100%

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

This quarter, 87.3% of calls lasted less than 20 minutes. Six calls lasted more than an hour.

(4) Referrals**Table 4A. Referral Source Reported by Caller (N=1059)**

Referral Source	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Hospital	198	170	182	550	51.9%
Website/Search Engine	101	121	140	362	34.2%
Providers office	32	35	18	85	8.0%
WIC clinic	11	13	7	31	2.9%
Family or Friend	11	10	6	27	2.5%
Brochure	1	2	1	4	0.4%
TOTALS:	354	351	354	1059	100%

Missing or not applicable n=416

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

During the call, staff asked clients how they heard about the TBH. Hospital was the most common referral source, referring 51.9% of callers, followed by information found on a website or via search engine (34.2%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1458)

Referral Status	April	May	June	4 th Quarter Totals	4 th Quarter Percent
No referral given	475	456	442	1373	94.2%
Referred to own provider	26	33	25	84	5.8%
Referred to other provider in the vicinity	0	0	1	1	0.1%
TOTALS:	501	489	468	1458	100%

Missing or not applicable n=17

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

The TBH captured information about whether TBH staff referred the caller to a provider for their issue. Overall, 5.9% of callers were referred to a provider, predominantly their own.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1420)

Medical Reference Given	April	May	June	4 th Quarter Totals	4 th Quarter Percent
No	478	470	452	1400	98.6%
Yes	8	7	5	20	1.4%
TOTALS:	486	477	457	1420	100%

Missing or not applicable n=55

Only 20 (1.4%) callers were advised by the lactation professional to seek immediate medical attention.

Table 4D. Number and Proportion of Callers Referred to a Local Lactation Professional (N=1334)

Referred to a Lactation Professional	April	May	June	4 th Quarter Totals	4 th Quarter Percent
No	412	408	386	1206	90.4%
Yes	48	35	45	128	9.6%
TOTALS:	460	443	431	1334	100%

Missing or not applicable n=141

During the 4th quarter, the TBH advised 128 (9.6%) callers to seek out a local lactation professional.

(5) First Time or Repeat Caller**Table 5. TBH Caller by Call Type (N=1475)**

Caller Type	April	May	June	4 th Quarter Totals	4 th Quarter Percent
First Time	357	384	357	1098	74.4%
Repeat Caller	150	113	114	377	25.6%
TOTALS:	507	497	471	1475	100%

The majority (74.4%) of calls received were from first-time callers.

(6) Interpretive Services**Table 6. Use of Interpretive Services (N=1475)**

Interpretive Services	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Not Used	506	495	464	1465	99.3%
Used	1	2	7	10	0.7%
TOTALS:	507	497	471	1475	100%

Only 10 (0.7%) callers required interpretive services in the 4th quarter.

(7) Caller Location**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1054)**

Region	4 th Quarter Totals	4 th Quarter Percent
Davidson	274	26.0%
Shelby	228	21.6%
Mid-Cumberland	192	18.2%
Knox	75	7.1%
Hamilton	55	5.2%
West	52	4.9%
South Central	45	4.3%
East	44	4.2%
Upper Cumberland	26	2.5%
Northeast	25	2.4%
Madison	18	1.7%
Southeast	13	1.2%
Sullivan	7	0.7%
TOTALS:	1054	100%

Missing n=56

The table above depicts call volume by the Tennessee Department of Health regions during the 4th quarter. A total of 1,110 (75.3%) calls were from Tennessee residents. Of callers who reported a county of residence, 26% were from the Davidson region, followed by Shelby (21.6%) and Mid-Cumberland Region (18.2%).

