



2015 Evaluation Report



Acknowledgements

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GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

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INTRODUCTION

Purpose of this Report

This is the year two evaluation report for the Raising St. Louis (RSTL) program. The purpose of this report is to share progress and findings since the program launch, including who enrolled in the program, program successes, challenges, and outcomes. All data referenced in this report were collected between **January 1, 2014, and December 31, 2015**.

Activities in 2014 were focused on ramping up services in a targeted geographical area in the City of St. Louis and trying to enroll at least 40 participants by the end of 2014. In the year 2015, the program continued to enroll and increased the number of participants by almost twice as many, partly by adding two more zip codes in the service area during 2015. Learning from the experiences of 2014, the program also made adjustments to increase participation and improve the program quality. The overall sample size is still small and therefore has limitations to the generalizability of the findings. However, the information can be used and has been used to inform planning, further development and expansion, and continuous improvement of the program.

The report begins with a brief program description, discussion of the evaluation methods, and who was active in the program as of the end of 2015. The remainder of the report has a section devoted to six out of the seven evaluation questions. Data on one evaluation question is excluded from this report since it is around academic achievement of children and participants' children are not of school-age yet. There are corresponding preliminary findings for each evaluation question, as well as recommendations.

Program Description and Background

Poor infant health is a major public health concern in the City of St. Louis. One of the Healthy People 2020 objectives is to reduce the infant mortality rate to 6.0 infant deaths per 1,000 live births.¹ Compared to other areas across the nation and to Missouri, the City of St. Louis has continued to have a high infant mortality rate. In 2013, the Missouri Department of Health and Senior Services estimated that the City of St. Louis suffered from 11.2 infant deaths per 1,000 live births, compared to 7.3 infant deaths per 1,000 live births across Missouri.²

The socioeconomic status of individuals residing in the City of St. Louis is fairly poor compared to other areas in Missouri. Approximately 83% of people older than 25 years have graduated from high school, compared to 87.6% statewide. Meanwhile, more than a quarter of residents living in the City of St. Louis fall below the federal poverty line, compared to 15.5% in Missouri.³

BJC HealthCare created the RSTL program out of a desire to reduce the significant and inter-related health, education, and income disparities in neighborhoods near its largest facility, Barnes-Jewish Hospital. It was designed with a very ambitious goal in mind: that **all children born in the City of St. Louis will be healthy and reading on grade level by third grade**.

¹ U.S. Department of Health and Human Services. (March 6, 2015). Healthy People 2020 Maternal, Infant, and Child Health Objectives Retrieved July 20, 2015, from <https://www.healthypeople.gov/node/3492/objectives#4825>

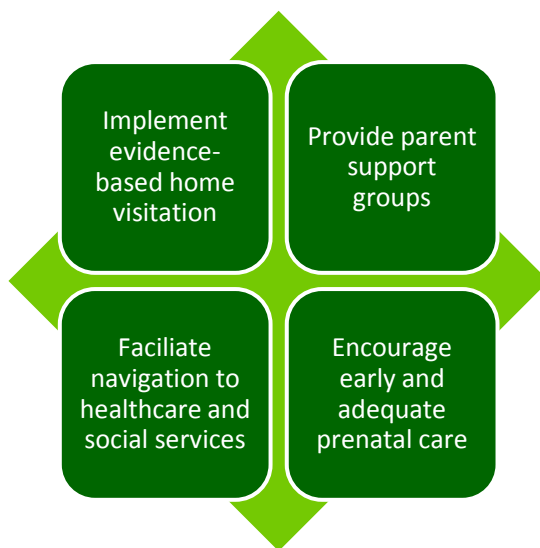
² Missouri Department of Health and Senior Services. (2014). Recent Decreases in Infant Mortality in Missouri and the United States Retrieved July 20, 2015, from <http://health.mo.gov/data/focus/pdf/InfantMortalityTrends2014.pdf>

³ U.S. Census Bureau. (February 5, 2015). State & County QuickFacts: St. Louis City Retrieved July 20, 2015, from <http://quickfacts.census.gov/qfd/states/29/29510.html>

Formative work to develop the program began in January 2012. The lead developer of RSTL conducted extensive research on childhood development, best programs and practices, costs, and visited several similar programs across the country. A program design group met regularly from May through October 2012. In fall 2012, RSTL conducted focus groups with moms in three low-income St. Louis neighborhoods. In February 2013, the Social System Design Lab (SSDL) from Washington University in St. Louis worked with program stakeholders to map process flows and design a blended service delivery system for use by RSTL. SSDL also conducted three design sessions with 30 residents from the target neighborhoods in July and August 2013. Formative work continued throughout fall 2013, and RSTL announced on December 9, 2013 that it was ready to enroll clients.

The RSTL program decided to focus on the prenatal period and early childhood years because the foundation for lifelong health and success is built in the first years of life. Early intervention is less costly and more effective than waiting until middle or high school years.⁴ By engaging parents in their child's development, RSTL seeks to foster age-appropriate social, emotional, and cognitive growth, the building blocks of success in school and in life, while at the same time, screening for and addressing health issues that may slow proper development.

Figure 1. Core Components of RSTL program



RSTL was designed to partner with existing effective organizations to bring services to families in a coordinated, systematic way. The program's core components include home visits (from Nurses for Newborns and Parents as Teachers), monthly parent support group meetings (i.e., Group Connections Meetings), navigation of health and social services, and encouraging early and adequate prenatal care (Figure 1).

In the first year, the program targeted to work with families residing in four zip codes in north St. Louis City: 63112, 63113, 63115, and 63120. In the second year, the program added two more zip

codes in St. Louis region: 63106 and 63107. These six zip codes were primarily identified based on their higher adverse birth outcomes, higher than average infant deaths, low birth weights of babies born, and overall higher level of health and socioeconomic disparities. The program plans to continue expansion in more areas of high needs of the services in future years.

During the design work preceding the launch, key stakeholders were involved in the development of a program logic model to serve as a road map of how RSTL program activities will lead to short, intermediate, and long-term maternal and child health outcomes (Appendix A). The logic model was informed through consultation and discussions with key stakeholders that eventually formed an Evaluation Advisory Council. This logic model is reviewed periodically and revised to reflect ongoing changes and to reflect lessons learned along the way. The logic model from 2014 report was last reviewed in April of 2015. However, the team plans for another

⁴ Center on the Developing Child at Harvard University. (2010). The Foundations of Lifelong Health Are Built in Early Childhood, from <http://www.developingchild.harvard.edu>

upcoming review in the coming months, to try to reflect key lessons learned from data presented in this evaluation report. For details, see Appendix A.

Evaluation Methods

RSTL staff partnered with experienced evaluators (“the evaluation team”) from the Center for Public Health Systems Science (CPHSS) at the Brown School and the Brown School Evaluation Center at Washington University in St. Louis (WUSTL) to design and implement a mixed-methods evaluation of the program. In the first year, the primary evaluation activities included evaluation planning, such as identification and prioritization of a set of key evaluation questions, development of data collection protocols and systems to answer those questions, development of a program logic model (Appendix A) and program specific goals and objectives (Appendix B), and preliminary data collection across two data sources. For more details around the evaluation approach and data collection sources, see Appendix C.

WHO PARTICIPATED IN RSTL?

Women who resided in the targeted six zip codes and were pregnant at the time of enrollment were eligible to participate in RSTL. Participants were officially “enrolled” in the program after they had undergone two home visits that introduced them to the program and services in greater detail, which included their first foundation PAT visit. This provided an opportunity for families to learn more about the program and its staff. At the end of 2014, there were 44 active participants in the program. The number of active participants in the program grew almost two fold to 86 active participants by the end of 2015. **The attrition rate in the program so far is 33%, with a retention rate of 67%.**

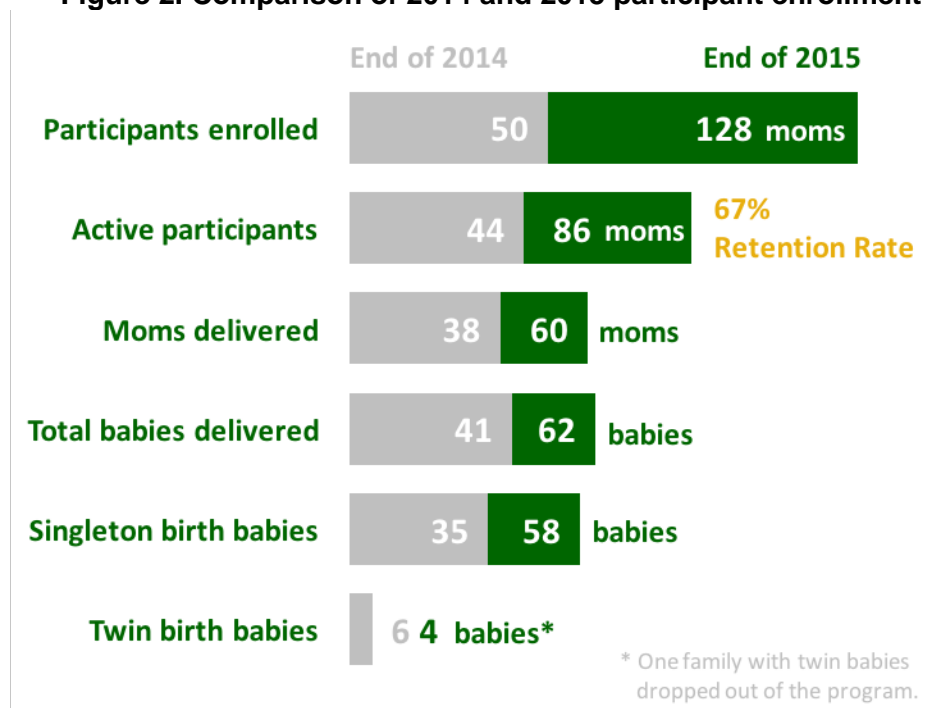
Although this is a decrease in the retention rate of 88% from last year, this still exceeds RSTL’s annual goal of retaining 65% of participants. See Figure 2 for a quick comparison of RSTL participants enrolled in 2014 and 2015.

By the end of 2015:

- 128 participants had enrolled
- 86 participants were active in the program
- 60 moms delivered babies
- 62 total babies were delivered
- 58 singleton babies were born
- 4 twin babies born (2 sets)

The most common reason for active participants to drop out of the program was due to RSTL staff’s loss of contact with them (e.g., they moved without providing a new address), which reflects the transient nature that is common to the population currently being served.

Figure 2. Comparison of 2014 and 2015 participant enrollment



In 2015, there were 10 moms who re-enrolled in the program after a lapse in participation through a ‘re-engagement protocol’ that RSTL staff implemented. If the number of re-engaged participants grow, the evaluation team recommends that future analysis compare the outcomes of continuously engaged and re-engaged participants to assess differences in the program’s impact.

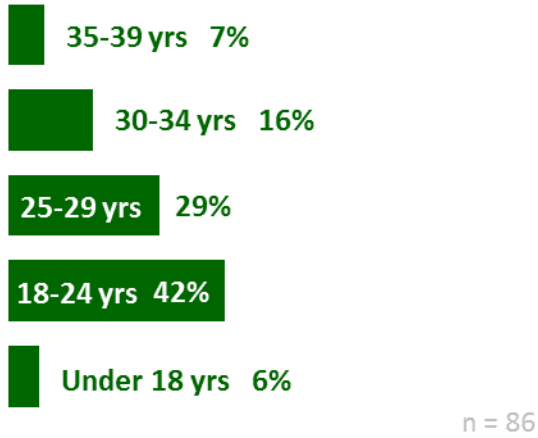
What are the demographic characteristics of RSTL participants?

Figure 3 below shows the percent of active moms (n=86) with different demographic characteristics:

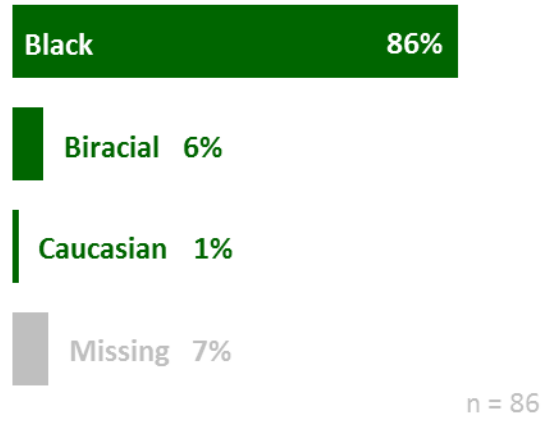
- **Age:** The average age of RSTL participants was 27 years old. The youngest participant was 13 years old and the oldest was 38 years old. Majority of moms (71%) were young adults between the ages of 18 years and 29 years.
- **Race and Ethnicity:** The majority of RSTL moms were African-American (86%), followed by 6% biracial and 1% Caucasian moms.
- **Education level:** A majority of RSTL moms reported that they had completed some college (33%), followed by 24% who had completed high school. One in five moms (20%) had not finished their high school.
- **Employment:** More than a third of the RSTL moms (35%) were unemployed. About a quarter of the participants (24%) had a full-time job and 19% had a part-time job.
- **Marital status:** Most RSTL participants were single (74%). Eighteen percent of moms were either married (10%) or were in a consensual union (8%).

Figure 3. Demographic characteristics of active RSTL participants 2014 – 2015
(age, race/ethnicity, education level, employment, marital status, first-time moms)

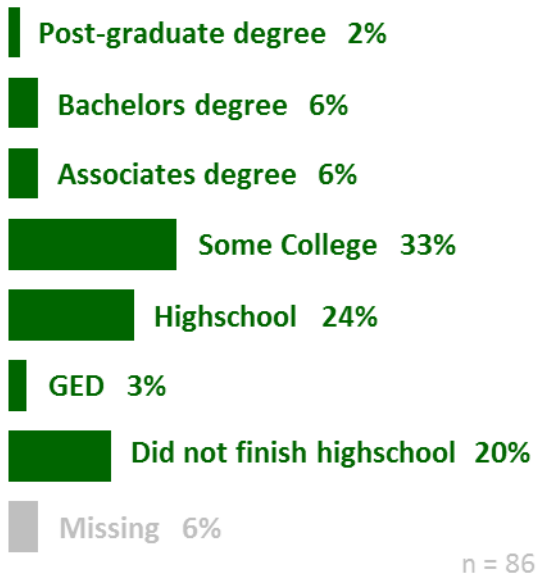
Most RSTL participants are young adults



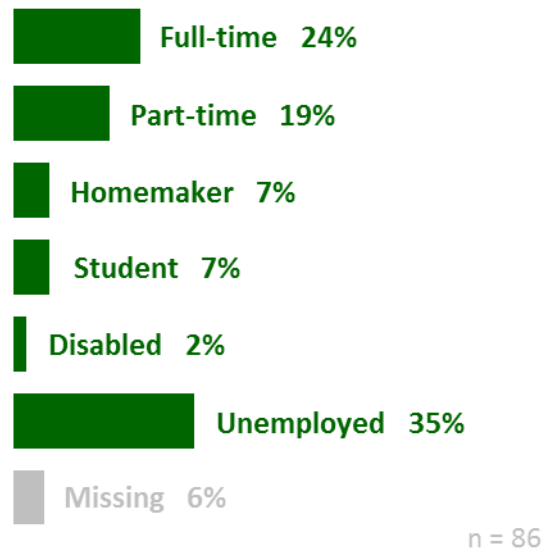
Nearly all of the RSTL participants are Black or Biracial



Most RSTL participants have highschool or some college education



The majority of RSTL participants are unemployed



Most RSTL participants are single



Figure 3. Demographic characteristics of active RSTL participants 2014 – 2015 (continued)

(age, race/ethnicity, education level, employment, marital status, first-time moms)

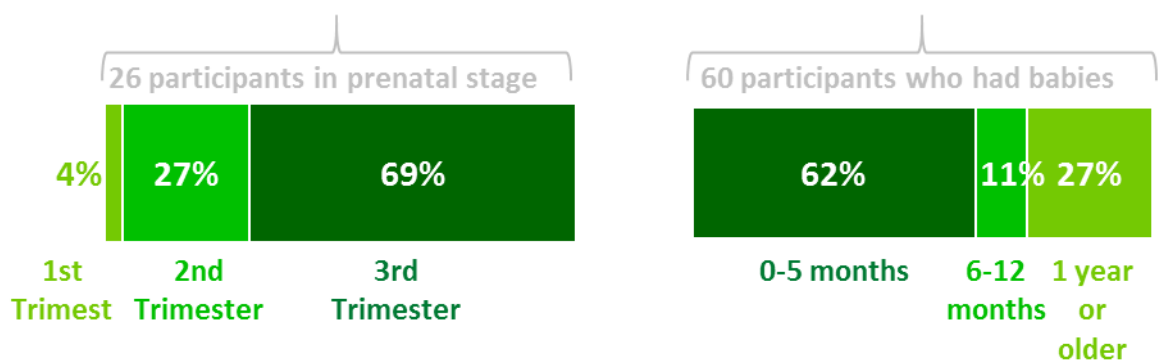
Most RSTL participants had previous children prior to enrollment



- **First-time moms:** A little more than a third of the participants (37%) were first time moms, and 63% of moms had previous children.

