



# Tennessee Breastfeeding Hotline Quarterly Report

### Submitted to:

State of Tennessee, Department of Health

## Prepared by:

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April to June 2017





### **Executive Summary**

April to June 2017

The Tennessee Breastfeeding Hotline (TBH) is a telephonic breastfeeding support program that is free to nursing mothers, their families and partners, expectant parents, and to health care providers. Participants who call the TBH speak with a certified lactation professional who collects the mother's and baby's information using self-reporting techniques. This information is gathered for the purpose of making assessments, attending to the client's individual needs, referring the client to available resources and ensuring that the lactation professional is able to follow-up with the client.

Lactation professionals offer strategies to empower clients to breastfeed, identify barriers to successful breastfeeding, and provide techniques to cope with and overcome barriers to breastfeeding. Participants receive individualized counseling for common breastfeeding issues. If the caller's issues are beyond the scope of the lactation professional's expertise, or require treatment, the mother is directed to a health care provider or an outside agency better able to offer the necessary support. Some participants receive a 24-hour follow-up call, if the caller's situation requires additional support and encouragement.

The measurement period for this report is April through June 2017, 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%. During the 4th quarter, there were a total of 1,399 calls to the TBH. When asked about intention to continue breastfeeding, 99.1% responded that they intended to continue breastfeeding (pg. 21, Table 14A). At 4-week follow-up, 72.9% of the moms reached were still breastfeeding (pg. 22, Table 14B).

The second purpose of the three follow-up calls is to acquire necessary information used to determine the effectiveness and quality of the program from the viewpoint of the user. For each follow-up call, clients are asked to rate overall services received from the TBH. During this quarter, 100% of the callers at each follow-up period reported being satisfied or very satisfied with services received (pg. 23, Table 15). When asked about the likelihood to recommend TBH services to another person, almost all callers for each follow-up period 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 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)<sup>1</sup>. 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 six 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 include<sup>2</sup>:

- Lack of knowledge
- Lactation problems
- Poor family and social support
- Social norms
- Embarrassment
- Employment and child care
- Health services

The TBH addresses these obstacles in a multifaceted approach designed around the individual needs of each client. The primary medium for doing so is through International Board Certified Lactation 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

<sup>&</sup>lt;sup>1</sup> Center 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

<sup>&</sup>lt;sup>2</sup> U.S. Department of Health and Human Services. Executive Summary: The Surgeon General's Call to Action to Support Breastfeeding. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; April 20, 2011.

- 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, 74.9% of the callers were white, 17.9% were black, and 2.1% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Five percent of callers were of multiple or mixed race (pg. 17, Table 9B). According to the United States Census Bureau, 77.8% of Tennessee residents are white, 16.8% are black, and 2% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Two percent of Tennessee residents are of multiple or mixed race. Hispanic women comprised 5.2% of the callers for the 4th quarter (pg. 17, Table 9C). When examining age, the hotline received the highest proportion of calls (46.6%) from callers between the ages of 26 and 30 (pg. 16, Table 9A).

### **Notable Findings**

The TBH had two notable instances to highlight in the 4th guarter.

1. The TBH received a call from a breastfeeding mother in Memphis, TN who was in the process of being screened by the Texas Milk Bank to receive approval to donate her stored expressed breastmilk (EBM). She planned to donate a large quantity of EBM that she had pumped and saved during her time breastfeeding. However, on Memorial Day weekend Memphis experienced a severe storm and subsequent power outage for large parts of the city, which left the mother scrambling to find a way to safely store her EBM. The lactation professional advised the mother to contact the Milk Depot at Regional One Medical Center, which had a generator and dry ice to help keep donated milk at a safe temperature.

The lactation professional consulted with both Helen Scott (TBH Coordinator) and Dr. Allison Stiles (TBH Medical Consultant), as well as Dr. Susan Campbell, a co-founder of the Mother's Milk Bank of Tennessee (MMBTN). Dr. Campbell reached out to the Austin Milk Bank to determine how long dry ice would keep the mother's EBM frozen. Dr. Stiles also consulted with the mother and offered resources. Using Facebook, the mother was able to receive help from the Shelby County Breastfeeding Coalition and Breastfeeding Moms of Memphis, and all her frozen EBM was able to be stored safely before it thawed. The combination of technology and collaboration allowed multiple breastfeeding advocates to work together and assist this mother in keeping her EBM safe for donation.

