

Tennessee Breastfeeding Hotline Quarterly Report

Submitted to: State of Tennessee, Department of Health

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Executive Summary

July to September 2015

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 July 2015 through September 2015, 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 1st quarter, there were a total of 1,351 calls to the TBH. When asked about intention to continue breastfeeding, 96.7% responded that they intended to continue breastfeeding (pg. 21, Table 14A). At four weeks follow-up, 85.9% of the moms reached were still breastfeeding (pg. 21, Table 14B).

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.

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, 87.6% of the callers reached at the 4-week follow-up and 89.3% of callers reached at the 8-week follow-up reported being satisfied or very satisfied with services received (pg. 23, Table 15). High satisfaction of services remained at 12-week follow-up as well. When asked about the likelihood to recommend TBH services to another person, 84.7% of callers reached at 4 weeks and 84.5% of callers reached at 8 weeks reported that they were likely to refer someone else to the hotline (pg. 23, Table 15).

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

Data Limitations

TBH understands and balances the need to provide an important service as well as the need to collect data for evaluation. TBH staff attempt to capture complete information from all of its callers. However, missing data may be present due to TBH's priority to high quality service 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 percent. 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.

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 specialists 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 1st quarter, 76.8% of the callers were white, 19.7% were black, and 2.5% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Less than 1% of callers were of multiple or mixed race (pg. 16, Table 9B). According to the United States Census Bureau, 78.9% of Tennessee residents are white, 17.1% are black, and 2.2% 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 5.2% of the callers for the 1st quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (43.6%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

Notable Findings

A media campaign involving the Tennessee Department of Health (TDH) and the Tennessee Hospital Association (THA) is currently ongoing, increasing breastfeeding visibility through use of billboards, posters, TV, and social media throughout the state of TN. Helen Scott worked with the Le Bonheur Marketing department to mount breastfeeding posters from the THA, which were then displayed at events for World Breastfeeding Week and other promotional events.

August was 'National Breastfeeding Month,' and the TBH participated in multiple events to help promote both National Breastfeeding Month and World Breastfeeding Week (August 1-7). The theme of World Breastfeeding Week was 'Breastfeeding and Work: Let's Make it Work.' TDH's website reinforces this support by offering 'Breastfeeding Welcome Here,' a website where businesses can register

⁴ U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits Last Revised: Wednesday, 14-Oct-2015 10:53:57 EDT

to receive recognition for supporting breastfeeding. Furthermore, the TN Breastfeeding Law cards provided by the TDH are being distributed at community events by the TBH team.

As part of these initiatives, the TBH team attended a presentation on gastrointestinal issues in breastfeeding infants during the Breastfeeding Grand Rounds held in the Le Bonheur auditorium on August 5th. The TBH also had a table at this event, and distributed magnets, palm cards and TN Breastfeeding law cards to pediatricians, specialists, pediatric residents, dietitians, nurses, lactation consultants and breastfeeding advocates. The breastfeeding posters mentioned above were on display at this event.

On August 8th, 'Latched On: Memphis' was held in the Le Bonheur auditorium. The event had a great turnout, with 167 mothers that latched on and 300 total in attendance. This was initiated by Kristen Heath, who is also a member of the TBH's advisory board. Helen Scott attended this event with TBH team member Victoria Roselli. TBH shared a booth with Nurse Family Partnership and the Mother's Milk Bank of TN. TBH promotional materials breastfeeding posters were also displayed at this event.

The last week of August culminated in Black Breastfeeding Week. TBH staff supported the movement by attending an inaugural 3K walk promoted by Breastfeeding Sisters That Are Receiving Support (BSTARS). These events -- as well as other events that took place across the state -- to promote National Breastfeeding Month possibly led to near-record call volume of 484 calls in September.

Helen Scott was invited to serve on the planning committee of a Breastfeeding and Work Initiative to help develop a proposal for Healthy Shelby, an initiative put forth by the Common Table Health Alliance. Helen, along with CAB members Jennifer Kmet, Ginger Carney, and Dr. Genae Strong, presented a proposal to promote breastfeeding in the workplace to the Healthy Shelby board. Results are still pending but will be noted in subsequent reports.

At the end of August, a media team from the Tennessee Department of Health visited to shoot a promotional video for the TBH. Multiple members of the TBH staff were interviewed. The video is still in production but will be shown in health departments and hospitals across the state.