As shown in Figure 4, there were 26 participants who were pregnant and 60 participants who had given birth at the end of 2015. Majority of pregnant participants (69%) were in their third trimester. At the end of 2015, most children born to the RSTL participants (61%) were 0-5 months old.

Figure 4. Participants who were pregnant and had babies by the end of 2015



How did participants hear about the program?

Mothers heard about the program from two primary sources:

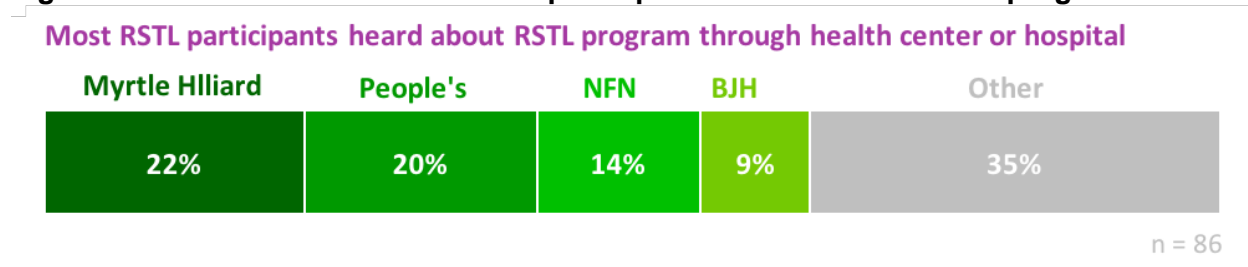
- **Professionals:** Health care professionals (e.g., doctors and nurses) or home visitation professionals (e.g., Parents as Teachers educators and Nurses for Newborns staff).
- **Fliers/Posters:** Several moms saw fliers and posters at schools and other social service agencies (e.g., Myrtle Hilliard, WIC offices, Birth Right).

Some mothers initiated contact with RSTL staff on their own as opposed to being directed to call by someone else (e.g., healthcare professional). Based on data pulled from the RSTL database, Figure 5 below provides additional information about avenues where information about the program was first heard. **Overall, 65% of participants heard about RSTL through Myrtle Hilliard Comprehensive Health Centers, Barnes-Jewish Hospital (BJH), Nurses for Newborns staff, or People’s.**

When asked, most of the women intend to continue with the program and are excited about the opportunity to do so until their children are eight years old. One potential challenge noted by a

few focus group participants to completing the program was concern about needing to discontinue participation if they were to move or return to work.

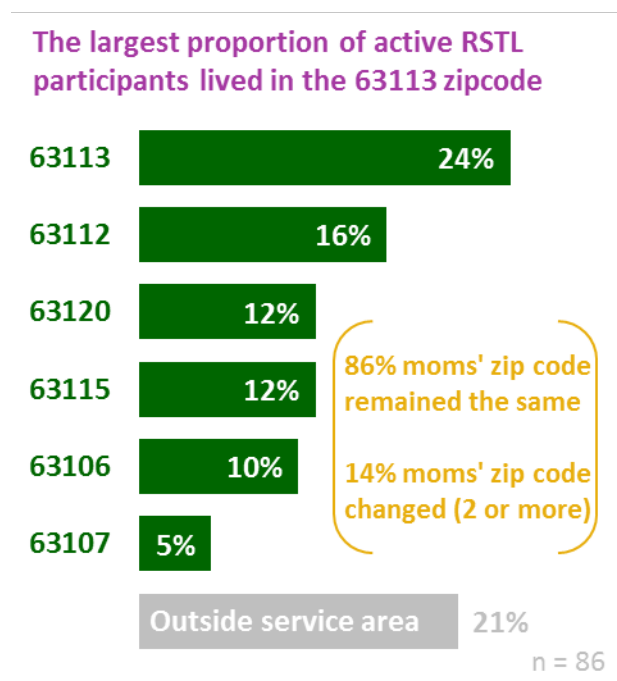
Figure 5. Various avenues from which participants learned about RSTL program



Where do RSTL participants live?

In 2015, the program expanded from four to six zip codes. Figure 6 shows the proportion of active moms living in each zip code in 2015, and 21% of all participants who lived outside the existing RSTL service area at the end of 2015. The largest proportion of active RSTL participants lived in the 63113 zip code.

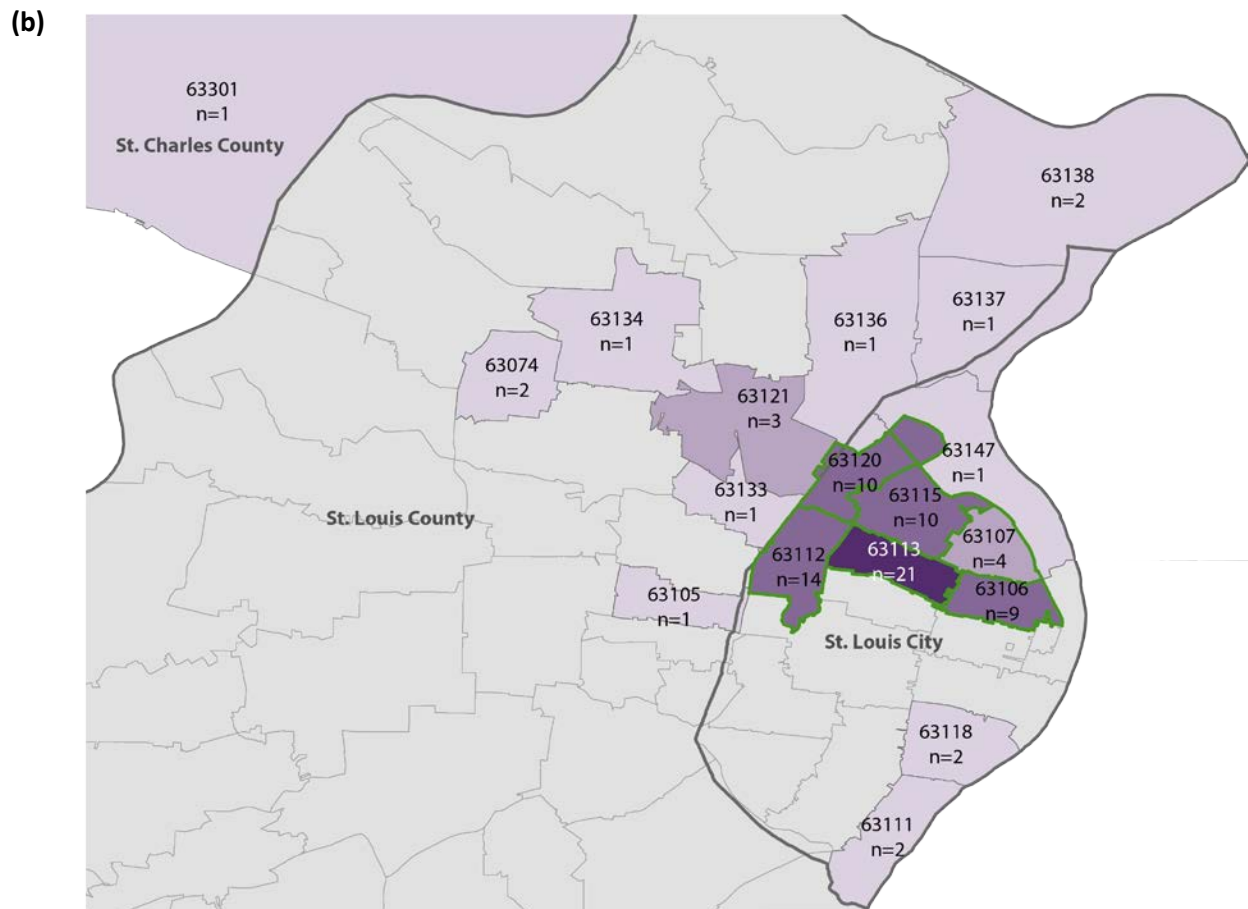
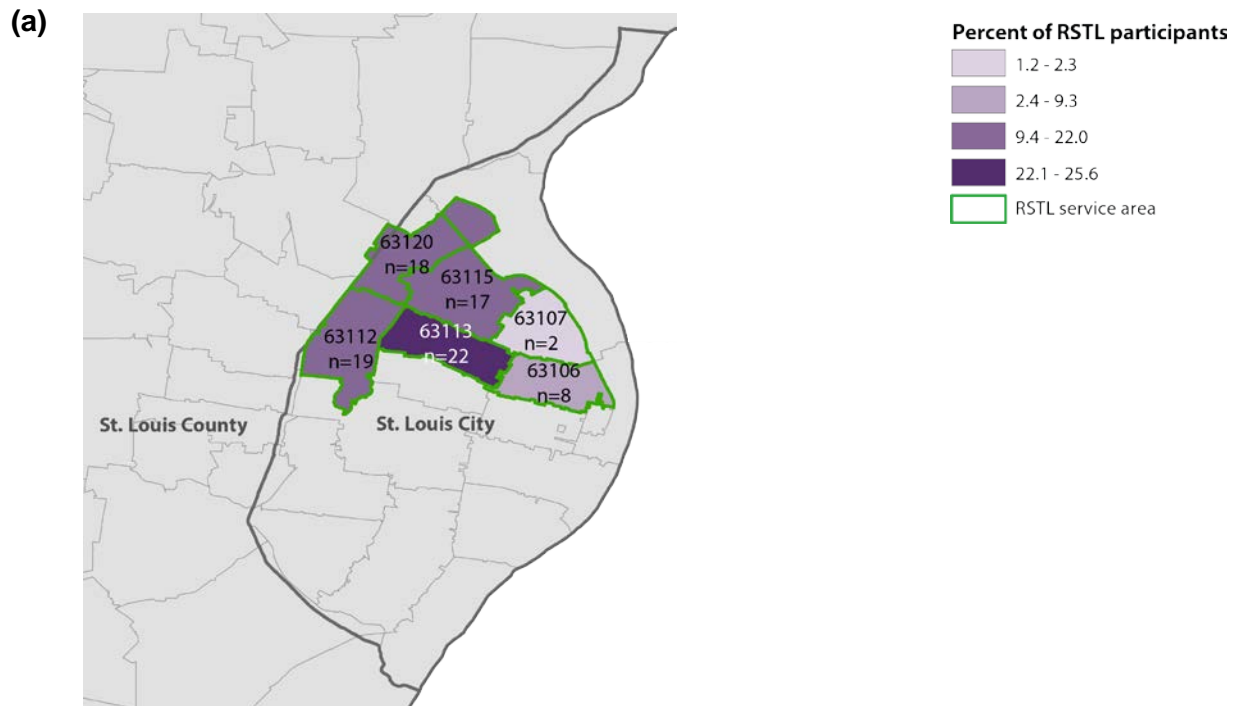
Figure 6. RSTL participants' locations



In 2015, 14% of all active participants moved to a new zip code at least once. There are some participants who move within the same zip code or within the RSTL service area zip codes. This demonstrates the transient nature of the population served. RSTL staff members continue to follow participants if they move outside the zip code at enrollment but are within St. Louis City or County.

Figure 7 shows the geographic distribution of home zip codes of participants (e.g. primary residence). The first of the two maps shows zip code of participants at the time of enrollment and the second shows zip code as of December 31, 2015.

Figure 7: Home zip code of participants (a) at time of enrollment and (b) as of 12/31/15

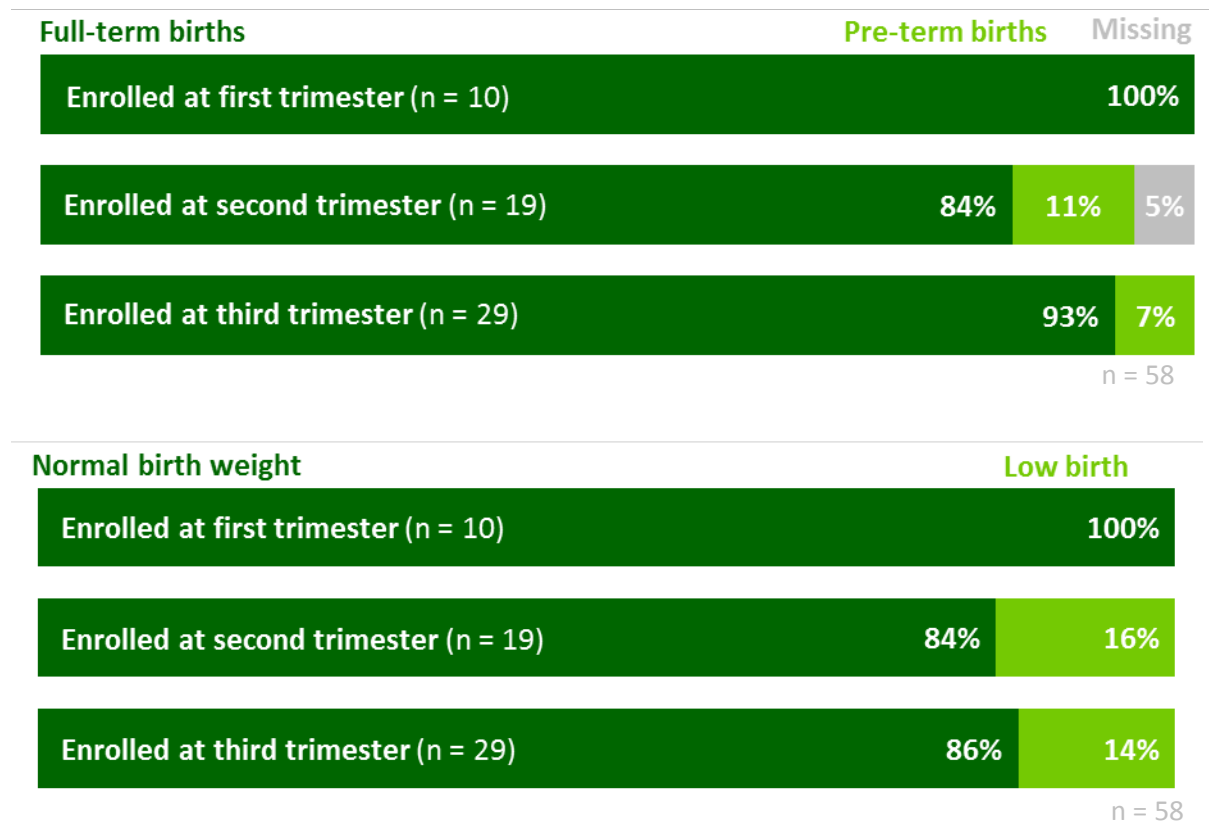


What was the typical number of days in the program prior to delivery?