- 2. TBH received a call from a mother with a three day old baby. The mother was calling because she was feeding exclusively from her right breast, and needed to dry up her milk supply in her left breast only. She did not have a nipple on her left breast due to an accident 5 years prior. The baby was breastfeeding frequently. The lactation professional congratulated the mother on her new baby and commended her decision to breastfeed. She informed the mother on the use of chilled cabbage leaves as a method to alleviate engorgement. The mother was encouraged to call back anytime for further assistance.
- 3. Finally, Margaret Lewis, Director of Special Supplemental Nutrition Programs at the Tennessee Department of Health shared an email she had received from a grandmother. The grandmother had received a TBH magnet from Margaret had passed it along to her daughter. Her daughter was grateful and expressed, via text message: "I just love that breastfeeding hotline." The TBH appreciates this positive feedback, as it reinforces the importance of the service the TBH provides to breastfeeding mothers and families all across Tennessee."

#### **Conferences and Continued Education**

- April 1<sup>st</sup>, 2017: Mid-South Baby & Kids Expo in Memphis, TN. The TBH shared a booth with the Shelby County Breastfeeding Coalition and Memphis Area Lactation Consultants Association. Staff distributed magnets and TN Law Cards to breastfeeding mothers and their families and shared additional community resources that support and promote breastfeeding.
- April 25<sup>th</sup>, 2017: Sip and See in Nashville TN. The TBH was invited by the Nashville Breastfeeding
  Coalition to present on their program at this event. A new TBH staff member was able to attend this
  event and network with members of the Nashville Breastfeeding Coalition. At this event, the TBH
  also learned about A Better Balance. A Better Balance is a legal hotline that offers free advice and
  counseling to breastfeeding mothers and their family.
- May 5<sup>th</sup>, 2017: TBH Staff Meeting in Memphis TN. The TBH held their staff meeting at Caritas Village. At this meeting, TBH staff attended an educational presentation by Cheryl Jackson, Supervisor of the Parent Support Warmline. This warmline connects parents or guardians experiencing complex parenting issues with licensed social workers for support, guidance, and connection to resources.
- May 17<sup>th</sup>, 2017: TBH Community Advisory Board (CAB) Meeting in Memphis TN. At this quarterly CAB meeting, the TBH Coordinator presented the data pertaining to the 4th year and showed the new marketing video for the TBH.
- June 9<sup>th</sup>, 2017: Tennessee Breastfeeding Coalition Meeting in Nashville, TN. Three TBH staff
  members were in attendance. For this meeting, Dr. Morgan McDonald, Assistant Commissioner for
  the Division of Family Health and Wellness at the Tennessee Department of Health, presented an
  overview of breastfeeding in Tennessee. This was followed by success stories, strategic work
  groups, and educational presentations. This was a valuable educational and networking
  opportunity for TBH staff.
- June 14<sup>th</sup>, 2017: Memphis Area Breastfeeding Symposium in Memphis, TN. The symposium was sponsored by the Shelby County Breastfeeding Coalition, the Shelby County Health Department, and the Tennessee Department of Health. There were a variety of presentations from both local and regional physicians, discussing such topics as milk banking and sharing, health equity, and community support for breastfeeding. Over 200 people attended this symposium. The TBH

distributed magnets and Tennessee Breastfeeding Law Cards, and displayed their educational poster at this event.