In September, Dr. Stiles invited Diane Spartz, PhD RN-BC FAAN, to present at the Shelby County Breastfeeding meeting. Dr. Spartz is the Lactation Program Director at the Children's Hospital of Philadelphia and is an internationally-recognized expert on breastfeeding and lactation. She is also a professor of perinatal nursing and established the Mother's Milk Bank in Philadelphia. Dr. Spartz's presented "Improving Human Milk and Breastfeeding Outcomes in the NICU." Multiple TBH staff attended this event as part of their continuing education, and TBH promotional materials were on display.

As the TBH closes out its second year, it has begun to receive calls from repeat callers who called TBH for advice with a first child and are now seeking advice for their second child. It is encouraging to see mothers continue to seek advice and support from the TBH, as they breastfeed subsequent children.

Finally, TBH has received individual praise from its users. Gary Cook, Director of Grant Administration, met with Lauren E Mutrie, MD, the physician champion for Le Bonheur's new Medical-Legal Partnership program. Dr. Mutrie stated that she called the TBH after giving birth to her first child and appreciated the advice TBD provided. Dr. Michael Warren also shared with the team that he had received direct positive feedback from a caller, who praised the "practical, caring support and advice" given to her by the lactation professional.

Texting Pilot

In June 2015, TBH began the use of text as a follow-up method. Callers who are unable to be reached for follow-up via phone are sent a personalized message and link to a short follow-up survey. At the time of this report, the iCarol⁵ texting pilot has been active for three months now. Although follow-up via text is less in-depth than the traditional method, it has shown positive results and will continue to be used as a method for capturing follow-up responses from previously unresponsive callers. Results from the texting pilot are presented in Section 16 (pg. 23).

Conferences and Continued Education

The WIC Breastfeeding Conference was held in Jackson TN on July 9-10. Helen Scott was invited to present on the hotline along with members of Memphis Area Lactation Consultant Association. This was an opportunity to network with the TN Department of Health team and WIC breastfeeding staff.

The International Lactation Consultants Association (ILCA) Annual Conference was held in Washington, D.C. on July 21 – 26. This was a great opportunity to not only hear from international speakers presenting research from all over the world but to share this information with our team. Helen Scott and Victoria Roselli from the hotline attended as well as TBH Community Advisory Board (CAB) members Ginger Carney and Dr. Genae Strong.

Call Report Changes

Since the previous quarterly report, we have:

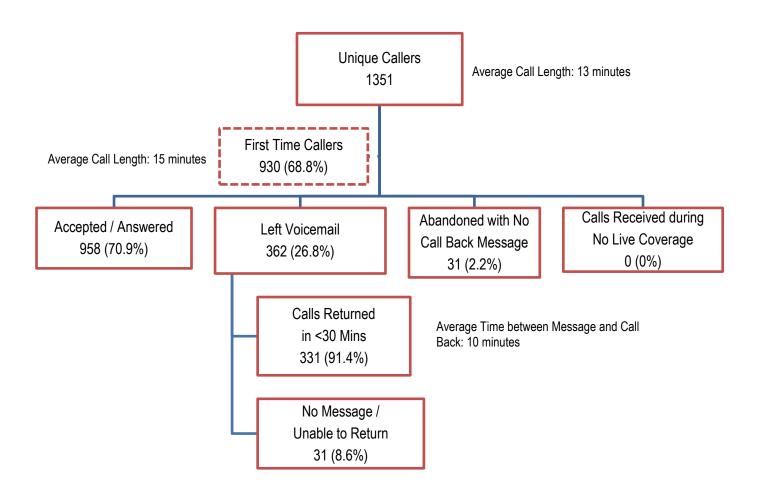
 Added 'Abnormal Stools/Voids (Baby)' and 'Menstruation/Return of Menstrual Cycle' as options for "Reasons for Calling" and "Additional Reasons for Calling" within iCarol system

⁵ iCarol is a helpline software and used by the Tennessee Breastfeeding Hotline for call management, data management, and statistics and outcome reporting.

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 1st Quarter (July – September 2015)



The flow chart above illustrates calls received to the Tennessee Breastfeeding Hotline from July through September 2015. For the 1st Quarter of SFY 2016, the TBH had 1,351 unique callers. Of those total unique callers, about 930 (68.8%) were first time callers to the TBH. Average call length for all calls was 13 minutes; first-time callers were slightly longer (15 minutes).

Of all calls received, 958 (70.9%) were answered and accepted live by TBH staff 362 (26.8%) callers left a voicemail for TBH staff; all calls were returned within 30 minutes of initial voicemail. Close to 9% of callers who prompted the voicemail system were unable to be reached because the caller did not leave a call back message. Thirty-one (31) calls were recorded as "Abandoned with No Call Back Message"; these calls were telemarketers or wrong numbers, therefore staff did not return these calls.

