Annual Report

Planning for Healthy Babies Program® (P4HB®)

1115 Demonstration in Georgia

YEAR 9

Submitted to the Centers for Medicare and Medicaid Services

By:

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And

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Executive Summary

Georgia's Planning for Healthy Babies Program® (P4HB®), Georgia's section 1115(a) Medicaid Demonstration expanded the provision of family planning services to uninsured female citizens capable of childbirth, ages 18 through 44 years, with family incomes at or below 200 percent of the Federal Poverty Level (FPL) [211% FPL as of April 2017] residing in the state. The P4HB program, initially approved for a three-year period from January 1, 2011 through December 31, 2013 was granted multiple temporary extensions through August 28, 2019. The Center for Medicare and Medicaid Services (CMS) recently extended the P4HB waiver program effective August 29, 2019 through December 31, 2029. This approval of the waiver is based on the determination that the continued demonstration is likely to promote the objectives of Title XIX by "improving access to high-quality, person-centered family planning services that produce positive health outcomes for individuals. It is also likely to lead to positive health outcomes through its unique program component of Interpregnancy Care (IPC) which provides targeted benefits for physical and behavioral health services to otherwise uninsured women that have delivered very low birth weight (VLBW) infants in Georgia.

In this and prior annual reports, we use data to evaluate progress toward the goals and objectives of P4HB. We present updated analysis of claims data and in some instances, linked claims and vital records for program years (PYs) pre-P4HB (2009 and 2010) and for post-P4HB (2012-2019), in this report.

We summarize key findings from the previously completed quasi-experimental pre/post analysis as well as updated descriptive and multivariate analysis using a control group of non-participants

in P4HB (see https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/?entry=8518) of the impacts of P4HB on desired outcomes:

- **P4HB was associated with several positive outcomes for Georgia's Medicaid population:**
    - Decreased unintended pregnancies;
    - Decreased teen births;
    - Decreased very short (< 6 months) interpregnancy intervals; and
    - Increased age at first birth.

- **P4HB enrollees who utilized covered services had improved outcomes relative to both Right from the Start (RSM) women who did not enroll and to P4HB enrollees who did not utilize services:**
    - Women enrolled in the family planning (FP) only component and who used any contraceptive method were less likely to conceive quickly (<6 months; 12 months; 18 months).

    - FP only enrollees who used long-acting reversible contraceptives (LARCs) who did conceive a pregnancy were more likely to deliver a normal birthweight infant than nonusers.

- **Women eligible and enrolling in the IPC component of P4HB had *significantly* better outcomes:**

    - Compared to women eligible for IPC but who did not enroll, women who enrolled were *significantly* less likely to have a clinically inappropriate interpregnancy interval (< 12 or 18 months) or a repeat delivery within 18 months of the index delivery.

    - Compared to women eligible for IPC but who did not enroll, women who enrolled and conceived a subsequent pregnancy were *significantly* less likely to have an adverse outcome (fetal death, stillbirth, VLBW or LBW infant) in subsequent deliveries.

- **P4HB has achieved cost savings each year.** There was an estimated savings (based on the original budget neutrality template) to the federal government from implementation of the P4HB demonstration program of $40 million in PY8 alone. *(Appendix B).*

- Enrollment in P4HB has been suboptimal. The original concept paper submitted to CMS indicated that the state anticipated enrolling at least 40% of eligible women initially and 60% as the program matured (5 years). Actual rates of enrollment far below these estimates has made it difficult to achieve the goals of P4HB.

Key annual patterns of enrollment and service utilization updated through 2019 are:

- Implementation of the Georgia Gateway in 2017 markedly increased enrollment of eligible women into P4HB but it is unclear what understanding of service coverage new FP only enrollees have, as their service utilization has recently declined.

    - Use of family planning services by FP only enrollees within six months of enrolling markedly declined beginning in 2017.

    - Use of any family planning services by IPC enrollees within six months of enrolling has been relatively stable.

    - Use of LARCS among FP only enrollees who used any birth control within six months of enrolling has been relatively stable 2015-2019.

    - Use of LARCS among IPC/RM only enrollees who used any birth control within six months had been relatively stable 2013-2017 but declined in 2019.

- Access of family planning services via Title X-funded clinics is beginning to reach former levels. When the Title X grantee changed from the Department of Public Health (DPH) to the Georgia Family Planning System (GFPS) in July 2014, the total number of users declined. However, the total number of male and female users at Title-X clinics in 2019 is now higher than the total number under DPH.

- IPC/RM only women utilize interpregnancy care services, including contraceptive methods and management of hypertensive and diabetes disorders, but rates could be improved.

- Receipt of any contraceptive method among IPC/RM only women increased over the months enrolled post-delivery.

- P4HB and LBW and VLBW births in Georgia:
    - Among Georgia Medicaid births from 2009 (pre-P4HB) to 2019 (post-P4HB), the percent VLBW (< 1500 grams) infants increased from 1.9% to 2.1% and the percent LBW (1500-2499 grams) infants increased from 8.3% to 9.2%.

    - When applying a control group for comparative purposes, the implementation of P4HB was not associated with improvements in the rates of VLBW and LBW:

        - When applying a *within-state* control group: Multivariate analysis showed no significant ($p<.05$) difference in the change in rates of VLBW or LBW in the 2012/2013 post versus pre P4HB period for Medicaid insured compared to a control group of privately insured Georgia women with high school or less education. An unexpected increase in these outcomes was found in the 2014/2019 post period.
        - When applying an *external control* group: Multivariate analysis showed no significant effects of P4HB on VLBW or LBW rates for Georgia women uninsured pre-pregnancy but insured with Medicaid at delivery compared to similar women in control states pre versus post P4HB.

I. OVERVIEW OF THE PLANNING FOR HEALTHY BABIES PROGRAM (P4HB)

In October of 2010, CMS granted Georgia the authority to expand access to family planning services under the Planning for Healthy Babies® (P4HB®) program. This program deemed eligible women as: 1) U.S. citizens and residents of Georgia who were otherwise uninsured and not eligible for Medicaid; 2) 18 through 44 years of age; 3) not pregnant but able to become pregnant; and 4) with incomes at or below 200% of the Federal Poverty Level (FPL). (With the state's use of the MAGI income measure, this threshold is now 211% FPL). The P4HB program is unique in that it also provides Interpregnancy Care (IPC) services, inclusive of nurse case management/Resource Mother outreach, to women who meet the above eligibility criteria and who recently delivered a very low birth weight (VLBW) infant (<1500 grams or < 3 pounds 5 ounces). In addition, the program offers nurse case management/Resource Mother outreach services to women enrolled in the Georgia LIM (Low Income Medicaid) or ABD (Aged, Blind and Disabled) Medicaid programs who delivered a VLBW infant on or after January 1, 2011.

Under the extended P4HB demonstration program, Georgia expects to achieve the following goals to promote the objectives of Title XIX:

- Reduce Georgia's Medicaid low birth weight (LBW) and VLBW rates;
- Reduce the number of unintended pregnancies in Georgia Medicaid;
- Reduce Georgia's Medicaid costs by reducing the number of unintended pregnancies by women who otherwise would be eligible for Medicaid pregnancy-related services;
- Provide access to IPC services for eligible women who have previously delivered a VLBW infant; and
- Increase child spacing intervals through effective contraceptive use.

The goals set for P4HB go beyond the minimum goals generally held for states' family planning demonstrations:

1. Ensure access to family planning and/or family planning-related services for low-income individuals not otherwise eligible for Medicaid; and
2. Improve or maintain health outcomes for the target population as a result of access to family planning services and/or family planning-related services.

These goals point to quantifiable performance measures that have been assessed pre- and post-implementation of the P4HB Demonstration and presented in earlier reports. Previously, the evaluation of outcomes used a quasi-experimental design, where possible, to test for changes pre and post the Demonstration. This PY9 report updates the pre/post analyses of outcomes based on the claims/linked vital records through 2019 using the full population and separately, by race/ethnicity.

II. SUMMARY OF NINTH YEAR ACTIVITIES

Communication and Outreach

During PY9, DCH conducted numerous activities to increase awareness of the P4HB program and to encourage participation by both consumers and providers. Also, DCH worked with CMS to complete the application for the P4HB 10-year extension, which was approved effective August 29, 2019 through December 31, 2029. Additionally, DCH made various corrections to the Georgia Gateway system. Also, the CMOs and network providers conducted outreach and education to prospective enrollees about the P4HB program. These activities for PY9 are summarized below.

DCH Supported Activities

In PY9, DCH: 1) educated CMOs and Medicaid network providers about P4HB and available services under the program; 2) utilized consumer-based outreach; 3) collaborated with state agencies and community partners to enhance outreach and enrollment in P4HB; and 4) worked to make corrections and refinements to the Georgia Gateway integrated eligibility system for the processing of P4HB applications; 5) worked with CMS to aid in the completion of the extension application, new budget neutrality calculations and public notice process; and 6) completed an annual evaluation. The DCH link for the P4HB program is: https://medicaid.georgia.gov/all-programs/planning-healthy-babies

1. **Educate Providers.** DCH communicated regularly throughout the year with the CMOs and network providers regarding the P4HB program. One round of provider and member surveys was completed in PY9. The surveys were distributed in August and September 2019 and focused on members and providers' knowledge and understanding of the P4HB program as well as potential barriers with the program.
2. **Consumer-Based Outreach**. DCH continued to conduct consumer-based outreach during 2019. At the beginning of the year, DCH completed its changes to the new P4HB page on the Medicaid section of the DCH website. In addition, DCH continued to issue its "Letter P80," a letter sent to all Medicaid eligible women enrolled in Right from the Start Medicaid (RSM) during their eighth month of pregnancy. This letter, sent by the CMOs, provides women with information about the P4HB program, including eligibility, the enrollment process, and details about selecting a CMO.

3. **Agency and Stakeholder Collaborations:** DCH continued to work with Healthy Mothers, Healthy Babies of Georgia to provide feedback about their Strategic Plan to Address Infant Mortality in the Atlanta Perinatal Region and to use this platform to explain and promote P4HB to community leaders. Also, DCH P4HB staff collaborated with the DCH Communications Team to develop a new communications plan to be implemented after approval of the extension application.
4. **Refinement of the Georgia Gateway integrated eligibility system:** DCH worked as a team throughout PY9 to make refinements to the Georgia Gateway integrated eligibility system. DCH worked to remove hundreds of non-eligible IPC/RM women who did not have the correct verification in the system for having a VLBW baby.
5. **Extension Application:** Throughout PY9, DCH received technical assistance from CMS to complete the P4HB extension application. In addition, CMS provided guidance to DCH on new budget neutrality calculations and the public notice process. DCH submitted a fast-track extension request to CMS after the public notice period. The extension request was approved by CMS, effective August 29, 2019 through December 31, 2029
6. **Annual Evaluation:** DCH worked with Emory University to prepare the ninth annual P4HB evaluation.

CMO Supported Activities

Each of the four CMOs working with the P4HB program has their own client and provider education plans relative to the P4HB program. This information is posted on their respective websites: https://www.myamerigroup.com/ga/your-plan/planning-for-healthy-babies.html;

http://georgia.wellcare.com/member/p4hb; https://www.pshpgeorgia.com/members/planning-for-healthy-babies.html; https://www.caresource.com/ga/plans/planning-for-healthy-babies/.

During PY9, the CMOs continued the following client-related outreach efforts:

- welcome calls to newly enrolled P4HB members;
- home visits and telephone calls to IPC participants to conduct case management and to educate them on the IPC program;
- mailing of program materials (including contraceptive benefit information) to all new and existing P4HB members;
- community baby showers for expecting and new mothers that informed them about the P4HB program;
- on-site visits with high volume delivery hospitals and FQHCs to help educate women and providers about the P4HB program and its IPC component.

The CMOs took part in local and community education events to discuss the P4HB program with prospective clients and continued provider education and training regarding the P4HB program. They issued provider toolkits about P4HB to new providers and discussed the P4HB program at new provider orientations.

III. ENROLLMENT OF ELIGIBLE WOMEN

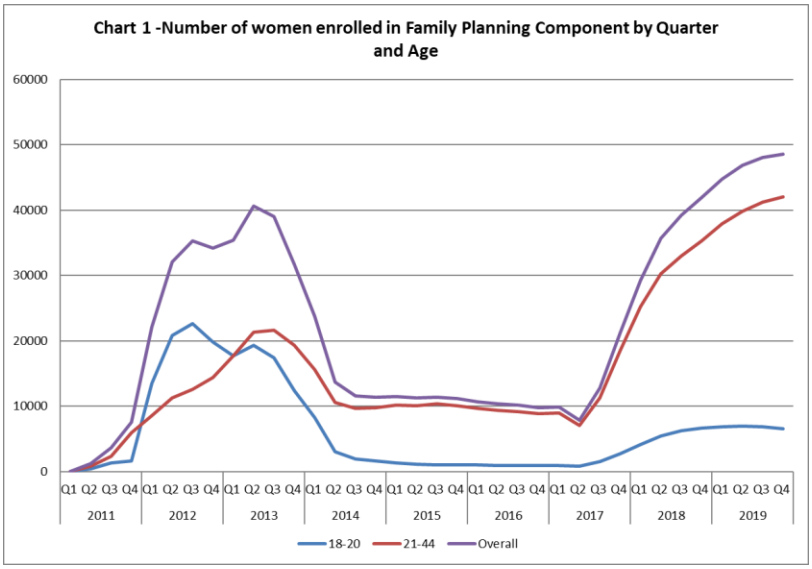
To achieve its goals, the P4HB program must enroll a significant portion of eligible women in the community; in the original concept paper for P4HB the state anticipated far higher participation rates than those observed in this and earlier program years. In this Year 9 Annual Report, we report trends in the number/percentage eligible enrolled in the FP only and IPC/RM components through December 2019.