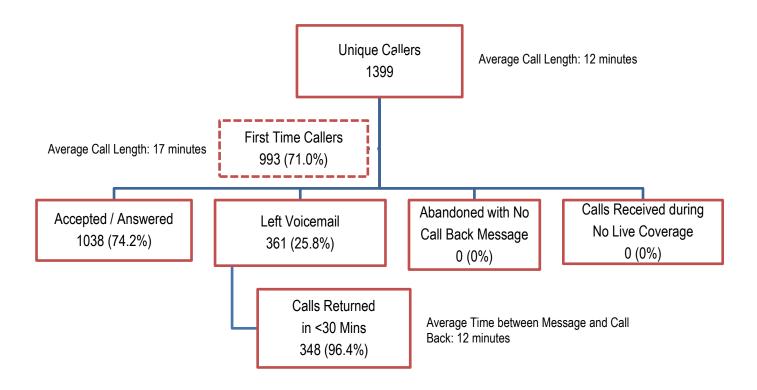
### **TBH Staff Updates**

- Julie Flynn has resigned from the TBH to accept a full-time nursing position.
- Tracey Davis has resigned from the TBH to accept a full-time position.
- The TBH has hired 3 more PRN staff: Holly Sparkman, RN, BSN, IBCLC, RLC, Katie Houston, RN BSN, CLC and Stephanie Richardson RN, BSN, IBCLC, RLC.

### **Tables and Figures**

### (1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 4th Quarter (April - June 2017)



The flowchart above illustrates calls received to the Tennessee Breastfeeding Hotline from April through June 2017. For the 4th quarter of SFY 2016, the TBH had 1,399 unique callers. Of those total unique callers, 993 (71%) were first time callers to the TBH. Overall, average call length was 12 minutes; first-time callers were just slightly longer (17 minutes).

Of all calls received, 1,038 (74.2%) were answered and accepted live by TBH staff and 361 (25.8%) callers left a voicemail for TBH staff. About 97% of calls were returned within 30 minutes of the initial voicemail.

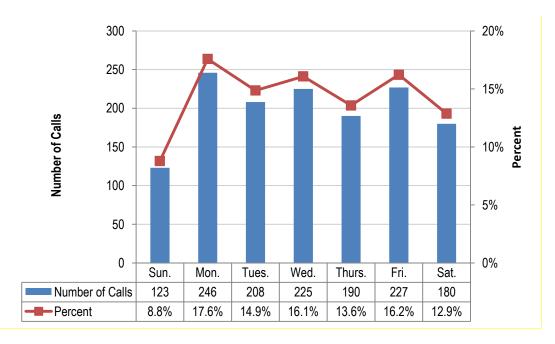
### (2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1399)

Time of Call	April	May	June	4th Quarter Totals	4th Quarter Percent
12 AM - 7 AM	45	37	40	122	8.7%
8 AM - 12 PM	128	136	146	410	29.3%
1 PM - 6 PM	179	195	184	558	39.9%
7 PM - 11 PM	87	124	98	309	22.1%
TOTALS:	439	492	468	1399	100%

During the 4th quarter, the majority of calls (39.9%) were received between 1 PM and 6 PM. About 69% of calls were received during the traditional workday (8AM – 6 PM).

Figure 2. Call Volume, by Day of Week (N=1399)



During the 4th quarter, TBH experienced its highest call volume on Mondays (17.6%). Call volume was lowest on Sundays (8.8%).

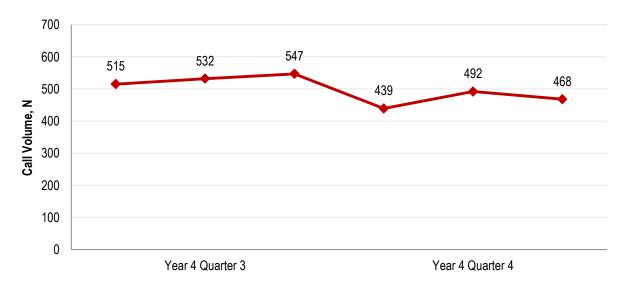
Table 2B. Call Volume, by Month (N=1399)

Month	Number of Calls	Percent
April	439	31.4%
May	492	35.2%
June	468	33.5%
TOTALS:	1399	100%

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

Call volume within the 4th quarter was highest in May. Compared to the previous quarter, call volume decreased about 12% from 1,594 calls to 1,399 (Figure 2).