Figure 3. Call Volume, by Caller's County of Residence, April to June 2018

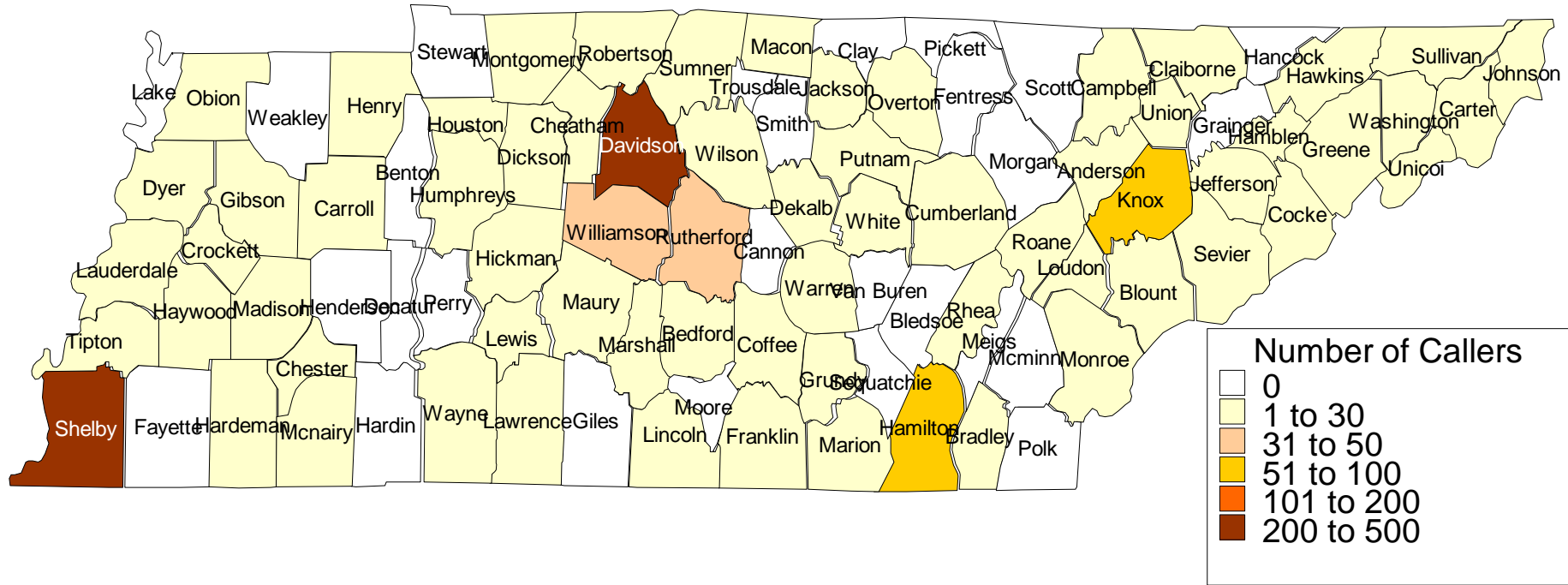
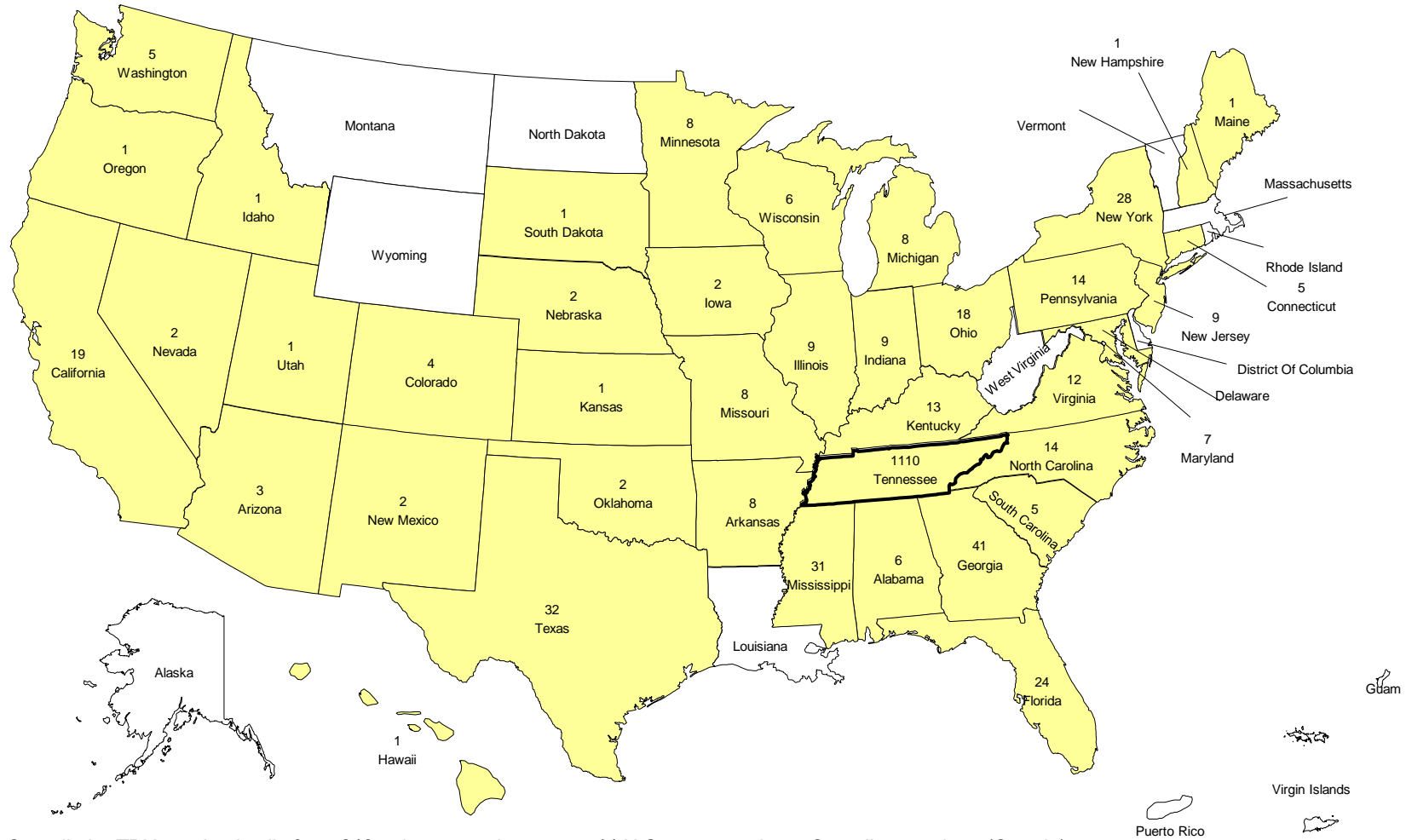