Table ZA. Call Volu	inie, by rinie (01 Day (N=1551)	1 st Quarter	1 st Quarter
Time of Call	July	August	September	Totals	Percent
12 AM - 7 AM	40	37	52	129	9.5%
8 AM - 12 PM	114	121	141	376	27.8%
1 PM - 6 PM	180	188	185	553	40.9%
7 PM - 11 PM	91	96	106	293	21.7%
TOTALS:	425	442	484	1351	100%

(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1351)

During the 1st quarter, the majority of calls (40.9%) were received between 1 PM and 6 PM. About 69% of calls were received during the traditional workday (8AM – 6PM).

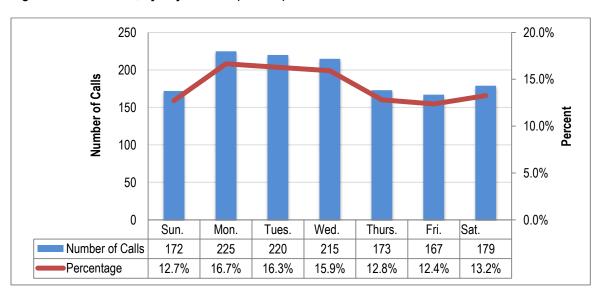


Figure 2. Call Volume, by Day of Week (N=1351)

During the 1st quarter, TBH experienced higher call volume at the beginning of the week; nearly half (48.9%) of calls were between Monday and Wednesday. Call volume was lowest on Fridays (12.4%).

Table 2B. Call Volume, by Month (N=1351)

Number of						
Month	Calls	Percent				
July	425	31.5%				
August	442	32.7%				
September	484	35.8%				
TOTALS:	1351	100%				

Call volume within the 1st quarter was fairly distributed over the three month period. In September, TBH experienced a 9.5% increase in call volume with 484 calls (only 2 calls shy of record monthly call volume). This was possibly due to the events celebrating World Breastfeeding Week in August, including promotion of the TBH.

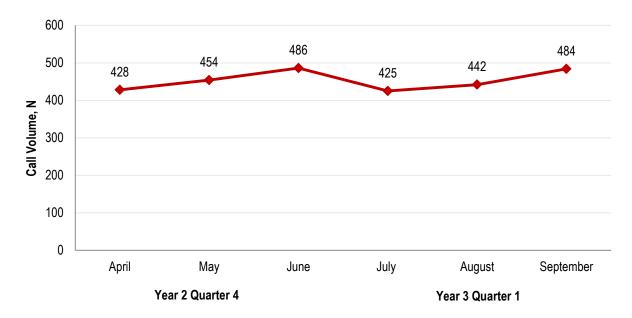


Figure 2. Call Volume Trend, Current Quarter (Y3Q1) Compared to Previous Quarter (Y2Q4)

TBH received 1,368 calls at the end of the 4th quarter of its second year. Compared to the previous quarter (Y2, Q4), TBH experienced its first drop (of about 1.2%) in call volume. This is largely due to a drop in call volume for the month of July.

(3) Call Length

Length of Call	1 st Quarter Totals	1 st Quarter Percent
0-9 minutes	419	31.0%
10-19 minutes	622	46.0%
20-29 minutes	229	17.0%
30-39 minutes	60	4.4%
40-49 minutes	15	1.1%
50-59 minutes	3	0.2%
1 hour or more	3	0.2%
TOTALS:	1351	100%

Over three-quarters (77%) of the calls lasted between 0 and 19 minutes during the 1st quarter. Three calls lasted more than an hour. Longer calls are usually due to utilizing a language line and interpreter, which can significantly extend call time.

(4) Referrals

Referral Source	July	August	September	1 st Quarter Total	1 st Quarter Percent
Hospital	296	295	265	856	73.7%
Web site	41	34	65	140	12.1%
WIC clinic	21	19	21	61	5.3%
Providers office	15	16	31	62	5.3%
Family or Friend	7	14	14	35	3.0%
Brochure	0	1	2	3	0.3%
Billboard	1	0	2	3	0.3%
TV	1	0	0	1	0.1%
Total	382	379	400	1161	100%

Table 4A. Referral Source Reported by Caller (N=1161)

Not applicable n=190

During the call, clients were asked how they heard about the TBH. 1161 (85.9%) of all callers indicated some type of referral to the TBH. Nearly 74% of those callers were referred to the TBH by a hospital followed by the TBH website (12.1%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=193)

Referral Status	July	August	September	1 st Quarter Total	1 st Quarter Percent
Referred to own provider	73	26	46	145	75.1%
Referred to other provider in the vicinity	1	1	1	3	1.6%
No referral given	12	17	16	45	23.3%
TOTALS:	86	44	63	193	100%

Missing n=1158

The TBH captured information about whether the caller was referred to a provider for their issue. There were 193 (14.3%) callers who had a referral outcome documented. Approximately 77% of those callers were referred to a provider. When required, callers were most often referred to their own providers. For this quarter, TBH had a substantial amount of callers whose referral status was not documented. TBH will work with staff to ensure this question is filled out more frequently to more accurately capture provider referral numbers.