Figure 2. Call Volume Trend, Previous Quarter (Y4Q3) Compared to Current Quarter (Y4Q4)



## (3) Call Length

Table 3. Number and Proportion of Calls within 4th Quarter, by Call Length (N=1399)

Length of Call	4th Quarter Totals	4th Quarter Percent
0-9 minutes	614	43.9%
10-19 minutes	544	38.9%
20-29 minutes	184	13.2%
30-39 minutes	43	3.1%
40-49 minutes	8	0.6%
50-59 minutes	2	0.1%
1 hour or more	4	0.3%
TOTALS:	1399	100%

Eighty three percent of calls lasted between 0 and 19 minutes during the 4th quarter. Four 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=904)

Referral Source	April	May	June	4th Quarter Total	4th Quarter Percent
Hospital	183	255	212	650	71.9%
Website/Search Engine	34	28	54	116	12.8%
Providers office	23	23	23	69	7.6%
WIC clinic	9	7	16	32	3.5%
Family or Friend	7	10	6	23	2.5%
Brochure	6	2	3	11	1.2%
Billboard	0	0	2	2	0.2%
Public transit advertisement	0	0	1	1	0.1%
TOTALS:	262	325	317	904	100%

Missing or not applicable n=495

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

During the call, clients were asked how they heard about the TBH. Hospital was the most common referral source, referring almost 72% of callers, followed by information found on a website or via search engine (12.8%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=1362)

Referral Status	April	May	June	4th Quarter Total	4th Quarter Percent
Referred to own provider	36	34	27	97	7.1%
Referred to other provider in the vicinity	1	5	1	7	0.5%
No referral given	394	443	421	1258	92.4%
TOTALS:	431	482	449	1362	100%

Missing or not applicable n=37

The TBH captured information about whether the caller was referred to a provider for their issue. Overall, 7.6% of callers were referred to a provider, predominantly their own.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1370)

Medical Reference Given	April	May	June	4th Quarter Totals	4th Quarter Percent
No	421	475	454	1350	98.5%
Yes	4	7	9	20	1.5%
TOTALS:	425	482	463	1370	100%

Missing or not applicable n=29

Only 20 (1.5%) callers were advised by a certified lactation professional 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=1299)

Referred to a Lactation Professional	April	May	June	4th Quarter Totals	4th Quarter Percent
No	375	417	408	1200	92.4%
Yes	33	35	31	99	7.6%
TOTALS:	408	452	439	1299	100%

Missing or not applicable n=100

During the 4th quarter, the TBH advised 99 (7.6%) callers to seek out a local lactation professional.

### (5) First Time or Repeat Caller

Table 5. TBH Caller by Call Type (N=1399)

Caller Type	April	May	June	4th Quarter Totals	4th Quarter Percent
First Time	282	357	354	993	71.0%
Repeat Caller	157	135	114	406	29.0%
TOTALS:	439	492	468	1399	100%

The majority (71%) of calls received were from first time callers.

## (6) Interpretive Services

Table 6. Use of Interpretive Services (N=1399)

Interpretive Services	April	May	June	4th Quarter Totals	4th Quarter Percent
Not Used	432	484	461	1377	98.4%
Used	7	8	7	22	1.6%
TOTALS:	439	492	468	1399	100%

Only 22 (1.6%) callers required interpretive services. Of those 22 calls, four were for Spanish-speaking callers and one was for a Vietnamese-speaking caller. The remaining 17 calls did not denote the language used.

### (7) Caller Location

Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1168)

Region	4th Quarter Totals	4th Quarter Percent
Davidson	295	25.3%
Mid-Cumberland	216	18.5%
Shelby	204	17.5%
Knox	93	8.0%
South Central	72	6.2%
Hamilton	59	5.1%
East	53	4.5%
Northeast	34	2.9%
Upper Cumberland	30	2.6%
Northwest	28	2.4%
Southwest	28	2.4%
Southeast	25	2.1%
Madison	16	1.4%
Sullivan	15	1.3%
TOTALS:	1168	100%

Missing n=9

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 4th quarter. A total of 1,177 (84.1%) calls were from Tennessee residents. Of callers who reported a county of residence, 43.8% of resident calls were from the Davidson and Mid-Cumberland regions.

