



Tennessee Breastfeeding Hotline Quarterly Report

Submitted to:

State of Tennessee, Department of Health

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January to March 2018



Executive Summary

January to March 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 January through March 2018, 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%¹. During this quarter, there were 1,571 calls to the TBH. When asked about intention to continue breastfeeding, 97.9% of callers responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 68.3% of the moms reached were still breastfeeding (pg. 22, Table 14B).

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)

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. 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

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; January 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, 79.7% of the callers were white, 14.1% were black, and 2.2% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. In addition, 4.0% 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 3.0% of the callers during this quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (40.1%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

Notable Findings

The TBH had one notable instance to highlight:

1. *In February, the TBH received a call from a mother who was breastfeeding her 7-month-old son. She recently discovered she was pregnant again. The mother had been pumping and noticed her supply had decreased. Her baby is tolerating complementary feedings twice a day and taking between 3-6oz of expressed breastmilk every 3 hours. The lactation professional congratulated the mother on her pregnancy and commitment to pumping for her son, acknowledging the challenges she was experiencing. The lactation professional discussed the risks involved and referred the mother to her OB-GYN for any pregnancy-related concerns. The lactation professional reviewed skin-to-skin research, breast massage, and stressed the importance of rest for the mother. The lactation professional also reviewed the mother's pumping routine and hand expression. The mother was very appreciative of the service*

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

provided by the TBH and wanted to know who she could contact to express how important she thinks this service is to breastfeeding mothers needing assistance.

Conferences and Continued Education

- **January 29th, 2018.** Methodist Le Bonheur Germantown Hospital in Germantown, TN. TBH staff attended the monthly MALCA member meeting. Jenny Russell presented on “How Health Policy Affects Practice.”
- **February 23rd, 2018.** Le Bonheur Children’s Hospital in Memphis, TN. TBH staff attended the monthly MALCA meeting. Amber Peasley, MSN, CNM, FNP and Amanda Williams CNM presented on “Nurse Midwifery Female Centered Care and Breastfeeding.”
- **March 4th-6th, 2018.** Tennessee Initiative for Perinatal Quality Care (TIPQC) Annual Conference in Franklin TN. Two TBH staff members attended the TIPQC conference, which included a breakout session for the TN Breastfeeding Coalition. TBC reported on its goals to promote and support breastfeeding in Tennessee, and members continued facilitated workgroup discussions.
- **March 7th, 2018.** IBCLC Day Celebration in Memphis TN. Staff got together to celebrate IBCLC day. The celebration included a meeting of the journal club, where Elaina Hogan presented “Update on Marijuana.”