Medical Reference Given	July	August	September	1 st Quarter Totals	1⁵t Quarter Percent
No	377	380	428	1185	95.9%
Yes	14	21	16	51	4.1%
TOTALS:	391	401	444	1236	100%

Not applicable n=115

There were 1,236 (91.5%) calls assessed to determine if caller required immediate medical attention. 51 (4.1%) calls were advised to seek immediate medical attention. Reasons that the mother would have been advised to do so include: the mother had symptoms of mastitis or a yeast infection, and any issue above and beyond the scope of practice.

Table 4D. Number and Proportion of Callers Referred to a Local Lactation Professional (N=1238)

Referred to a Lactation Specialist	July	August	September	1 st Quarter Totals	1 st Quarter Percent
No	348	363	403	1114	90.0%
Yes	44	38	42	124	10.0%
TOTALS:	392	401	445	1238	100%

Not applicable n=113

There were 1,238 (91.6%) calls assessed to determine if caller should be referred to a lactation professional locally. During the 1st quarter, the TBH advised 124 (10%) of these callers to seek out a local lactation professional.

(5) First Time or Repeat Caller

Table 5. TBH Caller by Call Type (N=1351)

Caller Type	July	August	September	1 st Quarter Total	1 st Quarter Percent
First time	288	303	339	930	68.8%
Repeat Caller	137	139	145	421	31.2%
TOTALS:	425	442	484	1351	100%

The majority (68.8%) of calls received were first time callers.

(6) Interpretive Services

Interpretive Services	July	August	September	1 st Quarter Total	1 st Quarter Percent
Not Used	420	437	473	1330	98%
Used	5	5	11	21	2%
TOTALS:	425	442	484	1351	100%

Table 6. Use of Interpretive Services (N=1351)

Only 21 (2%) of calls required interpretive services. Of those 21 calls, eight were for Spanish speaking callers; the remaining 13 calls did not denote the language needed.

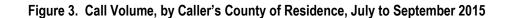
(7) Caller Location

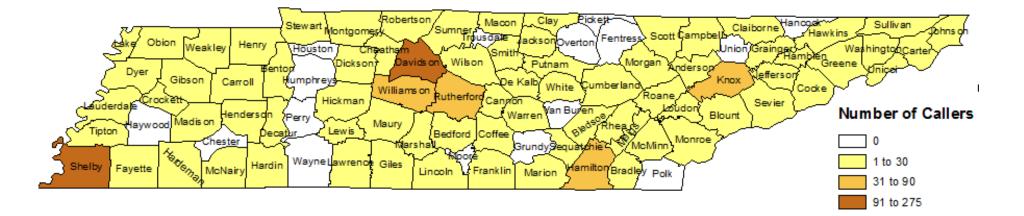
Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1149)

Region	Total Calls	Percent
Shelby	252	21.9%
Mid-Cumberland	232	20.2%
Davidson	206	17.9%
Knox	80	7.0%
Hamilton	70	6.1%
East	63	5.5%
West	52	4.5%
South Central	49	4.3%
Northeast	37	3.2%
Upper Cumberland	35	3.0%
Southeast	30	2.6%
Sullivan	30	2.6%
Madison	13	1.1%
TOTALS:	1149	100%

Missing n=21

The table above depicts call volume by the Tennessee Department of Health regions during the 1st quarter. There were a total of 1,170 (86.6%) calls from Tennessee residents. Shelby, Mid-Cumberland, and Davidson regions accounted for 60% of all TN calls that reported a county of residence.









Overall, TBH received calls from 182 unique counties across multiple states.

(8) Caller's Relationship to Mother

Relationship to Mother	July	August	September	1 st Quarter Totals	1 st Quarter Percent
Self	397	399	460	1256	95.3%
Spouse or partner	11	19	12	42	3.2%
Family or household member	11	7	2	20	1.5%
TOTALS:	419	425	474	1318	100%

Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1318)

Not applicable n=35

During this quarter, the majority (95.3%) of callers to the TBH were the mothers.