Figure 4. Call Volume, by Caller's State of Residence, April to June 2018



Overall, the TBH received calls from 248 unique counties across 44 U.S. states and one Canadian province (Ontario).

(8) Caller’s Relationship to Mother

Table 8. Number and Proportion of Calls, by Caller’s Relationship to Mother (N=1399)

Relationship to Mother	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Self	456	442	425	1323	94.6%
Spouse or partner	21	14	17	52	3.7%
Healthcare provider	7	5	6	18	1.3%
Family or household member	1	3	2	6	0.4%
TOTALS:	485	464	450	1399	100%

Not applicable n=76

During the 4th quarter, 94.6% 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=1013)

Maternal Age	April	May	June	4 th Quarter Totals	4 th Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	0	2	0	2	0.2%
18 - 20	19	6	9	34	3.4%
21 - 25	51	63	38	152	15.0%
26 - 30	159	136	132	427	42.2%
31 - 35	100	97	118	315	31.1%
36 - 40	22	18	35	75	7.4%
41 - 45	2	1	5	8	0.8%
≥ 46	0	0	0	0	0.0%
TOTALS:	353	323	337	1013	100%

Missing or not applicable n=462

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

During the 4th quarter, call volume was highest (42.2%) among mothers between 26 and 30 years old.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=1003)

Maternal Race	April	May	June	4 th Quarter Totals	4 th Quarter Percent
White	263	252	249	764	76.2%
Black	54	55	50	159	15.9%
Multiple Races	16	20	19	55	5.5%
Asian	8	6	5	19	1.9%
American Indian/Alaskan Native	1	2	1	4	0.4%
Native Hawaiian/Pacific Islander	1	0	1	2	0.2%
TOTALS:	343	335	325	1003	100%

Missing or not applicable n=472

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

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 76.2% were white, followed by black (15.9%).

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1132)

Ethnicity	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Not Hispanic	388	363	338	1089	96.2%
Hispanic	10	18	15	43	3.8%
TOTALS:	398	381	353	1132	100%

Missing or not applicable n=343

Of those with ethnicity documented, 43 (3.8%) callers identified as Hispanic/Latina.

(10) Mother's Pregnancy History**Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=282)**

Number of Prior Pregnancies	April	May	June	4 th Quarter Totals	4 th Quarter Percent
1	60	51	46	157	55.7%
2	31	32	26	89	31.6%
3	9	6	8	23	8.2%
4	4	3	2	9	3.2%
5	0	0	0	0	0.0%
6	0	1	1	2	0.7%
7	0	0	0	0	0.0%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	2	0	2	0.7%
TOTALS:	104	95	83	282	100%

Missing or not applicable n=1193

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

Of those who reported pregnancy history, 55.7% of callers reported just one prior pregnancy.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=547)

Number of Prior Live Births	April	May	June	4 th Quarter Totals	4 th Quarter Percent
1	119	108	103	330	60.3%
2	58	52	43	153	28.0%
3	15	10	17	42	7.7%
4	6	7	3	16	2.9%
5	0	0	1	1	0.2%
6	2	1	1	4	0.7%
7	0	0	0	0	0.0%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	1	0	1	0.2%
TOTALS:	200	179	168	547	100%

Missing or not applicable n=928

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, 60.3% of women had only one previous live birth.

