



Tennessee Breastfeeding Hotline Quarterly Report

Submitted to:

State of Tennessee, Department of Health

Prepared by:

Sandra Madubonwu MSN, CLC, RN

Helen Scott, RN, IBCLC, RLC

Christina Underhill, Ph.D.

August Marshall, M.A.

Of:

Le Bonheur Community Health and Well-Being

50 Peabody Place, Suite 400

Memphis, TN 38103

July 22, 2016



Executive Summary

April to June 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 April 2016 through June 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 4th quarter, there were a total of 1,467 calls to the TBH. When asked about intention to continue breastfeeding, 98.1% responded that they intended to continue breastfeeding (pg. 20, Table 14A). At 4-week follow-up, 84.7% of the moms reached were still breastfeeding (pg. 20, 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 <http://www.cdc.gov/nccdphp/DNPAO/index.html>.

asked to rate overall services received from the TBH. During this quarter, 100% of the callers at the 4-week follow-up and 99% of callers at the 8-week follow-up reported being satisfied or very satisfied with services received (pg. 22, 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, 98.4% of callers at 4 weeks and 96.9% of callers at 8 weeks reported that they were likely to refer someone else to the hotline (pg. 22, 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, 27.4% of babies born in Tennessee in 2012 were never breastfed, according to the Centers for Disease Control and Prevention's most recent National Immunization Survey². By the time their baby reached 6 months of age, the proportion of Tennessee mothers continuing to breastfeed, decreased from 72.6% to 43.1%. 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

² Centers for Disease Control and Prevention National Immunization Survey (NIS), 2012 births. Centers for Disease Control and Prevention, 2014 Breastfeeding Report Card

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 4th quarter, 77.4% of the callers were white, 17.5% were black, and 2.9% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. About 2% of callers were of multiple or mixed race (pg. 14, Table 9B). According to the United States Census Bureau, 78% of Tennessee residents are white, 16.8% are black, and 1.9% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Close to 2% of Tennessee residents are of multiple or mixed race.⁴ Hispanic women comprised 6% of the callers for the 4th quarter (pg. 15, Table 9C). When examining age, the hotline received the highest proportion of calls (40%) from callers between the ages of 26 and 30 (pg. 14, Table 9A).

Notable Findings

The TBH received a unique call from a mother who wanted to have an Accent Laser procedure (a procedure for cellulite reduction), which required no medication. The mother was seeking information before she underwent the procedure. TBH staff consulted with Dr. Stiles and Infant Risk, and was able to inform the mother that it was safe to continue breastfeeding after the procedure.

Another unique call received was from a mother who worked at a blood bank. The mother had accidentally gotten blood in her eye, and had followed all guidelines for blood exposure. However, the results would not be available for several days and the mother wanted to know if it was safe to breastfeed. The lactation professional agreed to contact Infant Risk and told the mother to pump and label this breastmilk before storing, but not to use the breastmilk until the lactation professional had consulted with Infant Risk. After consulting with Infant Risk, the lactation professional was able to recommend that the mother not

⁴ U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Accessed: Monday, 1-Aug-2016 9:49:00 EDT

breastfeed until after the exposure results were finalized. In the meantime, they recommended that she pump and store her expressed breastmilk, and use breastmilk stored prior to the incident to feed the baby. The mother was also referred to Infant Risk for more information, and was encouraged to call back if she had any other questions.

Tennessee continues to support breastfeeding nutrition by the opening of two Human Milk Depots. One Depot is located at Nashville General Hospital, and the other depot is at Regional One Medical Center in Memphis. The TBH now has an in-state resource www.milkbanktn.org for breastfeeding mothers with excess supply.

Conferences and Continued Education

On April 6, 2016, Dr. Michael Warren and Helen Scott attended the 2016 Association of Maternal and Child Health Programs (AMCHP) conference in Washington, DC, where they also presented the TBH poster. Jennifer Kmet, Epidemiologist from Shelby County Health Department and member of the TBH Community Advisory Board (CAB) also attended the AMCHP conference. AMCHP is a national resource, partner, and advocate for state public health leaders and others working to improve the health of women, children, youth and families, including those with special health care needs.

At the May TBH staff meeting, Beth Hayes, LMSW, CPD and instructor at University of Memphis, gave a presentation on 'Postpartum Progress.' Ms. Hayes shared current information on the postpartum depression, anxiety, and obsessive-compulsive disorder and discussed the effect these disorders can have on breastfeeding. She also provided referral resources, which increased TBH's awareness in addressing these concerns.

On June 8th, 2016, the inaugural Memphis Area Breastfeeding Symposium was presented by the Shelby County Breastfeeding Coalition, the Shelby County Health Department (SCHD), and the Tennessee Department of Health (TDH). A representative for the Mayor of Memphis was present to open the Symposium. Dr. Michael Warren followed and gave a motivational presentation that included the TBH. He challenged those in attendance to find something that they learned from attending the symposium, something that resonated with them, and to take this with them into their community to promote breastfeeding. Alisa Haushalter, SCHD Director, presented as well as two out of state presenters: Kimarie Bugg, President and CEO at Reaching Our Sisters Everywhere, Inc. (ROSE) in Atlanta and Dr. Elizabeth Froh, Clinical Supervisor of The Children's Hospital of Philadelphia Lactation Team and Human Milk Management Center. This event was an excellent educational opportunity for healthcare providers and administrators from every aspect of newborn and maternal care. There were over 140 people registered for this event, including individuals from Arkansas and Mississippi.