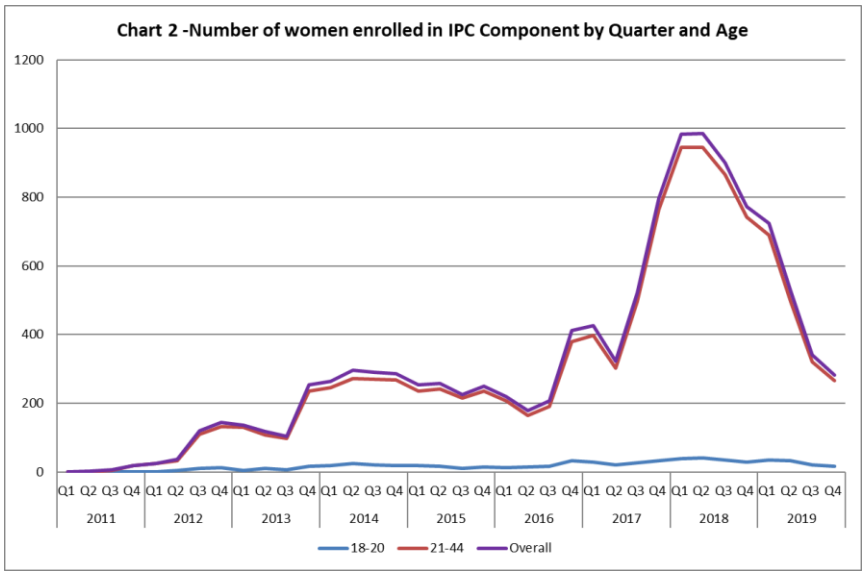
The Georgia Gateway system, now fully implemented, serves six state benefit programs: Medical Assistance, Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Low Income Home Energy Assistance Program (LIHEAP), Women,

Infants, and Children (WIC), and Child Care and Parent Services (CAPS). This system streamlines the application processes as it allows women to assess their eligibility for any of these programs including P4HB. The state notes that the Gateway system 'cascades' down to P4HB eligibility which is included within the Medical Assistance component of this system. As the following data show, this system had a significant impact on the level and growth in P4HB enrollment in both the FP only and IPC components.

Enrollment Trends

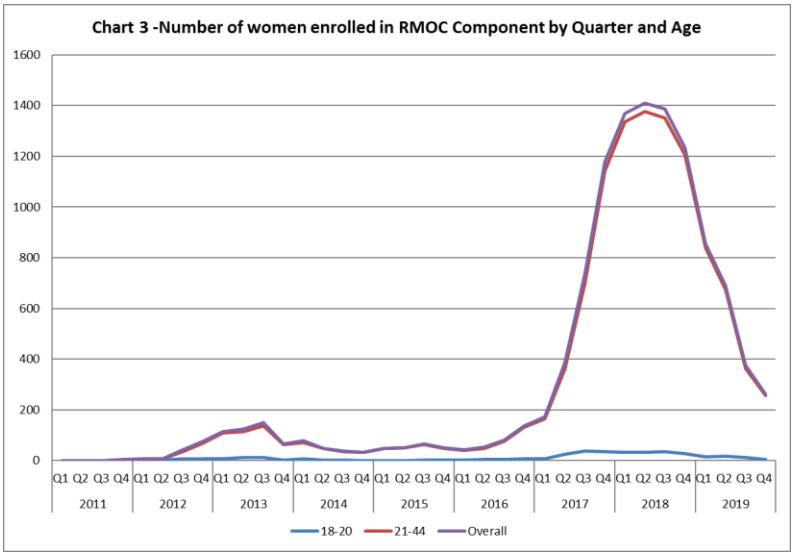
As shown in Chart 1, the implementation of the Gateway system beginning in Q2 of 2017 has markedly increased enrollment in the FP only component of P4HB. Prior to the implementation of Georgia Gateway total enrollment in the FP only component had fallen from a peak of 40,593 in Q2 2013 to 9,736 by Q4 2016. From there, the number of women enrolled in FP has more than quadrupled to more 48,566 by Q4 2019, reaching a new peak. The composition of the FP only enrollees by age changed slightly as the number of 18-20 year olds enrolled increased more than sevenfold from the end of 2016 (899) to the end of 2019 (6,547) while the number of 21-44 year olds enrolled increased almost fivefold (from 8,837 to 42,009). The precipitous growth in FP only enrollees for both age groups (18-20 and 21-44 years) occurred from the last two quarters of 2017 forward.





There were also marked increases in IPC and Resource Mothers (RM) only enrollments from 2016 to 2018. However, the growth in enrollment of women in these eligibility groups plateaued and actually fell throughout 2018/2019. The data on IPC enrollment (Chart 2) shows almost a doubling from Q4 2016 (411) to Q4 2017 (797). While enrollment increased further to 983 in Q1 2018 there was a precipitous decline to 772 by Q4 2018 and further, to 281 by Q4 2019.

The overall enrollment pattern for women in the IPC component was driven by women in the 21-44 age group as their numbers increased from 379 in Q4 2016 to 764 in Q4 2017. Their numbers increased in Q1 2018 (944) but declined by the end of 2019 to only 265. In contrast, IPC enrollment among those ages 18-20 had been fairly stable in the early waiver period but increased to a peak of 41 in Q2 2018. Since then, these enrollments declined markedly to only 16 by Q4 2019.



There was a similar pattern of increasing and then declining enrollment in the Resource Mothers (RM) only component of the P4HB program (Chart 3). The total number enrolled in RM only equaled 138 by the end of 2016 but increased markedly to 1,178 by Q4 2017. This was followed by marked declines to 261 by Q4 2019.

Despite these declines, the total number of IPC and RM only women enrolled at the end of 2018 (2,005) was almost four times the total number enrolled at the end of 2016 (549). However, by the end of PY9 the total number 542 is below that of PY6. While over 2,000 women who had delivered VLBW infants were eligible to receive nurse case management, RM services, primary care and other available IPC services intended to diagnose and manage chronic conditions as well as maintain clinically appropriate interpregnancy intervals in PY8, the number in PY9 is only one quarter of that.

Participation Rates

As in prior reports, we used data from the American Community Survey (ACS) for each year of the waiver to estimate the number of uninsured, citizen women 18-44 years with incomes at or below 200% FPL (211% as of April 2017) to gauge the percentage of eligible women who have enrolled in P4HB. With the implementation of the ACA in 2014 and the improving economy, the number of (citizen) women with incomes meeting the 200% (211%) FPL requirement *and*

uninsured declined in most of the subsequent years through 2019. [We note that the increase in the percent FPL to 211% the state began using in 2017 raised the number eligible from what it would have otherwise been in the subsequent years.] The estimated number of eligible women in the community in 2019 was 179,651 reflecting a decline of almost 40% from the 287,220 estimate for 2013.

Table 1. Enrollment of Population Eligible in the Community, 2011-2019

Demonstration Group	Enrolled in 4th Quarter	Population Eligible in Community[1,2]	Percent Eligible Enrolled
FP Only 2011	7,543	296,949	2.5%
2012 P4HB Enrollment/Participation			
FP Only 2012[3]	34,184	285,927	12.0%
FP Only 2012[4]	34,184	155,830	21.9%
IPC/Resource Mother Only	221	3,118	7.1 %
2013 P4HB Enrollment/Participation			
FP Only 2013[3]	31,690	287,220	11.1%
FP Only 2013[4]	31,690	156,535	20.2%
IPC/Resource Mother Only	318	3,328	9.6%
2014 P4HB Enrollment/Participation			
FP Only 2014[3]	11,370	232,718	4.9%
FP Only 2014[4]	11,370	126,831	9.0%
IPC/Resource Mother Only	317	3,332	9.5%
2015 P4HB Enrollment/Participation			
FP Only 2015[3]	11,133	207,966	5.4%
FP Only 2015[4]	11,133	113,341	9.8%
IPC/Resource Mother Only	300	3,311	9.1%
2016 P4HB Enrollment/Participation			
FP Only 2016[3]	9,749	187,342	5.2%
FP Only 2016[4]	9,749	102,101	9.5%
IPC/Resource Mother Only	549	3,411	16.1%
2017 P4HB Enrollment/Participation			
FP Only 2017[3]	21,195	200,684[5]	10.6%
FP Only 2017[4]	21,195	109,373[4]	19.4%
IPC/Resource Mother Only	1,975	3,354	58.9%
2018 P4HB Enrollment/Participation			
FP Only 2018[3]	41,889	197,603	21.2%
FP Only 2018[4]	41,889	107,694[4]	38.9%
IPC/Resource Mother Only	2,005	3,221	62.2%
2019 P4HB Enrollment/Participation			
FP Only 2019[3]	48,805	179,651	27.2%
FP Only 2019[4]	48,805	97,910[4]	49.8%
IPC/Resource Mother Only	555	3,193	17.4%

Notes:[1]Those eligible for family planning only benefits are uninsured female citizens ages 18-44 with income ≤ 200% FPL and residing in Georgia. The number of uninsured women in this age and income range was estimated using the ACS 1-year PUMS for 2011 – 2019 as shown in column 3. [2]Those eligible for IPC include uninsured women 18-44 with income ≤ 200% (211% 2017-2019) FPL residing in Georgia with a live born infant under 1500 grams at delivery. We use women with a VLBW infant born on Medicaid in the past two years as the denominator for this calculation in each year. Those eligible for Resource Mother only include LIM and ABD Classes of Eligibility women with a VLBW infant. We combine the enrollment counts for IPC and Resource Mother for the numerator and use all Medicaid paid VLBW births in 2018 and 2019 (2018 n = 1,583 and 2019 n = 1,610 in Table A.1 shown later) as the denominator in 2019. [3]We use the numbers enrolled as of the 4th quarter of 2019 (and reported in our 4th Quarter 2019 Report) for consistency with the earlier parts of this report. [4] This denominator adjusts for women in need of family planning services based on a report from the Guttmacher Institute. Their estimate is that 54.5% of women in the age group 13-44 needed family planning services; they count women who are sexually active, able to get pregnant but not currently pregnant or trying to get pregnant. See: http://www.guttmacher.org/pubs/win/contraceptive-needs-2008.pdf. *We multiplied the "in the community" population by .545 to get the 155,830 for 2012, 156,535 for 2013, 126,831 for 2014, 113,341 for 2015, 102,101 for 2016, 109,373 for 2017, 107,694 for 2018, and 97,910 for 2019 as shown in column 3.[5] This number reflects uninsured female citizens ages 18-44 with income below or equal to the 211% FPL eligibility level set by the state as they shifted to the MAGI income measure in April 2017.*

As shown above in Table 1, the percentage of those eligible who enrolled in the FP only component increased from less than 3% in 2011 to an estimated 12% of the eligible population in 2012, which represented the peak of enrollment until the most recent changes under the Georgia Gateway system and other outreach efforts. As the data show, the percentage of eligible women enrolled increased from 5.2% in 2016 to 10.6% in PY7 and further, to 27.2% in PY9. When we take into account that only an estimated 54.5% of the eligible population may be 'in need' of family planning services (sexually active, able to become pregnant, not currently pregnant or trying to get pregnant), the estimated percentage of eligible women 'in need' who enroll is much higher. This measure stood at 20% at the end of 2017 but more than doubled to almost 50% in PY9.

Before discussing the percentage of women eligible for IPC/RM who enroll we note that those eligible was defined differently beginning in the PY7 Annual Report. Due to the implementation of the Georgia Gateway system, more women who had a VLBW infant born in 2011 or later were enrolling in the IPC/RM only components remote from their qualifying delivery; previously, eligible women with a VLBW infant enrolled after a *recent* delivery. We defined those eligible for the IPC/RM component as women with a Medicaid paid VLBW infant in the past two years.

The percentage of women thus defined who enrolled in the IPC or RM only components remained below 10% and fairly stable until 2016 (16%). The marked increase in 2017 to ~59% appeared to be related to implementation of the Georgia Gateway system. The state became aware of some issues with this system and made adjustments to the enrollment process which removed hundreds of non-eligible IPC/RM women who did not have the correct verification in the system for having a VLBW baby.