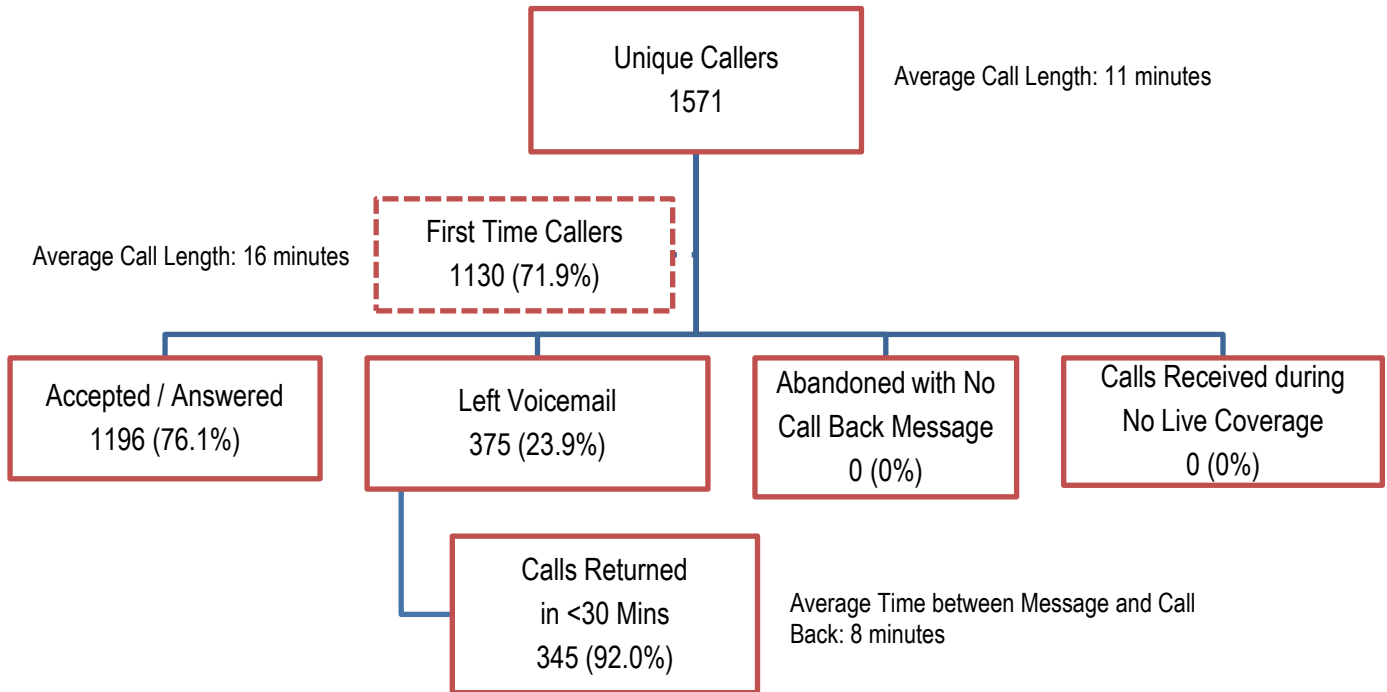
TBH Staff Updates

- Crystal Gilreath and Christie Evans have been preparing for their IBCLC exam in April.

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 3rd Quarter (January - March 2018)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from January through March 2018. During this period, the TBH had 1,571 unique callers. Of those total unique callers, 1,130 (71.9%) 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, 1,196 (76.1%) were answered and accepted live by TBH staff and 375 (23.9%) callers left a voicemail for TBH staff. About 92% of calls were returned within 30 minutes of the initial voicemail.

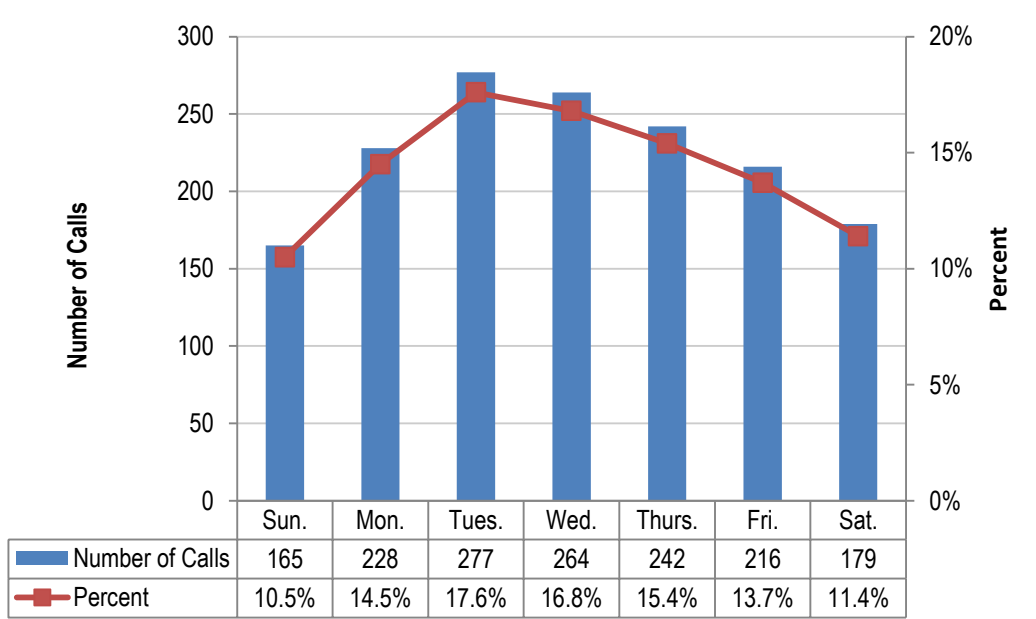
(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1571)