Call Report Changes

Since the previous quarterly report, we have:

- Made no changes to the call report forms.

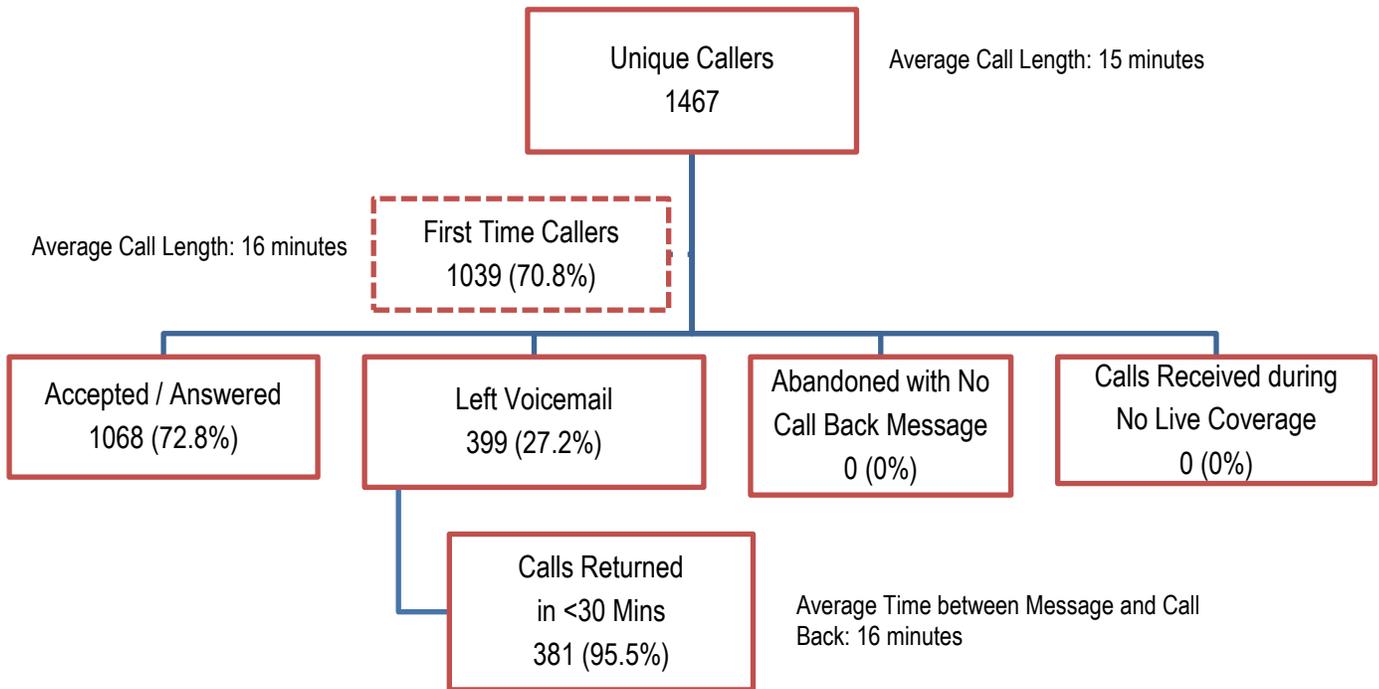
TBH Staff Updates

- At the beginning of May, Le Bonheur Children's Hospital added IBCLC lactation professionals in three of their Pediatric Clinics. As a result, these three clinics are now distributing TBH magnets and are staffed with lactation professionals who promote the TBH as a valuable resource.
- Dr. Alison Stiles passed her IBCLC exam.

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 4th Quarter (April - June 2016)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from April through June 2016. For the 4th Quarter of SFY 2016, the TBH had 1467 unique callers. Of those total unique callers, about 1039 (70.8%) were first time callers to the TBH. Average call length for all calls was 15 minutes; first-time callers were just slightly longer (16 minutes).

Of all calls received, 1068 (72.8%) were answered and accepted live by TBH staff and 399 (27.2%) callers left a voicemail for TBH staff. About 95% of calls were returned within 30 minutes of initial voicemail.