There was a large variation how long moms were enrolled in the program prior to delivery, ranging from 5-239 days. Participant's average number of days in the program prior to delivery was **96 days**, and the median was 78 days.

During the first and second year of enrollment, **the largest proportion of pregnant women enrolled in their third trimester of pregnancy**. The findings in this report will compare birth outcomes of mothers by the length of their participation in the program. An example of such comparison can be seen in Figure 8 below.

Figure 8: Birth Outcomes (singleton births) by trimester mom enrolled in program



Recommendations around enrollment and participation in RSTL

Below are some recommendations regarding participation and enrollment in the RSTL program, based on the experiences in 2014 and 2015:

➤ **Continue to track changing residential locations of participants and the capacity needed of RSTL staff to follow participants outside the service area.**

In general, nurses and RSTL staff members have been able to follow participants as they move, as long as they stay in Missouri and within the greater St. Louis region and continue to provide services outside the six zip codes so far. It may pose logistical challenges in future as the participants outside service regions grow and spread into larger geographic areas. Consider tracking travel time to/from visits to see how this can inform case management in the future (e.g., modify case management based on geographical location, narrow the geographical area where RSTL staff will follow participants). Or consider assessing what proportion of any case managers assigned cases are outside of the current service area to monitor if the burden of travel appears to be equally distributed or not across case managers.

➤ **Actively recruit and enroll participants early in their pregnancies.**

RSTL has less time to make an impact on birth outcomes for women who enrolled in the program for shorter periods of time prior to delivery. Currently, a larger proportion of women are enrolling in the program in their third trimester. The program may need to consider an upper limit for enrolling participants in the program (i.e. how late in the pregnancy can women enroll in the program). Alternatively, in the future, we recommend assessing birth outcomes of babies born to moms enrolled late in their pregnancies separately, as this may assist in observing impact on birth outcomes better. The primary goal should continue to be to recruit and enroll moms as early in their pregnancies as possible.

➤ **Continue to recruit participants through development of relationships with professionals at health centers (e.g., Myrtle Hilliard) and hospitals (e.g., BJH).**

Participants most often heard about the program through health care professionals and/or fliers at health care centers. As the program continues to grow it is likely that a larger proportion of new participants will hear about the program through word of mouth, (e.g., other participants, friends).

➤ **Continue to track employment patterns of mothers as their children grow.**

Currently, a large proportion of participants are unemployed at the time of enrollment. Mothers who reported being unemployed may allow for more flexibility when scheduling home visits. Currently, employment status is not collected by parent educators, so RSTL is unable to track changes in employment status.

TO WHAT EXTENT IS THE PROGRAM IMPLEMENTED WITH FIDELITY TO THE RSTL SERVICE DELIVERY MODEL?

Fidelity to key components of the RSTL program during implementation was tracked throughout the program to measure quality of program delivery. Below is a summary of the fidelity to the RSTL programs.

Home Visits

RSTL utilizes two well-established home visitation models: Nurses for Newborns (NFN) and Parents as Teachers (PAT). NFN nurses work closely with RSTL parent educators (RSTL is a PAT affiliate) to conduct visits separately and jointly, when necessary. The number of visits recommended both prenatally and postpartum vary somewhat depending on the need of the mothers and/or child. However, in general, non-high risk mothers or families are planned to be visited monthly and high risk families are to be seen more often. Level of service was assessed at the time of enrollment. Out of the 86 active moms, 49% were receiving monthly visits, and 51% were typically receiving visits more often (e.g., twice a month).

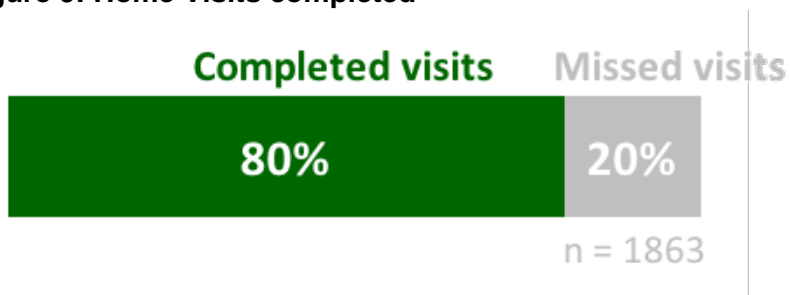
1497 Total visits completed

644 NFN visits

853 PAT visits

Participants received 644 NFN visits (43%) and 853 PAT (57%) visits, for a total of 1,497 visits. As is reported on the Annual Performance report for all PAT affiliate sites, the evaluation team assessed the degree to which families were receiving the expected level of visits, based on need (e.g. monthly, twice a month). PAT affiliate sites are expected to have 60% of moms receiving at least 75% of expected number of PAT visits. For example, if a family is identified as requiring once a month visits, and in 2015 this family received 10 visits, then this family exceeded the 75% of expected visits threshold. By the end of 2015, 53 out of 86 moms (62%) received 75% of their expected number of PAT visits.

Figure 9: Home Visits completed



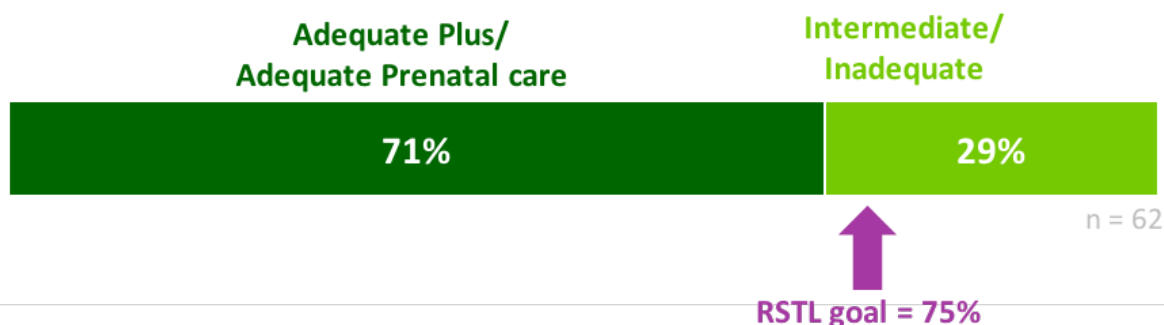
Nurses and/or parent educators scheduled a total of 1,863 visits by the end of 2015, of which 1,497 visits (80%) were conducted successfully, as shown in Figure 9. This is only slightly lower rate of completed visits compared to the

percent of visits completed in 2014 (83%). The increased number of active participants, addition of two new zip codes in service area, and turnover of two parent educators may have posed some challenges in completing the scheduled visits.

The Kotelchuck Index is applied to assess the degree to which pregnant mothers received adequate prenatal care. The Kotelchuck Index uses two crucial elements: 1) when prenatal care began (initiation) and 2) the number of prenatal visits from when prenatal care began until delivery (received services). Both pieces of information are self-reported. Among 62 moms who had delivered, 71% of the moms received adequate or beyond adequate prenatal care as shown in Figure 10.

Figure 10: Adequacy of prenatal care among the participants

Out of moms that had delivered, level of prenatal care was just shy of RSTL’s goal of 75% of moms with adequate or better prenatal care.



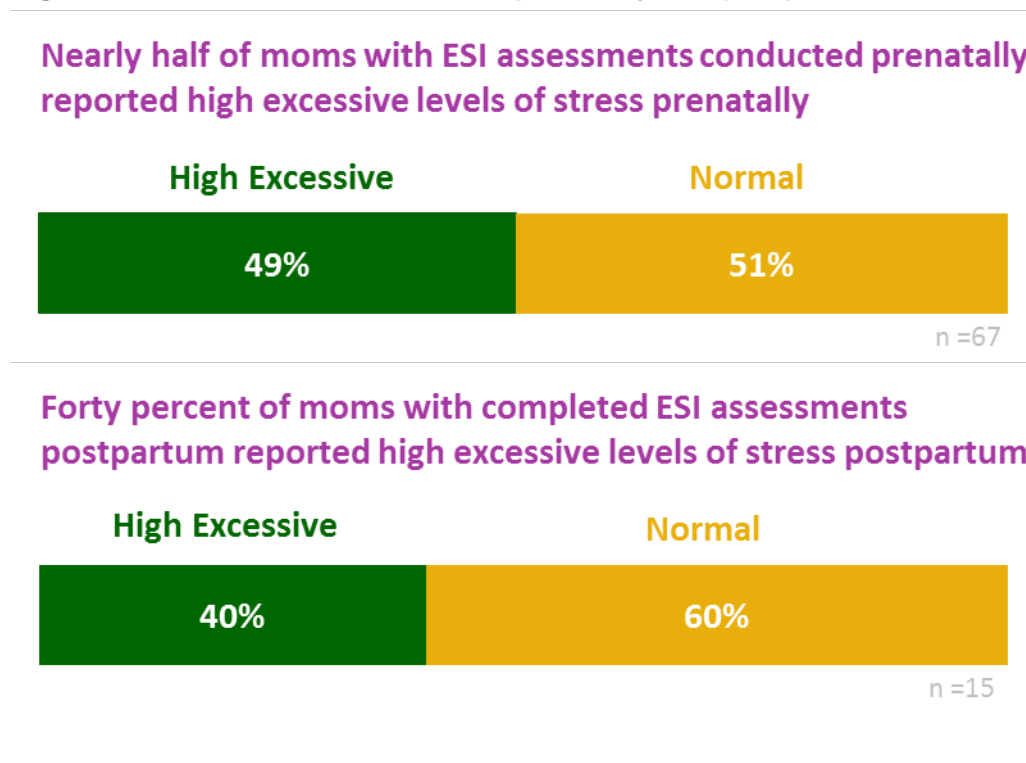
Nurses and parent educators used home visits to provide resources and discuss developmental expectations with families, but these visits are also used to conduct periodic assessments on the health and well-being of mom and baby/child. Currently, assessments examine potential risk factors that hinder proper and positive health and development, such as stress, depression, and basic health, hearing, and vision screenings. Early detection and prevention can reduce risk factors and promote positive development. A summary of findings of these assessments is provided later in the report.

Stress

The **Everyday Stressors Index (ESI)** is a standard tool used by NFN nurses for assessing level of stress during home visits. Currently, RSTL participants’ stress levels are evaluated using this tool, with the goal of assessing at least once prenatally and at least once postpartum, and are assigned a score that reflects *Normal*, *Excessive*, or *High Excessive* levels of stress. As of the end of 2015, the team had at least one prenatal ESI score for 67 moms (or 78% of all active moms). As of the end of 2015, the team had at least one postpartum ESI score for 15 moms who had delivered (or 24% of moms who had delivered by end of 2015).

It should be noted that the team did not have ESI results for all eligible moms prenatally or postpartum, but did have at least one completed ESI assessment for 88% of moms (regardless of timeframe). In the future, examine the reason for missing values, and update protocols or data quality checking to decrease the amount of times ESI assessments were not completed or recorded. Figure 11 below presents the proportion of moms reporting each level of stress, both prenatally and postpartum. Of the moms with completed ESI assessments, a slightly higher proportion (49%) of moms reported high excessive levels of stress prenatally, compared to 40% of moms with completed assessment that reported high excessive levels of stress after the baby was born.

Figure 11: RSTL moms' stress level prenatally and postpartum

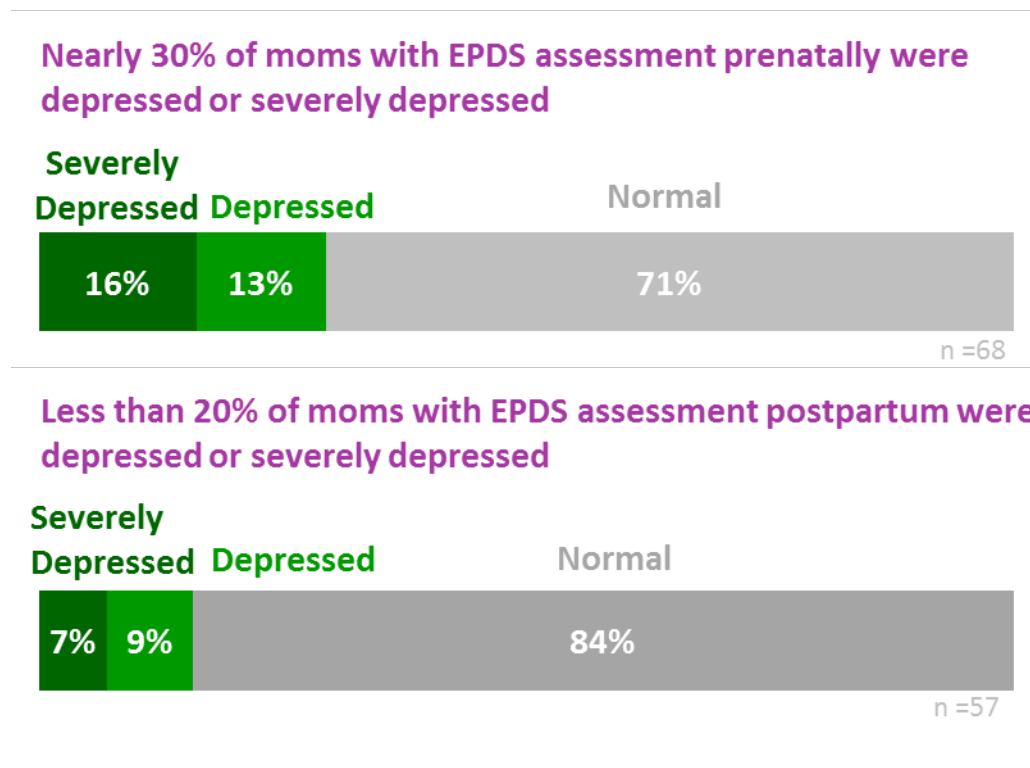


Depression

Another key risk factor is mental health, in particular depression. The **Edinburgh Postnatal Depression Scale (EPDS)** is a standard tool used by NFN nurses for assessing depression in mothers. RSTL participants' depression levels are evaluated using this tool, which helps to identify moms experiencing depression in order to help them navigate to services to cope with the depression. Based on the scores obtained (e.g., number of risk factors identified) from the tool, moms are classified as within *Normal*, *Depressed*, or *Severely Depressed* range.

Originally, the service delivery model called for nurses to administer this assessment to moms once prenatally and then again at 30 days, 60 days, 120 days, and 6-months postpartum, per the NFN clinical guidelines. However, NFN nurses are often not serving RSTL families more than a few months postpartum (if health needs do not require a nurse). Therefore, the RSTL team is in the process of developing a protocol which will outline the frequency and timeline of administration of this assessment postpartum to allow for parent educators to conduct these assessment and multiple time points (e.g. at 6, 12, and 18 months postpartum), and if/when nurses are no longer engaged with the participants. As of the end of 2015, 79% of moms have a prenatally EPDS assessment on recorded and 92% of moms who had delivered had at least one postpartum EPDS assessment conducted. Overall, 97% of active moms had at least one EDPS assessment conducted by the end of 2015.