(9) Maternal Age, Race, and Ethnicity

Maternal Age	July	August	September	1 st Quarter Totals	1 st Quarter Percent
15 - 17	2	2	0	4	0.4%
18 - 20	16	18	15	49	4.3%
21 - 25	82	63	78	223	19.8%
26 - 30	164	156	171	491	43.6%
31 - 35	81	91	106	278	24.7%
36 - 40	23	24	23	70	6.2%
41 - 45	1	4	2	7	0.6%
<u>></u> 46	1	2	2	5	0.4%
TOTALS:	370	360	397	1127	100%

Table 9A. Number and Proportion of Calls, by Maternal Age (N=1127)

Missing or Not applicable n=224

Callers to the TBH were asked to report their age during the initial call. During the 1st quarter, call volume was highest (43.6%) among mothers aged 26 to 30 years.

Maternal Race	July	August	September	1 st Quarter Total	1 st Quarter Percent
White	268	282	299	849	76.8%
Black	84	66	68	218	19.7%
Asian	3	8	9	20	1.8%
Multiple Races	2	2	6	10	0.9%
American Indian/Alaskan Native	3	2	2	7	0.6%
Native Hawaiian/Pacific Islander	0	0	1	1	0.1%
TOTALS:	360	360	385	1105	100%

Table 9B. Number and Proportion of Calls, by Maternal Race (N=1105)

Missing or Not applicable n=246

TBH callers were asked to report maternal race during initial call. Of those who reported race, 76.8% were white followed by black (19.7%). Less than 3% of TBH callers indicated belonging to another race.

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1180)

Ethnicity	July	August	September	1 st Quarter Total	1 st Quarter Percent
Not Hispanic	354	364	401	1119	94.8%
Hispanic	27	12	22	61	5.2%
TOTALS:	381	376	423	1180	100%

Not applicable n=171

Mother's ethnicity was reported for 1180 (87.3%) calls. Of those with ethnicity documented, only 61 (5.2%) callers identified as Hispanic/Latina.

(10) Mother's Pregnancy History

Number of Prior Pregnancies	July	August	September	1 st Quarter Total	1 st Quarter Percent
1	116	106	136	358	62.8%
2	46	41	40	127	22.3%
3	19	17	14	50	8.8%
4	7	5	9	21	3.7%
5	1	3	3	7	1.2%
6	3	0	1	4	0.7%
7	0	1	0	1	0.2%
8	0	1	0	1	0.2%
10 +	1	0	0	1	0.2%
TOTALS	193	174	203	570	100%

Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=570)

Missing n=781

During the initial call, callers were asked to report the number of prior pregnancies. Pregnancy history was captured for 570 (42.4%) callers. Close to 85% of women reported one or two prior pregnancies.

Number of Prior Live Births	July	August	September	1 st Quarter Total	1 st Quarter Percent
1	145	129	170	444	66.7%
2	44	48	52	144	21.6%
3	20	15	15	50	7.5%
4	5	4	5	14	2.1%
5	1	4	3	8	1.2%
6	2	0	1	3	0.5%
7	0	1	0	1	0.2%
8	0	1	0	1	0.2%
9	1	0	0	1	0.2%
TOTALS:	218	202	246	666	100%

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=666)

Missing n=685

Table 10B shows the number and proportion of calls by prior live births of the caller. Number of prior live births was documented for 666 (49.3%) callers. During the 1st quarter, TBH callers reported fewer prior live births; nearly 67% of women had only one previous live birth.

Gestational Age	July	August	September	1 st Quarter Total	1 st Quarter Percent
< 37 (pre-term)	36	32	19	87	7.7%
37 - 40 (term)	277	298	316	891	79.3%
> 40 (post-term)	51	40	55	146	13.0%
TOTALS:	364	370	390	1124	100%

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age at Birth (N=1124)
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Not applicable n=227

In 2014, 10.8% of babies born to Tennessee residents were delivered preterm.⁶ During this quarter, only 7.7% of TBH callers reported delivering preterm (<37 weeks). Approximately 79.3% of women reported carrying their child to term.

(11) Baby's Birth Information

Age of Infant	July	August	September	1 st Quarter Totals	1 st Quarter Percent
< 1 week	90	97	107	294	26.9%
1 week - < 1 month	100	94	104	298	27.3%
1 - < 3 months	63	77	81	221	20.3%
3 - < 6 months	43	52	56	151	13.8%
6 - < 9 months	21	12	16	49	4.5%
9 - < 12 months	6	11	19	36	3.3%
12 - 18 months	10	11	10	31	2.8%
19 - 24 months	4	4	3	11	1.0%
TOTALS:	337	358	396	1091	100%

Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1091)

Missing n=260

Callers were asked to indicate the age of infant during initial call to the TBH. About 27% of calls were made when the baby was between one week and a month old, followed by less than 1 week (26.9%).