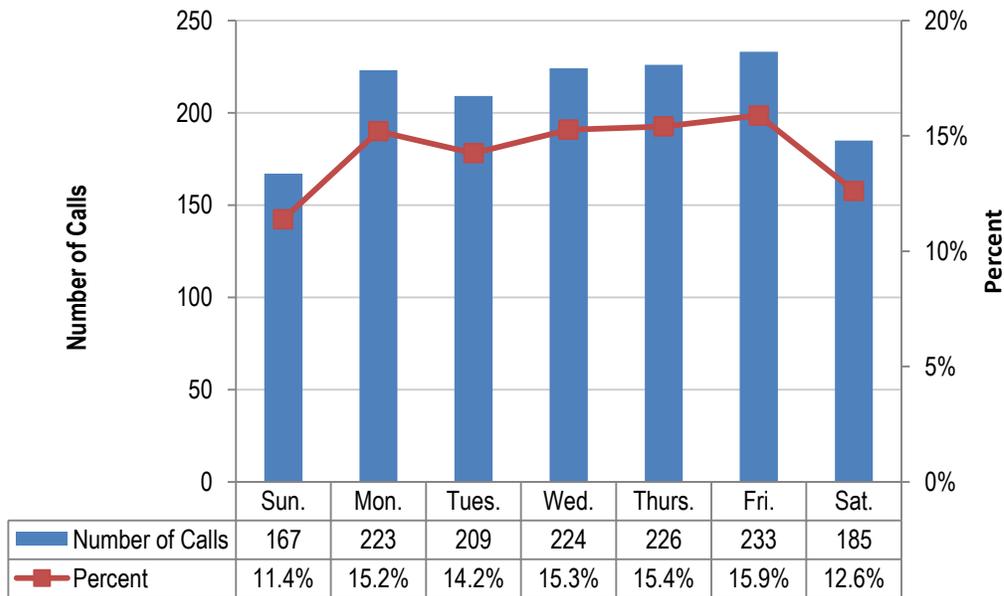
(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1467)

Time of Call	April	May	June	4th Quarter Totals	4th Quarter Percent
12 AM - 7 AM	36	37	32	105	7.2%
8 AM - 12 PM	173	162	158	493	33.6%
1 PM - 6 PM	190	200	212	602	41.0%
7 PM - 11 PM	98	93	76	267	18.2%
TOTALS:	497	492	478	1467	100%

During the 4th quarter, the majority of calls (41%) were received between 1 PM and 6 PM. About 75% of calls were received during the traditional workday (8AM – 6 PM).

Figure 2. Call Volume, by Day of Week (N=1467)



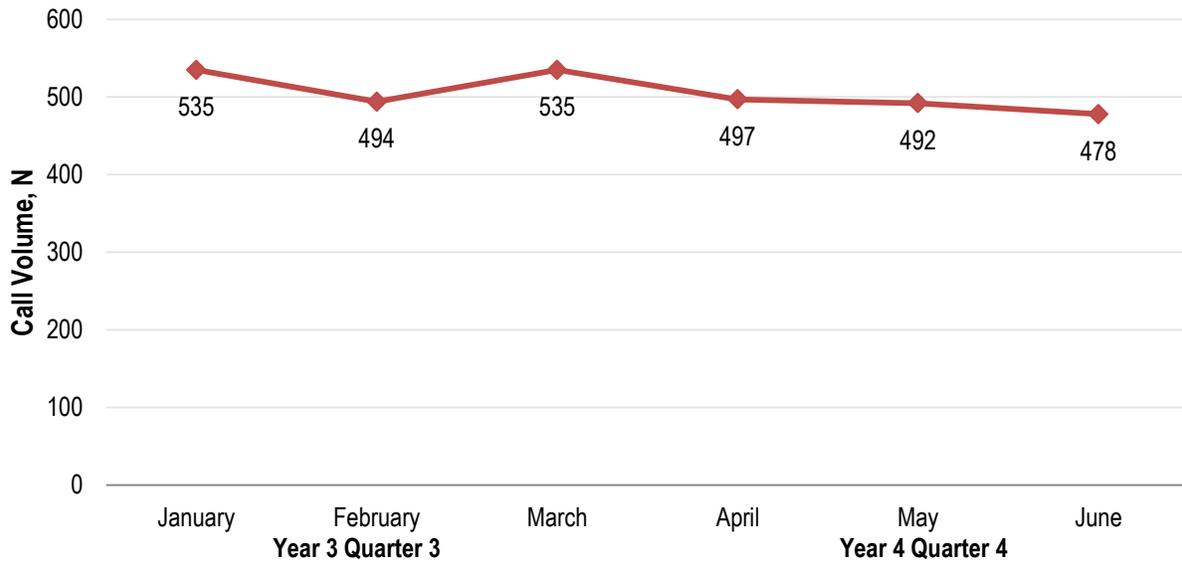
During the 4th quarter, TBH experienced its highest call volume on Fridays (15.9%). Call volume was lowest on Sundays (11.4%).

Table 2B. Call Volume, by Month (N=1467)

Month	Number of Calls	Percent
April	497	33.9%
May	492	33.5%
June	478	32.6%
TOTALS:	1467	100%

Call volume within the 4th quarter was highest in April.

Figure 2. Call Volume Trend, Previous Quarter (Y3Q3) Compared to Current Quarter (Y3Q4)



The 4th quarter saw a 6.6% decrease in calls from the 3rd quarter, decreasing from 1564 to 1467.