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age* at Birth (N=1034)

Gestational Age	April	May	June	4 th Quarter Totals	4 th Quarter Percent
< 37 weeks (pre-term)	24	18	25	67	6.5%
37 to <39 weeks (early term)	60	47	62	169	16.3%
39 to <41 weeks (full term)	256	250	245	751	72.6%
41 to <42 weeks (late term)	21	11	14	46	4.4%
≥ 42 weeks (post term)	0	1	0	1	0.1%
TOTALS:	361	327	346	1034	100%

*Recommended classifications from American College of Obstetricians and Gynecologists

Missing or not applicable n=441

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

During this quarter, 72.6% of mothers reported delivering at full-term. Only 6.5% reported delivering prematurely.

(11) Baby's Birth Information

Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1261)

Age of Infant	April	May	June	4 th Quarter Totals	4 th Quarter Percent
< 1 week	111	97	98	306	24.3%
1 week - < 1 month	105	68	84	257	20.4%
1 - < 3 months	77	100	98	275	21.8%
3 - < 6 months	55	58	61	174	13.8%
6 - < 9 months	34	38	31	103	8.2%
9 - < 12 months	30	14	23	67	5.3%
12 - 18 months	20	18	13	51	4.0%
19 - 24 months	9	14	5	28	2.2%
TOTALS:	441	407	413	1261	100%

Missing or not applicable n=214

Callers were asked to indicate infant's age during the initial call to the TBH. Most (44.7%) calls were made when the infant was less than 1 month old.

Table 11B. Number and Proportion of Calls, by Delivery Method (N=177)

Delivery Method	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Vaginal	57	42	31	130	73.4%
Cesarean	17	11	19	47	26.6%
TOTALS:	74	53	50	177	100%

Missing or not applicable n=1298

Of those who responded, 73.4% of women indicated that they had a vaginal delivery. Eleven 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 in the table above.

(12) Feeding Information**Table 12A. Number and Proportion of Calls, by Breastfeeding Status (N=333)**

Breastfeeding Status	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Breastfeeding exclusively	64	53	55	172	51.7%
Both breastfeeding and pumping	17	31	20	68	20.4%
Breastfeeding with supplemental nutrition	22	19	21	62	18.6%
Pumping exclusively	13	5	5	23	6.9%
Breastfeeding with complementary foods	0	8	0	8	2.4%
TOTALS:	116	116	101	333	100%

Missing or not applicable n=1142

TBH collected information about the breastfeeding status of mothers during the initial call. Of the mothers who disclosed their breastfeeding status, just over half (51.7%) were breastfeeding exclusively.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=228)

Breastfeeding within 24 Hours?	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Yes	87	77	58	222	97.4%
No	1	1	4	6	2.6%
TOTALS:	88	78	62	228	100%

Missing or not applicable n=1247

Table 12B shows number and proportion of callers who initiated breastfeeding within 24 hours of delivery. Of the callers who responded, 97.4% 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=1307)**

Reasons for Calling	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Breast-Related Problems	97	101	93	291	22.3%
Maternal Health Behaviors	88	74	69	231	17.7%
Lactation or Milk Concerns	54	44	58	156	11.9%
Milk Expression	48	44	51	143	10.9%
Breastfeeding Management	52	42	36	130	9.9%
Infant Health Concerns	23	36	28	87	6.7%
Breastfeeding Technique	28	23	31	82	6.3%
Infant Health Behaviors	22	20	18	60	4.6%
Breastfeeding Support	16	27	15	58	4.4%
Medical Condition (Infant)	10	11	9	30	2.3%
Maternal Health Concerns	5	11	9	25	1.9%
Supplemental Nutrition	6	4	4	14	1.1%
TOTALS:	449	437	421	1307	100%

Missing or not applicable n=168

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, 22.3% of callers had questions about breast-related problems (e.g. breast engorgement or breast or nipple pain) followed by maternal health behaviors (17.7%). The top five individual reasons for calling the TBH were: medications and breastfeeding, breast/nipple pain, breast engorgement, not making enough milk, and questions about breastmilk storage.