⁶ Centers for Disease Control and Prevention/National Center for Health Statistics, *Stats for the State of Tennessee*, Page last reviewed: November 9th, 2015. Retrieved from http://www.cdc.gov/nchs/pressroom/states/TN_2015.pdf

Delivery Method	July	August	September	1st Quarter Totals	1st Quarter Percent
Vaginal	155	143	176	474	75.5%
Cesarean	43	61	50	154	24.5%
TOTALS:	199	204	228	631	100%

Table 11B. Number and Proportion of Calls, by Delivery Method (N=631)	Table 11B.	Number and Pro	portion of Calls,	by Deliver	y Method ((N=631)
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Missing n=720

Table 11B shows the number and proportion of calls by delivery method during the 1st quarter. About three-quarters (75.5%) of women indicated that they had a vaginal delivery. Three callers during this quarter were pregnant at the 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=716)

Breastfeeding Status	July	August	September	1 st Quarter Totals	1st Quarter Percent
Breastfeeding exclusively	143	126	159	428	59.8%
Breastfeeding with supplemental nutrition	58	60	52	170	23.7%
Both breastfeeding and pumping	21	25	40	86	12.0%
Pumping exclusively	6	12	14	32	4.5%
TOTALS:	228	223	265	716	100%
Missing n=635					

Missing n=635

TBH collected information about the breastfeeding status of mothers during initial call. 716 (52.9%) callers reported a breastfeeding status to TBH staff. Of the mothers who disclosed their breastfeeding status, the majority (59.8%) were breastfeeding exclusively. About 24% of callers were breastfeeding with supplemental nutrition (i.e. formula, baby food, etc.).

Breastfeeding within 24 Hours?	July	August	September	1 st Quarter Totals	1 st Quarter Percent
Yes	195	161	206	562	94.5%
No	9	14	10	33	5.5%
TOTALS:	204	175	216	595	100%

Missing n=756

Table 12B shows number and proportion of callers who indicated breastfeeding within 24 hours of delivery. Of 595 mothers who responded, 562 (94.5%) of mothers began breastfeeding their baby within 24 hours of birth.

(13) Reasons for Calling

Reasons for Calling	July	August	September	1 st Quarter Total	1 st Quarter Percent
Breast-Related Problems	81	75	101	257	21.6%
Lactation or Milk Concerns	61	50	57	168	14.1%
Maternal Health Behaviors	50	53	55	158	13.3%
Breastfeeding Management	46	50	48	144	12.1%
Infant Health Concerns	25	50	45	120	10.1%
Breastfeeding Technique	27	31	30	88	7.4%
Milk Expression	30	28	27	85	7.2%
Infant Health Behaviors	22	20	37	79	6.6%
Medical Condition (Infant)	5	11	11	27	2.3%
Maternal Health Concerns	3	12	12	27	2.3%
Breastfeeding Support	4	4	12	20	1.7%
Supplemental Nutrition	6	6	3	15	1.3%
TOTALS:	360	390	438	1188	100.0%

Table 13A. Number and Proportion of Calls, by Primary Reason for Call (N=1188)

Missing n=163

Callers were asked to indicate their primary reason for calling the TBH, which was categorized into the reasons above. Please see Appendix A for classification of individual reasons. During this quarter, nearly 22% of calls were regarding breast-related problems (e.g. sore nipples, engorgement, and breast or nipple pain) followed by lactation or milk concerns (14.1%). The top five individual reasons for calling the TBH included: medications and breastfeeding, not making enough milk, breast/nipple pain, breast engorgement, and appropriate feeding by age/weight.

Top Additional Reasons for Calling	July	August	September	1 st Quarter Total	1 st Quarter Percent
Breastfeeding technique	12	8	13	33	22.0%
Not making enough milk	12	9	10	31	20.7%
Working and breastfeeding	8	10	2	20	13.3%
Breast engorgement	4	7	3	14	9.3%
Sore nipples	3	3	5	11	7.3%
Overactive letdown/too much milk	3	3	4	10	6.7%
Milk storage	1	6	2	9	6.0%
Weaning	4	4	0	8	5.3%
Sleepiness (baby)	0	3	4	7	4.7%
Breast or nipple pain	1	3	3	7	4.7%
TOTALS:	48	56	46	150	100%

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=156)

In addition to the primary reason for calling, lactation professionals noted additional questions that are brought up during the course of the call. Many mothers did not bring up additional questions. However, of those who did (N = 150), top concerns were related to breastfeeding technique (22.0%) and not making enough milk (20.7%).