(3) Call Length

Table 3. Number and Proportion of Calls within 4th Quarter, by Call Length (N=1467)

Length of Call	4th Quarter Totals	4th Quarter Percent
0-9 minutes	636	43.4%
10-19 minutes	557	38.0%
20-29 minutes	211	14.4%
30-39 minutes	47	3.2%
40-49 minutes	9	0.6%
50-59 minutes	2	0.1%
1 hour or more	5	0.3%
TOTALS:	1467	100%

Over 80% of calls lasted between 0 and 19 minutes during the 4th quarter. Five 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=974)**

Referral Source	April	May	June	4th Quarter Total	4th Quarter Percent
Hospital	255	261	241	757	73.1%
Website/Search Engine	61	37	37	135	13.0%
Providers office	22	18	22	62	6.0%
WIC clinic	23	13	22	58	5.6%
Family or Friend	7	5	6	18	1.7%
Brochure	1	1	1	3	0.3%
TV	2	0	1	3	0.3%
Total	373	335	330	974	100%

Missing or not applicable n=493

During the call, clients were asked how they heard about the TBH. Hospital was the most common referral source, referring 73.1% of callers, followed by information found on a website or via search engine (13%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1437)

Referral Status	April	May	June	4th Quarter Total	4th Quarter Percent
Referred to own provider	32	51	58	141	9.8%
Referred to other provider in the vicinity	2	0	0	2	0.1%
No referral given	457	431	406	1294	90.0%
TOTALS:	491	482	464	1437	100%

Missing or not applicable n=30

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 9.9% of callers were referred to a provider, predominantly their own.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1431)

Medical Reference Given	April	May	June	4th Quarter Totals	4th Quarter Percent
No	460	477	458	1395	97.5%
Yes	17	10	9	36	2.5%
TOTALS:	477	487	467	1431	100%

Missing or not applicable n=36

Only 36 (2.5%) 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=1361)

Referred to a Lactation Specialist	April	May	June	4th Quarter Totals	4th Quarter Percent
No	404	399	383	1186	87.1%
Yes	55	64	56	175	12.9%
TOTALS:	459	463	439	1361	100%

Missing or not applicable n=106

During the 4th quarter, the TBH advised 175 (12.9%) of callers to seek out a local lactation professional.

(5) First Time or Repeat Caller

Table 5. TBH Caller by Call Type (N=1467)

Caller Type	April	May	June	4th Quarter Total	4th Quarter Percent
First Time	345	347	347	1039	70.8%
Repeat Caller	152	145	131	428	29.2%
TOTALS:	497	492	478	1467	100%

The majority (70.8%) of calls received were from first time callers.

(6) Interpretive Services

Table 6. Use of Interpretive Services (N=1467)

Interpretive Services	April	May	June	4th Quarter Total	4th Quarter Percent
Not Used	494	483	472	1449	99.0%
Used	3	9	6	18	1.0%
TOTALS:	497	492	478	1467	100%

Only 18 (1%) of callers required interpretive services. Of those 18 calls, six were for Spanish-speaking callers, one for an Arabic-speaking caller, one for a Chinese-speaking caller, and two calls required an "Other" language not listed. The remaining eight calls did not denote the language used.

(7) Caller Location**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1203)**

Region	Total Calls	Percent
Shelby	274	22.8%
Davidson	267	22.2%
Mid-Cumberland	219	18.2%
Knox	84	7.0%
East	71	5.9%
South Central	66	5.5%
Hamilton	44	3.7%
Upper Cumberland	42	3.5%
West	30	2.5%
Northeast	26	2.2%
Northwest	22	1.8%
Southeast	21	1.7%
Sullivan	20	1.7%
Madison	17	1.4%
	1203	100%

Missing n=25

The table above depicts call volume by the Tennessee Department of Health regions during the 4th quarter. There were a total of 1228 (83.7%) calls from Tennessee residents. Of callers who reported a county of residence, nearly half (45%) of TN resident calls to the TBH were from the Shelby and Davidson regions.