Time of Call	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
12 AM - 7 AM	51	31	61	143	9.1%
8 AM - 12 PM	142	133	169	444	28.3%
1 PM - 6 PM	228	204	219	651	41.4%
7 PM - 11 PM	123	90	120	333	21.2%
TOTALS:	544	458	569	1571	100%

The majority of calls (41.4%) 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=1571)



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

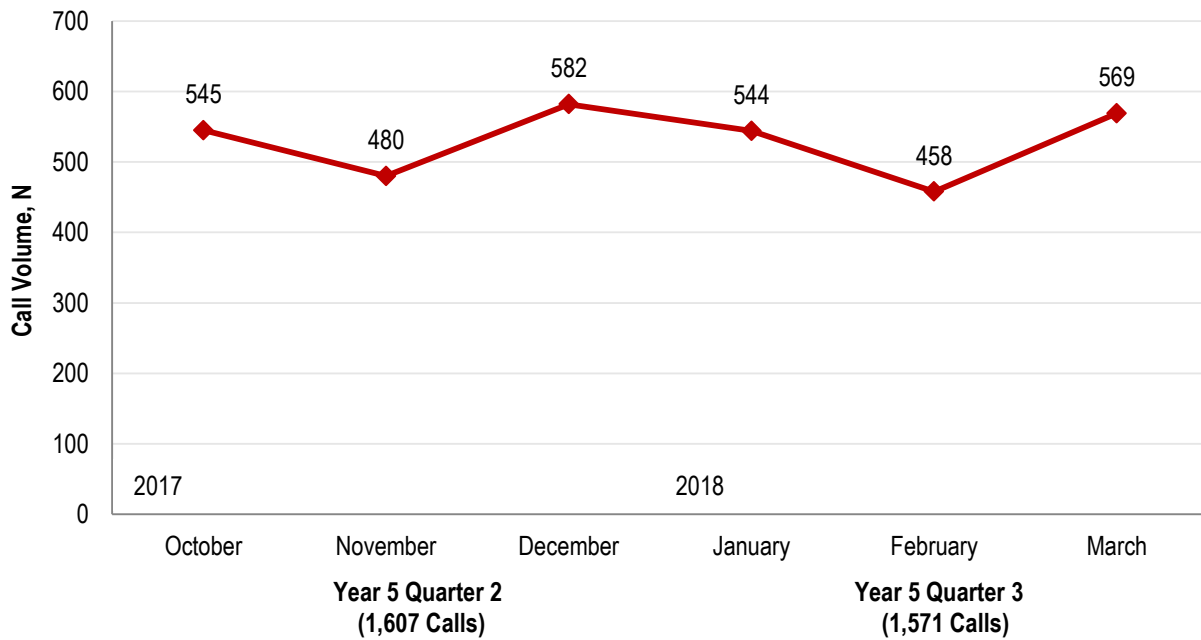
During this quarter, the TBH experienced its highest call volume on Tuesdays (17.6%). Call volume was lowest on Sundays (10.5%).

Table 2B. Call Volume, by Month (N=1571)

Month	Number of Calls	Percent
January	544	34.6%
February	458	29.2%
March	569	36.2%
TOTALS:	1571	100%

Call volume was highest in March. Overall, call volume in the 3rd quarter was slightly lower than in the 2nd quarter.

Figure 2. Call Volume Trend, Previous Quarter (Y5Q2) Compared to Current Quarter (Y5Q3)



(3) Call Length**Table 3. Number and Proportion of Calls within 3rd Quarter, by Call Length (N=1571)**

Length of Call	3 rd Quarter Totals	3 rd Quarter Percent
0-9 minutes	837	53.3%
10-19 minutes	558	35.5%
20-29 minutes	134	8.5%
30-39 minutes	30	1.9%
40-49 minutes	9	0.6%
50-59 minutes	2	0.1%
1 hour or more	1	0.1%
TOTALS:	1571	100%

This quarter, 88.8% of calls lasted less than 20 minutes. Only one call lasted more than an hour.