Figure 3. Call Volume, by Caller's County of Residence, April to June 2017

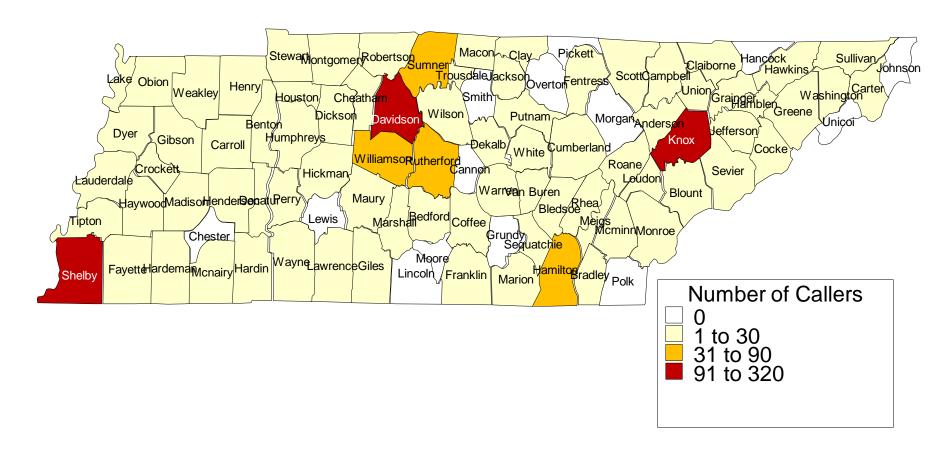




Figure 4. Call Volume, by Caller's State of Residence, April to June 2017

Overall, the TBH received calls from 206 unique counties across 38 states, Puerto Rico, and Canada.

### (8) Caller's Relationship to Mother

Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1339)

Relationship to Mother	April	May	June	4th Quarter Totals	4th Quarter Percent
Self	404	439	430	1273	95.1%
Spouse or partner	13	14	16	43	3.2%
Family or household member	7	7	1	15	1.1%
Healthcare provider	1	5	2	8	0.6%
TOTALS:	425	465	449	1339	100%

Not applicable n=60

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

During the 4th quarter, 95.1% 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=895)

Maternal Age	April	May	June	4th Quarter Totals	4th Quarter Percent
< 15	0	0	0	0	0.0%
15 - 17	3	1	4	8	0.9%
18 - 20	10	8	7	25	2.8%
21 - 25	35	48	46	129	14.4%
26 - 30	116	149	152	417	46.6%
31 - 35	73	94	85	252	28.2%
36 - 40	15	18	22	55	6.1%
41 - 45	2	5	2	9	1.0%
<u>&gt;</u> 46	0	0	0	0	0.0%
TOTALS:	254	323	318	895	100%

Missing or not applicable n=504

During the 4th quarter, call volume was highest (46.6%) among mothers between 26 and 30 years.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=894)

Maternal Race	April	May	June	4th Quarter Totals	4th Quarter Percent
White	197	241	232	670	74.9%
Black	45	61	54	160	17.9%
Multiple Races	10	18	17	45	5.0%
Asian	6	8	2	16	1.8%
Native Hawaiian/Pacific Islander	0	0	3	3	0.3%
American Indian/Alaskan Native	0	0	0	0	0.0%
TOTALS:	258	328	308	894	100%

Missing or not applicable n=505

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

TBH callers were asked to report maternal race during the initial call. Of those who reported race, 74.9% were white, followed by black (17.9%).

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1043)

Ethnicity	April	May	June	4th Quarter Totals	4th Quarter Percent
Not Hispanic	281	375	333	989	94.8%
Hispanic	22	14	18	54	5.2%
TOTALS:	303	389	351	1043	100%

Missing or not applicable n=356

Of those with ethnicity documented, 54 (5.2%) callers identified as Hispanic/Latina.