The percentage of women eligible for the IPC/RM only component of P4HB who enrolled increased only slightly to 62% in PY8 but plummeted to 17.4% in PY9. This percentage is close to that for 2016, both of which are higher than the preceding waiver years (~7 to 10%).

IV. USE OF FAMILY PLANNING SERVICES

The key pathway through which the P4HB program can impact program goals and outcomes is in improved access to family planning services for a sufficient number of women eligible in the community. In turn, it is important that women utilize effective contraceptive methods once enrolled. As noted in prior reports, the use of family planning services through the P4HB program should be in addition to services provided through other public programs, such as Title X, for the use of family planning services by *all* women of reproductive age living in Georgia and in the income range targeted by the P4HB program to increase. Earlier, we found that services received through both Medicaid and Title X in Georgia did not increase enough to increase the percentage of women with incomes $\leq$ 200% FPL receiving a family planning or birth control visit 2009 through 2013.[1] We continue to monitor trends in the use of effective family planning services in P4HB and Title X as discussed in the following sections.

Family Planning and Birth Control Visits by P4HB Enrollees

In this section, we update the data on use of family planning services by P4HB enrolled women and users of Title X clinics, through 2019. When looking at utilization by P4HB enrollees it is important to note that we carefully count enrollees by requiring three continuous months of enrollment and that women are not pregnant or switched to RSM in the first 90 days and/or they did not have a Medicaid delivery <246 days from their start date. Once women are identified as P4HB enrollees in this manner, we start measuring utilization of family planning services in the first month of enrollment forward.

P4HB Usage. We report here on the use of family planning services paid for by Medicaid through the P4HB program, the use of contraceptives and among users, use by relative effectiveness of the contraceptive methods. As noted in earlier reports we have modified the coding of these services and contraceptive methods due to the introduction of ICD-10 diagnosis and procedure codes in October 2015. To assure our ability to examine trends over the P4HB program period, we continue to use the same coding as in earlier years and focus on *'early'* users (first 6 months) as early use helps prevent short interpregnancy intervals and repeat pregnancies paid by Medicaid.

The data in Table 2 reflects the percentage of P4HB enrolled women with any Medicaid family planning related visit, including visits for the additional P4HB covered services (e.g., treatment of sexually transmitted infections or primary care provider visits for IPC women) within six months of enrollment (and before evidence of a pregnancy). Among women in the FP only component, the percentage with any family planning visit in their first six months of enrollment began at a high level in 2011 at ~43%, declined to 25% in 2013 (likely due to auto-enrollment) and increased markedly to 47% in 2015/16 (likely due to discontinuation of auto-enrollment).

Table 2. Use of Family Planning and Birth Control Visits within Six Months of Enrollment among P4HB Family Planning only and IPC/RM Enrollees, 2011-2019

Demonstration Year	Use Among P4HB Women FP Only				Use Among P4HB Women IPC / Resource Mother			
	N	Any Family Planning Visit in First 6 Months	Mean Visits Per User in First 6 Months	Any Visit /Service for Birth Control in First 6 Months	N	Any Family Planning Visit in First 6 Months	Mean Visits Per User in First 6 Months	Any Visit /Service for Birth Control in First 6 Months
2011	7504	42.8%	2.42	34.1%	21	33.3%	2.86	28.6%
2012	40312	23.8%	2.48	19.0%	197	32.5%	2.55	25.9%
2013	27937	25.1%	2.56	19.9%	257	28.0%	2.69	21.8%
2014	5052	43.9%	2.62	36.7%	270	30.7%	2.72	25.9%
2015	6666	47.5%	2.70	40.4%	279	33.0%	2.20	21.5%
2016	4931	47.4%	2.53	38.3%	442	25.1%	2.17	18.3%
2017	16926	18.9%	2.18	13.4%	1343	30.2%	2.09	17.3%
2018	34863	19.7%	2.15	13.6%	1177	30.8%	2.11	17.3%
2019	24493	19.1%	2.05	13.3%	396	31.1%	1.80	21.7%

Notes: Denominator is all women ages 18-44 enrolling in P4HB during the calendar year.

This pattern was followed, however, by *striking decline*s in the use of any planning family services within six months to 19.1% in PY9. As noted, the declines in usage in 2012-2013 reflected lower rates of usage among women who had been auto-enrolled into P4HB and who may not have been aware or interested in P4HB covered services. It now appears that the marked increase in enrollment with the Georgia Gateway system has again 'auto enrolled' more women who are unaware and/or not interested in P4HB and hence, measures of overall use have again declined. The patterns of any visit for contraceptives 'mirrors' this overall pattern, showing a decline from 38% of these women having a visit/service for contraceptives in their first six months of enrollment in 2016 to ~13% with such a visit/service in 2019.

Among women enrolled in the IPC/RM only components of P4HB, the use of any family planning or other covered service within six months has been stable at ~30-31% in 2017-2019. Their use of any visit/service for contraceptives in the first six months of enrollment has generally declined over the waiver period from almost 29% in 2011 to ~17% in 2018. The causes behind this decline

are unclear and the PY9 measure shows an increase in any visit/service for contraceptives in the first six months to almost 22% of these enrollees.

Contraceptive Methods Used

Another way the P4HB program could be effective is to move women using some form of contraception toward one of the more effective contraceptive methods. In Table 3 below, we show the distribution of the 'early' users of some form of contraceptive by the WHO tiers of effectiveness 1-4 (in which Tier 1 represents the highest level of effectiveness); when a tier could not be discerned from the claims code, 'tier not specified' is indicated in the table. We also show the percentage of users using long-acting reversible contraceptives (LARCs) in the last column.

Table 3. Distribution of Contraceptive Methods Among Users within Six Months of Enrollment, P4HB Family Planning only and IPC/RM Only Enrollees, 2011-2019

Demonstration Year	% of Contraceptive Methods by Tier Paid by Medicaid: P4HB – FP Only						% of Contraceptive Methods by Tier Paid by Medicaid: P4HB – IPC/Resource Mother					
	N	Tier 1	Tier 2	Tier 3/4	Tier Not Spec	LARC	N	Tier 1	Tier 2	Tier 3/4	Tier Not Spec	LARC
2011	2560	23.1%	62.5%	2.4%	11.9%	19.0%	6	50.0%	33.3%	0.0%	16.7%	50.0%
2012	7663	16.8%	68.8%	3.1%	11.3%	14.5%	51	21.6%	66.7%	0.0%	11.8%	19.6%
2013	5573	21.5%	65.2%	2.8%	10.5%	18.7%	56	21.4%	69.6%	0.0%	8.9%	17.9%
2014	1852	20.8%	65.7%	2.9%	10.6%	17.4%	70	24.3%	71.4%	1.4%	2.9%	17.1%
2015	2695	18.9%	73.6%	1.5%	6.0%	17.0%	60	21.7%	70.0%	0.0%	8.3%	16.7%
2016	1891	18.2%	75.4%	0.8%	5.6%	16.8%	81	21.0%	76.5%	0.0%	2.5%	17.3%
2017	2263	19.7%	73.8%	0.7%	5.8%	18.4%	232	21.1%	71.6%	0.0%	7.3%	17.2%
2018	4738	17.8%	74.3%	1.2%	6.6%	16.3%	204	24.5%	68.1%	0.5%	6.9%	16.2%
2019	3246	18.6%	74.9%	0.7%	5.7%	17.4%	86	23.3%	69.8%	0.0%	7.0%	15.1%

Notes: Denominator is all women ages 18-44 enrolling in P4HB and using some form of contraceptives during the calendar year.

Notes: WHO Tiers of contraceptive effectiveness: Tier 1(High effectiveness): implants, intrauterine devices, sterilization; Tier 2 (Medium effectiveness): injectable methods, patch, pills, and vaginal ring; Tier 3 and 4 (Low effectiveness): condoms, diaphragms, fertility awareness methods, spermicides; Long-acting reversible contraceptive methods (LARC) are a subset of Tier 1 methods that are reversible and include implants and intrauterine devices. Tier not specified indicates that the tier of the method could not be assigned based on the claims codes.

As the data in Table 3 show, the use of Tier 1 contraceptives among FP only users of some form of contraceptive was high in the first year of P4HB at 23% but generally declined through the P4HB waiver period ending at 18.6% in 2019. Their use of LARCs (the subset of Tier 1 methods that are reversible) followed this same pattern, starting with 19.0% in the first year and ending at 17.4% in 2019. There appears to be a consistent increase in the percentage of women/users of oral contraceptives (Tier 2) but the decline in tier unspecified may be behind this upward trend. Oral contraceptives remain the most popular among 'early' FP only users equal to almost 75% in 2019.

The patterns of contraceptive use among the IPC/RM only enrollees in P4HB who use within six months of enrollment are somewhat different. For these women, the use of LARCs within the first six months declined from the 2012 level of ~20% to ~16-17% in more recent years and equaled 15.1% in 2019. For these enrollees, oral contraceptives (Tier 2) are also the dominant form of birth control at ~70% in 2019.

Use at Title X Clinics

As previously noted, we can no longer track detailed Title X funded use by individual women but use aggregate data available from the Family Planning Annual Report (FPAR), which is the uniform reporting method used by all Title X service grantees. Since July 2014, the new Title X grantee, the Georgia Family Planning System (GFPS), is largely a set of Federally Qualified Health Centers (FQHCs) which serve a broader and different clientele than the prior grantee, the Department of Public Health (DPH). With this change, there was an increase in the amount of 'unknown' data for several of the key data elements, but this issue has been addressed by the GFPS, reducing the amount of 'unknown' data in more recent years.

In Table 4 below, we show the FPAR for calendar years 2012 through 2019; data for the years 2012-2013 are *fully* from the Georgia DPH whereas data for years 2015-2019 are *fully* from the GFPS grantee. The reduction in the number of females getting family planning services that began in 2014 has been reversed, increasing to 119,711 in 2019 now higher than the 112,703 women served by DPH in 2013. In addition, the total men and women family planning users in 2019 (169,945) is higher than the number of men and women (115,307) served by DPH in 2013. We note that the composition of the Title X family planning users has changed with the change in service provide from DPH to GFPS; the percent of male clients served has increased to ~30% from only ~2% in 2013 while the percentage of those < 101% FPL and/or uninsured has declined. Those < 101% FPL declined from ~84% in 2012 to 66% in 2019 while the percent uninsured declined from 68% to 36%.

Although we are not able to distinguish P4HB enrollees in this data, around 84% of the female planning users with known income data in the FPAR reports have income $\leq$250% and hence, likely eligible for P4HB. Just over 80% of the female family planning users seen by GFPS in 2019 were 'at risk' of becoming pregnant (excludes those already pregnant, seeking pregnancy or abstinent).