Figure 12: RSTL participants' level of depression using EPDS, prenatally and postpartum



Both Figure 11 and Figure 12 demonstrate that a higher proportion of moms reported responses for areas of concern (e.g., depressed or high levels of stress) *prenatally* compared to postpartum responses.

ASQ-3 and ASQ-SE

One way to support children's development is through frequently screening for potential developmental delays or socio-emotional challenges. Children who are increasingly exposed to risk factors such as poverty or toxic stress have a higher likelihood of depression, anxiety, and anti-social behavior.⁵ For this reason, RSTL parent educators utilize well-known and family-friendly ways to screen children for **developmental delays between the ages of one month and five and a half years old (ASQ-3)**, and **potential social-emotional concerns (ASQ-SE)**. These assessments are scheduled to occur at pre-determined intervals. The ASQ-3 is slated for administration at two months postpartum and then at six, twelve, 18, 24, 30, 36, 42, 48, 54, and 60 months postpartum. The ASQ-SE is administered at six, twelve, 18, 24, 30, 36, 48, and 60 months postpartum.

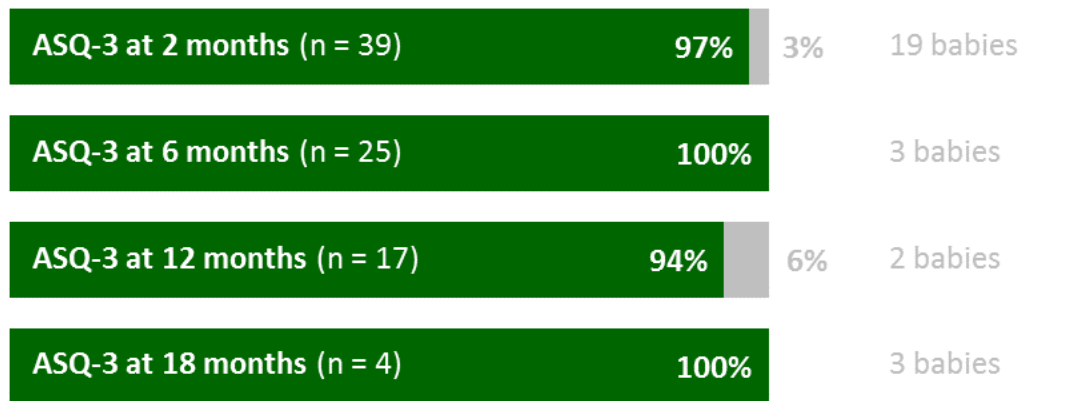
As shown in Figure 13, the RSTL goal of completing 90% of all ASQ-3 and ASQ-SE screenings for eligible babies were met. The numbers in grey on the right of the figure indicates the number of babies who were eligible for the screening at the end of 2015, but were not yet past due for

⁵ Shern, D., Blanch, A., & Steverman, S. (2014). Impact of Toxic Stress on Individuals and Communities: A Review of the Literature. Alexandria, VA: Mental Health America.

this assessment (e.g., within the grace period allowed for this assessment). Out of all of the ASQ-3 and ASQ-SE screenings that were conducted in 2015, **none of the assessments produced results to indicate concern for potential development delays or socio-emotional concerns.**

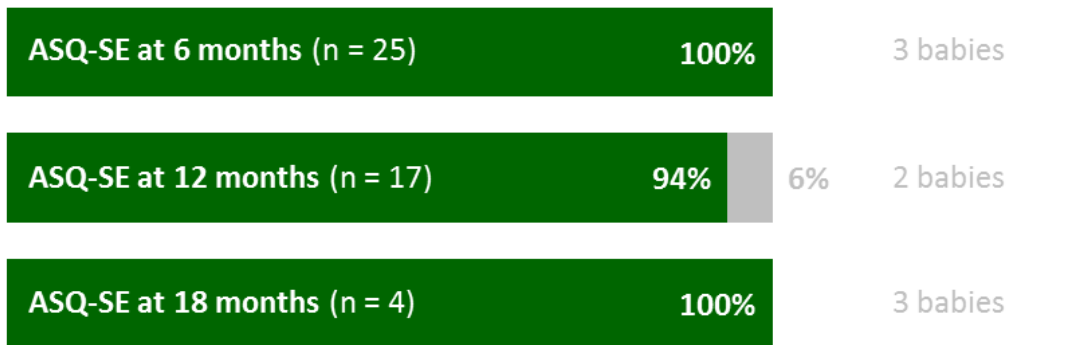
Figure 13: ASQ-3 and ASQ-SE screening outcomes

All ASQ-3 screenings met the RSTL goal of 90%.



RSTL goal = 90%

All ASQ-SE screenings met the RSTL goal of 90%.



RSTL goal = 90%

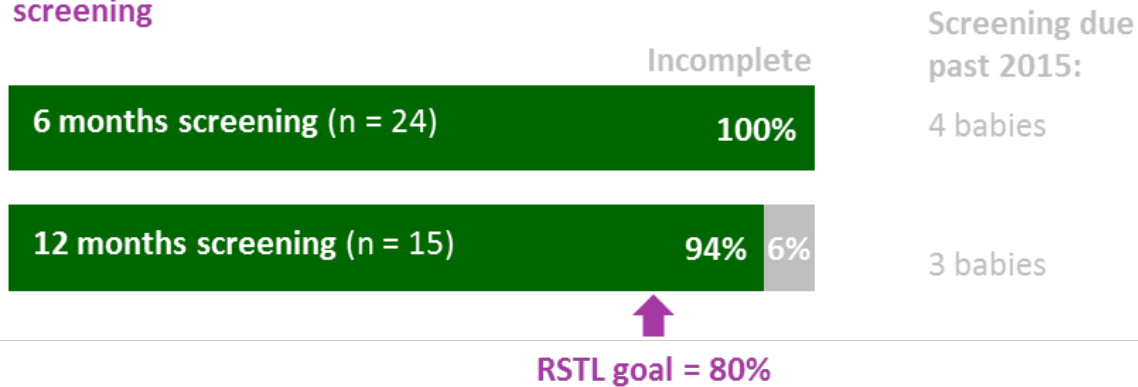
Vision, hearing, and health

RSTL children undergo screenings for vision, hearing, and health in order to increase preventative practices. RSTL’s goal for 2015, was that 80% of all eligible children would receive these screenings within the recommended time frame (e.g., by the time they were six months old). As seen in Figure 14, 100% of the 24 eligible babies received their 6-month screenings and 94% of the 16 eligible babies received their 12-month screening. At the end of 2015, there

were four more babies and three more babies due for 6-month screening and 12-month screening, respectively.

Figure 14: Vision, Hearing, & Health screening of babies at 6 months and 12 months

RSTL met the goal of completing 80% of Vision, Hearing, & Health screening



Group Connections Meetings

Another key component of the RSTL program is to provide support to caregivers through parent support groups called Group Connections Meetings. RSTL hosted a total of 17 Group Connections Meetings by the end of 2015 (about 1 every month). In 2014, there was a delay in the ramping up of these meetings, and the meetings did not begin until June 2014. As a result, only five meetings were held during the first year and the goal was not met. In 2015, RSTL hosted 12 Group Connections Meetings. For details about topics and participation in Group Connections Meetings, see Appendix D.

- Seventy-six moms, 24 dads, 44 children, and 18 guests participated in the Group Connections Meetings between June 2014 and December 2015. In 2015, 39 unique mothers attended one of the twelve Group Connection Meetings, almost twice as many compared to twenty unique moms who attended one of the five meetings in 2014.
- The most attended meeting by moms so far was “*RSTL Table Talk*” in November, 2015, (39 moms attended), followed by “*Routines with breastfeeding*” in July, 2014 (10 moms attended). The exceptional participation of moms and dads in “*RSTL Table Talk*” can be attributed to heavy marketing of the meeting, which included sending flyers about the meeting and providing other unique incentives to each family to encourage participation.
- At least one father or a father figure was present in 11 Group Connection Meetings between June 2014 and December 2015, with the highest attendance occurring in November 2015 (12 dads attended). The next highest instance of father or father figure present at the meeting was in October 2015, attended by four dads. **Overall, 14 unique fathers or father figures attended at least one Group Connection Meeting.** Raising St. Louis has since engaged Father Support Network to engage fathers in parent groups and more generally.
- Focus group participants who participated in Group Connections Meetings were primarily motivated to **attend because they wanted to connect with other moms/families, as a means to build an informal support network, or because the topic of the meeting was of interest to them**, and the “collective learning” opportunity they felt the meetings provided.

Need identification, resources referrals, and resource utilization

One of the four main components of the RSTL program is to facilitate navigation to available social and health services. This is primarily achieved by having participants identify their need(s) during home visits, followed by nurses and/or parent educators making referrals to relevant organizations or services that could assist them with their need.

As of the end of 2015, those families that had needs identified had **an average of almost 6 needs per family, with a median of 4 needs** (range 1-44).

- 67 families (78%) identified 398 unique needs. Out of the 398 unique needs identified a nurse or parent educator made a referral to an agency or service 215 times (or for 54% of the needs identified). Nurses and parent educators made referrals for these families to more than **75 organizations**.
- The top five needs identified were: **Breastfeeding Education/Support** (15% of all needs identified), **Child Care Services** (11% of all needs identified), **Church/Religion and Clinic** (8% of all needs identified), **Clothing & Household items** (6% of all needs identified), and **Counseling** (6% of all needs identified).

- 398** unique needs were identified by families
- 67** families had at least one need identified
- 215** needs where given referral to agency or service was made to family
- 69** agencies/services were contacted by families

Nurses and parent educators were encouraged to follow-up regarding the status of previously identified needs to see if the issue had been resolved. The median number of days between referral being made and follow-up zero, which means that typically follow-up was made on the same day as the referral. The average number of days between referral being made and follow-up about the referral was 12 days (with a range of 0-164 days).

Figure 15. Needs identified that where follow up was conducted and days between referral and follow-up



Figure 15. Needs identified that where follow up was conducted and days between referral and follow-up (continued)

Over half of the time when a referral was made, follow-up occurred on the same day

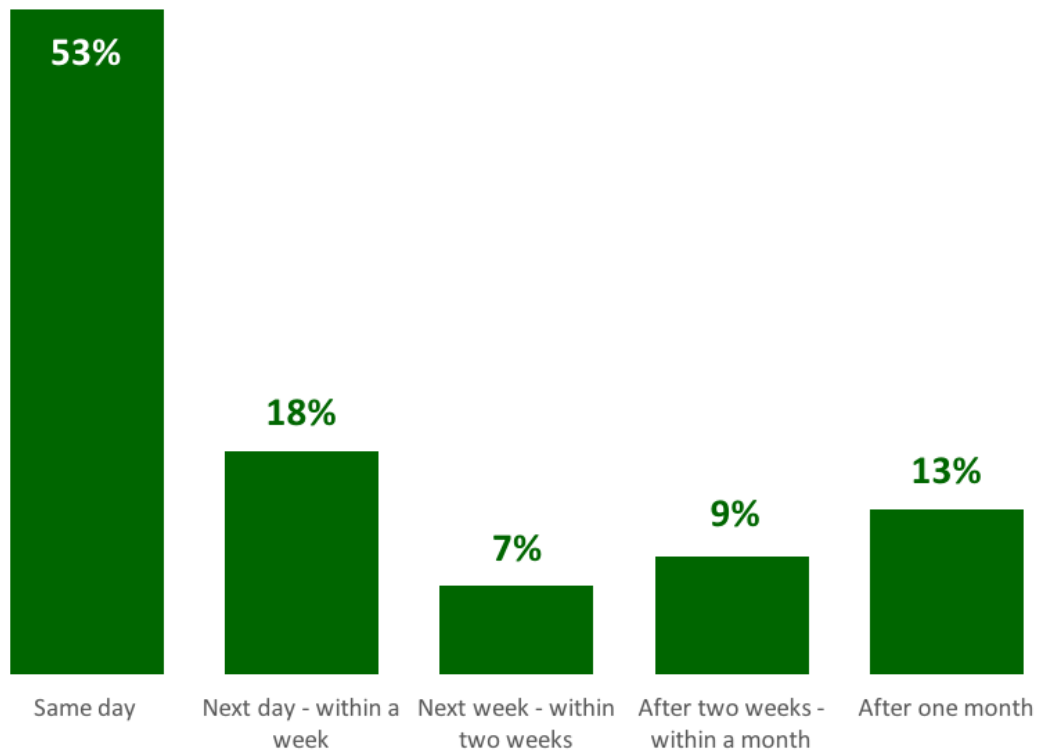


Figure 16: Referral Agencies Contacted

Just under one-third of the time the referral agency was contacted by the family



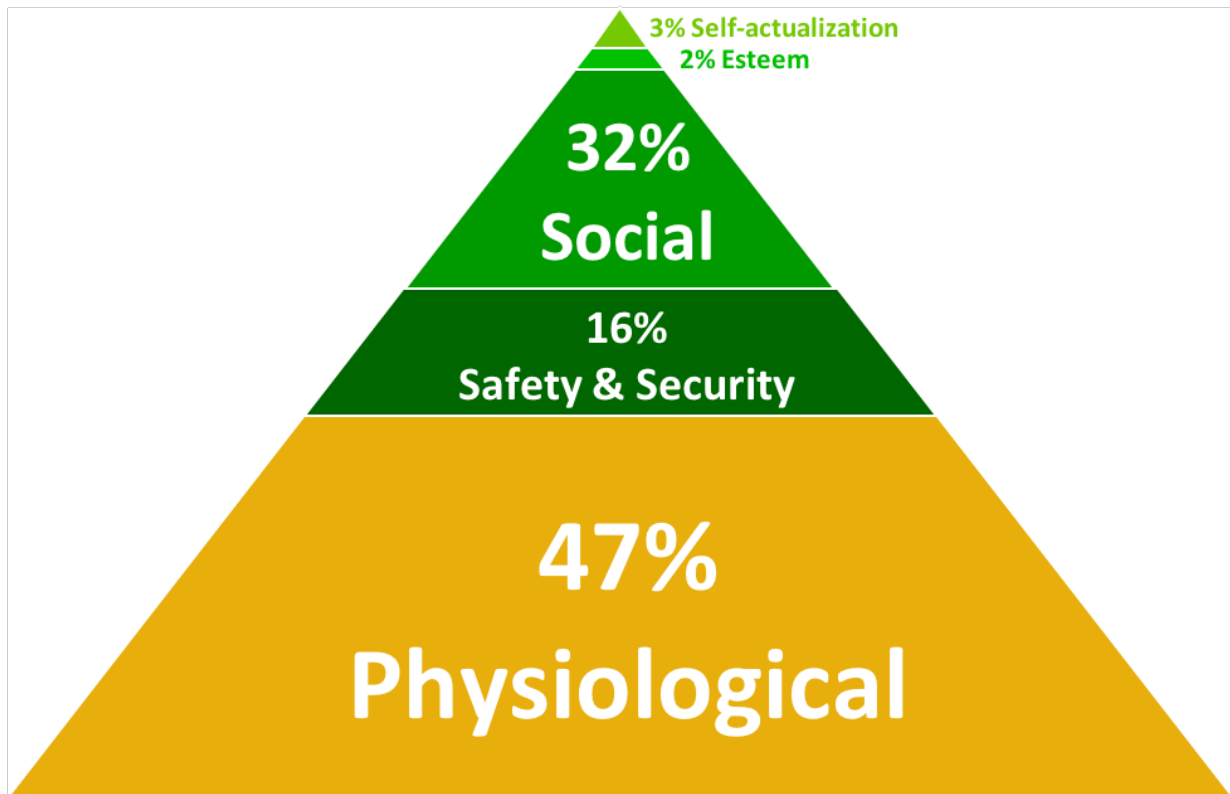
n=214

Maslow's Hierarchy of Needs suggests that people are motivated to fulfill basic needs before focusing on more advanced needs.⁶ Maslow identified five levels in the hierarchy of needs: 1) Physiological needs (e.g., food, sleep); 2) Safety and Security needs (e.g., housing, employment); 3) Social needs (e.g., support services); 4) Esteem needs (e.g., education services); and 5) Self-actualizing needs (e.g., religion). Figure 17 shows the proportion of five levels of Maslow's hierarchy of needs out of 398 needs identified by participants.