### (10) Mother's Pregnancy History

Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=375)

Number of Prior Pregnancies	April	May	June	4th Quarter Totals	4th Quarter Percent
1	77	74	76	227	60.5%
2	33	36	35	104	27.7%
3	10	2	17	29	7.7%
4	3	3	3	9	2.4%
5	3	2	0	5	1.3%
6	1	0	0	1	0.3%
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	127	117	131	375	100%

Missing or not applicable n=1024

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

Of those who reported pregnancy history, 60.5% of callers reported just one prior pregnancy.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=596)

Number of Prior Live Births	April	Мау	June	4th Quarter Totals	4th Quarter Percent
1	118	132	127	377	63.3%
2	52	59	50	161	27.0%
3	16	10	20	46	7.7%
4	1	4	4	9	1.5%
5	2	1	0	3	0.5%
6	0	0	0	0	0.0%
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:	189	206	201	596	100%

Missing or not applicable n=803

Table 10B shows the number and proportion of calls by prior live births of the caller. During this quarter, 63.3% of women had only one previous live birth.

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age\* at Birth (N=910)

Gestational Age	April	May	June	4th Quarter Totals	4th Quarter Percent
< 37 weeks (pre-term)	8	17	11	36	4.0%
37 to <39 weeks (early term)	42	55	54	151	16.6%
39 to <41 weeks (full term)	201	242	250	693	76.2%
41 to <42 weeks (late term)	5	12	12	29	3.2%
> 42 weeks (post term)	1	0	0	1	0.1%
TOTALS:	257	326	327	910	100%

<sup>\*</sup>Recommended classifications from American College of Obstetricians and Gynecologists

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

Missing or not applicable n=489

During this quarter, 76.2% of mothers reported delivering at full-term. Only 4% reported delivering prematurely.

### (11) Baby's Birth Information

Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1013)

Age of Infant	April	May	June	4th Quarter Totals	4th Quarter Percent
< 1 week	67	68	61	196	19.3%
1 week - < 1 month	69	94	104	267	26.4%
1 - < 3 months	75	82	63	220	21.7%
3 - < 6 months	35	64	55	154	15.2%
6 - < 9 months	24	29	28	81	8.0%
9 - < 12 months	10	20	14	44	4.3%
12 - 18 months	11	10	7	28	2.8%
19 - 24 months	10	9	4	23	2.3%
TOTALS:	301	376	336	1013	100%

Missing or not applicable n=386

Callers were asked to indicate infant's age during the initial call to the TBH. About 46% of calls were made when the baby was less than 1 month old.

Table 11B. Number and Proportion of Calls, by Delivery Method (N=274)

Delivery Method	April	May	June	4th Quarter Totals	4th Quarter Percent
Vaginal	79	67	73	219	79.9%
Cesarean	21	16	18	55	20.1%
TOTALS:	100	83	91	274	100%

Missing or not applicable n=1125

Table 11B shows the number and proportion of calls by delivery method during the 4th quarter. Approximately 80% 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=462)

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Breastfeeding Status	April	May	June	4th Quarter Totals	4th Quarter Percent
Breastfeeding exclusively	79	68	68	215	46.5%
Both breastfeeding and pumping	34	48	44	126	27.3%
Breastfeeding with supplemental nutrition	32	28	29	89	19.3%
Pumping exclusively	13	11	8	32	6.9%
TOTALS:	158	155	149	462	100%

Missing or not applicable n=937

TBH collected information about the breastfeeding status of mothers during the initial call. Of the mothers who disclosed their breastfeeding status, just under half (46.5%) were breastfeeding exclusively.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=342)

Breastfeeding within 24 Hours?	April	May	June	4th Quarter Totals	4th Quarter Percent
Yes	109	111	113	333	97.4%
No	4	3	2	9	2.6%
TOTALS:	113	114	115	342	100%

Missing or not applicable n=1057

Table 12B shows number and proportion of callers who initiated breastfeeding within 24 hours of delivery. Of the callers who responded, 97.4% of mothers had begun breastfeeding their baby within 24 hours of birth.