Table 4. Title X Users of Family Planning Services During 2012-2019

	FPAR Data 2012[1]		FPAR Data 2013[1]		FPAR Data 2014[1]		FPAR Data 2015[1]		FPAR Data 2016[1]		FPAR Data 2017[1]		FPAR Data 2018[1]		FPAR Data 2019[1]	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Number and % of Family Planning Users by Gender																
Female	123,967	97.6%	112,703	97.7%	97,483	95.3%	66,912	77.5%	90,697	71.4%	104,290	72.5%	106,327	72.2%	119,711	70.4%
Male	3,025	2.4%	2,604	2.3%	4,840	4.7%	19,397	22.5%	36,371	28.6%	39,503	27.5%	41,037	27.8%	50,234	29.6%
Total	126,992		115,307		102,323		86,309		127,068		143,793		147,364		169,945	
Number and % of Female Family Planning Users at Risk[7] of Unintended Pregnancy (UP)																
At Risk of Unintended Pregnancy	108,449	87.5%	98,512	87.4%	84,339	86.5%	60,745	90.8%	72,730	80.2%	86,433	82.9%	85,000	79.9%	98,920	82.6%
Not at Risk of Unintended Pregnancy	15,518	12.5%	14,191	12.6%	13,144	13.5%	6,167	9.2%	17,967	19.8%	17,857	17.1%	21,327	20.1%	20,791	17.4%
Total	123,967		112,703		97,483		66,912		90,697		104,290		106,327		119,711	
Number and % of Female Family Planning Users Less than 25 Years with Chlamydia Testing																
Tested for Chlamydia	35,165	59.6%	29,478	55.9%	16,729	40.1%	7,073	32.9%	11,401	37.4%	13,915	44.7%	13,891	43.9%	17,456	48.2%
Not Tested for Chlamydia	23,863	40.4%	23,296	44.1%	25,025	59.9%	14,420	67.1%	19,052	62.6%	17,208	55.3%	17,725	56.1%	18,769	51.8%
Total	59,028		52,774		41,754		21,493		30,453		31,123		31,616		36,225	
Number and % of Family Planning Users by Income in Relation to Federal Poverty Level (FPL)[2]																
Income <101% FPL	106,751	84.1%	98,811	85.7%	78,118	85.0%	40,103	72.8%	77,139	75.3%	100,035	72.9%	103,377	71.6%	108,289	66.2%
Income 101% to 250% FPL	19,092	15.0%	15,745	13.7%	12,646	13.8%	11,745	21.3%	18,323	17.9%	25,813	18.8%	27,512	19.0%	28,868	17.6%
Income Over 250% FPL	1,149	0.9%	751	0.7%	1,100	1.2%	3,265	5.9%	6,990	6.8%	11,394	8.3%	13,586	9.4%	26,455	16.2%
Total (Known Income Level)	126,992		115,307		91,864		55,113		102,452		137,242		144,475		163,612	
UK/NR/Missing	0	0.0%	0	0.0%	10,459	10.2%	31,196	36.1%	24,616	19.4%	6,551	4.6%	2,889	2.0%	6,333	3.7%
Total	126,992		115,307		102,323		86,309		127,068		143,793		147,364		169,945	
Number and % of Family Planning Users by Insurance Status																
Public Insurance	19,716	16.3%	20,784	18.8%	22,393	23.2%	24,719	29.9%	37,305	29.4%	42,128	29.3%	40,052	27.3%	47,962	28.3%
Private Insurance	18,701	15.5%	16,311	14.8%	14,973	15.5%	23,753	28.8%	37,717	29.7%	45,797	31.9%	49,673	33.8%	60,712	35.8%
Uninsured	82,223	68.2%	73,313	66.4%	59,130	61.3%	34,105	41.3%	51,914	40.9%	55,699	38.8%	57,249	39.0%	61,080	36.0%
Total (Known Insurance Status)	120,640		110,408		96,496		82,577		126,936		143,624		146,974		169,754	
UK/NR/Missing	6,352	5.0%	4,899	4.2%	5,827	5.7%	3,732	4.3%	132	0.1%	169	0.1%	390	0.3%	191	0.1%
Total	126,992		115,307		102,323		86,309		127,068		143,793		147,364		169,945	
Number and % of Female Family Planning Users at Risk of Unintended Pregnancy by Effectiveness of Primary BC Method After Visit																
Most Effective Permanent Methods (Tier 1, Non-reversible)[3]	3,095	3.0%	1,629	1.7%	1,866	2.6%	5,345	20.0%	9,500	17.0%	11,321	21.4%	11,762	20.0%	13,266	20.3%
Most Effective Reversible Methods (Tier 1, Reversible)[4]	8,273	7.9%	8,711	9.1%	6,770	9.5%	4,010	15.0%	10,261	18.4%	8,671	16.4%	9,102	15.5%	9,974	15.3%
Moderately Effective Methods (Tier 2)[5]	74,947	71.4%	68,699	71.9%	53,233	74.9%	11,020	41.3%	20,334	36.5%	15,924	30.1%	17,035	29.0%	16,906	25.9%
Less Effective Methods (Tier 3,4)[6]	18,599	17.7%	16,567	17.3%	9,243	13.0%	6,293	23.6%	15,631	28.0%	16,971	32.1%	20,908	35.6%	25,145	38.5%
Total (Known Birth Control Method)	104,914		95,606		71,112		26,668		55,726		52,887		58,807		65,291	
UK/NR/Missing/None	3,535	3.3%	2,906	2.9%	13,227	15.7%	34,077	56.1%	17,004	23.4%	33,546	38.8%	26,193	30.8%	33,629	34.0%
Total	108,449		98,512		84,339		60,745		72,730		86,433		85,000		98,920	

[1] Family Planning Annual Report (FPAR) data as reported by the Georgia Title X grantee. The Title X grantee changed 7/1/2014. Hence, 2014 data are from two different sources.

[2] Federal Poverty Level, as determined by reported household income relation to Federal Poverty Guidelines

[3] WHO Tiers of contraceptive effectiveness: Tier 1 (high effectiveness), non-reversible methods include sterilization by any method.

[4] WHO Tiers of contraceptive effectiveness: Tier 1 (high effectiveness), reversible methods include LARC methods, namely implants and intrauterine devices.

[5] WHO Tiers of contraceptive effectiveness: Tier 2 (medium effectiveness) methods include diaphragms, injectable methods, patch, pills, and vaginal ring.

[6] WHO Tiers of contraceptive effectiveness: Tier 3/4 (low effectiveness) methods include condoms, fertility awareness methods, and spermicides.

[7] Women at risk excludes those who are pregnant, seeking pregnancy or abstinent.

But of these, 34% were not using or their method of contraception was unknown/not reported; this is a dramatic difference from the 3% not using or using an unknown/not reported method in 2013. Based on those with *known* data on contraceptive method, the utilization of Tier 1 methods changed, with both the percentage using *reversible* methods (LARCs) and *non-reversible* methods increasing from 2012-2014 to 2015-2019. Specifically, the percentage reporting a Tier 1, reversible (LARCs) method increased from ~ 7.9-9.5% in 2012-2014 to 15-16.4% in 2015-2019 and the percentage reporting a Tier 1, *non-reversible* (sterilization by any method) increased from 1.7-3.0% in 2012-2014 to ~20-21% over the 2015-2019 period. Among those with known data on contraceptive methods, there has also been a shift in their use of Tier 2 methods (from 41% in 2015 to ~26% in 2019) while increasing their use of the less effective (Tier 3 & 4) methods from 23.6% in 2015 to 38.5% in 2019. It is difficult to draw conclusions about the overall patterns of contraceptive use within the Title X system over time without knowing the composition of usage among *all* 'at risk' female family planning users, particularly given the large percentage of clients who are not using a method of contraception or who are using an unknown/not reported method for the period 2015-2019;however, the substantial increase in Tier 1, *non-reversible* (sterilization by any method) and the increase in less effective methods among GFPS clientele is of note.

In prior reports, we noted a decline in the percentage of female family planning users less than 25 years of age who were tested for chlamydia 2014 to 2015. In the more recent data, there are reported increases and yet, the ~48% receiving this screen in 2019 is still lower than the 56-59% reported as being screened in the 2012-2013 DPH data. A decline in this testing is a concern given that the screening of asymptomatic women under age 25 for chlamydia is a long-standing recommendation of the United States Preventive Services Task Force[2] and is included as a HEDIS (Health Plan Employer Data and Information Set) measure since 2000. *Chlamydia trachomatis* is

the most common bacterial sexually transmitted infection in the U.S. and has numerous adverse consequences to reproductive health.[3]

V. USE OF SERVICES BY IPC AND RM ONLY WOMEN

As noted in the original concept paper for P4HB, women who have a VLBW delivery are likely to have unrecognized and/or poorly managed chronic health conditions, infections, anemia, substance use and other health issues. Access to health care before and between pregnancies is recognized as crucial for improving US birth outcomes[4-5] and as especially important for women with chronic health conditions[6] and for women with prior adverse birth outcomes.[7] In particular, experiencing an adverse outcome, such as VLBW delivery is among the strongest predictors for future adverse pregnancy health outcomes,[8] underscoring the critical importance of the receipt of interpregnancy care, especially care for chronic health conditions. Substance use in the interconception periods, for example, predicts substance use in the prenatal period (of a subsequent pregnancy). Intervention to reduce tobacco, alcohol, and drug use in the interconception period is critical for the health of the woman, subsequent pregnancies, and other children living in the home who would be exposed to second-hand smoke.[9]

The goal of the IPC component of the P4HB program is to help these women maintain or improve their health during the following enrollment period by providing access to case management and expanded primary care health services noted earlier. The goal of the Resource Mother only component of the P4HB program is to offer case management and outreach services to women who deliver a VLBW infant who are already covered by Georgia LIM (Low Income Medicaid) or ABD (Aged, Blind and Disabled) following the index delivery. Finally, by providing family

planning and services and contraceptive methods the interpregnancy periods for a subsequent birth should be longer and potentially, clinically appropriate (>18, > 24 months).

In this report we continue to focus on ascertaining the types of chronic health conditions for which these women are seeking and receiving care under the P4HB program. Beginning with data for PY7 we assessed the continuous enrollment of IPC and RM only enrollees following the index VLBW delivery along with their utilization of services during that follow-up period according to their chronic condition status.

IPC and RM Only Service Use Postpartum and Interpregnancy

In Table 5 we show data for women enrolled in IPC/RM only in 2011 through 2019. The data show utilization for the 90 days they were under RSM coverage post-delivery through the 180 and 360 days after delivery when there were in IPC/RM coverage. As expected, the percentage who remained continuously enrolled in the RM only group through 360 days was higher at ~90% (1,567 of 1,723) compared to the ~72% of IPC enrollees (993 of 1,385) remaining continuously enrolled through 360 days after delivery.

While a quite low percentage of both groups received an encounter coded as a postpartum visit, the visit tended to occur during the first 90 days and was still higher for IPC compared to RM only women (34.8% compared to 23.7%) by 360 days. Rates of cervical cancer screening increased over the longer postpartum enrollment period for both groups and was similar (~23-26%) at the end of 360 days. Family planning counseling also increased over time but was only ~10% for both groups at the end of 360 days.

Rates of utilization of any contraceptive method was higher in each postpartum period for the IPC compared to RM only women but less than half (45.8%) had used any method by 360 days compared to ~40% of RM only women. It is important to note that a significant percentage of both IPC and RM only women receive contraceptive services in the first 90 days following delivery. Use of contraceptives by WHO tiers of effectiveness was quite similar for the IPC and RM only women through 360 days, with both groups most commonly utilizing Tier 2 methods. The receipt of LARCs within 90 days was higher for IPC women at 8.5% than RM only women at 5.8% but increased slightly for both groups to 11.3% for IPC women and 8.4% for RM only women by 360 days.

Important to the goals of the IPC program, services related to the management of chronic health conditions such as diabetes, mental health/substance abuse and hypertension were received by IPC and RM only women starting in the 90 days post-delivery and increasing through 360 days. Just over 9% of all 2011-2019 IPC enrollees received any diabetes related service, approximately 30% received services related to hypertension while approximately 24% received services related to any mental health or substance abuse related condition by 360 days post-delivery. The patterns for RM only women were comparable at approximately 15% receiving services for diabetes and ~28-30% for either mental health/substance abuse or hypertension. The receipt of dental care by 360 days post-delivery is low at approximately10% for IPC women and somewhat higher at 15% for RM only women.

Table 5. Receipt of Postpartum Visit and Interpregnancy Care Services among IPC and RM only Women with VLBW Delivery and Enrolling 2011 through June 2019

	IPC			RM Only		
	Delivery to 90-Days Post (RSM)	**Delivery to 180-Days Post (IPC)**	**Delivery to 360-Days Post (IPC)**	**Delivery to 90-Days Post (RSM)**	**Delivery to 180-Days Post (RM)**	**Delivery to 360-Days Post (RM)**
N Continuously Enrolled in Medicaid	1385	1191	993	1723	1698	1567
Postpartum Service						
Postpartum care visit	35.2%	34.3%	34.8%	23.4%	23.3%	23.7%
Receipt of cervical cancer screening	11.3%	11.9%	22.7%	8.9%	14.0%	25.7%
Family planning counseling	6.6%	7.5%	10.1%	4.5%	6.6%	10.2%
Dental Care**	5.2%	6.5%	9.5%	6.1%	9.9%	16.5%
Any diabetes related service	6.4%	6.5%	9.5%	6.2%	8.8%	15.1%
Any hypertension related service	27.7%	28.2%	30.1%	19.8%	22.1%	27.6%
Any mental health or substance abuse related service	19.4%	21.0%	24.3%	17.4%	22.2%	30.5%
Contraceptive Method						
Tier 1	17.0%	18.1%	18.9%	13.2%	14.6%	16.9%
Tier 2	20.1%	21.2%	24.5%	16.3%	19.0%	20.9%
Tier 3/4	0.4%	0.3%	0.5%	0.1%	0.1%	0.1%
Tier Unspecified	1.2%	1.6%	1.9%	1.5%	1.8%	1.7%
Any Method	38.8%	41.3%	45.8%	31.0%	35.5%	39.6%
Subsets of Tier 1						
LARC	8.5%	9.2%	11.3%	5.8%	6.8%	8.4%
Sterilization	8.5%	9.0%	7.7%	7.4%	7.8%	8.5%

^<.05, ^^<.01 Chi-Square P-value

**Denominator is IPC, RM only women with delivery of VLBW infant and enrolling in demonstration years 2011 through June 2019. Contraceptive Tiers have been identified in other tables in this report. Tier 1, 2, 3/4, and Unspecified are mutually exclusive. If claims for more than one type during post-partum period, use is categorized into most effective method.*

*** Dental care includes those services covered for IPC and RM only women.*

IPC and RM Only Service Use Postpartum and Interpregnancy among Those with Chronic Conditions

The forgoing analysis was for all IPC and RM only enrolled women. In the data below we examine service utilization *specifically* among women that we identified as having evidence of either of two prevalent and impactful conditions--hypertension or diabetes—based on either vital records or claims during their pregnancy. Using vital records or ICD/CPT codes, we estimated that approximately 32% of women in the IPC group (450/1385) and approximately 26% of the RM only (441/1723) group was affected by hypertension (gestational or pre-gestational) or diabetes (gestational or pre-gestational).