(14) Outcomes at Follow-Up

At the end of each initial call to the TBH, the lactation professionals asked the callers if they intended to continue to breastfeed (Results in Table 14A). Continuation of breastfeeding was also asked during the 4-week, 8-week, and 12-week follow up calls (Table 14B).

Also, the lactation professionals asked the caller if they felt more comfortable and/or confident with breastfeeding by the end of the initial call (pg. 22, Table 14D). Similar to the question regarding the continuation of breastfeeding, caller confidence and comfort was also assessed by TBH staff at 4-week, 8-week, and 12-week follow-up calls (pg. 22, Table 14E).

Intention to Continue Breastfeeding	July	August	September	1 st Quarter Totals	1 st Quarter Percent
Yes	364	373	421	1158	96.7%
No	17	13	10	40	3.3%
TOTALS:	381	386	431	1198	100%

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1198)

Not applicable n =153

When asked about the intention to continue breastfeeding, 1158 (96.7%) of callers intended to continue breastfeeding at the end of the initial call.

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Still Breastfeeding N (%)
4 week	924	682	242 (26.2%)	220	189 (85.9%)
8 week	748	580	168 (22.5%)	159	133 (83.6%)
12 week	599	479	120 (20.0%)	116	82 (70.7%)

Table 14B. Caller's Breastfeeding Status, by Follow-Up Period

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 1st quarter, TBH attempted a total of 2,271 calls to clients to follow-up about breastfeeding status; only 530 (23.3%) of callers were reached for follow-up. When asked about breastfeeding status, women were more likely to indicate still breastfeeding during earlier periods of follow-up.

At the 4-week follow-up, 189 (85.9%) of callers were still breastfeeding. This proportion dropped slightly for callers during the 8-week follow-up (83.6%). The lowest proportion of callers who indicated still breastfeeding was seen for callers for the 12-week follow-up (70.7%). Reasons reported by the mothers who ceased breastfeeding during the weeks in between the initial call and the follow up included mother returning to work, the baby refusing to latch, stress, not making enough milk, medications, and lack of support.

Follow-Up Period	Number Still Breastfeeding (from Table 14B)	Answered Question	Supplemented N (%)	Exclusive N (%)
4 week	189	187	36 (19.2%)	151 (80.7%)
8 week	133	126	21 (16.6%)	105 (83.3%)
12 week	82	71	14 (19.7%)	57 (80.2%)

Table 14C. Breastfeeding: Exclusive or Supplemental, by Follow-Up Period	Table 14C.	Breastfeeding	g: Exclusive	or Supplem	ental, by Foll	ow-Up Period
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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, more mothers indicated exclusively breastfeeding their infants compared to supplemented breastfeeding.

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1177)						
Comfort with Breastfeeding	July	August	September	1 st Quarter Totals	1 st Quarter Percent	
Yes	367	377	423	1167	99.2%	
No	7	2	1	10	0.8%	
TOTALS:	374	379	424	1177	100%	

Not applicable n=174

TBH staff reported that almost all (99.2%) callers self-reported increased comfort and confidence with breastfeeding by the end of their interaction.

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Improved N (%)	Did Not Improve N (%)
4 week	924	682	242 (26.2%)	186	174 (93.5%)	12 (6.5%)
8 week	748	580	168 (22.5%)	118	107 (90.7%)	11 (9.3%)
12 week	599	479	120 (20.0%)	82	67 (81.7%)	15 (18.3%)

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

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

During the 1st quarter, TBH attempted a total of 2,271 calls to clients to follow-up caller's confidence and comfort breastfeeding; only 530 (23.3%) of callers were reached for scheduled follow-up. Similar to breastfeeding continuation, callers were more likely to indicate higher levels of confidence and comfort during earlier periods of follow-up.

At the 4-week follow-up, 174 (93.5%) of callers reported increased confidence and comfort. This proportion drops slightly for callers during the 8-week follow-up (90.7%). The lowest proportion of callers who indicated increased comfort/confidence with breastfeeding was at 12-week follow-up (81.7%).

(15) Client Satisfaction with Services

Clients rated 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.