### (13) Reasons for Calling

Table 13A. Number and Proportion of Calls, by Primary Reason for Call (N=1279)

Reasons for Calling	April	May	June	4th Quarter Totals	4th Quarter Percent
Breast-Related Problems	82	81	89	252	19.7%
Maternal Health Behaviors	71	80	65	216	16.9%
Lactation or Milk Concerns	44	66	45	155	12.1%
Infant Health Concerns	46	47	36	129	10.1%
Breastfeeding Management	34	41	41	116	9.1%
Breastfeeding Technique	28	38	36	102	8.0%
Milk Expression	28	28	37	93	7.3%
Breastfeeding Support	25	22	27	74	5.8%
Infant Health Behaviors	17	20	28	65	5.1%
Maternal Health Concerns	9	15	9	33	2.6%
Medical Condition (Infant)	8	5	12	25	2.0%
Supplemental Nutrition	4	7	8	19	1.5%
TOTALS:	396	450	433	1279	100%

Missing or not applicable n=120

**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, about 1 in 5 of calls (19.7%) was to address 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, breast/nipple pain, not making enough milk, appropriate feeding by age/weight, and breast engorgement.

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=99)

Top Additional Reasons for Calling	April	May	June	4th Quarter Total
Pumping	6	7	2	15
Not making enough milk	3	2	8	13
Breast engorgement	5	4	2	11
Appropriate feeding by age/weight	2	2	6	10
Supplemental feeding	2	2	6	10
Breast or nipple pain	2	4	3	9
Medications and breastfeeding	2	4	3	9
Working and breastfeeding	1	2	5	8
Breastfeeding technique	1	4	2	7
Fussiness/colic	4	1	2	7
TOTALS:	28	32	39	99

In addition to the primary reason for calling, lactation professionals noted additional questions that were brought up during the course of the call. Many mothers did not bring up additional questions. Top additional concerns were related to pumping and 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 4th quarter, TBH attempted a total of 1,363 calls to clients to follow-up about breastfeeding status; only 364 (26.7%) of callers were reached for follow-up.

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1189)

Intention to Continue Breastfeeding	April	May	June	4th Quarter Totals	4th Quarter Percent
Yes	368	413	392	1173	98.7%
No	6	4	6	16	1.3%
TOTALS:	374	417	398	1189	100%

Not applicable n=210

When asked about their intention to continue breastfeeding, 1,173 (98.7%) callers reported they would 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	610	447	163 (26.7%)	148	108 (73.0%)
8 week	401	297	104 (25.9%)	101	70 (69.3%)
12 week	352	255	97 (27.6%)	90	69 (76.7%)

**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, 108 (73%) callers were still breastfeeding. This proportion drops to 69.3% at the 8-week follow up, but rises to 76.7% by the 12-week follow-up. Reasons reported by the mothers who ceased breastfeeding during the weeks in between the initial call and the follow up(s) included: not making enough milk, baby refusing to latch, going back to work, sore nipples, taking medications, baby not gaining weight, and stress.

Table 14C. Breastfeeding: Exclusive or Supplemental, by Follow-Up Period

Follow-Up Period	Number Still Breastfeeding (from Table 14B)	Answered Question	Supplemented N (%)	Exclusive N (%)
4 week	108	92	22 (23.9%)	70 (76.1%)
8 week	70	52	15 (28.8%)	37 (71.2%)
12 week	69	56	20 (35.7%)	36 (64.3%)

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

During each follow-up period, a larger percentage of mothers were exclusively breastfeeding, although the number of mothers supplementing increased each follow-up period.

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1176)

Comfort with Breastfeeding	April	May	June	4th Quarter Totals	4th Quarter Percent
Yes	364	409	392	1165	99.1%
No	0	5	6	11	0.9%
TOTALS:	364	414	398	1176	100%

Not applicable n=223

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	610	447	163 (26.7%)	46	46 (100%)	0 (0.0%)
8 week	401	297	104 (25.9%)	34	34 (100%)	0 (0.0%)
12 week	352	255	97 (27.6%)	37	37 (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, 100% of 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

				Satisfaction with TBH		Recommend TBH	
Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Satisfied N (%)	Answered Question	Likely to Recommend N (%)
4 week	610	447	163 (26.7%)	88	88 (100%)	88	87 (98.9%)
8 week	401	297	104 (25.9%)	70	70 (100%)	70	70 (100%)
12 week	352	255	97 (27.6%)	62	62 (100%)	61	61 (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). Similar to satisfaction, nearly every respondent stated that they were likely to recommend TBH services to another person during each follow-up period.