Figure 3. Call Volume, by Caller's County of Residence, April to June 2016

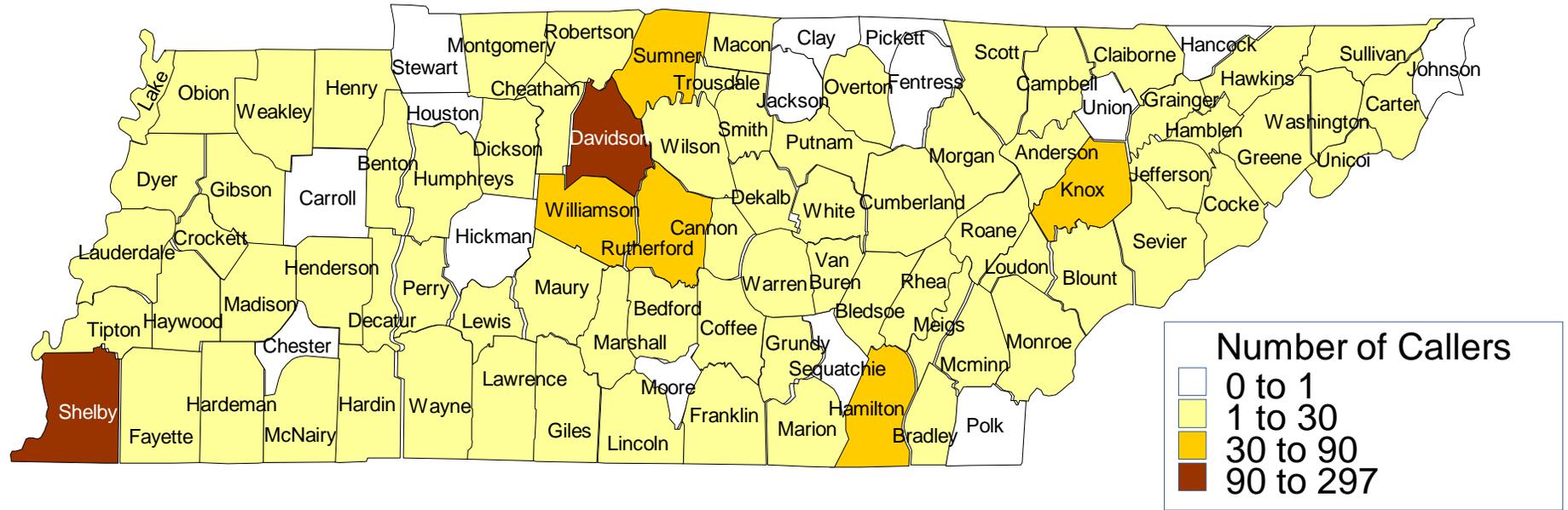
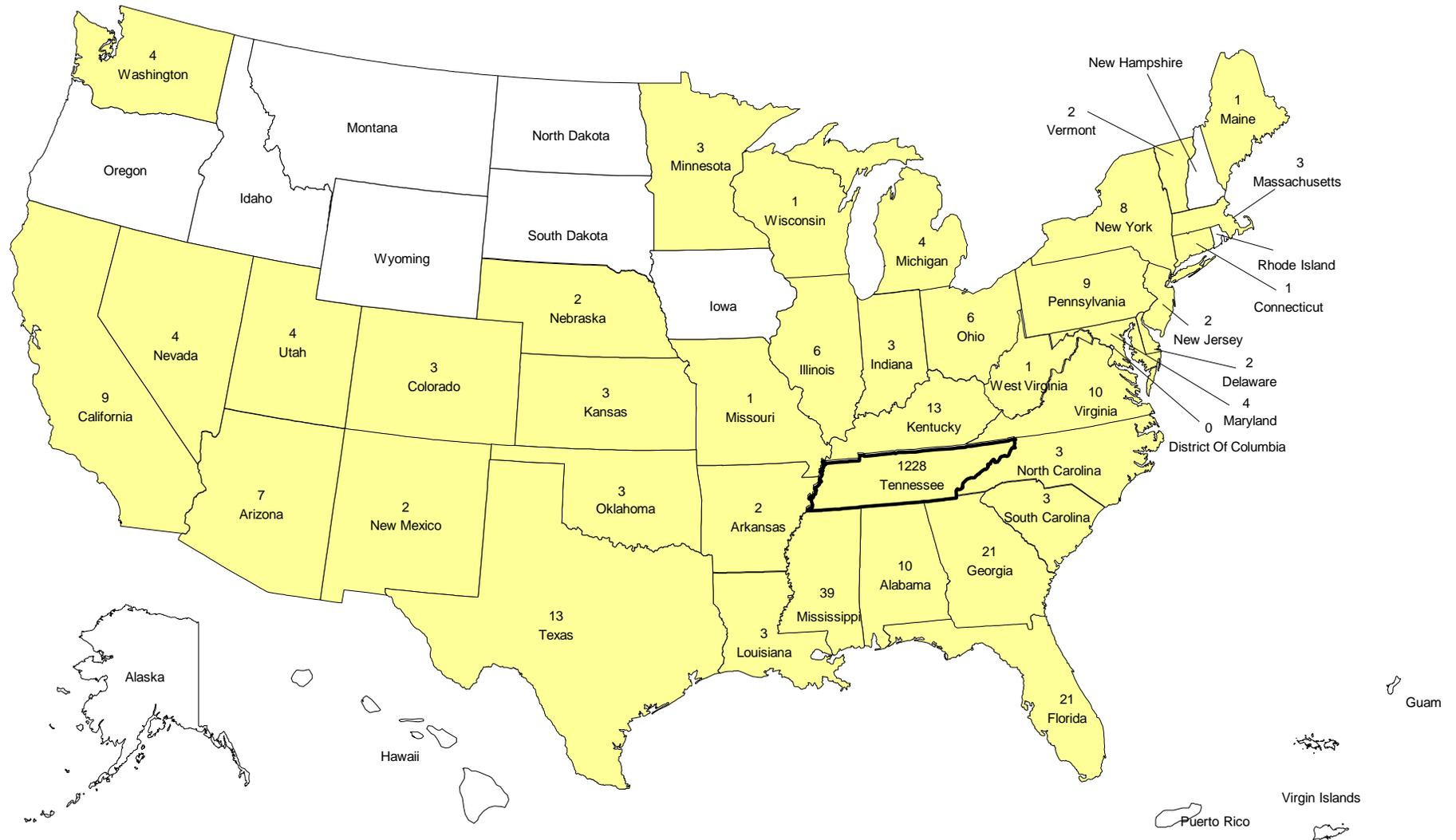


Figure 4. Call Volume, by Caller's State of Residence, April to June 2016



Overall, TBH received calls from 206 unique counties across multiple states.