⁶ McLeod, S. (2007). Maslow's Hierarchy of Needs, from <http://www.simplypsychology.org/maslow.html>

Forty-seven percent of all identified needs were physiological needs, followed by 32% of social needs, demonstrating that the unique challenges of addressing the most basic needs among this population before being able to sought more advanced needs.

Figure 17: Needs identified by Maslow’s Hierarchy of Needs



n=382






Note: The figure excludes 16 missing or unknown needs.

To what extent has the RSTL program met its goals and objectives?

Since the first year, RSTL solicited the Evaluation Advisory Committee to help develop a set of initial goals and objectives of the program. These goals and objectives will be used to determine the degree to which process objectives and outcomes of the program are being met on an annual basis. Further refinement of these goals and objectives will take place in the current and future years of the program.

Figure 18 provides a snapshot of overall progress on the project’s specific objectives set by the RSTL team. For a more detailed summary of progress made towards all existing program specific objectives, see Appendix B. Overall, progress was made on nearly all objectives (only 1 out of 21 (5%) current objectives had no progress made). 95% of current RSTL objectives were fully or partially met. Partially met objectives were instances when progress towards the intended objectives was clearly made, but the intended level may not have been met; for example, one objectives was that “by December 31st of each year, 75% of active Raising St. Louis participants accessed adequate prenatal care visits as outlined by the Kotelchuck prenatal care index.” By the end of 2015, only 70% of mothers that had delivered reported adequate prenatal care, falling just shy of the intended level.

Figure 18: Overall progress towards RSTL goals and objectives by the end of 2015

RSTL Goals		Degree of objectives met
<p>Goal 1: To recruit and retain participants of the RSTL program with fidelity of the service model</p> <p>Fidelity of Service Delivery Model</p>		<p>6 objectives: 83% fully met 0% partially met 17% not met</p>
<p>Goal 2: To improve prenatal maternal and infant health of participants enrolled in RSTL</p> <p>Home Visits (Prenatal Care)</p>		<p>3 objectives: 75% fully met 25% partially met 0% not met</p>
<p>Goal 3: To improve postpartum maternal and infant health of participants enrolled in RSTL</p> <p>Home Visits (Postpartum Care)</p>		<p>8 objectives: 75% fully met 25% partially met 0% not met</p>
<p>Goal 4: To increase academic achievement of RSTL children by third grade by increasing parent engagement in their child's health and education.</p> <p>Home Visits (Postpartum Care)</p>		<p>To be determined, no children are school-aged yet</p>
<p>Goal 5: To improve self-efficacy of RSTL caretakers through parent-led support groups</p> <p>Parent Groups</p>		<p>3 objectives: 33% fully met 67% partially met 0% not met</p>
<p>Goal 6: To improve RSTL families' utilization to community resources by connecting families to resource referral network</p> <p>Resource Navigation/Utilization</p>		<p>1 objective: 100% fully met 0% partially met 0% not met</p>

Recommendations regarding fidelity of implementation to the RSTL service delivery model

Learning from experiences and fidelity findings in 2014 and 2015, there are a number of recommendations regarding fidelity of implementation to the RSTL service delivery model:

- **Develop individual protocols for first-time and non-first-time moms, with regards to the frequency of administration of ESI and EPDS screenings.**

The degree of stress level and possibility of depression may differ by whether participants are first-time moms or non-first time moms. Therefore, the frequency of ESI and EPDS screenings must be administered accordingly to accurately capture changes in stress level and depression occurrence. Timely identification of stress and depression beyond normal may be referred to appropriate services.
- **Develop protocols for implementation of ESI and EPDS tools after NFN program completion.**

Continue to fully develop postpartum assessments for stress and depression with frequency and duration, and outline details in implementation protocols.
- **Implement frequent data quality checks to the RSTL database.**

The number of missing or unknown data at times could be reduced. Therefore, develop and implement strategies that improve data collection and entry protocols that helps in gathering complete information, and conducting frequent data quality checks (for example, quarterly data quality checks or including missing data as part of PE supervision meetings to ensure timely entry).
- **Continue to monitor number of completed visits and missed visits.**

The percentage of completed visits is less than last year. Therefore, it may help to look deeper into missed visits and assess deeper causes leading to higher missed visits. One possible reason could be families with newborn or very young children having a harder time to make it to the visits. Alternatively, a diverse way of confirming a visit (for example, by a phone call, by texts, by father or father-figure when applicable) may also increase the possibility of completing visits.
- **Expand the number and type of objectives that support goal six “Improve RSTL families’ utilization of community resources by connecting families to resources referral network.”**

Project specific objectives for goal six around improving RSTL families’ utilization of community resources are still in progress. There are opportunities to identify additional activities and objectives that further enhance this goal.

WHAT IS THE LEVEL OF PARTICIPANT SATISFACTION WITH THE RSTL PROGRAM?

The level of participant satisfaction with the RSTL program was reported previously, but also included here, as the satisfaction was collected through a participant satisfaction survey that was administered between May – June 2015 and focus groups that were conducted at the end of 2014 and beginning of 2015. As reported last year, a few mothers were initially reluctant to enroll because they were uncomfortable about asking for help or weren’t sure they needed what the RSTL program offered. However, a few mothers identified specifically that the idea of

getting extra help was exactly what attracted them to enroll in the program. For example, several participants reported being faced with great challenges and adversity (e.g., homelessness, domestic violence) at the time of enrollment and felt they could benefit from additional support and interaction with supportive individuals (e.g., RSTL staff and other mothers).

Overall, focus group participants reported **one of the elements they were most satisfied with was their relationship with or the connection to their nurses and/or parent educators**, and specifically, the support they received from them. Even for a few of the

“I was just scared. I didn’t know what I was doing. I just wanted them to help me, like teach me stuff and all that.”

participants that were initially reluctant to enroll, it was these relationships that won them over. Their relationships with the nurses and parent educators are very personal and impactful. **The most important part of the program for many of the participants was the way they are treated by their nurses and parent educators – their approach was non-judgmental and supportive of each woman as an individual.** RSTL staff made these women feel supported and that they mattered, and the experience was considered to be helpful and beneficial to parents and their children.

Based on responses from the focus group participants, there were a few other factors that influenced participants’ decision to enroll in the program:

- It was accessible partially because it is a free service.
- Several focus group participants reported a value of having multiple perspectives/types of support offered. For example, that they received both medical expertise from nurses and parenting support from parent educators. They also liked that the program focused on both children *and* parents.

Overall, most of the focus group participants emphasized that they **appreciated the flexibility of the RSTL program**; for example, staff member’s willingness to conduct visits at different locations (e.g., a boyfriend’s house, or new place of residence if they moved). Participants also greatly **appreciated the professionalism and respect demonstrated by RSTL staff**.

“I think we should have both [Nurses for Newborns and Parents as Teachers]. I love both because one is a nurse and one is an educator. It’s just that simple.”

Some participants shared that they were a little apprehensive that RSTL staff wouldn’t be able to relate to what their lives were like or that they might be “nosey”, but said that “they came in and they just made me feel comfortable with them” and that they “don’t make you feel bad about living there [in a bad neighborhood]”. The next survey about participant satisfaction will be conducted in 2017, with a different survey around program implementation and fidelity being administered in 2016.

Home Visits

In general, **participants liked the home visit component of the program and greatly appreciate that these services are provided in the home** (or another agreed upon location). Participants reported that the overall structure around the home visits made it relatively easy for them to participate. **Most of the participants saw the value of both the nurses’ and parent educators’ visits and appreciated each aspect of the program**, but the relative importance of each depended on the stage of the mother’s pregnancy and/or the health of herself and her child. For most of the mothers, home visits with NFN nurses were extremely helpful in

addressing their own personal health needs as well as those of their baby, and sometimes, their other children. Common issues addressed included: what to expect during pregnancy, diabetes and leg pain, and preparing for child birth and life afterward. Participants also appreciate that their other children were included and encouraged to participate in activities led by parent educators, even though they technically were not enrolled in the RSTL program.

Most focus group participants appreciated that parent educators cater to individual needs and promote the motto of “work with what you have”. For example, that they gave suggestions of activities to do with their kids based on what they had around the house. Furthermore, participants spoke positively about their experiences with their parent educator postpartum, and appreciated being informed of developmental milestones and behaviors, and ways to encourage their child’s development.

During focus groups, many women commented on how helpful the nurses were in supporting their desire to breastfeed and to address challenges that came up. Others found support in allaying the fears and concerns of having a new baby. For those with sick children, the nurses provided advice and guidance on when to seek care, and additional information when they did not understand what was happening to their child.

Group Connections Meetings

Thirty-nine unique moms attended at least one Group Connection Meeting in 2015, an increase compared to twenty unique moms in 2014. Participants were most interested in attending Group Connections Meetings due to the topic covered during the meeting and the “collective learning” opportunity it provided. For some mothers, the meetings gave a chance to socialize with other women like themselves as well as interact with the nurses and parent educators.

Some reasons that moms shared for not attending Group Connections Meetings included lack of interest in the topic, work/scheduling conflicts, being uncomfortable in a group setting, and not being ready to bring their baby out in public. Eliminating child care during Group Connections Meetings affected some women’s ability to participate. However, it should be noted that child care during the meeting participation has been restored and is expected to impact some moms’ ability to participate in the meetings.

Suggestions for increasing attendance to Group Connections Meetings included **offering meetings with the same topic on different days and times** to increase options for working women, **providing transportation**, and **providing time for socializing** and swapping baby items with others. Topics of interest for future Group Connections Meetings included: dealing with family relationships and taking better care of oneself.

Resource referrals and utilization

Most women received referrals from both nurses and parent educators for assistance from other community service organizations. Referrals were often related to finding employment, additional healthcare services, and child care. Prior to the holidays, several of the participants received information about programs that provided a Christmas celebration for their children. **Both the nurses and parent educators were considered to have a vast awareness and knowledge of the resources that are available in the community to these mothers.**

Kids Kash

The RSTL program provides Kids Kash as an incentive for participation. Participants are able to earn Kids Kash through various RSTL activities; for example, after each completed home visit, or participation in focus groups. **Almost all of the moms found Kids Kash to be valuable in helping them get items they needed but also as serving as a kind of reward and encouragement for participating.** Although the Kids Kash program is a nice benefit for participating in RSTL, it is not the main reason why women are involved. In fact, some have not even had an opportunity to use it.

Women had suggestions for **other items that they would find of value, including: clothing for older children (not just newborns), bouncers/swings, transportation (e.g. bus tickets/transportation vouchers), personal care items for mom, baby bath items, and breastfeeding accessories.** Also, moms were open to the idea of not just purchasing new items, several women expressed wanting to give back to others by returning gently used items that could be used by others. RSTL has responded to this suggestion and new and used items are now available.

Furthermore, a **few moms reported challenges with accumulating or redeeming Kids Kash.** A few mothers felt it was difficult to accumulate a significant amount of Kids Kash, partly because of the standard visit frequency being approximately once or twice a month. Additionally, several moms would like to have the option to exchange Kids Kash for items with their parent educators or nurses. If this is an option, it was not well communicated to everyone.

Recommendations regarding level of satisfaction with all RSTL program components

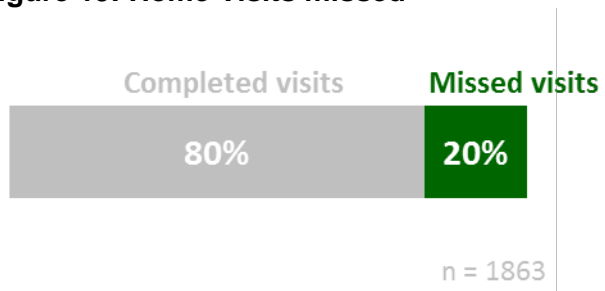
There are a number of key recommendations regarding level of satisfaction in all components of the RSTL program based on experiences:

- **Continue to provide both NFN and PAT home visits.**
Overall, participants are extremely happy with the home visitation component of RSTL, which includes visits from nurses and parent educators.
- **Periodically survey or solicit suggestions for topics for Group Connections Meetings.**
One reason participants choose to attend or not attend Group Connections Meetings is related to the topic of the meeting. Continue to solicit potential future topics through evaluation forms at Group Connections Meetings, but also consider periodically asking moms directly during home visits what topics they are interested in and record this information in RSTL database.
- **Expand diversity of items offered for redemption of Kids Kash.**
Include items for older children, additional opportunities for transportation (e.g. bus tickets/transportation vouchers), and personal care items for mom were the items most often suggested.
- **Expand opportunities for participants to earn Kids Kash.**
List out all the current ways families are able to earn Kids Kash and brainstorm additional opportunities to earn Kids Kash (e.g. father participation in visits or other events).

WHAT ARE COMMON BARRIERS TO PARTICIPATION IN EACH OF THE RSTL PROGRAM COMPONENTS (E.G., HOME VISITS, GROUP CONNECTIONS MEETINGS)?

Home visits: Barriers to participation

Figure 19: Home Visits missed



The evaluation team tracked the number of expected or scheduled visits and the number of visits actually completed in 2014 and 2015. As reported earlier on this report, overall almost one in five scheduled visits (i.e. 366 visits) did not take place and the program exceeded its goals of completed at least 60% of scheduled visits. Last year, PAT data was fully integrated into the RSTL

database and NFN data integration was in progress. In 2015, both PAT and NFN data were fully integrated and the evaluation team now has more details on the number and types of visits delivered to date.

Overall, 20% of all scheduled visits were missed. However, there continues to be a higher rate of missed PAT visits when compared to NFN visits (9% of scheduled NFN visits were not completed, compared to 28% of PAT visits). Reasons for missing a scheduled visit varied, but the most common was 70 instances of “no show” or no answer at visit, followed by 28 instances where family did not confirm the visit. Examples of other reasons for missing a visit are listed below:

➤ Family Cancelled	24%
➤ No show, or no answer when arrived	19%
➤ Family rescheduled	17%
➤ Family did not confirm	8%
➤ Refused visit	3%
➤ Family emergency	3%
➤ Other	2%
➤ Staff canceled	1%
➤ <i>Unknown Reason</i>	13%

Consider employing multiple strategies for confirming appointments (e.g., text, phone, email) to try to decrease some of this missed visits. RSTL does provide Kids Kash for every completed visit, and a family receives bonus Kids Kash if they keep three consecutive visits in a row.