Follow-Up Period	Calls Attempted	Not Reached	Reached	Satisfied N (%)	Likely to Recommend N (%)
4 week	924	682	242 (26.2%)	212 (87.6%)	205 (84.7%)
8 week	748	580	168 (22.5%)	150 (89.3%)	142 (84.5%)
12 week	599	479	120 (20.0%)	110 (91.7%)	103 (85.8%)

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

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

Satisfied = # of callers satisfied or very satisfied with TBH services out of # of callers reached

Likely to Recommend = # of callers likely or very likely to recommend TBH services out of # of callers reached

To assess client satisfaction of services provided, the TBH reached a total of 530 callers during the 1st quarter. 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: 87.6% – 91.7%). 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: 84.5% - 85.8%).

(16) Texting Follow-Up (Pilot)

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=105)

Follow-Up Method	Texts	Yes	No
	Received	N (%)	N (%)
Text	105	92 (87.6%)	13 (12.4%)

During the 1st quarter, TBH reached 105 callers via text for follow-up. Of those reached, 92 (87.6%) responded that they were still breastfeeding.

Follow-Up Method	Texts Received	Satisfied N (%)
Text	111	102 (91.9%)
Note: Satisfied = # of callers satisfied	or very satisfied with TRH se	

Table 16B. Caller's Satisfaction with TN Breastfeeding Hotline (N=111)

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

TBH received 111 responses regarding caller's satisfaction with services provided. Close to 92% responded that they were satisfied or very satisfied with services received.

Table 16C. Caller's Likelihood to Recommend TN Breastfeeding Hotline (N=110)

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	110	105 (95.4%)

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

TBH received 110 responses with regard to caller's likelihood to recommend the TBH to others. Of 110 texts received, 105 (95.4%) indicated that they were likely or very likely to recommend the TBH to another person.

Table 16D. Caller's Increase in Confidence/Comfort with Breastfeeding (N=102)

Follow-Up Method	Texts	Yes	No
	Received	N (%)	N (%)
Text	102	92 (90.2%)	10 (19.8%)

TBH received 102 responses with regard to caller's increase in comfort and confidence with breastfeeding. Of the 102 texts received, 92 (90.2%) reported that their comfort and/or confidence with breastfeeding had increased.

Our Team

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

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 Madubuonwu 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.

Lactation Consultants and Counselors

Sandra Madubuonwu, MSN, RN, CLC Helen Scott, RN, IBCLC, RLC Crystal Higgins, MS, CLC Victoria Roselli, BS, IBCLC, RLC Pam Avant, BSN, IBCLC, RLC, RN Julie Bridger, BSN, CLC, RN Lori Jill Lewis, BSN, CLC, RN Elizabeth Pletz, BSN, CLC, RN Lakisha Windle, RN, CLC Bridgette Reed, BS, CLC Christie Evans, RN, CLC LaSaundra Gentry, MA, CLC Julie Winter, BSN, CLC

Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

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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	Vitamin D supplementationSupplemental feeding
Milk Expression: Issues related to taking breastmilk from the mother's breast without the baby needing to suckle.	Breast pumps and rentalsExclusive pumpingMilk storage
Breast-Related Problems: Issues or problems mother can experience that are commonly associated with breastfeeding	 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	 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 Support: Resources, guidance, or laws that can assist with breastfeeding	 Public breastfeeding Donor milk TN breastfeeding laws Seeking resources Pre-birth information / counseling
Breastfeeding Technique: Issues related to mother's breastfeeding skill	 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	 Feeding baby with hypotonia Feeding baby with Down Syndrome Feeding baby with cleft lip / palate Jaundice Late preterm newborn Managing premature infant breastfeeding Tongue-tie Allergies Baby spitting up (reflux)
Infant Health Behaviors: Issues related to infant's actions that can impact mother's ability to breastfeed	 Baby biting breast Baby refusing to nurse Distraction during breastfeeding Sleepiness

Maternal Health Behaviors: Issues related to the practices (choices), of the mother that can impact her overall health and ability to breastfeed	 Alcohol use Substance abuse / Illicit drug use Smoking / Smoking cessation Exercise and breastfeeding Diet Medications and breastfeeding
Lactation or Milk Concerns: Issues related to mother's anxiety or worry about milk production or quality	 Overactive letdown / too much milk Not making enough milk Re-lactation Adoption Color change in milk
Infant Health Concerns: Issues related to mother's anxiety or worry about infant's health state or condition	 Fussiness / Colic Gassiness Appropriate feeding by age / weight Abnormal stools / voids Lethargy Weight concerns Sick baby Constipation
Maternal Health Concerns: Issues related to mother's anxiety or worry about her own health state or condition	 Maternal postpartum vaginal bleeding Menstruation / Return of menstrual cycle Maternal sickness Maternal postpartum depression
Other: An issue indicated by mother that is other than what is currently listed	Specify