(8) Caller's Relationship to Mother

Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1406)

Relationship to Mother	April	May	June	4th Quarter Totals	4th Quarter Percent
Self	463	446	421	1330	94.6%
Spouse or partner	13	14	15	42	3.0%
Family or household member	7	9	8	24	1.7%
Healthcare provider	2	5	3	10	0.7%
TOTALS:	485	474	447	1406	100%

Not applicable n=61

During the 4th quarter, the majority (94.6%) of callers to the TBH were the mothers.

(9) Maternal Age, Race, and Ethnicity

Table 9A. Number and Proportion of Calls, by Maternal Age (N=879)

Maternal Age	April	May	June	4th Quarter Totals	4th Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	2	1	1	4	0.5%
18 - 20	12	14	12	38	4.3%
21 - 25	67	58	58	183	20.8%
26 - 30	129	110	113	352	40.0%
31 - 35	86	74	74	234	26.6%
36 - 40	17	20	19	56	6.4%
41 - 45	3	2	6	11	1.3%
≥ 46	0	0	1	1	0.1%
TOTALS:	316	279	284	879	100%

Missing or not applicable n=588

During the 4th quarter, call volume was highest (40%) among mothers between 26 and 30 years.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=974)

Maternal Race	April	May	June	4th Quarter Total	4th Quarter Percent
White	252	259	245	755	77.4%
Black	66	52	53	170	17.5%
Multiple Races	6	2	13	21	2.2%
Asian	7	2	5	13	1.4%
Native Hawaiian/Pacific Islander	5	2	1	8	0.8%
American Indian/Alaskan Native	2	3	2	7	0.7%
TOTALS:	337	318	319	974	100%

Missing or not applicable n=493

TBH callers were asked to report maternal race during initial call. Of those who reported race, 77.4% were white, followed by black (17.5%).

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1191)

Ethnicity	April	May	June	4th Quarter Total	4th Quarter Percent
Not Hispanic	376	377	366	1119	94.0%
Hispanic	25	27	20	72	6.0%
TOTALS:	401	404	386	1191	100%

Missing or not applicable n=276

Mother's ethnicity was reported for 1191 (81.2%) calls. Of those with ethnicity documented, 72 (6%) callers identified as Hispanic/Latina.

(10) Mother's Pregnancy History

Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=404)

Number of Prior Pregnancies	April	May	June	4th Quarter Total	4th Quarter Percent
1	105	79	41	225	55.7%
2	51	42	31	124	30.7%
3	13	9	9	31	7.7%
4	4	6	4	14	3.5%
5	2	2	4	8	2.0%
6	0	0	0	0	0.0%
7	0	1	0	1	0.2%
8	0	0	0	0	0.0%
9	0	0	0	0	0.0%
10 +	0	1	0	1	0.2%
TOTALS	175	140	89	404	100%

Missing or not applicable n=1063

Pregnancy history was captured for 404 (27.5%) of callers. Of those who reported prior pregnancies, 55.7% women reported just one prior pregnancy.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=702)

Number of Prior Live Births	April	May	June	4th Quarter Total	4th Quarter Percent
1	159	151	123	433	61.7%
2	64	63	67	194	27.6%
3	20	17	16	53	7.5%
4	3	7	5	15	2.1%
5	2	1	2	5	0.7%
6	0	1	0	1	0.1%
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	0.1%
TOTALS:	248	241	213	702	100%

Missing or not applicable n=765

Table 10B shows the number and proportion of calls by prior live births of the caller. The number of prior live births was documented for 702 (47.8%) callers. During this quarter, about 62% of women had only one previous live birth.

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age* at Birth (N=963)

Gestational Age	April	May	June	4th Quarter Total	4th Quarter Percent
< 37 weeks (pre-term)	18	28	24	70	7.3%
37 to <39 weeks (early term)	57	55	49	161	16.7%
39 to <41 weeks (full term)	230	220	206	656	68.1%
41 to <42 weeks (late term)	25	22	26	73	7.6%
> 42 weeks (post term)	2	0	1	3	0.3%
TOTALS:	332	325	306	963	100%

*Recommended classifications from American College of Obstetricians and Gynecologists

Missing or not applicable n=504

Most (68.1%) of mother reported delivering at full-term. Only 7.3% reported delivering prematurely.