Table 6. Receipt of Post-Partum Visit and Interpregnancy Care Services among IPC and RM only Women with VLBW Delivery Enrolling 2011 through June 2019 and Evidence of Hypertension or Diabetes Pre or During Pregnancy

	IPC			RM Only		
	Delivery to 90-Days Post (RSM)	**Delivery to 180-Days Post (IPC)**	**Delivery to 360-Days Post (IPC)**	**Delivery to 90-Days Post (RSM)**	**Delivery to 180-Days Post (RM)**	**Delivery to 360-Days Post (RM)**
N Continuously Enrolled in Medicaid	450	379	312	441	435	399
Postpartum Service						
Postpartum care visit	45.1%	45.7%	46.79%	40.8%	40.7%	40.6%
Receipt of cervical cancer screening	14.0%	14.8%	25.0%	12.7%	17.2%	31.%
Family planning counseling	8.2%	9.2%	12.2%	7.3%	9.9%	14.3%
Dental care**	6.0%	7.7%	10.9%	7.5%	10.3%	15.3%
Any diabetes or hypertension related service	74.2%	74.1%	77.2%	67.4%	69.9%	72.2%
Any mental health or substance abuse related service	20.9%	23.8%	25.6%	22.0%	27.1%	33.3%
Contraceptive Method						
Tier 1	24.2%	25.3%	26.6%	24.9%	26.4%	27.3%
Tier 2	22.9%	25.1%	28.5%	19.5%	22.3%	24.8%
Tier 3/4	0.2%	0.3%	0.3%	0.2%	0.2%	0.3%
Tier Unspecified	1.1%	1.6%	2.9%	1.8%	1.6%	1.8%
Any Method	48.4%	52.2%	58.3%	46.5%	50.6%	54.1%
Subsets of Tier 1						
LARC	10.7%	11.1%	13.8%	10.0%	10.8%	12.0%
Sterilization	13.6%	14.3%	12.8%	15.0%	15.6%	15.3%

***Denominator is IPC, RM only women with delivery of VLBW infant and enrolling in demonstration years 2011 through June 2019. Contraceptive Tiers have been identified in other tables in this report. Tier 1, 2, 3/4, and Unspecified are mutually exclusive. If claims for more than one type during post-partum period, use is categorized into most effective method.** Dental care includes those services covered for IPC and RM only women.*

In comparing the data in Table 5 and n Table 6, a higher percentages of those with gestational or pre-gestational hypertension or diabetes received a postpartum visit compared to all IPC enrollees (45% versus ~35%) at delivery or 360 days post-delivery (~47% versus ~35). Around 77% of IPC women with either gestational or pre-gestational hypertension or diabetes received services for one or both of these conditions and this is a bit higher than the ~72% of RM only women receiving these services through LIM or ABD Medicaid coverage. Receipt of cervical

cancer screening or family planning counseling services was higher among IPC with gestational or pre-gestational hypertension or diabetes than for all IPC enrollees; this also held for the RM only women with these conditions.

The receipt of any mental health or substance abuse related services within 360 post-delivery among IPC women with gestational or pre-gestational hypertension or diabetes was ~26% slightly lower than the 33% of RM only with these chronic conditions receiving such services. This indicates that both groups of women with VLBW deliveries have not only the hypertensive/diabetes chronic conditions but also, a wider array of conditions (e.g., smoking/ substance abuse, depression) that need management through their remaining reproductive years.

Important to achieving clinically appropriate interpregnancy intervals, there was evidence of differential utilization of contraceptive services among IPC and RM only enrollees with gestational or pre-gestational hypertension or diabetes compared to IPC and RM only enrollees overall. A greater percentage of those in the RM only and IPC groups with hypertensive or diabetes disorders utilized any method of contraception by 360 days (~58%) compared to IPC/RM only women overall. This finding was driven by higher utilization of Tier 1 methods (both LARC and sterilization) among IPC women with hypertensive or diabetes chronic condition status ~27% versus ~19% compared to all IPC women. This pattern also held for the RM only women with chronic conditions.

VI. OUTCOMES AMONG P4HB PARTICIPANTS

Averted Births

Compared to Section 1115 Family Planning waivers in other states, the P4HB program has had a budget neutrality requirement that was not based on averted births but rather on a 'shifting' of the birth weight distribution such that the total costs to the Medicaid program supported by the federal matching rate would be lowered from what it would otherwise be. While the count of 'averted' births is therefore not central to the calculation of budget neutrality on a quarterly or annual basis under the P4HB program, it is a measure that can help gauge the success of the program.

In Table 7 below, we present an estimate of the number of births that the state would have 'expected' to otherwise see among participants in the FP only component of the P4HB program. This 'expected number' was based on the projected fertility rate among women 18-44 years of age with incomes at or below 200% FPL and uninsured as reported in the Planning for Healthy Babies' Concept Paper submitted to CMS during the initial application process.[10] The projected fertility rate was 160 per 1,000 for the fifth program year. We use this fertility rate for this Annual Report as required under the STCs applicable to P4HB through 2019. If this rate is applied to all women enrolled in all program components at the end of PY8 (43,894 from Table 1) and hence, at risk of a delivery in PY9, the number of expected births is 7,023 in PY9 as shown below.

Table 7. An Estimate of Averted Births among the P4HB Demonstration Population

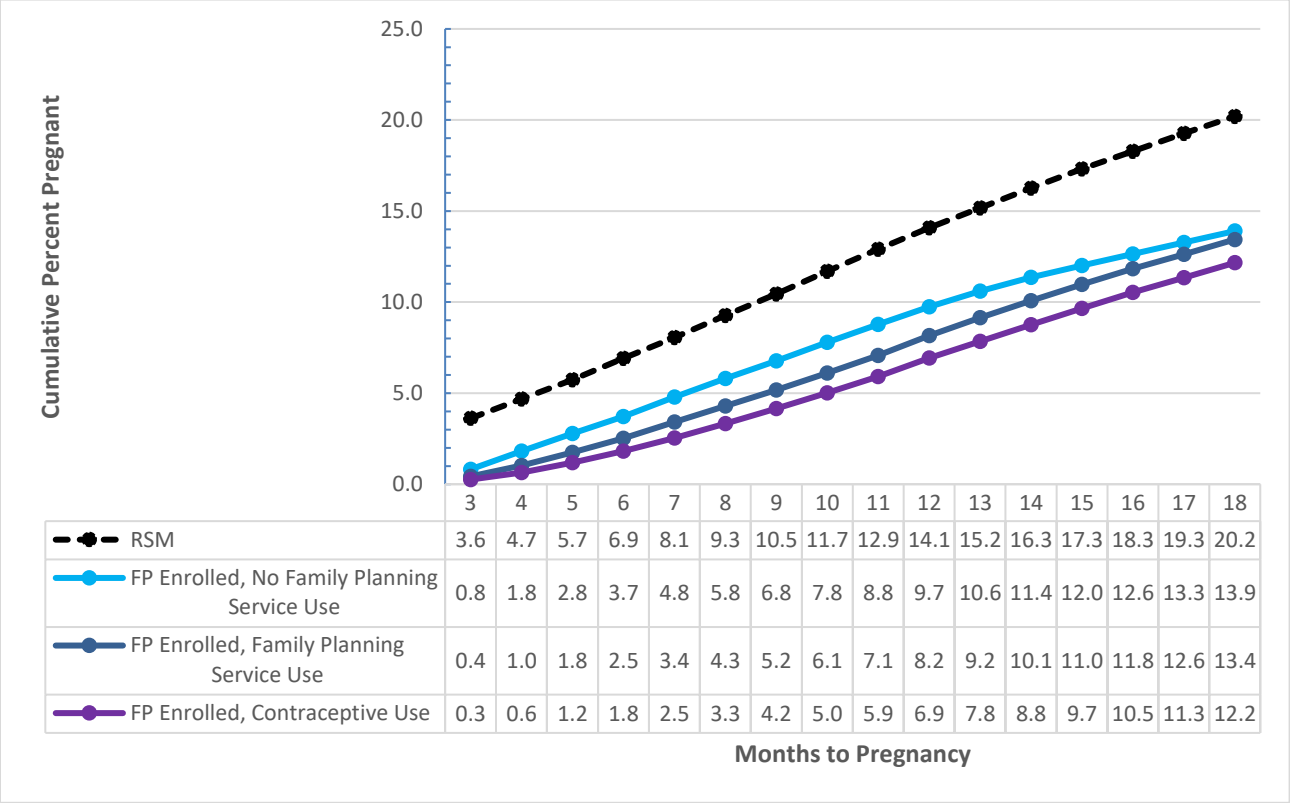
Demonstration Year	Number of 'Expected' Births Among Participants[1]	Number of Deliveries/Live Births to Participants[2]	Number of 'Averted' Births
2019	7,023	1,669	5,354

[1]Based on fertility rates from the concept paper developed in application process: http://dch.georgia.gov/sites/dch.georgia.gov/files/imported/vgn/images/portal/cit_1210/33/52/156793595PlanningforHealthyBabiesProgram121709Final.pdf [2]Reflects the count of all deliveries of a live born in all three components in 2019 for women enrolled in Demonstration at the end of 2018, but includes only those counted based on the methods described in prior reports. If stillbirth and fetal deaths to women in all three components of the program are counted the total in 2019 would be 2,013.

There were 1,669 actual births in PY9 to P4HB participants enrolled at the end of 2018. This is far less than the expected number and results in an estimated number of 'averted births' of 5,354. We note that the births counted here include births to P4HB enrollees that could be due to a pregnancy after the first 18 months of their enrollment in P4HB. Since an appropriate interpregnancy interval would be one of 18 months or more, it could be argued that these births are intended or optimally-timed/well-spaced and should not be counted. Hence, the number of 'averted' unintended births could be under counted in the above calculations. Still the positive number of averted births in Table 7 indicate savings to the state from a lower-than-expected birth rate among P4HB enrollees.

P4HB Participants and Non-Participants. We continue to examine the outcomes of pregnancy or delivery among P4HB women after they enroll. We organized the data in this section by annual cohorts representing the woman's initial enrollment into the P4HB program. This allows us to follow women from their initiation in P4HB to a given outcome (e.g., pregnancy). In the following charts we show the cumulative percentage of women enrolled in any of the P4HB components with evidence of a new pregnancy by the month we observe the pregnancy in the Medicaid claims data. We chart the data for the 2011-2018 cohorts of P4HB FP only enrollees and for comparison purposes, RSM women with an index birth in 2011-2018 but who never enrolled in P4HB.

Chart 4. Cumulative Months to Pregnancy for RSM Non-Enrollees and P4HB Family Planning Only Enrollees 2011-2018 by User Status



	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
RSM	3.6	4.7	5.7	6.9	8.1	9.3	10.5	11.7	12.9	14.1	15.2	16.3	17.3	18.3	19.3	20.2
FP Enrolled, No Family Planning Service Use	0.8	1.8	2.8	3.7	4.8	5.8	6.8	7.8	8.8	9.7	10.6	11.4	12.0	12.6	13.3	13.9
FP Enrolled, Family Planning Service Use	0.4	1.0	1.8	2.5	3.4	4.3	5.2	6.1	7.1	8.2	9.2	10.1	11.0	11.8	12.6	13.4
FP Enrolled, Contraceptive Use	0.3	0.6	1.2	1.8	2.5	3.3	4.2	5.0	5.9	6.9	7.8	8.8	9.7	10.5	11.3	12.2

Data in Chart 4 show that the percentage of repeat pregnancy by 18 months was consistently lower for RSM women enrolled in the FP only component of P4HB than for the comparison group of RSM women who do not enroll. By the eighteenth month, ~20% of RSM women who did not enroll in P4HB had evidence of a pregnancy compared to the 12-14% of FP only enrollees. Among FP only enrollees who used *any* family planning services, this percentage is 13.4% and among those who used contraceptives, 12.2%. The percentage of FP only enrollees who used contraceptives and have a very short interpregnancy interval of 6 months is 1.8%, lower than for those enrolling who did not use family planning services (3.7%); both percentages are certainly lower than those RSM mothers who did not enroll (~7%). The difference in pregnancies within 12 months of enrollment between those who used contraceptives (6.9%) and those who did not use any family planning service (9.7%) were larger.