(4) Referrals**Table 4A. Referral Source Reported by Caller (N=1130)**

Referral Source	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Hospital	242	198	226	666	58.9%
Website/Search Engine	105	76	112	293	25.9%
Providers office	31	36	51	118	10.4%
WIC clinic	11	5	12	28	2.5%
Family or Friend	7	7	9	23	2.0%
Brochure	1	0	1	2	0.2%
Billboard	0	0	0	0	0.0%
Public transit advertisement	0	0	0	0	0.0%
TOTALS:	397	322	411	1130	100%

Missing or not applicable n=441

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 58.9% of callers, followed by information found on a website or via search engine (25.9%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1548)

Referral Status	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
No referral given	511	418	527	1456	94.1%
Referred to own provider	23	32	33	88	5.7%
Referred to other provider in the vicinity	1	2	1	4	0.3%
TOTALS:	535	452	561	1548	100%

Missing or not applicable n=23

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, 6% of callers were referred to a provider, predominantly their own.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1521)

Medical Reference Given	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
No	523	437	536	1496	98.4%
Yes	4	8	13	25	1.6%
TOTALS:	527	445	549	1521	100%

Missing or not applicable n=50

Only 25 (1.6%) 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=1435)

Referred to a Lactation Professional	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
No	446	369	444	1259	87.7%
Yes	50	60	66	176	12.3%
TOTALS:	496	429	510	1435	100%

Missing or not applicable n=136

During the 3rd quarter, the TBH advised 176 (12.3%) callers to seek out a local lactation professional.

(5) First Time or Repeat Caller**Table 5. TBH Caller by Call Type (N=1571)**

Caller Type	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
First Time	380	333	417	1130	71.9%
Repeat Caller	164	125	152	441	28.1%
TOTALS:	544	458	569	1571	100%

The majority (71.9%) of calls received were from first-time callers.

(6) Interpretive Services**Table 6. Use of Interpretive Services (N=1571)**

Interpretive Services	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Not Used	541	451	565	1557	99.1%
Used	3	7	4	14	0.9%
TOTALS:	544	458	569	1571	100%

Only 14 (0.9%) callers required interpretive services in the 3rd quarter.

(7) Caller Location**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1205)**