Group Connections Meetings: Barriers to participation

As reported in last year’s report, the most common barriers to participation in Group Connections Meetings were lack of transportation and/or childcare. A few of the focus group participants also shared that the meeting topics influenced their decision to attend meetings. The RSTL staff continue to interact with the participants and work towards reducing these barriers to participation.

Focus group with participants had also informed that having multiple sessions of the Group Connections Meetings on same topic would give the participants more flexibility to attend them.

For example, having meetings in varying days and times of the week would help the participants choose meetings that best fits their availability. In addition to providing transportation, participants suggested building time for participants to socialize and swap baby items (for example, clothes and toys) with others during the meetings. The participants continue to show interest in meetings that focus on family relationships and taking care of oneself.

Resources and referrals: Barriers to utilization

The evaluation team is still learning about participants' needs and to what extent those needs are met after referrals to organizations or social services made by nurses and/or parent educators. In 2015, the RSTL team hired a social worker to expand this area of support.

Recommendations regarding barriers to participation in all components of the RSTL program

There were a number of barriers that hindered higher levels of participation in Group Connections Meetings.

- The most common barriers to participation included: 1) lack of transportation to/from the meetings; 2) lack of childcare; and 3) less interest in topic area. Strategies to help overcome these challenges include:
 - **Explore opportunities to make Group Connections Meetings more physically accessible.** One way is to provide transportation to/from Group Connections Meetings. Currently, bus vouchers are provided, however, the time and coordination required to take the bus (e.g., with baby seat and/or other children) can deter moms from taking the bus to these meetings. Consider organizing meetings at different locations accessible to participants and repeating topics more than once a year may increase participation.
 - **Continue to provide childcare at every Group Connections Meetings.** Without the ability to bring other children or enrolled children to the Group Connections Meetings, many mothers would be unable to attend.
 - **Vary the location and time (e.g., time of day, and day of the week) of Group Connections Meetings to increase participation.** To accommodate a wide range of availability, alternate days of the week, and time of day that Group Connections Meetings are held.
 - **Explore partnerships with organizations that hold monthly events for parents and expecting parents to work closely with to add on Group Connections Meetings to existing events or services.** There may be opportunities to piggyback on existing services that are offered to pregnant women or young families and host Group Connections Meetings in conjunction with some of these other services/events. This would also increase the types of supports families receive outside of RSTL program.
- **Expand data collection efforts around the degree to which the needs identified are met (e.g., not just yes/no).**

Deeper information on which needs are being fulfilled or which referrals are successful in helping participants are important. The social worker hired to support resources and referrals utilization may have suggestions about best process track and monitor the degree to which needs identified are met.

- **Expand and monitor current resource/referral inventory list and monitor and revise this list on an ongoing basis.** The number and type of social services available and organizations that can provide assistance is constantly changing and evolving in the St. Louis region. RSTL should conduct periodic review of referral organizations and services to identify opportunities for updates and help participants navigate to those services effectively.

TO WHAT EXTENT ARE RSTL CHILDREN ACHIEVING AGE-APPROPRIATE DEVELOPMENTAL AND HEALTH BENCHMARKS?

Birth outcomes

By enrolling mothers while they are pregnant and providing home visits with a nurse during pregnancy, RSTL hopes to positively affect birth outcomes, such as a larger proportion of full-term births (≥ 37 weeks of gestation) and babies of normal birth weights (≥ 2500 grams, or 5 pounds 8 ounces). As a result of prenatal home visits, mothers have a better understanding about a normal child's health and development, and when they should be concerned about seeking additional care for their children. Focus group participants gave several examples of their nurses who advised them about when to seek additional medical care, and when to monitor a situation, avoiding unnecessary use of medical resources.

Figure 20: RSTL participants' delivery type

More than three-quarter of RSTL moms (76%) had their babies through vaginal delivery method

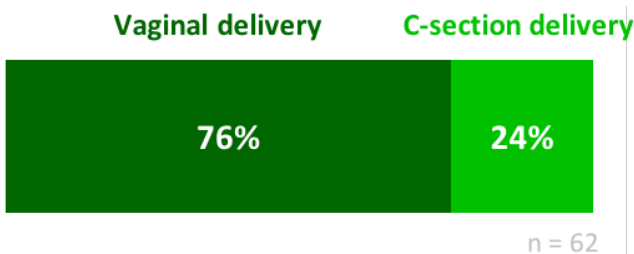


Figure 21: Full-term and pre-term births through the end of 2015

The proportion of full-term birth outcomes in 2015 is an improved outcome compared to 2014



Figure 22: RSTL babies weight at birth

Majority of babies were born with normal birth weight



Weight of babies at birth was also measured as a part of assessing birth outcomes. As shown in Figure 22, although majority of all births (82%), a higher proportion of singleton births (88%) were of normal birth weight. RSTL was just shy of its target rate of 90% of singleton births being of normal birth weight.

In order to assess whether enrollment of moms into the program early in their pregnancy impacted birth outcomes, we stratified the outcomes of full-term or pre-term and birth weight by trimester at enrollment. The findings are shared in Figure 23 and Figure 24. As seen in both figures, all mothers who enrolled in the program in their first trimester gave birth to 100% full-term babies and babies with 100% normal birth weight. These outcomes should be monitored as the sample size grows in future to ascertain the positive impact of RSTL program on birth outcomes.

Figure 23: RSTL babies born full-term and pre-term by trimester of enrollment to the RSTL program (singleton babies only)

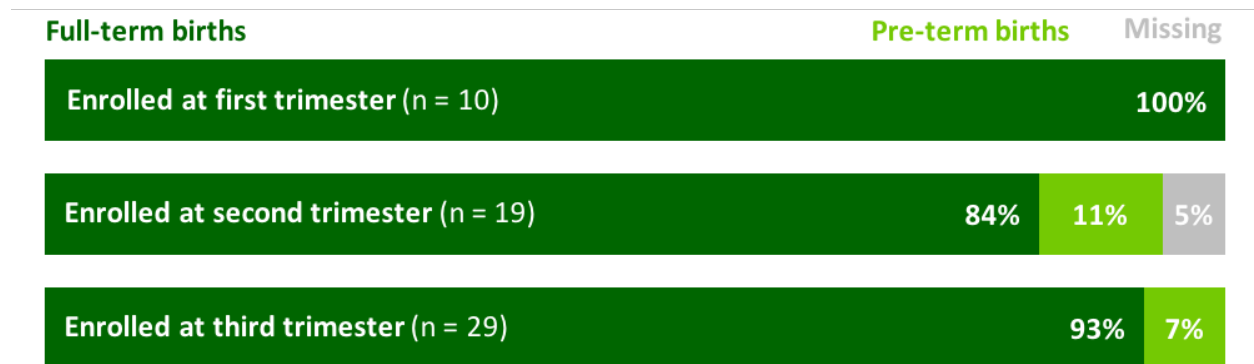
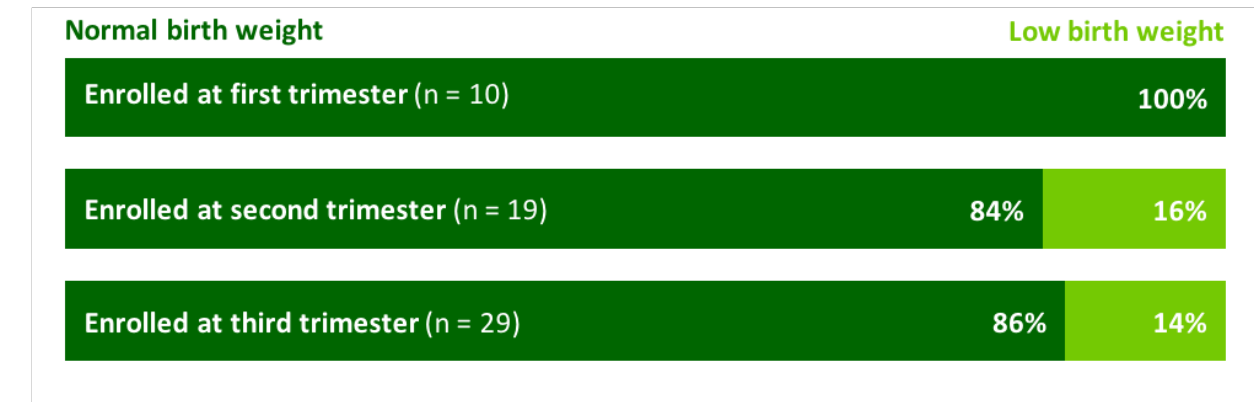


Figure 24: RSTL babies birth weight by trimester of enrollment to the RSTL program (singleton babies only)



Health outcomes and immunizations

Nurses and parent educators continue to gather information on children’s immunization through the caregivers. However, the RSTL database, as well as a detailed protocol and process to capture this information is still in progress. Therefore, in the absence of complete information, the findings have been excluded from this report and will be included in next year’s report. RSTL objective continues to have at least 80% of eligible children receive recommended vaccinations within two months, as recommended by the Centers for Disease Control and Prevention.

Developmental outcomes

Similar to last year, none of the ASQ-3 and ASQ-SE screenings produced results to indicate concern for potential developmental delays or socio-emotional concerns. As seen earlier in Figure 13, more than 90% of all eligible children at various months received these screenings. No concerns were identified based on these screenings. Developmental screenings will continue to occur as children age.

Recommendations regarding developmental and health benchmarks

- **Engage and enroll mothers earlier in their pregnancies.**

All mothers that enrolled in their first trimester delivered full-term and normal weight babies. Continue to track birth outcomes data with regards to duration in the program prior to delivery to identify if and what modifications to current enrollment criteria will make sense in the future.
- **Develop more detailed protocols for monitoring and verifying immunizations child(ren) receive.**

The RSTL team has already started to think about how to be more systematic in recording the time and type of immunizations received by children in future years of the evaluation. More detailed protocol is expected to be finalized in the coming year.
- **Develop additional developmental and health indicators and objectives for children as they age through the program.**

Currently, most of the outcomes related to child's health that are tracked are birth outcomes and child's developmental outcomes in early stages.
- **Develop and implement protocols that track fidelity to implementation across all visit types (e.g., visits with nurses and parent educators).**

Currently, there is only one objective around the fidelity to minimal service level, number of home visits conducted, based on need for parent educators. Expand objective to include home visits overall, and also determine changes in level of service over time.

TO WHAT EXTENT ARE PARTICIPATING FAMILIES EXERCISING POSITIVE PARENTING PRACTICES?

Positive parenting practice

Focus group participants in late 2014 and early 2015 described many positive impacts of the program in their lives. The participants shared that taking part in the program gave them better understanding of their babies' growth and development milestones, and parenting practices that promote positive development of babies. Additionally, some moms also worked with their nurses and parent educators to learn better ways of disciplining their children and exhibiting more self-control when handling behavioral challenges. Some moms also learned about how to best respond when other family members give their opinions about child-rearing. These are few examples of how participants were able to discuss and learn more about positive parenting practices through the program.

Father engagement

When the evaluation team consulted the community members during the program design phase, the team repeatedly heard the need to get fathers more involved in their children's lives. The team collaborated with the Fathers' Support Center (FSC), one of the most respected and trusted organizations working in this content area, to enhance father engagement. After some initial discussions, FSC and RSTL teams together agreed on several areas where the two could work together and be a resource for each other's clients. In late 2014, the collaboration was formalized and FSC took on the role of helping RSTL to recruit additional clients and to engage

fathers more effectively. In exchange, RSTL agreed to promote FSC programs and provide information to RSTL service recipients. FSC team is now an important stakeholder of the program who attend our monthly parent meetings and talk directly with fathers in RSTL program. In the near future, FSC will play a key role in planning special events focused on fathers and father-figures in the RSTL program.

Data related with father engagement was collected in 2015 for the first time and will serve as a baseline for the rest of RSTL program period. See Figure 25-30 for the findings. It should be noted that the total number (i.e. n) is different throughout. Learning from 2015 experience, the program could benefit from having protocols that support complete data collection. One notable finding is that only 9% of the participating families do not have a father figure, which starkly contrasts with the findings from the program planning phase. In the future, the team might consider looking deeper into the characteristics of families that are agreeing to enroll and stay active within the RSTL programs.

Figure 25: Father or father-figure relationship with the child

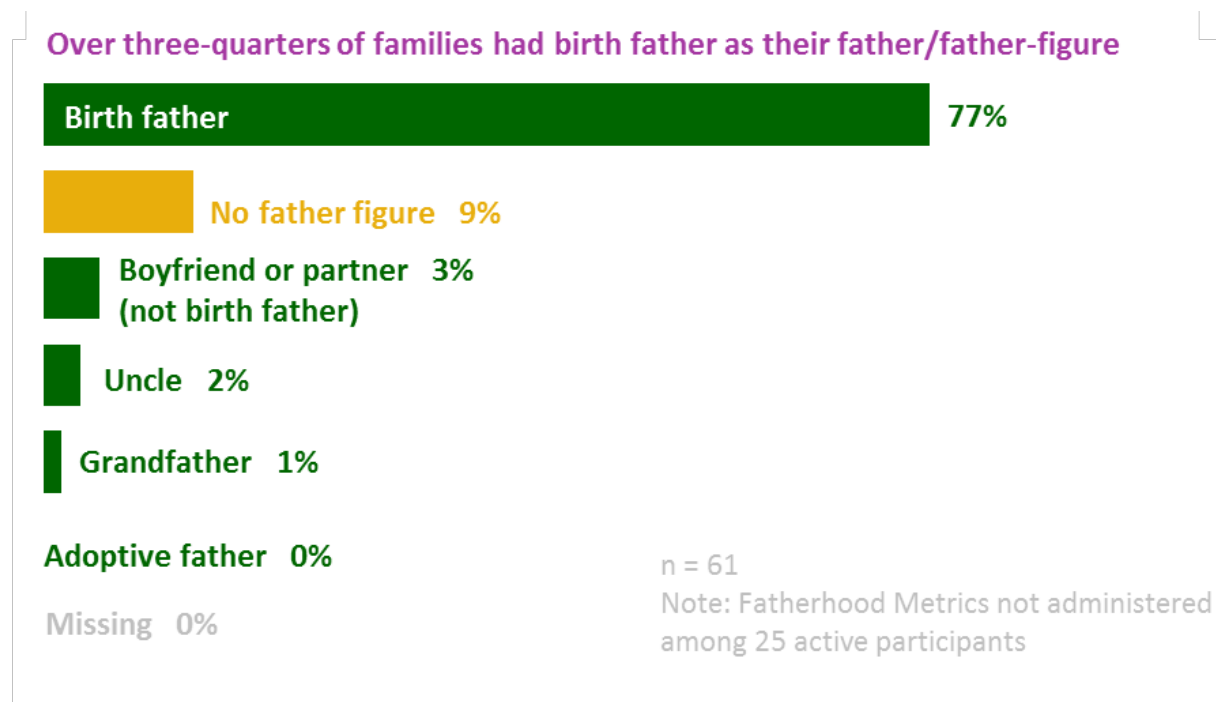


Figure 26: Caregivers' relationship with father/father-figure

More than seventy percent of caregivers were in a committed relationship with the child's father or father-figure