Based on the above chart, the participation of RSM in the FP only component appears to lead to lower rates of short interpregnancy intervals. It is important for the state to facilitate enrollment of those eligible for this component of P4HB as longer interpregnancy intervals are associated with better maternal and infant outcomes. In Table 8 below, we show the distribution of birthweight outcomes for those RSM women who did participate in the FP only component postpartum and in turn, for those using family planning and specifically, use LARCs. Of those participating and

Table 8. Birthweight Outcomes in Subsequent Deliveries among RSM Enrolling Postpartum in the FP Only Component of P4HB 2013-2106, by Utilization Status

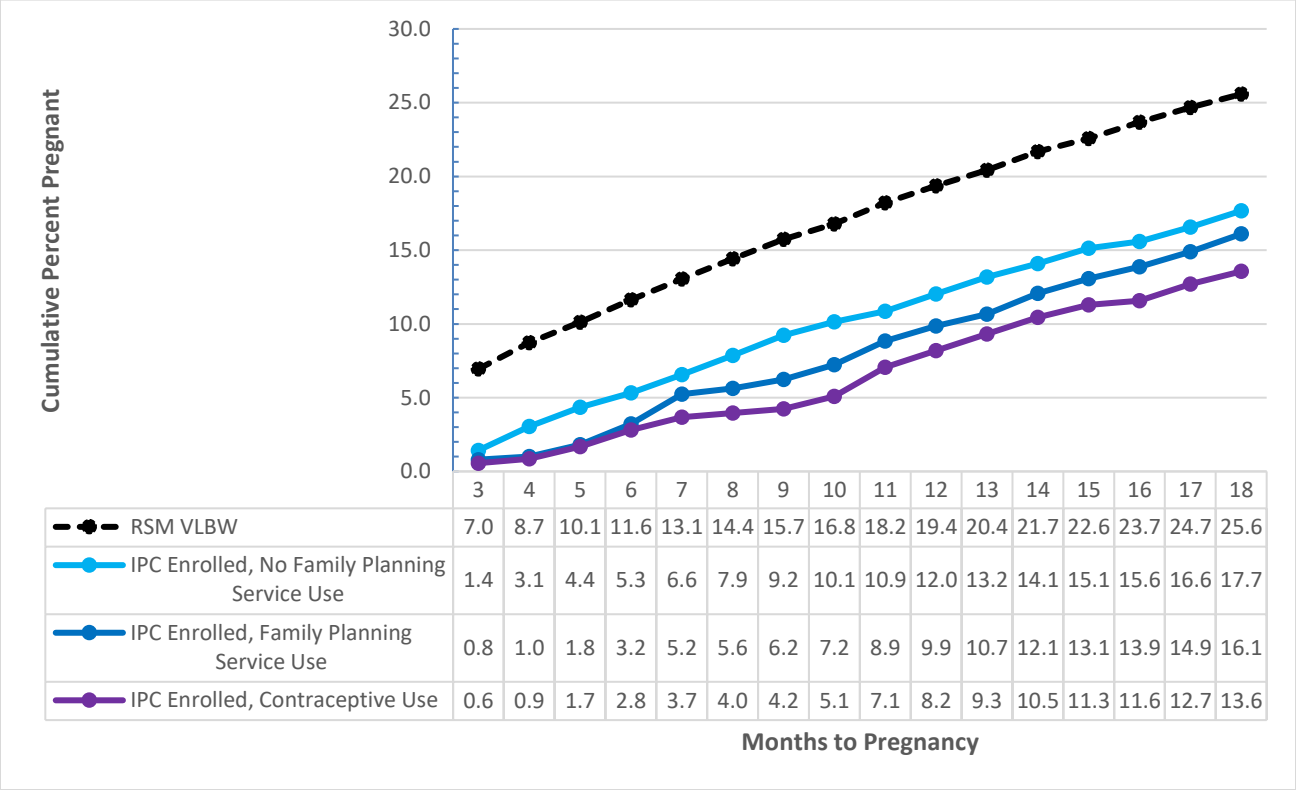
Family Planning Only Enrollees (2013 – 2016)	Live Births to Women Pregnant ≤ 12 Months from P4HB Start				Live Births to Women Pregnant ≤ 18 Months from P4HB Start			
	VLBW	LBW	Normal	Unknown	VLBW	LBW	Normal	Unknown
No Family Planning Utilization	1.5%	8.5%	85.9%	4.0%	1.7%	8.6%	85.9%	3.9%
Family Planning Utilization	1.4%	8.4%	86.1%	4.1%	1.6%	7.9%	86.6%	3.9%
LARC Utilization	0.9%	4.4%	92.0%^	2.7%	1.1%	5.6%	91.1%^	2.2%

Chi-Square (Reference Group: No Family Planning Utilization): ^ P-value < 0.10, ^^ P-value < 0.05, ^^^ P-value <0.01

not using family planning services, 85.9% had a normal birth weight infant in a subsequent live birth at either a ≤12 or ≤18 month interpregnancy interval. This compares to a slightly higher percentage (~86%) with a normal birth weight infant among users of any family planning and a significantly higher percentage (91-92%) with a normal birth weight infant among those using LARCs.

In Chart 5 below we show the cumulative repeat pregnancy percentage through the eighteen-month follow-up period for women with the delivery of a VLBW and enrollment in the IPC component of P4HB. These data indicate that IPC enrollees have a consistently lower cumulative repeat pregnancy percentage through the entire eighteen-month follow-up period than a comparison group of RSM women with a VLBW delivery that IPC enrollees who did not enroll in P4HB.

Chart 5. Cumulative Months to Pregnancy for RSM with VLBW Delivery Non-Enrollees and IPC Enrollees 2011-2018 by User Status



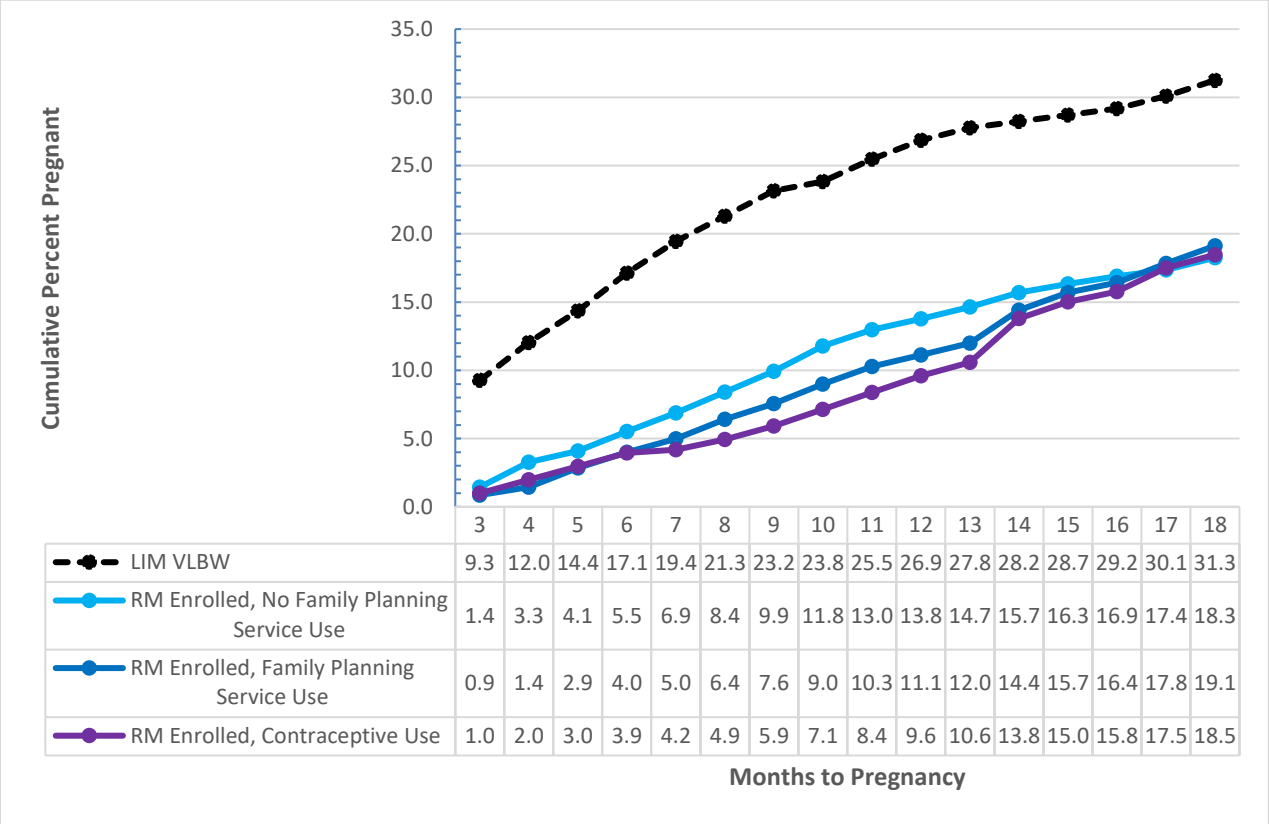
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
RSM VLBW	7.0	8.7	10.1	11.6	13.1	14.4	15.7	16.8	18.2	19.4	20.4	21.7	22.6	23.7	24.7	25.6
IPC Enrolled, No Family Planning Service Use	1.4	3.1	4.4	5.3	6.6	7.9	9.2	10.1	10.9	12.0	13.2	14.1	15.1	15.6	16.6	17.7
IPC Enrolled, Family Planning Service Use	0.8	1.0	1.8	3.2	5.2	5.6	6.2	7.2	8.9	9.9	10.7	12.1	13.1	13.9	14.9	16.1
IPC Enrolled, Contraceptive Use	0.6	0.9	1.7	2.8	3.7	4.0	4.2	5.1	7.1	8.2	9.3	10.5	11.3	11.6	12.7	13.6

For all groups, the pregnancy observed is a new pregnancy following an index birth with a VLBW outcome. Again, utilization of covered services reduced the likelihood of a repeat pregnancy among IPC enrollees. Among IPC users of any family planning services, ~10% had a repeat pregnancy by 12 months compared to ~19% of the RSM comparison group; among users of any contraceptive method, this percentage was lower still at 8.2%. By 18 months, ~26% of the RSM non-enrollee comparison group had a repeat pregnancy compared to ~14% of IPC using any contraceptive method, a 12 percentage point difference.

In Chart 6 below, we show the cumulative percentage of LIM with a VLBW delivery but not enrolling in the RM only component with a repeat pregnancy compared to the percentage of RM only women after enrollment in P4HB. The percentage with a repeat pregnancy by the 6 months

was 17.1 % of those who did not enroll compared to only 6% of those enrolling and only 4% of those enrolling and using contraceptives. By 18 months, the difference between those not enrolling (31.3%) and those enrolling and using some family planning services (18.5%) was 12.7 percentage points.

Chart 6. Cumulative Months to Pregnancy for LIM with VLBW Delivery Non-Enrollees and RM Only Enrollees 2011-2018 by User Status



	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
LIM VLBW	9.3	12.0	14.4	17.1	19.4	21.3	23.2	23.8	25.5	26.9	27.8	28.2	28.7	29.2	30.1	31.3
RM Enrolled, No Family Planning Service Use	1.4	3.3	4.1	5.5	6.9	8.4	9.9	11.8	13.0	13.8	14.7	15.7	16.3	16.9	17.4	18.3
RM Enrolled, Family Planning Service Use	0.9	1.4	2.9	4.0	5.0	6.4	7.6	9.0	10.3	11.1	12.0	14.4	15.7	16.4	17.8	19.1
RM Enrolled, Contraceptive Use	1.0	2.0	3.0	3.9	4.2	4.9	5.9	7.1	8.4	9.6	10.6	13.8	15.0	15.8	17.5	18.5

Outcomes among IPC Participants versus Non-Participants

A pregnancy conceived before 18 months of enrollment, regardless of outcome, is indicative of a short interpregnancy interval and is an adverse outcome that the P4HB IPC and RM only components were designed to prevent among women with VLBW deliveries. In Table 9, we test for *statistically significant differences* in the percentage of women in the 2011-2018 IPC enrollee cohort versus the RSM comparison cohort with a pregnancy within six, twelve and eighteen

months from the P4HB start date. RSM women participating in P4HB start ~ 90 days post-delivery. Thus, we look for a pregnancy ~90 days post-delivery for the non-participating RSM group as a comparison. Among the 2011-2018 IPC enrollee cohort, regardless of service use, a significantly smaller percentage experienced a repeat pregnancy within six months (4.8% vs. 10.4%) and twelve months (11.5% vs. 19%) of their index VLBW delivery compared to women in the RSM non-enrollee cohort. By 18 months after the index VLBW delivery, this statistically significant difference persisted, with 17.3 of IPC enrollees, regardless of service use, having a repeat pregnancy compared to 25.8% of the RSM comparison group.