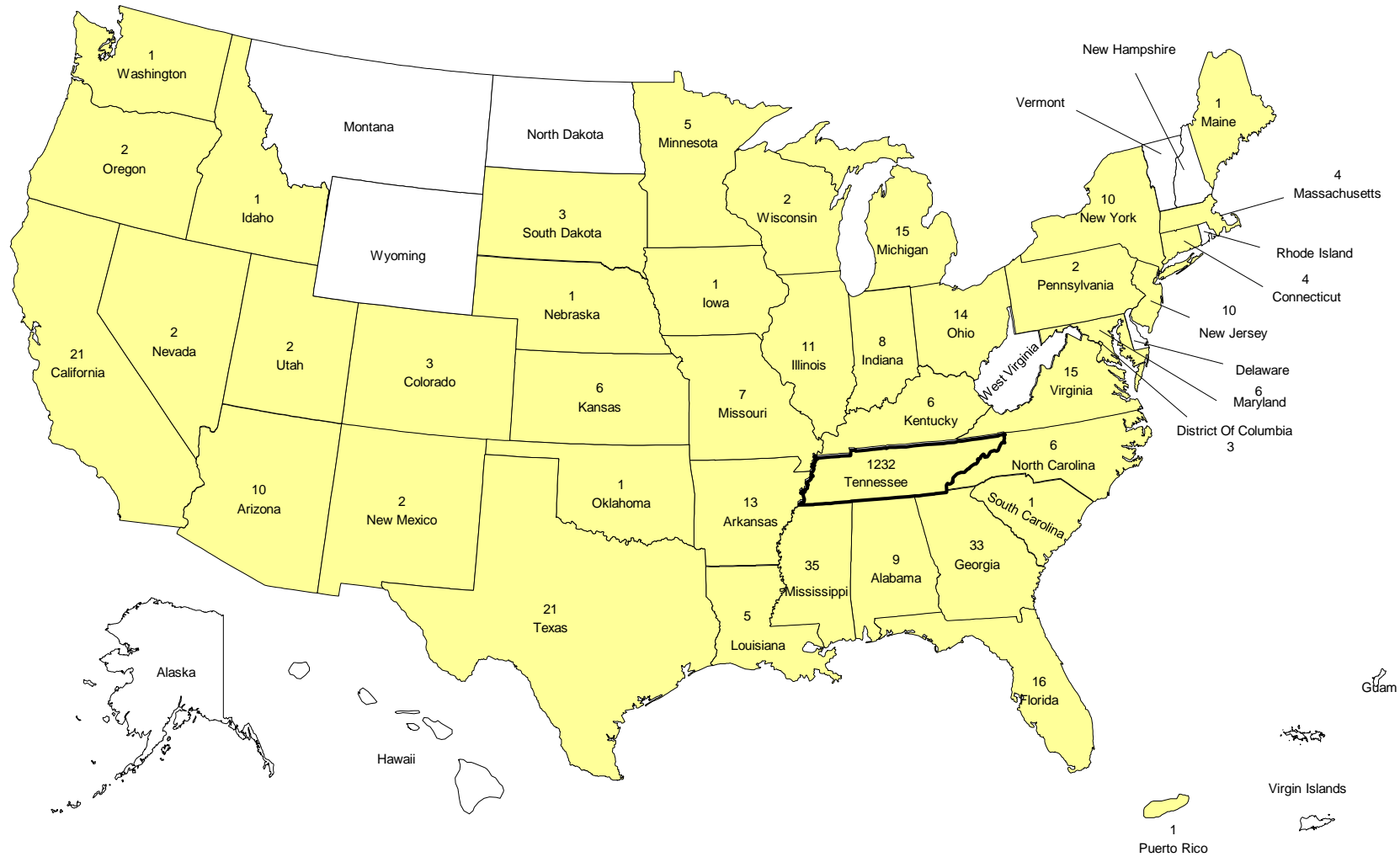
Region	3 rd Quarter Totals	3 rd Quarter Percent
Davidson	336	27.9%
Shelby	223	18.5%
Mid-Cumberland	206	17.1%
East	74	6.1%
Knox	64	5.3%
South Central	60	5.0%
Hamilton	55	4.6%
West	53	4.4%
Upper Cumberland	40	3.3%
Northeast	33	2.7%
Southeast	27	2.2%
Sullivan	19	1.6%
Madison	15	1.2%
TOTALS:	1205	100%