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=90)

Top Additional Reasons for Calling	April	May	June	4 th Quarter Total
Pumping	12	4	2	18
Breast or nipple pain	7	3	3	13
Breast engorgement	4	2	5	11
Not making enough milk	3	4	2	9
Breastfeeding technique	2	5	1	8
Medications and breastfeeding	3	1	3	7
Overactive letdown/too much milk	1	2	3	6
Baby feeding too much/too little	2	1	3	6
Weaning	2	1	3	6
Diet (maternal)	2	2	2	6
TOTALS:	38	25	27	90

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

(14) Outcomes at Follow-Up

At the end of each initial call to the TBH, the lactation professionals asked the callers if they intended to continue to breastfeed (results in Table 14A). TBH staff also asked about continuation of breastfeeding 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 4th quarter, TBH attempted 1,291 calls to clients to follow-up about breastfeeding status; only 306 (23.7%) callers were reached for follow-up.

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1204)

Intention to Continue Breastfeeding	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Yes	400	401	381	1182	98.2%
No	12	6	4	22	1.8%
TOTALS:	412	407	385	1204	100%

Not applicable n=271

When asked about their intention to continue breastfeeding, 1,182 (98.2%) callers reported they 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	507	378	129 (25.4%)	106	76 (71.7%)
8 week	446	339	107 (24.0%)	94	67 (71.3%)
12 week	338	268	70 (20.7%)	63	40 (63.5%)

Notes: Reached = # of callers reached out of # of calls attempted
 Still breastfeeding = # of callers still breastfeeding out of # of callers who answered the question

At the 4-week follow-up, 76 (71.7%) callers were still breastfeeding. This proportion drops slightly to 71.3% at the 8-week follow up, and further drops to 63.5% 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	76	55	17 (30.9%)	38 (69.1%)
8 week	67	48	15 (31.3%)	33 (68.7%)
12 week	40	28	7 (25.0%)	21 (75.0%)

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

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

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1186)

Comfort with Breastfeeding	April	May	June	4 th Quarter Totals	4 th Quarter Percent
Yes	401	400	372	1173	98.9%
No	5	2	6	13	1.1%
TOTALS:	406	402	378	1186	100%

Not applicable n=289

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	507	378	129 (25.4%)	17	17 (100%)	0 (0.0%)
8 week	446	339	107 (24.0%)	19	19 (100%)	0 (0.0%)
12 week	338	268	70 (20.7%)	12	12 (100%)	0 (0.0%)

Notes: Reached = # of callers reached out of # of calls attempted;
 Improved= # of callers with improved confidence or confidence breastfeeding out of # of callers who answered the question

At all follow-up intervals, all callers reached reported improved confidence and comfort with breastfeeding.

(15) Client Satisfaction with Services

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

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

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Satisfaction with TBH		Recommend TBH	
				Answered Question	Satisfied N (%)	Answered Question	Likely to Recommend N (%)
4 week	507	378	129 (25.4%)	61	60 (98.4%)	67	67 (100%)
8 week	446	339	107 (24.0%)	52	52 (100%)	52	52 (100%)
12 week	338	268	70 (20.7%)	29	29 (100%)	31	31 (100%)

Notes: Reached = # of callers reached out of # of calls attempted;
 Satisfied = # of callers satisfied or very satisfied with TBH services out of # of callers who answered the question
 Likely to Recommend = # of callers likely or very likely to recommend TBH services out of # of callers who answered the question.

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

(16) Texting Follow-Up

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

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

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

During the 4th quarter, TBH received 14 follow-up texts regarding breastfeeding status. Of those responses received, 12 (85.7%) responded that they were still breastfeeding.

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

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

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

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

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

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

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

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

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

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

TBH received 14 responses with regard to caller's increase in confidence and comfort with breastfeeding. Of the 14 texts received, 13 (92.9%) indicated that they were more comfortable and confident breastfeeding.

Our Team

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

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

August Marshall, M.A. – Program Evaluator II
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 (4)	IBCLCs (10)
<p>Sandra Madubonwu, MSN, 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 Crystal Gilreath, MS, IBCLC Christie Evans, RN, IBCLC</p>

Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

Tennessee Department of Health – Central Office	Community Organizations
Melissa Barbour Margaret T. Lewis Laura Campbell Sierra Mullen	Tiana Pyles, BSTARS
Le Bonheur Community Health and Well-Being	Academic Affiliation
Jennilyn Utkov Sandra Madubuonwu Helen Scott Crystal Gilreath Victoria Roselli Lakisha King Windle Christina Underhill Cathy Marcinko August Marshall Marilyn Smith Shandrian Guinn Lisa Rogers Trina Gillam Lauren Robinson Inayah Ahmed	Dr. Genae Strong, University of Memphis - School of Nursing Jennifer Russell, University of Tennessee – School of Nursing
Tennessee Department of Health – Metro Regions	Hospital Affiliation or Private Practice
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	Katy Spurlock, The Urban Child Institute Dr. Allison Stiles, Internal Medicine & 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

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)

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