Table 9. Number and Percent of Women with VLBW Infant with Repeat Pregnancy within Six, Twelve or 18 Months and Repeat Delivery within 18 Months, IPC Waiver Demonstration Participants, Ages 18-44

Timing of Repeat Pregnancy or Delivery	IPC 2011-2018 N =2,036	RSM – VLBW 2011-2018 N =4,377
Pregnant within 6 months	98 (4.8%)	455 (10.4%) ^^^
Pregnant within 12 months	234 (11.5%)	831 (19.0%) ^^^
Pregnant within 18 months	352 (17.3%)	1,127 (25.8%) ^^^
	N = 1,840*	**N = 4,119***
Delivery within 18 months	187 (10.2%)	726 (17.6%) ^^^
Fetal Deaths	25 (13.4%)	98 (13.5%)
Still Births	8 (4.3%)	33 (4.5%)
Very Low Birth Weight (<1500 g)	19 (10.2%)	59 (8.1%)
Low Birth Weight (1500-2499 g)	32 (17.1%)	130 (17.9%)
Normal Birth Weight (≥2500 g)	92 (49.2%)	348 (47.9%)
Unknown Weight	44 (23.5%)	189 (26.0%)
Adverse Delivery Outcome**	84 (4.6%)	320 (7.8%) ^^^

IPC and RSM-VLBW index deliveries through 06/30/2018 **Sum of fetal deaths, still births, and low birth weight deliveries. Chi-Square: ^ P-value < 0.10, ^^ P-value < 0.05, ^^^ P-value <0.01 Notes: Repeat pregnancies were identified using the following set of claims codes: Repeat deliveries were defined as human conceptions ending in live birth, stillbirth (>= 22 weeks' gestation), or fetal death (< 22 weeks). Ectopic and molar pregnancies and induced terminations of pregnancy were NOT included.* ***Deliveries of Live births* *were identified in the claims by using ICD-9 diagnostic codes 640-676 plus V27.x* ***OR*** *ICD-9 procedure codes 72, 73, or 74 plus V27.x* ***OR*** *CPT-4 codes 59400, 59409, 59410, 59514, 59515,59612,59614,59620, 59622 plus V27.x or Z37.x OR ICD-10 diagnostic codes O0 – O9 plus Z37.x or ICD-10 procedure codes 10A, 10D, or 10E plus Z37. x.* ***Deliveries of Stillbirths*** *were identified by using ICD-9 diagnostic code 656.4x (intrauterine fetal death >= 22 weeks gestation) OR specific V-codes [V27.1 (delivery singleton stillborn, V27.3 (delivery twins, 1 stillborn), V27.4 (delivery twins, 2 stillborn), V27.6 (delivery multiples, some stillborn), V27.7 (delivery multiples, all stillborn)] or ICD-10 diagnostic codes Z37.1, Z37.4, or Z37.7* ***Deliveries associated with Fetal deaths*** *< 22 weeks were identified by using ICD-9 diagnostic codes 632 (missed abortion) and 634.xx (spontaneous abortion) or ICD-10 diagnostic codesO03 or O02.1. In the case of a twin or multiple gestation, the delivery was counted as a live birth delivery if ANY of the fetuses lived. Costs were accumulated over the pregnancy and attributed to the delivery event if there was a fetal death (632) that preceded a live birth.*

We also show the percentage of women in each cohort with a *delivery* within 18 months of their index VLBW delivery and the outcomes of those deliveries. The percentage of IPC women experiencing a *delivery* within 18 months was significantly lower than for the RSM/VLBW comparison cohort (10.2% vs 17.6%). Moreover, the percentage experiencing *any* of adverse pregnancy or birth outcome (fetal death, stillbirth, VLBW or LBW delivery) was significantly lower ($p < 0.01$) for the IPC enrollees than for the RSM women with an index VLBW infant who did not participate (4.6% vs 7.8%). Since the characteristics of the participants and non-participants differ, we used regression analysis to assess the adjusted difference in the following outcomes: 1) probability of a repeat pregnancy within 18 months; 2) probability of a delivery within 18 months and 3) probability of an adverse delivery outcome with 18 months. We control for age, race, month of index birth, months enrolled in the 18 months over which we follow them and an indicator for urban/rural residence. The regression results are shown in Table 10 below.

Table 10. Estimated Marginal Effects for IPC Compared to RSM Women with VLBW Infants, Ages 18-44

Outcome	Marginal Effect
Repeat Pregnancy within 18 Months after Index Delivery	-11.9^^^
Repeat Delivery within 18 Months after Index Delivery	-9.7^^^
Adverse Delivery Outcome within 18 months after Index Delivery	-4.2^^^

^ P-value < 0.10, ^^ P-value < 0.05, ^^^ P-value <0.01
Notes: Estimated effects from logistic models are multiplied by 100 to provide percentage point changes in the dependent variable. Controlled for age, race, month of index birth, months enrolled in the 18 months over which we follow them and urban/rural residence.

These results indicate that participation in the IPC component of the P4HB program, regardless of service use, is associated with a statistically significant reduction in the probability of a repeat pregnancy or a repeat delivery within 18 months of an index VLBW delivery of 11.9 and 9.7 percentage points, respectively. Important to the goals of P4HB regarding infant outcomes, the probability of an adverse delivery outcome is lower by 4.2 percentage points among IPC

participants versus non-participants. We acknowledge that there are unobserved/unmeasured characteristics of the women with a VLBW infant that affect their decision to participate in IPC or their engagement with the healthcare system that may facilitate their enrollment that likely affect these outcomes. We also note that we do not control for utilization of P4HB services in these regressions as we cannot measure/control for utilization of those not enrolling in P4HB.

VII. EFFECTS OF THE P4HB PROGRAM ON GOALS

When the P4HB program was implemented, the state hypothesized that the program would bring sufficient numbers of women into the program such that the overall use of family planning services/supplies among low-income women would increase, and the more consistent use of effective contraceptive methods among program users would increase. In combination with the interpregnancy care provided to women with VLBW infants was expected to reduce VLBW and LBW births rates. As reported in prior Annual Reports we used data from the Pregnancy Risk Assessment Monitoring System (PRAMS) and claims data/vital records to analyze the impact of P4HB on desired goals. We refer the reader to those earlier reports and to the summary of these findings noted in the Executive Summary of this PY9 report.

Claims/Vital Records Analyses

We have updated our prior analysis of the linked claims and vital records data to include data on births from 2019. We present both descriptive and regression results here but emphasize the latter in our discussion. We used privately insured women with a high school or less level of education as the comparison group. We chose the lower education level to identify women expected to have incomes more comparable to the RSM and other Medicaid insured women.

Table 11. Characteristics of Medicaid versus Private Insured Mothers with High-School or Less Education, All Race/Ethnicity

	Private (≤ High School Grad)			Medicaid		
	Pre 2009/2010	**Post 2012/2013**	**Post 2014/2019**	**Pre 2009/2010**	**Post 2012/2013**	**Post 2014/2019**
N	9958	9195	28403	129561	128721	385510
Age in Years (mean, std dev)	29.1, 5.5	28.9, 5.6	29.1, 5.6	25.3, 5.4	25.8, 5.5	26.5, 5.5
Age						
18-19	2.8%	3.3%	2.5%	13.2%	10.1%	7.8%
20-24	19.3%	20.3%	20.7%	39.1%	38.2%	34.1%
25-29	32.3%	32.4%	31.3%	26.5%	27.4%	30.2%
30-34	27.2%	27.0%	27.3%	14.0%	16.0%	17.8%
35-39	15.0%	13.4%	14.5%	5.9%	6.7%	8.2%
40-44	3.4%	3.6%	3.7%	1.3%	1.6%	1.8%
Married	82.3%	76.1%	76.7%	34.1%	33.7%	32.9%
Education						
Less than High School Graduate	11.8%	14.4%	11.3%	27.3%	20.7%	19.3%
High School Graduate	88.2%	85.6%	88.7%	72.7%	79.3%	80.7%
Race/Ethnicity						
Non-Hispanic White	61.7%	56.9%	56.1%	35.5%	35.6%	33.9%
Non-Hispanic Black	17.3%	15.5%	18.4%	43.2%	45.2%	45.6%
Hispanic	12.3%	19.5%	16.8%	14.6%	13.2%	15.6%
Other/Unknown	8.7%	8.0%	8.8%	6.7%	5.9%	4.9%
Percent Census Tract in Poverty	10.1%	17.3%	16.7%	15.6%	23.1%	22.9%
Age at First Birth[1] (mean, std dev)	27.1, 5.5	26.8, 5.5	27.0, 5.5	22.8, 4.6	23.2, 4.6	23.8, 4.8
Age 18-19 at First Birth[1]	6.5%	7.6%	5.7%	26.3%	21.4%	17.8%
First Birth	35.1%	34.6%	38.0%	37.7%	36.6%	35.4%
Repeat Birth[3]	64.9%	65.4%	62.0%	62.3%	63.4%	64.6%
Maternal Smoking[4]	4.6%	3.9%	3.2%	10.3%	9.2%	7.9%
Interpregnancy Interval ≤ 6 months[5]	6.0%	5.9%	6.0%	12.9%	10.9%	11.3%
Interpregnancy Interval ≤ 12 months[5]	16.6%	15.8%	15.9%	27.2%	23.7%	24.1%
Interpregnancy Interval ≤ 18 months[5]	28.1%	26.1%	26.6%	39.9%	35.5%	35.6%
Preterm (<37 weeks)[6]	9.8%	9.2%	8.4%	11.6%	11.5%	10.4%
Low Birth Weight (< 2500 grams)[7]	6.9%	6.2%	6.3%	8.9%	8.9%	9.5%
Very Low Birth Weight (< 1500 grams)[8]	1.5%	1.1%	1.1%	1.6%	1.6%	1.7%

[1]Age at first birth was determined based upon age and parity (parity = 0) as reported on the birth certificate; [2] Teen birth was defined as those ages 18-19 years at the time of the index birth as reported on the birth certificate; [3] Repeat birth was defined as those for which the birth certificate indicated that the birth event was the second or more (MBTHEVOR ≥ 2); [4] Maternal smoking was defined as those with tobacco use indicated on the birth certificate; [5] Interpregnancy interval ≤ 6 months was determined based upon the interbirth interval as indicated on the birth certificate minus the gestational age of the subsequent birth; [6] Preterm birth was determined based upon a gestational age < 37 weeks on the birth certificate; [7] Low birth weight was determined based upon an infant birth weight < 2500 grams on the birth certificate; [8] Very low birth weight was determined based upon an infant birth weight < 1500 grams on the birth certificate.

Throughout the descriptive and multivariate analysis, we separate the post P4HB period into the first two years 2012/2013 and the following years of data, 2014-2019. We do this to recognize the potential impact of the ACA on pregnant women and mothers potentially eligible for Medicaid or the ACA Marketplace in Georgia.

In Table 11 the descriptive data highlight the sociodemographic differences between the Medicaid and the private insured with lower education levels. The Medicaid insured mothers are more likely to be in the 18-19 age group, less likely married, more likely non-Hispanic black and living in higher poverty census tracts than the private insured sample. Medicaid mothers are far more likely to have less than a high school level education than the private insured mothers. All these differences hold in both the pre and post periods of study.

Related in part to these socioeconomic characteristics, the Medicaid mothers are more likely to be smokers, to have very short interpregnancy intervals, preterm births and LBW or VLBW infant outcomes. In the regression analysis that follows, we control for the sociodemographic demographic variables just described.

The estimated effects shown in Table 12 can be interpreted as the change in the probability of the outcomes (except for age at first birth, which is a continuous measure) for the RSM and other Medicaid women affected by the P4HB program versus the control group (private insured, lower education) of women, controlling for the above covariates and a monthly time trend. This provides one measure of the 'effect' of the demonstration on the outcomes analyzed. In our discussion of the results, we focus on the effects which are significant at $p < .05$.