Missing n=27

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

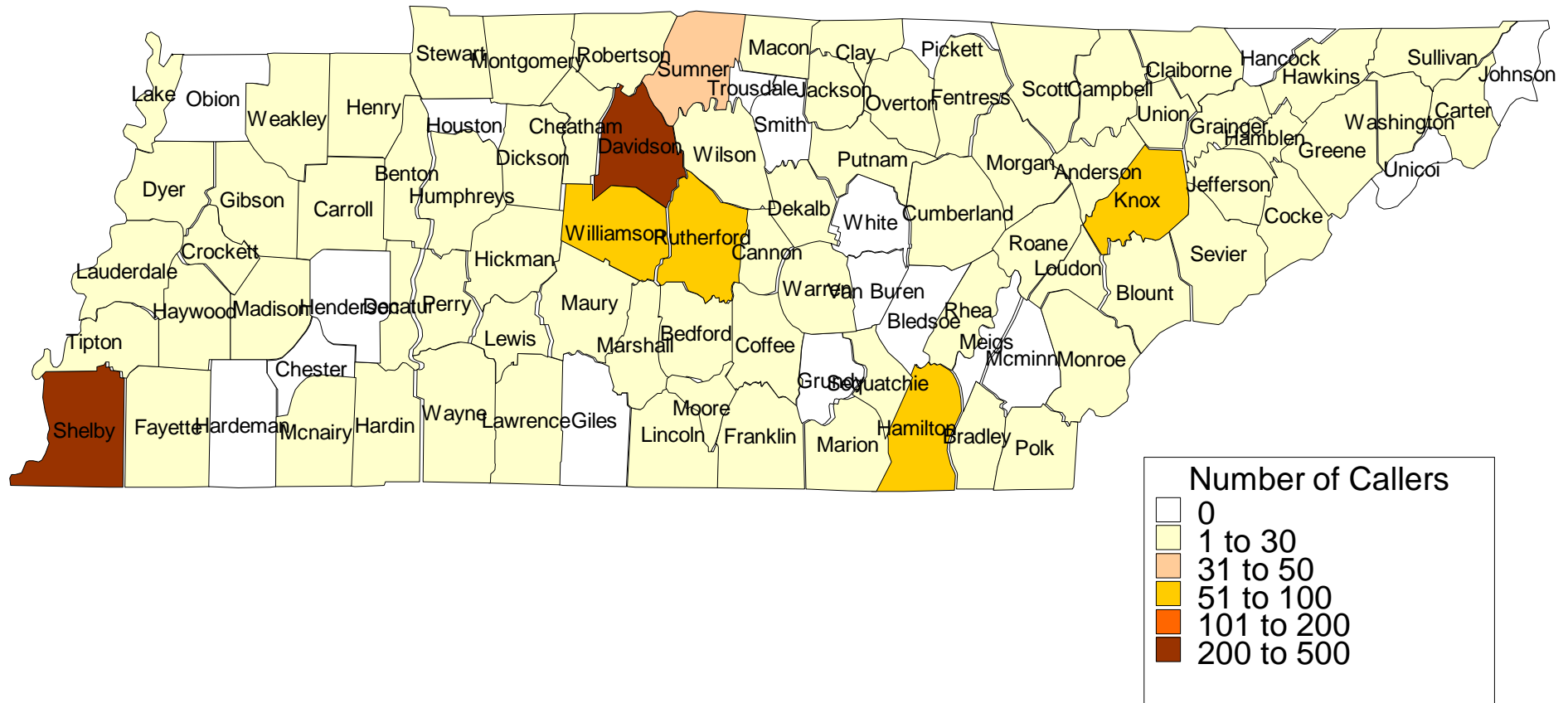
The table above depicts call volume by the Tennessee Department of Health regions during the 3rd quarter. A total of 1,232 (78.4%) calls were from Tennessee residents. Of callers who reported a county of residence, 27.9% were from the Davidson region, followed by Shelby (18.5%) and Mid-Cumberland (17.1%).

Figure 3. Call Volume, by Caller's County of Residence, January to March 2018



Overall, the TBH received calls from 255 unique counties across 43 states and Puerto Rico. In addition, the TBH received calls from Manitoba, Ontario, and the American Samoa.

Figure 4. Call Volume, by Caller's State of Residence, January to March 2018



(8) Caller’s Relationship to Mother

Table 8. Number and Proportion of Calls, by Caller’s Relationship to Mother (N=1474)

Relationship to Mother	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Self	491	408	508	1407	95.5%
Spouse or partner	13	19	16	48	3.3%
Healthcare provider	3	2	5	10	0.7%
Family or household member	3	3	3	9	0.6%
TOTALS:	510	432	532	1474	100%

Not applicable n=97

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

During the 3rd quarter, 95.5% 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=1120)

Maternal Age	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	1	0	0	1	0.1%
18 - 20	9	9	11	29	2.6%
21 - 25	77	53	58	188	16.8%
26 - 30	141	143	165	449	40.1%
31 - 35	122	110	148	380	33.9%
36 - 40	19	11	26	56	5.0%
41 - 45	4	2	9	15	1.3%
≥ 46	1	1	0	2	0.2%
TOTALS:	374	329	417	1120	100%

Missing or not applicable n=451

During the 3rd quarter, call volume was highest (40.1%) among mothers between 26 and 30 years old.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=1124)

Maternal Race	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
White	295	256	345	896	79.7%
Black	64	51	43	158	14.1%
Multiple Races	12	17	16	45	4.0%
Asian	6	4	13	23	2.0%
American Indian/Alaskan Native	1	0	0	1	0.1%
Native Hawaiian/Pacific Islander	0	1	0	1	0.1%
TOTALS:	378	329	417	1124	100%

Missing or not applicable n=447

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 79.7% were white, followed by black (14.1%).