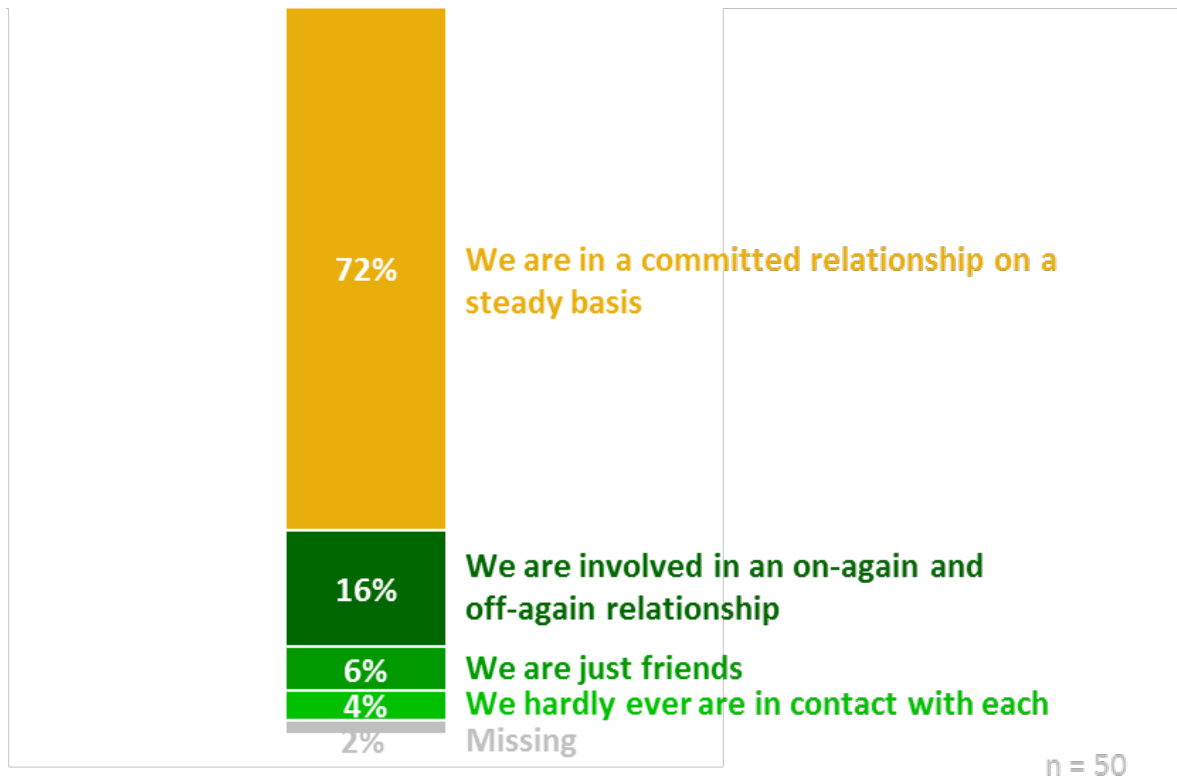


Figure 27: Child's Father/Father-figure living with Caregiver in past 6 months

Over half of father/father-figures lived with child at least some of the time

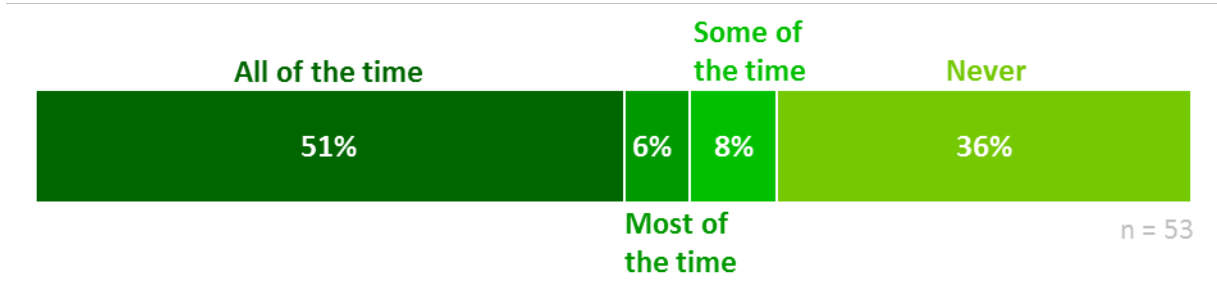


Figure 28: Caregiver's Happiness in Relationship with Child's Father/Father-Figure
 Roughly three-quarters of moms were fairly happy or very happy with the relationship they had with father/father-figure



Figure 29: Father/Father-Figure's Level of Involvement with Child, as Reported by Mom

Since last visit...

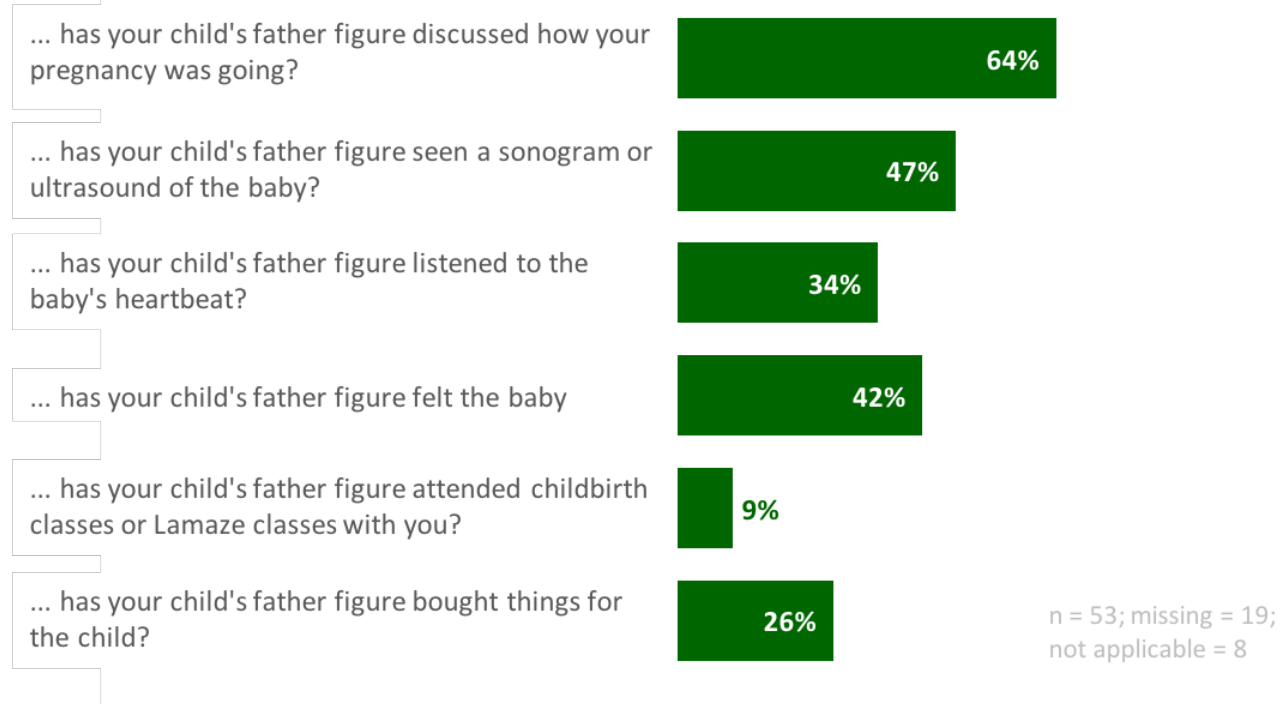
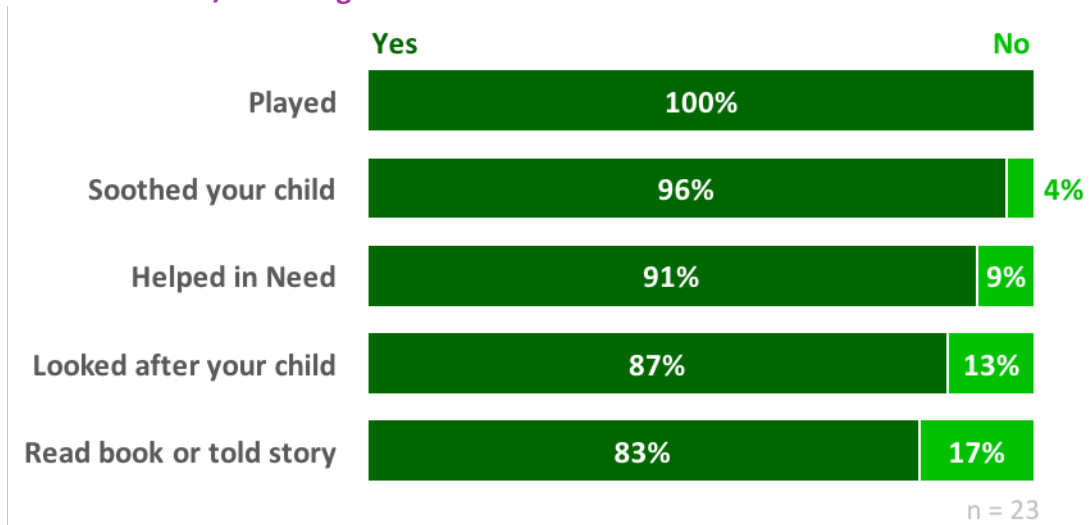


Figure 30: Father/Father-Figure Relationship with Child (Postpartum), since last visit, as Reported by Mom

Most father/father-figures showed care and involvement with the child



Recommendations around families exercising positive parenting practices

- **Identify and implement an instrument or assessment process to document parenting practices throughout all stages of a child’s development.**
This may require selection of more than one instrument and various indicators at different developmental stages (e.g., toddler vs. school-age children).
- **Continue to encourage father/father figures participation in the program.**
Father engagement in postpartum much lower than prenatal. It will be helpful to strategize and encourage more father and father figures to participate in the program in the future.
- **Set up systems to track changes in levels of engagement over time.**
Continue to gather complete information on father and father figure engagement levels through various indicators developed. Currently, there are many cases of missing information. Having a more complete information can inform the development of appropriate objectives of the RSTL program around father engagement.

TO WHAT EXTENT ARE PARTICIPANTS CONNECTING WITH ORGANIZATION REFERRED TO THEM THROUGH THE RSTL PROGRAM?

Facilitating navigation to healthcare and social services that can help in meeting the participants’ needs is one of the core components of the RSTL program. As mentioned earlier, during home visits, nurses and parent educators worked with the participants to identify needs and referred families to organizations or other entities that could be of assistance to the families.

A total of 398 unique needs were identified by 67 active participants at as of the end of 2015, with 54% referral rate. The average number of needs were 6 per participants and median was 4

needs per participant (range 1-44). Forty-seven percent of all identified needs were physiological needs, followed by 32% of safety and security needs, demonstrating that the unique challenges of addressing the most basic needs among this population before being able to sought more advanced needs.

Out of 398 needs identified, 214 of these needs had referrals to social or health services by home visitors. Across the 214 referrals made, home visitors made referrals to more than 75 unique organizations. The top five needs identified were: **Breastfeeding Education/Support** (15% of all needs identified), **Child Care Services** (11% of all needs identified), **Church/Religion** (8% of all needs identified), **Clinic** (8% of all needs identified), and **Clothing & Household items** (6% of all needs identified).

Recommendations around resource referral and utilization

- **Fully develop and maintain a RSTL specific resource inventory of social services and/or organizations for referral.**

It may be beneficial to identify RSTL staff member(s) to periodically update, expand, and revise the list of organizations or services in the RSTL database to which nurses and/or parent educators refer to when making referrals to participants. A few participants have commented that they have been unsuccessful in using the resource provided to them due to inaccurate or out-of-date information (e.g., a phone number no longer works).
- **Expand data collection around the extent to which participants are connecting with organizations or services they are referred to.**

Currently, nurses and/or parent educators record whether or not a participant connected to an organization (e.g., Yes/No). Additional details about if, and to what degree, need was met should be documented.
- **Expand data collection around the extent to which participants are utilizing the services of the RSTL social worker.**

Home visitors will refer the RSTL social worker to connect with families with certain kinds of needs or challenges. Currently, there is little formal documentation around when and how these services are utilized. Develop a protocol for documenting the support provided by the RSTL social worker into data collection process.

Conclusions

This report brings together information from first and second year of the RSTL program implementation. The program continues to grow in enrolling eligible families from specific geographical areas and the team is actively applying ongoing modifications to the process based on lessons learned along the way. The program continues to demonstrate strength in a number of ways:

- Participants are benefiting from both NFN and PAT home visits in a number of ways. They feel supported in a non-judgmental and welcoming way.
- Participants are also learning about their specific needs and organizations that may help them in addressing them. Participants are being empowered with knowledge as they are better able to navigate through the system and get the support they need.

- The program continues to learn from the participants and make necessary and practical modifications to engage the participants. The number of Group Connections Meetings, the topic areas, and the manner in which they were implemented to increase participation are all great examples of this.

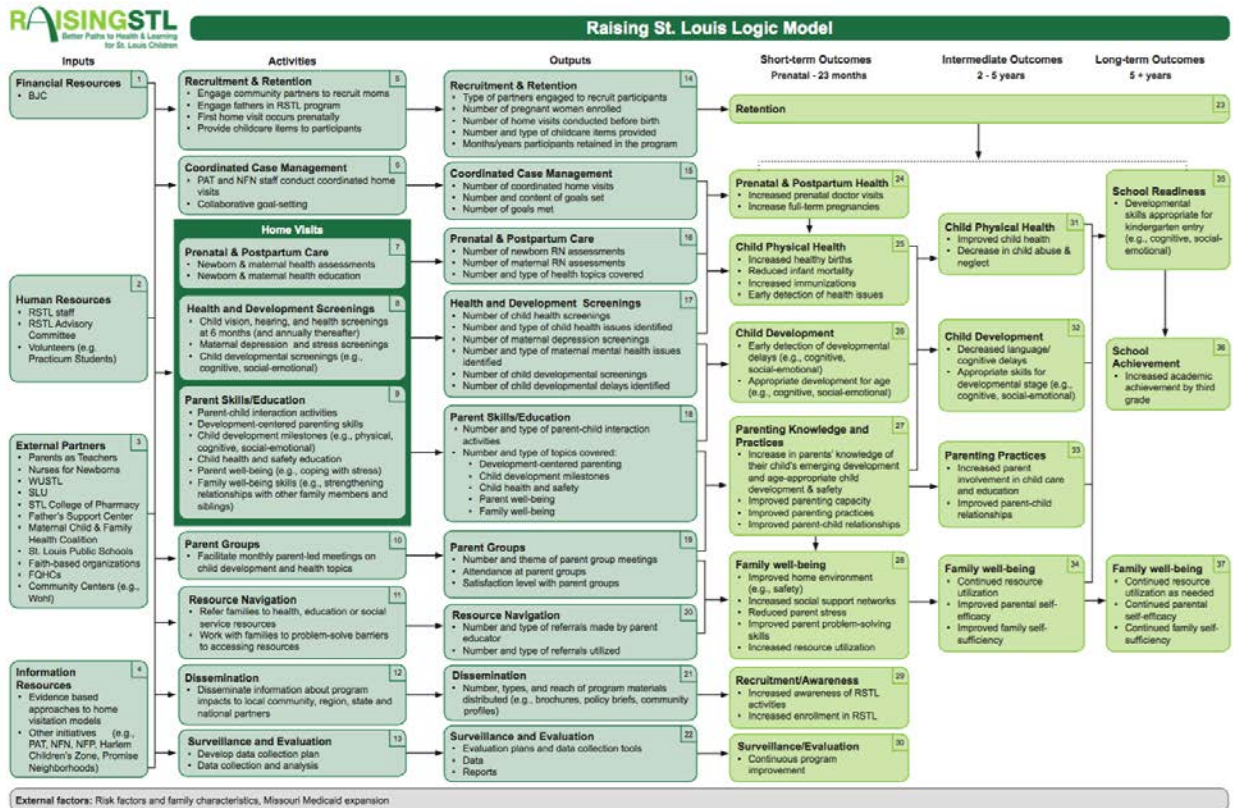
Some general recommendations that could assist the RSTL team in maintaining the program quality are as follows:

- **Enrollment.** In order to positive impact the birth outcomes and support mothers adequately, the team might want to explore how to enroll and engage mothers earlier in their pregnancies.
- **Completing visits.** With the increasing number of participants and additional geographic regions to cover, the team should periodically assess the rate of completed visits and take measures to reduce the number of missed visits.
- **Resource document.** The team might want to allocate time in periodically updating, expanding, and revising the RSTL specific resource inventory of social services and/or organizations for referral.