(11) Baby's Birth Information**Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1037)**

Age of Infant	April	May	June	4th Quarter Totals	4th Quarter Percent
< 1 week	91	104	93	288	27.8%
1 week - < 1 month	92	90	73	255	24.6%
1 - < 3 months	76	63	58	197	19.0%
3 - < 6 months	53	49	40	142	13.7%
6 - < 9 months	22	26	27	75	7.2%
9 - < 12 months	16	10	14	40	3.9%
12 - 18 months	10	8	13	31	3.0%
19 - 24 months	3	2	4	9	0.9%
TOTALS:	363	352	322	1037	100%

Missing or not applicable n=430

Callers were asked to indicate the age of their infant during initial call to the TBH. More than half (52.4%) of calls were made when the baby was less than 1 month old.

Table 11B. Number and Proportion of Calls, by Delivery Method (N=480)

Delivery Method	April	May	June	4th Quarter Totals	4th Quarter Percent
Vaginal	133	118	87	338	70.4%
Cesarean	40	47	55	142	29.6%
TOTALS:	173	165	142	480	100%

Missing or not applicable n=987

Table 11B shows the number and proportion of calls by delivery method during the 4th quarter. 70.4% of women indicated that they had a vaginal delivery. Fourteen 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=583)**

Breastfeeding Status	April	May	June	4th Quarter Totals	4th Quarter Percent
Breastfeeding exclusively	116	113	74	303	52.0%
Breastfeeding with supplemental nutrition	47	43	50	140	24.0%
Both breastfeeding and pumping	39	35	28	102	17.5%
Pumping exclusively	14	12	12	38	6.5%
TOTALS:	216	203	164	583	100%

Missing or not applicable n=884

TBH collected information about the breastfeeding status of mothers during initial call. Breastfeeding status was reported for 583 (39.7%) callers. Of the mothers who disclosed their breastfeeding status, just over half (52%) were breastfeeding exclusively.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=441)

Breastfeeding within 24 Hours?	April	May	June	4th Quarter Totals	4th Quarter Percent
Yes	158	147	113	418	94.8%
No	10	8	5	23	5.2%
TOTALS:	168	155	118	441	100%

Missing or not applicable n=1026

Table 12B shows number and proportion of callers who indicated breastfeeding within 24 hours of delivery. Of the callers who responded, 94.8% 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=1359)**

Reasons for Calling	April	May	June	4th Quarter Total	4th Quarter Percent
Breast-Related Problems	93	89	103	285	21.0%
Maternal Health Behaviors	79	86	65	230	16.9%
Lactation or Milk Concerns	60	71	70	201	14.8%
Breastfeeding Management	52	52	43	147	10.8%
Milk Expression	48	41	30	119	8.8%
Breastfeeding Technique	27	33	43	103	7.6%
Infant Health Concerns	41	30	25	96	7.1%
Infant Health Behaviors	19	27	20	66	4.9%
Maternal Health Concerns	21	13	8	42	3.1%
Breastfeeding Support	11	6	13	30	2.2%
Supplemental Nutrition	7	7	7	21	1.5%
Medical Condition (Infant)	6	3	10	19	1.4%
TOTALS:	464	458	437	1359	100%

Not applicable n=108

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% of calls were regarding breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by maternal health behaviors (16.9%). 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=124)

Top Additional Reasons for Calling	April	May	June	4th Quarter Total	4th Quarter Percent
Breast engorgement	5	7	9	21	16.9%
Pumping	8	7	6	21	16.9%
Breastfeeding technique	7	7	1	15	12.1%
Not making enough milk	4	4	5	13	10.5%
Breast or nipple pain	4	3	5	12	9.7%
Medications and breastfeeding	2	7	2	11	8.9%
Sleepiness (baby)	3	2	4	9	7.3%
Maternal Sickness	1	6	1	8	6.5%
Working and breastfeeding	5	0	2	7	5.6%
Sore nipples	5	1	1	7	5.6%
TOTALS:	44	44	36	124	100%

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 breast engorgement (16.9%) and pumping (16.9%).

(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. 21, 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. 21, Table 14E).

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1282)

Intention to Continue Breastfeeding	April	May	June	4th Quarter Totals	4th Quarter Percent
Yes	427	424	407	1258	98.1%
No	7	8	9	24	1.9%
TOTALS:	434	432	416	1282	100%

Not applicable n =185

When asked about the intention to continue breastfeeding, 1258 (98.1%) 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	763	576	187 (24.5%)	157	133 (84.7%)
8 week	625	473	152 (24.3%)	131	117 (89.3%)
12 week	550	412	138 (25.0%)	120	100 (83.3%)

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 4th quarter, TBH attempted a total of 1,938 calls to clients to follow-up about breastfeeding status; only 477 (24.6%) of callers were reached for follow-up.

At the 4-week follow-up, 133 (84.7%) of callers were still breastfeeding. This proportion rises 5.4% for callers during the 8-week follow-up (89.3%). Breastfeeding continuation decreases by 12-week follow-up. Reasons reported by the mothers who ceased breastfeeding during the weeks in between the initial call and the follow up included lack of support, mother returning to work, weaning, illnesses (for both mother and baby), medication, not making enough milk, and mother being unable to re-lactate.