### (16) Texting Follow-Up

If callers cannot be reached by telephone for follow up, TBH staff send an automated text message prompting the caller to take a brief 4 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.

Table 16A. Texting Follow-Up: Caller's Breastfeeding Status (N=40)

Follow-Up Method	Texts	Yes	No
	Received	N (%)	N (%)
Text	40	32 (80.0%)	8 (20.0%)

During the 4th quarter, TBH received 40 follow-up texts regarding breastfeeding status. Of those responses received, 32 (80%) responded that they were still breastfeeding.

Table 16B. Caller's Satisfaction with TN Breastfeeding Hotline (N=40)

Follow-Up Method Texts Receive		Satisfied N (%)
Text	40	37 (92.5%)

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

TBH received 40 responses regarding caller's satisfaction with services provided. Of those responses received, 92.5% responded that they were satisfied with services received.

Table 16C. Caller's Likelihood to Recommend TN Breastfeeding Hotline (N=39)

Follow-Up Method Texts Received		Likely to Recommend N (%)
Text	39	37 (94.9%)

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

TBH received 39 responses with regard to caller's likelihood to recommend the TBH to others. Of the 39 responses received, 37 (94.9%) 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=38)

Follow-Up Method	Texts	Yes	No
	Received	N (%)	N (%)
Text	38	36 (94.7%)	2 (5.3%)

TBH received 38 responses with regard to caller's increase in confidence and comfort with breastfeeding. Of the 38 texts received, 36 (94.7%) indicated that they were more comfortable and confident breastfeeding.

#### **Our Team**

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

Jennilyn Utkov – Senior Director of 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 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.

### **Medical Lactation Consultant**

Dr. Allison Stiles, Internal Medicine & Pediatrics, MD, IBCLC, RLC

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### Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

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

<b>APPENDIX A.</b> Categorization of the Primary Reason for	
CATEGORIES	REASONS / ISSUES
Supplemental Nutrition: Issues related to complementing breastfeeding with expressed human milk or some other fluid or food	<ul><li>Vitamin D supplementation</li><li>Supplemental feeding</li></ul>
<b>Milk Expression:</b> Issues related to taking breastmilk from the mother's breast without the baby needing to suckle.	<ul><li>Breast pumps and rentals</li><li>Exclusive pumping</li><li>Milk storage</li></ul>
Breast-Related Problems: Issues or problems mother can experience that are commonly associated with breastfeeding	<ul> <li>Breast mass</li> <li>Breast engorgement</li> <li>Sore nipples</li> <li>Breast or nipple pain</li> <li>Nipple abnormality</li> </ul>
Breastfeeding Management: Issues related to the process of maintaining or integrating breastfeeding within a mother's routine or circumstances	<ul> <li>Tandem nursing</li> <li>Breastfeeding while pregnant</li> <li>Working and breastfeeding</li> <li>Managing multiple breastfeeding babies</li> <li>Weaning</li> <li>Bottle feeding</li> <li>Returning to work/school</li> <li>Baby feeding to much / too little</li> <li>Breastfeeding device/equipment (e.g. nipple shields)</li> </ul>
Breastfeeding Support: Resources, guidance, or laws that can assist with breastfeeding	<ul> <li>Public breastfeeding</li> <li>Donor milk</li> <li>TN breastfeeding laws</li> <li>Seeking resources</li> <li>Pre-birth information / counseling</li> </ul>
Breastfeeding Technique: Issues related to mother's breastfeeding skill	<ul><li>Inability to latch</li><li>Breastfeeding technique</li><li>Clicking / Noisy nursing</li></ul>
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> <li>Feeding baby with hypotonia</li> <li>Feeding baby with Down Syndrome</li> <li>Feeding baby with cleft lip / palate</li> <li>Jaundice</li> <li>Late preterm newborn</li> <li>Managing premature infant breastfeeding</li> <li>Tongue-tie</li> <li>Allergies</li> <li>Baby spitting up (reflux)</li> </ul>

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