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1253)

Ethnicity	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Not Hispanic	410	360	445	1215	97.0%
Hispanic	15	13	10	38	3.0%
TOTALS:	425	373	455	1253	100%

Missing or not applicable n=318

Of those with ethnicity documented, 38 (3.0%) callers identified as Hispanic/Latina.

(10) Mother's Pregnancy History

Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=358)

Number of Prior Pregnancies	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
1	73	73	64	210	58.7%
2	44	28	32	104	29.1%
3	12	7	10	29	8.1%
4	5	4	2	11	3.1%
5	0	0	1	1	0.3%
6	0	0	1	1	0.3%
7	0	0	1	1	0.3%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	0	1	1	0.3%
TOTALS:	134	112	112	358	100%

Missing or not applicable n=1213

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

Of those who reported pregnancy history, 58.7% of callers reported just one prior pregnancy.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=592)

Number of Prior Live Births	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
1	120	118	119	357	60.3%
2	67	52	51	170	28.7%
3	20	12	15	47	7.9%
4	6	5	3	14	2.4%
5	1	1	1	3	0.5%
6	0	0	1	1	0.2%
7	0	0	0	0	0.0%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	0	0	0	0.0%
TOTALS:	214	188	190	592	100%

Missing or not applicable n=979

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=1160)

Gestational Age	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
< 37 weeks (pre-term)	26	19	21	66	5.7%
37 to <39 weeks (early term)	69	63	84	216	18.6%
39 to <41 weeks (full term)	287	236	302	825	71.1%
41 to <42 weeks (late term)	21	21	10	52	4.5%
≥ 42 weeks (post term)	1	0	0	1	0.1%
TOTALS:	404	339	417	1160	100%

*Recommended classifications from American College of Obstetricians and Gynecologists

Missing or not applicable n=411

During this quarter, 71.1% of 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=1338)**

Age of Infant	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
< 1 week	93	76	112	281	21.0%
1 week - < 1 month	93	88	107	288	21.5%
1 - < 3 months	109	88	93	290	21.7%
3 - < 6 months	76	72	79	227	17.0%
6 - < 9 months	30	42	46	118	8.8%
9 - < 12 months	24	12	21	57	4.3%
12 - 18 months	29	12	18	59	4.4%
19 - 24 months	5	5	8	18	1.3%
TOTALS:	459	395	484	1338	100%

Missing or not applicable n=233

Callers were asked to indicate infant's age during the initial call to the TBH. Most (42.5%) calls were made when the infant was less than 1 month old.

Table 11B. Number and Proportion of Calls, by Delivery Method (N=246)

Delivery Method	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Vaginal	79	65	58	202	82.1%
Cesarean	17	13	14	44	17.9%
TOTALS:	96	78	72	246	100%

Missing or not applicable n=1325

Of those who responded, 82.1% of women indicated that they had a vaginal delivery. Four 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=425)

Breastfeeding Status	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Breastfeeding exclusively	77	76	59	212	49.9%
Breastfeeding with supplemental nutrition	33	25	30	88	20.7%
Both breastfeeding and pumping	33	30	22	85	20.0%
Pumping exclusively	16	9	12	37	8.7%
Breastfeeding with complementary foods	1	1	1	3	0.7%
TOTALS:	160	141	124	425	100%

Missing or not applicable n=1146

TBH collected information about the breastfeeding status of mothers during the initial call. Of the mothers who disclosed their breastfeeding status, just under half (49.9%) were breastfeeding exclusively.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=287)

Breastfeeding within 24 Hours?	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Yes	102	85	87	274	95.5%
No	6	6	1	13	4.5%
TOTALS:	108	91	88	287	100%

Missing or not applicable n=1284

Table 12B shows number and proportion of callers who initiated breastfeeding within 24 hours of delivery. Of the callers who responded, 95.5% of mothers had begun breastfeeding their baby within 24 hours of birth.