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	133	109	17 (15.6%)	92 (84.4%)
8 week	117	102	17 (16.7%)	85 (83.3%)
12 week	100	95	18 (18.9%)	77 (81.0%)

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.

Of the callers who indicated that they were still breastfeeding, more mothers were exclusively breastfeeding their infants during each follow-up period, though supplemented feedings did rise during each follow up period.

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1268)

Comfort with Breastfeeding	April	May	June	4th Quarter Totals	4th Quarter Percent
Yes	424	426	406	1256	99.1%
No	6	4	2	12	0.9%
TOTALS:	430	430	408	1268	100%

Not applicable n=199

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

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

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Improved N (%)	Did Not Improve N (%)
4 week	763	576	187 (24.5%)	57	54 (94.7%)	3 (5.3%)
8 week	625	473	152 (24.3%)	47	47 (100%)	0 (0.0%)
12 week	550	412	138 (25.0%)	51	50 (98.0%)	1 (2.0%)

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, 94.7% of callers reported increased confidence and comfort with breastfeeding. Similar rates of confidence and comfort remained for all three follow-up periods.

(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	763	576	187 (24.5%)	125	125 (100%)	124	122 (98.4%)
8 week	625	473	152 (24.3%)	100	99 (99.0%)	96	93 (96.9%)
12 week	550	412	138 (25%)	101	100 (99.0%)	98	98 (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 were satisfied with TBH services during each follow-up period (range: 99% -100%). 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). Overall, callers were likely to recommend TBH services to another person (range: 96.9% - 100%).

(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 was captured.

Table 16A. Texting Follow-Up: Caller’s Breastfeeding Status (N=69)

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	69	64 (92.8%)	5 (7.2%)

During the 4th quarter, TBH received 69 follow-up texts regarding breastfeeding status. Of those reached, 64 (92.8%) responded that they were still breastfeeding.

Table 16B. Caller’s Satisfaction with TN Breastfeeding Hotline (N=67)

Follow-Up Method	Texts Received	Satisfied N (%)
Text	67	64 (95.5%)

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

TBH received 67 responses regarding caller’s satisfaction with services provided. Of those reached, 95.5% responded that they were satisfied with services received.

Table 16C. Caller’s Likelihood to Recommend TN Breastfeeding Hotline (N=68)

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	68	66 (97.0%)

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

TBH received 68 responses with regard to caller’s likelihood to recommend the TBH to others. Of 68 responses received, 66 (97%) 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=64)

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	64	60 (93.8%)	4 (6.2%)

TBH received 64 responses with regard to caller’s increase in confidence and comfort with breastfeeding. Of the 64 texts received, 60 (93.8%) 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 Madubuonwu, MSN, RN, CLC
Helen Scott, RN, IBCLC, RLC
Crystal Gilreath, MS, CLC
Victoria Roselli, BS, IBCLC, RLC
Pam Avant, BSN, IBCLC, RLC, RN
Julie Bridger, BSN, IBCLC, RLC
Lori Jill Lewis, BSN, CLC, RN
Elizabeth Pletz, BSN, CLC, RN
Lakisha Windle, RN, IBCLC, RLC
Bridgette Reed, BS, CLC
Christie Evans, RN, CLC
LaSaundra Gentry, MA, CLC
Tuwana McDaniel, BSN, RN, CLC
Julie Flynn, RN, CLC

Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

Melissa Blair, Tennessee Department of Health
Margaret T. Lewis, Tennessee Department of Health
Amy Riggins, Tennessee Department of Health
Kristin L. Gentry, Tennessee Department of Health
Sierra Mullen, Tennessee Department of Health
Jolene Hare, Tennessee Department of Health
Kelly Whipker, Tennessee Department of Health
Robin Penegar, Knox County
Becky Burris, Sullivan Health Department
Dr. Anna Morad, Vanderbilt Hospital, Nashville TN.
Nancy H. Rice, South Central Region TN.
Jennifer Kmet, Shelby County Health Department
Katie Baroff, WIC Shelby County Health Department
Dr. Allison Stiles, Internal Medicine & Pediatrics, Memphis TN.
Dr. Genae Strong, University of Memphis, School of Nursing
Ginger Carney, St. Jude Research Hospital
Amanda Helton, Le Bonheur Children's Hospital
Kristen Heath, Le Bonheur Children's Hospital
Sandra Madubuonwu, Le Bonheur Community Health and Well-Being
Helen Scott, Le Bonheur Community Health and Well-Being
Crystal Gilreath, Le Bonheur Community Health and Well-Being
Victoria Roselli, Le Bonheur Community Health and Well-Being
Christina Underhill, Le Bonheur Community Health and Well-Being
Cathy Marcinko, Le Bonheur Community Health and Well-Being
August Marshall, Le Bonheur Community Health and Well-Being
Marilyn Smith, Le Bonheur Community Health and Well-Being
Trina Gillam, Le Bonheur Community Health and Well-Being
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

<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 spitting up (reflux) • 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