References

1. U.S. Department of Health and Human Services. (March 6, 2015). Healthy People 2020 Maternal, Infant, and Child Health Objectives Retrieved July 20, 2015, from <https://www.healthypeople.gov/node/3492/objectives#4825>
2. Missouri Department of Health and Senior Services. (2014). Recent Decreases in Infant Mortality in Missouri and the United States Retrieved July 20, 2015, from <http://health.mo.gov/data/focus/pdf/InfantMortalityTrends2014.pdf>
3. U.S. Census Bureau. (February 5, 2015). State & County QuickFacts: St. Louis City Retrieved July 20, 2015, from <http://quickfacts.census.gov/qfd/states/29/29510.html>
4. Center on the Developing Child at Harvard University. (2010). The Foundations of Lifelong Health Are Built in Early Childhood, from <http://www.developingchild.harvard.edu>
5. Shern, D., Blanch, A., & Steverman, S. (2014). Impact of Toxic Stress on Individuals and Communities: A Review of the Literature. Alexandria, VA: Mental Health America.
6. McLeod, S. (2007). Maslow's Hierarchy of Needs, from <http://www.simplypsychology.org/maslow.html>

Appendix A: RSTL Logic Model



Appendix B: RSTL Goals and Objectives

Raising St. Louis (RSTL), in conjunction with the evaluation team at CPHSS, and in consultation with the Evaluation Advisory Committee, developed an initial set of project specific goals and objectives. Progress on these objectives will be monitored on an annual basis and revisions and additions to the list of objectives will be ongoing. In the table below are the current goals the RSTL program, each with a set of corresponding objectives.



Fully met



Partially met



Not met

Goal 1: To recruit and retain participants of the Raising St. Louis program with fidelity of the service model

1. By December 31st of 2014, enroll 40 pregnant women from the pilot zip codes serviced in the Raising St. Louis program.
 - By the end of 2015, a total of 50 women were ever enrolled. To be “enrolled” in the RSTL program you have to undergo the first foundational visit. This exceeded the original goal of enrolling 40 pregnant women in the first year.
2. By December 31st of each year, retain 65% of Raising St. Louis program families.
 - In 2015, RSTL retained 67% of participants enrolled in the program.
3. By December 31st of each year, 75% of active Raising St. Louis program families received minimum RSTL expected home visits for their development stage.
 - In 2015, 62% of RSTL participants received 75% of expected number of PAT visits.
4. By December 31st of each year, 90% of active children served by the Raising St. Louis program received developmental screenings (ASQ-3) initially at 2 and 6 months, and then at subsequent 6 month intervals through age five.
 - By the end of 2015, more than 90% of eligible babies were screened for ASQ-3 at all intervals: 2 months, 6 months, 12 months, and 18 months screenings.
5. By December 31st of each year, 90% of active children served by the Raising St. Louis program received developmental screenings (ASQ-SE) initially at 6 months, and then at 12, 18, 24, 30, 36, 48 and 60 months of age.

- By the end of 2015, more than 90% of eligible babies were screened for ASQ-SE at all intervals: 2 months, 6 months, 12 months, and 18 months screenings.

6. By December 31st of each year, 90% of active families will have the Life Skills Progression (LSP) Outcome and Intervention Planning instrument completed by the Parent Educator, appropriate to their development stage.

- Original plan was to be first completed by the end of the second foundational visit prenatally, and then post-partum at 6 months, and then at subsequent 6 month intervals up until the child reaches the age of three.
- In 2015, RSTL identified and tested a new tool and revised the objective to match these changes. Revision of this goal is needed for future years.



Goal 2: To improve prenatal maternal and infant health of participants enrolled in Raising St. Louis

1. By December 31st of each year, 75% of active Raising St. Louis participants accessed adequate prenatal care visits as outlined by the Kotelchuck prenatal care index.

- 70% of mothers that had delivered (n=60) by the end of 2015 received “Adequate Plus” or “Adequate” prenatal care, as defined by the Kotelchuck Index.



2. By December 31st of each year, 85% of active Raising St. Louis program participants with singleton births experience full-term pregnancies (>37 and 0/7 weeks gestational age).

- 82% of mothers that had delivered singleton births were full-term.









3. By December 31st of each years, 90% of active Raising St. Louis program participants with singleton births give birth to normal birth weight babies (>2500 grams at birth or 5 lbs. 8 oz.)

- 88% of mothers that had delivered singleton births normal weight babies.



Goal 3: To improve postpartum maternal and infant health of participants enrolled in Raising St. Louis

1. By December 31st of each year, 80% of active Raising St. Louis infants receive hearing screening within 6 months postpartum, and subsequently on an annual basis.
 - Hundred percent of eligible children (n=24) and 94% of eligible children (n = 15) received 6 months and 12 months hearing assessment, respectively.
2. By December 31st of each year, 80% of active Raising St. Louis infants receive vision screening within 6 months postpartum, and subsequently on an annual basis.
 - Hundred percent of eligible children (n=24) and 94% of eligible children (n = 15) received 6 months and 12 months vision assessment, respectively.
3. By December 31st of each year, 80% of active Raising St. Louis infants receive health screening within 6 months postpartum, and subsequently on an annual basis.
 - Hundred percent of eligible children (n=24) and 94% of eligible children (n = 15) received 6 months and 12 months health assessment, respectively.
4. By December 31st of each year, 90% of active Raising St. Louis mothers are receiving recommended prenatal maternal depression screenings (minimum of 1 prenatal screening).
 - 77% (66 out of 86) of mothers received a minimum of one prenatal depression screening (EPDS).
5. By December 31st of each year, 90% of active Raising St. Louis mothers are receiving recommended post-partum maternal depression screenings at recommended times.
 - 95% of eligible mothers received a minimum of one postpartum depression screening (EPDS).
 - Initially, RSTL proposed to administer the EPDS at approximately 30 days, 60 days, and 120 days postpartum. Typically there is only one postpartum screening on record, thus far.
6. By December 31st of each year, active post-partum Raising St. Louis program participants will have an infant mortality rate of < 6.0/1000.
 - There has been two cases of infant mortality. One child passed away at 7 months old and the other was born with diaphragmatic hernia and passed away.
 - Due to the current and estimated sample size of families to be served by RSTL, revision of this objective at a non-population level is desirable.

7. By December 31st of each year, 80% of Raising St. Louis active children receive all necessary immunizations, as appropriate for their age, within two months of recommended date.

- Some monitoring around immunizations of children occurred in 2014 and 2015 (through NFN), however, this information was not systematically verified, and additionally not tracked to see if it was within +/- 2 months of the recommended timeframe to being administered (per CDC recommendation).
- The team will need to fully develop a protocol for tracking/verifying immunization practice among participants.



8. By December 31st of each year, active families of the Raising St. Louis program will have 25% of fathers/male figures actively involved in two home visits per year of those who have identified a father/male figure as active.

- 38 out of 86 (44%) families had a father-figure present for at least two visits to date.



Goal 4: To increase academic achievement of Raising St. Louis children by third grade by increasing parent engagement in their child's health and education

Objectives to be determined

Goal 5: To improve self-efficacy of Raising St. Louis caretakers through parent-led support groups

1. By December 31st of each year, the Raising St. Louis program will provide 12 Group Connection Parent meetings each year to enrolled and retained participants.

- Group Connections meets were not launched until June 2014. Between June 2014 and December 2014, five Group Connections Meetings were held, only one less than hosting them once a month, as was intended.
- In 2015, RSTL hosted 12 Group Connections Meetings, one a month on average.



2. Out of the 12 Group Connections Meetings offered a year, two Group Connection Parent meetings will focus on fatherhood and father involvement.

- Group Connections meets were not launched until June 2014. Future topics of Group Connections Meetings will target fatherhood or father or father-figure involvement.



3. By December 31st of each year, 60% of active families had at least one representative (e.g., mom, dad, primary caregiver) attend at least one Group Connection meeting per year.

- Thirty-nine unique mothers attended at least one Group Connection Meeting by the end of 2015, which represents 45% of active mothers.



Goal 6: To improve Raising St. Louis families' utilization to community resources by connecting families to resources referral network

1. By December 31, 2015, the Raising St. Louis program will have developed and maintained a resource inventory to refer participants appropriately.
 - In 2015, RSTL program hired a licensed social worker. This staff member has been involved in developing a resource inventory and other social service support for participants. Further expansion and refinement of the resource inventory is expected in future years.



More objectives to be determined

Appendix C: Evaluation Methods

RSTL staff partnered with experienced evaluators from the Center for Public Health System Science (CPHSS) at the Brown School at Washington University in St. Louis (WUSTL) to design and implement a mixed-method evaluation of the program. In the pilot year, the primary evaluation activities have included evaluation planning, collection and analyses of data, and dissemination of results.

Evaluation planning

In 2014, the evaluation team focused primarily on evaluation planning activities, including:

- Developed Evaluation Advisory Board: CPHSS team members worked closely with RSTL staff to develop an Evaluation Advisory Board, which consisted of RSTL staff members, sub-set of RSTL Board of Director members, and CPHSS evaluation team members
- Developed Program Logic Model: The Evaluation Advisory board helped to inform the development of a program logic model, identify and prioritize a set of key evaluation questions (which are listed in this Appendix), and formulate program specific goals and objectives (see Appendix B).
- Developed a preliminary evaluation plan: Plan will continue to be revised as data collection systems are rolled out and tested.
- Developed data collection systems: Assisted with and advised on the development of preliminary data collection protocols and systems to answer all evaluation questions.

Collection and analyses of data

The evaluation team and RSTL staff have developed both quantitative and qualitative data collection systems.

- **RSTL database:** This is an online quantitative case management and data system which includes data extracted from an existing NFN database and then uploads and merges these data to a database platform called Efforts to Outcomes (ETO). Nurses are responsible for entering data into the NFN database, and RSTL parent educators are responsible for entering data into the ETO system. These systems are closely monitored by RSTL staff and members of the evaluation team to increase data accuracy and completion and continuously revise data entry protocols. During the pilot year, much time and effort has been spent to customize the ETO system to meet RSTL's data collection and management needs.
- **Participant focus groups:** Evaluation team members from CPHSS helped to design a recruitment strategy and focus group question guide. This protocol has been implemented by an experienced facilitator from BJH. Two separate focus groups were conducted to date with plans to conduct focus groups with participants at least every other year.

Overall, the focus groups were designed to:

- Explore how mothers heard about the program and why they decided to enroll
- Evaluate their reaction to the program overall as well as specific components
- Learn more about home visits with the Nurses for Newborns nurses (e.g., level of satisfaction, barriers and facilitators to participation)

- Learn more about home visits with the Parents as Teachers educators (e.g., level of satisfaction, barriers and facilitators to participation)
 - Learn more about Group Connections Meetings (e.g., level of satisfaction, barriers and facilitators to participation, recommendations)
 - Understand if and how referrals to community services or organizations were made and acted upon
 - Explore the role of incentives (e.g., Kids Kash), and the importance it plays in motivating mothers to participate
 - Understand the degree to which fathers participate in the program and how to better engage them
- **Participant satisfaction survey:** The evaluation team developed and implemented a participant satisfaction survey, conducted over the phone with participants, in 2015. The current plan is to administer this survey to sample of participants every other year.
 - **Participant fidelity and implementation survey:** This survey is being finalized for administration in 2016, with plans to administer to sample of participants every other year.
 - **School records:** Currently, no RSTL children are of school age yet. However, as RSTL children enter school, the evaluation team plans to collect a number of school records (e.g., attendance, grades, MAP scores) for active children every year.

Table 1 maps the data source used to answer each evaluation question.

Table 1: Evaluation Data Collection Sources

Evaluation Question	Participant focus groups	RSTL database (ETO)	Participant Satisfaction survey	Participant Fidelity and Implementation survey	School records
1. What is the level of participant satisfaction with the RSTL program?	✓	✓	✓	✓	
2. What are common barriers to participation in each of the Raising St. Louis program components (e.g. home visitation, Group Connection meetings, etc.)?	✓	✓	✓	✓	
3. To what extent is the program implemented with fidelity to the RSTL service delivery model?	✓	✓		✓	
4. To what extent are participants connecting with organizations referred to them through the Raising St. Louis program?	✓	✓	✓		

5. To what extent are participating families exercising positive parenting practices?	✓	✓	✓	✓
6. To what extent are RSTL children achieving age-appropriate developmental and health benchmarks?	✓	✓	✓	
7. To what extent are school-aged RSTL children achieving age-appropriate academic benchmarks?				✓
[Not to be assessed until children are enrolled in school]				

Development of dissemination products

The evaluation team develops a couple of different dissemination related products each year. The primary intended audience for these products are RSTL staff and board members, as well as key partners and others doing similar work. These are used to help inform program planning and improvement. Additionally, the evaluation team presents key findings at RSTL Board Meetings throughout the year.

- **Dashboard summary:** The evaluation team developed and presented a dashboard report providing a summary of key outputs and outcomes through September of 2014 at the December 2014 RSTL Board Meeting.
- **Annual evaluation report:** Each year an evaluation report is to be developed highlighting the answer to the prioritized set of evaluation questions to-date.
- **Conference presentations and posters:** Another area where the teams get the word out about the Raising St. Louis work is through participation in regional and national conferences.

Appendix D: Group Connections Meetings held in 2014 & 2015

Date of meeting	Topic of meeting	Attendance	Number of Adults
June 2014	Connecting with baby	8 moms 3 dads 4 children	11 adults
July 2014	Routines with breastfeeding	10 moms 3 dads 8 children	13 adults
August 2014	Prenatal and postpartum support	9 moms No dads Number of children unknown	9 adults
September 2014	Nutrition	4 moms No dads 1 child	4 adults
December 2014	Exercise for the whole family	6 moms 1 dad 5 children	7 adults
January 2015	Budget Smart (Budgeting and Savings"	6 moms 2 dads 3 children	8 adults
February 2015	Take Care of Me!	2 moms 1 dads 2 children	3 adults
March 2015	Hire Me	3 moms 1 dad 7 children	4 adults
March 2015	Why Read?	3 moms 1 dad 4 children 1 guest	4 adults
April 2015	Playtime	3 moms No dads No children	3 adults
May 2015	Safe Sleep	1 mom No dads No children	1 adult
June 2015	Hands on Meal Prep Demo	3 moms No dads 1 child	3 adults
July 2015	Positive Behavior Management	4 moms 1 dad 4 children	5 adults

Date of meeting	Topic of meeting	Attendance	Number of Adults
August 2015	Playtime	2 moms 2 dads 4 children	4 adults
September 2015	Community Listening Session	1 mom No dads No children	1 adult
October 2015	Train With Mike Wayne	9 moms 4 dads 4 children 3 guests	13 adults
November 2015	RSTL Table Talk	39 moms 12 dads 15 children 14 guests	51 adults