(13) Reasons for Calling**Table 13A. Number and Proportion of Calls, by Primary Reason for Call (N=1384)**

Reasons for Calling	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Maternal Health Behaviors	99	72	107	278	20.1%
Breast-Related Problems	71	82	118	271	19.6%
Lactation or Milk Concerns	84	59	64	207	15.0%
Breastfeeding Management	45	46	55	146	10.5%
Milk Expression	37	22	42	101	7.3%
Infant Health Concerns	27	31	36	94	6.8%
Breastfeeding Technique	28	27	39	94	6.8%
Infant Health Behaviors	31	19	16	66	4.8%
Breastfeeding Support	24	18	12	54	3.9%
Maternal Health Concerns	16	9	9	34	2.5%
Medical Condition (Infant)	10	8	7	25	1.8%
Supplemental Nutrition	8	4	2	14	1.0%
TOTALS:	480	397	507	1384	100%

Missing or not applicable n=187

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

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, 20.1% of callers had questions about maternal health behaviors (e.g. medications and breastfeeding, alcohol use, or maternal diet) followed by breast-related problems (19.6%). 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 or too little.

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=104)

Top Additional Reasons for Calling	January	February	March	3 rd Quarter Total
Pumping	9	4	4	17
Not making enough milk	7	9	1	17
Breastfeeding technique	8	4	2	14
Breast engorgement	2	5	7	14
Baby feeding too much/too little	2	4	2	8
Baby spitting up (reflux)	4	0	3	7
Breast or nipple pain	1	3	3	7
Maternal Sickness	3	2	2	7
Weaning	3	3	1	7
Working and breastfeeding	2	2	2	6
TOTALS:	41	36	27	104

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 not making enough milk.

(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 3rd quarter, TBH attempted a total of 1,091 calls to clients to follow-up about breastfeeding status; only 285 (26.1%) callers were reached for follow-up.

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1271)

Intention to Continue Breastfeeding	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Yes	424	368	452	1244	97.9%
No	6	8	13	27	2.1%
TOTALS:	430	376	465	1271	100%

Not applicable n=300

When asked about their intention to continue breastfeeding, 1,244 (97.9%) 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	481	343	138 (28.7%)	123	84 (68.3%)
8 week	381	279	102 (26.8%)	91	58 (63.7%)
12 week	229	184	45 (19.7%)	41	18 (43.9%)

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, 84 (68.3%) callers were still breastfeeding. This proportion drops to 63.7% at the 8-week follow up, and further drops to 43.9% 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	84	71	21 (29.6%)	50 (70.4%)
8 week	58	41	9 (22.0%)	32 (78.0%)
12 week	18	13	2 (15.4%)	11 (84.6%)

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=1271)

Comfort with Breastfeeding	January	February	March	3 rd Quarter Totals	3 rd Quarter Percent
Yes	424	368	452	1244	97.9%
No	6	8	13	27	2.1%
TOTALS:	430	376	465	1271	100%

Not applicable n=300

TBH staff reported that almost all (97.9%) 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	481	343	138 (28.7%)	23	23 (100%)	0 (0.0%)
8 week	381	279	102 (26.8%)	12	12 (100%)	0 (0.0%)
12 week	229	184	45 (19.7%)	9	9 (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	481	343	138 (28.7%)	63	63 (100%)	69	69 (100%)
8 week	381	279	102 (26.8%)	50	50 (100%)	51	51 (100%)
12 week	229	184	45 (19.7%)	26	26 (100%)	25	25 (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 can't 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.

Unfortunately, there were no texts received in the 3rd quarter. The TBH is investigating whether this was an error with iCarol's texting system, or a misunderstanding among staff.

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)
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	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

Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

Tennessee Department of Health – Central Office
<p>Melissa Barbour Margaret T. Lewis Laura Campbell Sierra Mullen Tiana Pyles</p>
Le Bonheur Community Health and Well-Being
<p>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</p>
Tennessee Department of Health – Metro Regions
<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>
Hospital Affiliation or Private Practice
<p>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</p>
Academic Affiliation
<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
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