Table 12. Regression Analysis of Medicaid versus Private Insured Mothers with High-School or Less Education, Overall and by Race/Ethnicity

	All Race/Ethnicity		Non-Hispanic White		Non-Hispanic Black		Hispanic	
Maternal Health Outcomes								
	Post12_13* RSM	Post14_19 * RSM	Post12_13* RSM	Post14_19* RSM	Post12_13* RSM	Post14_19* RSM	Post12_13* RSM	Post14_19* RSM
Age at First Birth[1]	.49^^^	.75^^^	.47^^^	.87^^^	1.01^^^	1.15^^^	.52	.28
Age 18-19 at First Birth[1]	-2.01^^^	-2.39^^^	-2.46^^^	-2.11^^^	-3.05^^	-3.33^^^	-2.14	-.11
Teen Birth[2]	-.65^^^	-.84^^^	-.77^^^	-.69^^^	-.95^^^	-1.11^^^	-.33	-.07
Repeat Birth[3]	-1.32	-1.97^^	2.30^^	3.45^^^	-7.66^^^	-3.04^	-3.69^	5.79^^^
MaternalSmoking[4]	1.82^^^	2.28^^^	1.18^^	2.83^^	.09	.01	.08	.10
Interpregnancy Interval ≤ 6 months[5]	-.94^	-.43	.82	2.40^^	1.10	-1.36	-.63	1.89^
Interpregnancy Interval ≤ 12 months[5]	-1.21	.04	-1.46^^	-.27	.11	-.85	-4.44^^	-.17
Interpregnancy Interval ≤ 18 months[5]	-.54	.60	-.29	1.78^^	-.38	.21	-5.39^^	-.16
Preterm (<37 weeks)[6]	.40	-.05	.61	.44	1.19	1.33	-1.22	-1.12
Low Birth Weight (< 2500 grams)[7]	.57	1.11^^^	.20	.84^^	1.65^	2.57^^^	-.47	.40
Very Low Birth Weight (< 1500 grams)[8]	.23^	.35^^	-.01	.07	.60	.73^	-.11	.34

^ P-value < 0.10, ^^ P-value < 0.05, ^^^ P-value <0.01

**All outcomes are measured using linked Medicaid and vital records data. [1]Age at first birth was determined based upon age and parity (parity = 0) as reported on the birth certificate; [2] Teen birth was defined as those ages 18-19 years at the time of the index birth as reported on the birth certificate; [3] Repeat birth was defined as those for which the birth certificate indicated that the birth event was the second or more (MBTHEVOR ≥ 2); [4] Maternal smoking was defined as those with tobacco use indicated on the birth certificate; [5] Interpregnancy interval ≤ 6 months was determined based upon the interbirth interval as indicated on the birth certificate minus the gestational age of the subsequent birth; [6] Preterm birth was determined based upon a gestational age < 37 weeks on the birth certificate; [7] Low birth weight was determined based upon an infant birth weight < 2500 grams on the birth certificate; [8] Very low birth weight was determined based upon an infant birth weight < 1500 grams on the birth certificate.*

For the post compared to pre P4HB period (2009/2010), we found overall significant ($p<0.05$) effects for the full sample on: 1) increases in the age at first birth; 2) reductions in first birth at ages 18-19; and 3) reductions in all teen births. We also found reductions in very short interpregnancy (<6 months) intervals but only at the $p<.10$ level. The result on age at first birth suggests a half-year increase in the age at which Medicaid women have their first birth relative to the privately insured control group in the 2012/2013 and larger in the 2014/2019 post period. The results indicate a reduction of approximately 2 percentage points in the likelihood of a first birth at ages 18-19 through both of the post P4HB periods.

While the results on age at first birth hold for both non-Hispanic white and black women, they are larger for non-Hispanic blacks and do not hold for Hispanic women. The effect on reducing first births among 18-19 year olds holds for non-Hispanic white at the ~2 percentage points and black non-Hispanic women at ~ 3 percentage points in both of the post study periods ($p<.01$). Again, these findings do not hold for Hispanic women. Correspondingly, reductions in all births to teens is found for non-Hispanic women and are stronger for non-Hispanic black women throughout the post periods.

We note a strong divergence in the results for non-Hispanic white versus non-Hispanic black women with respect to a repeat birth over the pre versus post P4HB study periods. For white women, the probability of a repeat birth unexpectedly increased, 2.3 percentage points in 2012/2013 and 3.4 percentage points in 2014/2019 post periods. In contrast, for black women it decreased dramatically by 7.6 percentage points in the 2012/2013 post period and 3.0 percentage points in the 2014/2019 post period. Hispanic women experienced a decline of 3.7 percentage points only in the 2012/2013 post P4HB period. The expected reduction in short interpregnancy intervals ($\leq$12 months) was seen for non-Hispanic white women in the 2012/2013 post P4HB period as well as for Hispanic women ($p<.05$). The results indicate a decline in interpregnancy intervals $\leq$18 months of 5.4 percentage points for Hispanic women in the 2012/2103 post period.

These differential patterns among the racial/ethnic groups in Georgia deserve further analysis. As noted in prior reports there is concern that the ACA mandate and the implementation of the Marketplace exchange in Georgia was associated with a change in the *composition* of the Medicaid such that different comparison groups need to be considered in future analyses. Perhaps related to

this issue, there were unexpected positive effects on the probability of LBW and VLBW infant outcomes for the Medicaid women compared to the privately insured sample in the 2012/2013 and 2014/2019 post P4HB periods and these effects are stronger for non-Hispanic black women. As we approach a journal submission we will focus on the data prior to the ACA as so many changes took place for women in the income range targeted by P4HB as the ACA unfolded.

The PRAMS analyses reported in other Annual Reports and these vital records/claims analyses indicate effects of P4HB on increasing access to pregnancy prevention, reducing unintended births, reducing teen births, increasing age at first birth, and reducing very short interpregnancy intervals for Hispanics but we do not yet find evidence that the P4HB program improved the key birth outcome of VLBW infants born to Medicaid enrolled women.

VIII. MEDICAID PAID BIRTHS IN 2019

We continue to track the total number of Medicaid paid births as in prior annual reports to CMS. We placed these large summary tables in Appendix A. These data show a somewhat steady decline in the total number of Medicaid paid births in Georgia from the 85,370 in 2009 to a total of 71,101 in 2019. This may reflect national trends of declining fertility, improvements in the economy and the Affordable Care Act (ACT) both of which increased private insurance among lower-income women. In states like Georgia that did not expand Medicaid, the increase in private insurance on the exchanges can begin at 100% FPL and hence, likely reduce the number of lower income women coming into Medicaid for pregnancy and delivery.

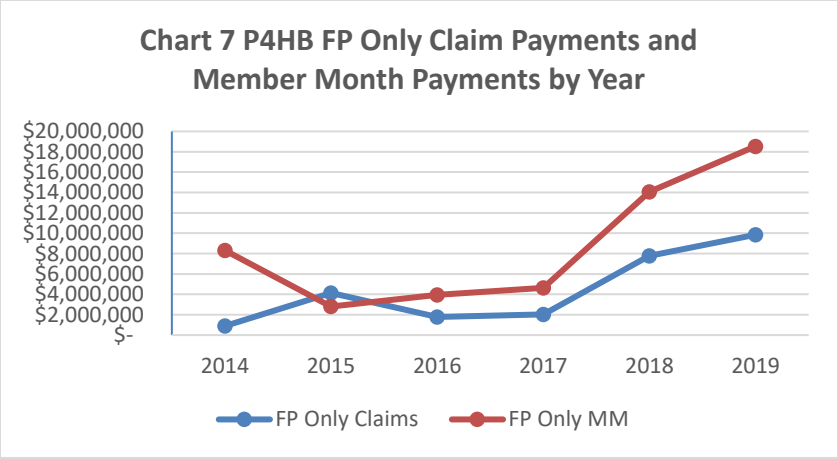
As the data in Table A.1 indicate, the percentage of all Medicaid births that are VLBW has been remarkably stable at about two percent over the pre/post P4HB time-period. Based on the linked claims/vital records, the percentage of VLBW infants paid for by Medicaid has increased slightly from 1.9% in 2009 to 2.1% in 2019. A larger increase occurred in the percentage of LBW infants, climbing from 8.3% in 2009 to 9.2% in 2019. Both the claims data and vital records reflect upward trends in these outcomes that certainly do not meet the goals of P4HB.

Data in Table A.3 show that the Medicaid costs (CMO paid amounts) for the mother across all deliveries (both live born and stillborn infants) totals slightly over $400 million and the average costs per mother was $5,642 in 2019. The total costs for the 71,099 infants delivered to Medicaid enrolled women in 2019 was approximately $327 million for a total cost of approximately $727 million to the state's CMOs. The average costs at delivery for the infant born VLBW was significantly higher at an estimated $78,841 in CY 2019, compared to the costs for an infant of normal birthweight, which equaled $2,221 in CY 2019.

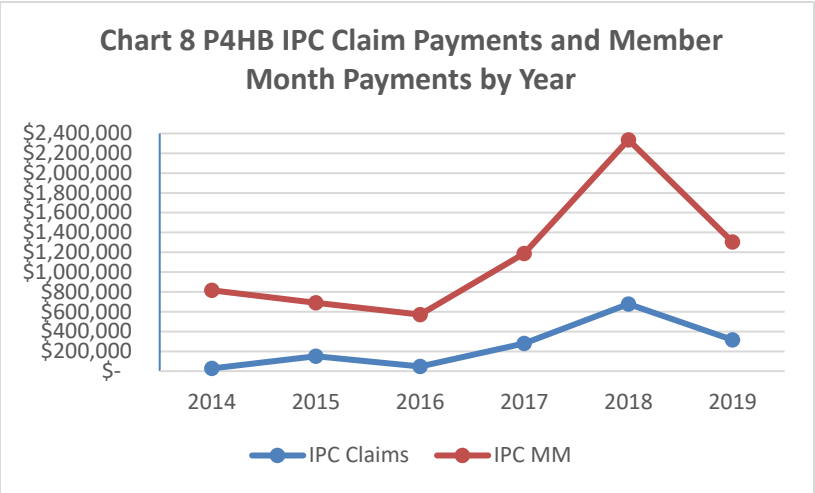
The costs (CMO paid amounts) for the care of infants born VLBW continued to be high throughout their first year of life. As shown in Table A.5, the costs for the full first year of life for these infants born in the first six months of CY 2019 averaged $13,621 and totaled over an estimated $21 million. We note that the average costs for both mother and infant has been increasing somewhat over the years; the average costs for VLBW infants in 2019 is almost 25% higher than the average in 2016 ($10,862). The more the P4HB program can 'shift' the birthweight distribution toward normal birth weight infants, the more successful it will be in terms of improving the health of the newborns as well as reducing the costs to the Medicaid program. Yet, the percentage of infants of normal birthweight has also been slipping, declining from 89.8% in 2009 to 88.7% in 2019 using vital records and from 92.6% to 90.3% using claims data.

IX. MANAGED CARE AND PROVIDER PAYMENTS 2014-2019

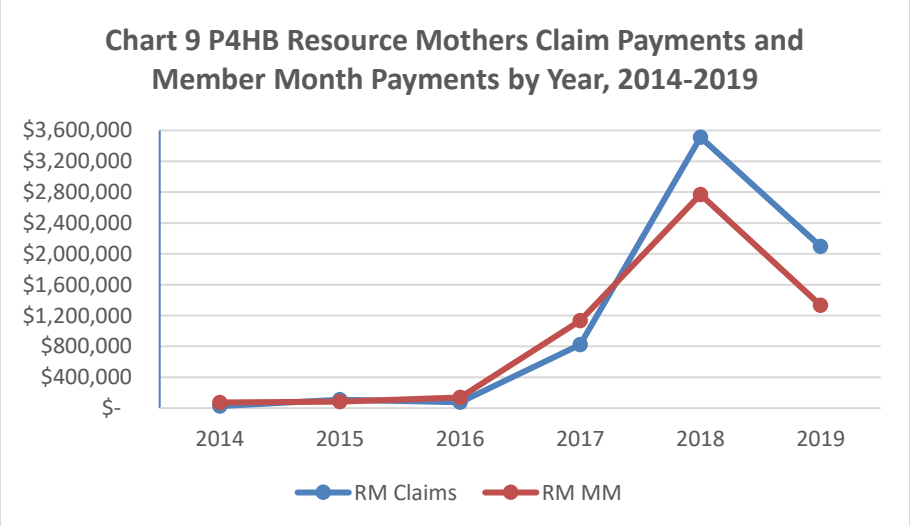
The overall performance of the CMOs is monitored through the usual reporting mechanisms (e.g., HEDIS measures) but less is known about their performance in assuring P4HB enrollee access to and use of covered services. The state is particularly interested in working closely with the four CMOs in the state to increase their understanding of how the RM only component of the program has been implemented and is being used by enrolled women. This issue may also apply to the FP only component as the stark increase in FP only enrollees in 2017/2019 may have brought in many women who are unaware of or less interested in, the utilization of family planning related services.



A financial issue for the state is the outlay for PMPM payments to CMOs for these increased numbers of enrolled women who do not use services. In Chart 7, we report new data for 2014 through 2019 on the trends in the total capitated payments made to the CMOs and total amounts reported as paid to providers for services received by women while P4HB enrollees in the FP only component. While the data indicate a generally lower dollar amount paid out to providers than received by CMOs the trends diverge markedly in 2017 when the Gateway system began bringing in many more FP only enrollees. While it is desirable for capitated payments to leave a residual to the CMOs, the marked divergence of these trends point to the need to understand the low rate of service use by newly enrolled women and/or to consider this divergence when capitated rates are reviewed.



In Chart 8 we show the trends in capitated amounts and payment to providers for women in the IPC component of P4HB for 2014 through 2019. These data also show a divergence in the dollar amount paid out to providers than received by CMOs beginning in 2017. As the state reduced the enrollment of women into the IPC component in 2019 the trend in capitated payments dropped accordingly. Yet, the divergence of these two payment streams may lead to further consideration of how the PMPM payments are being used by CMOs to engage the women with case managers and RMs in order to manage their chronic conditions and interpregnancy intervals. We note that the RM services are not billed and hence, not included in the claims/encounter data summarized in Chart 9. The lack of this detail on services rendered in this unique component of P4HB is an issue the state is reviewing.



X. CONCLUSIONS AND RECOMMENDATIONS

The data and conclusions reported within this PY9 Annual Report show the patterns of outcomes of a more mature demonstration program. As the state starts on the ten-year extension of the P4HB program, it is important to take stock of its strengths and weaknesses. This is particularly important as the Georgia Gateway system 'cascading' of enrolled women appears to bring in women less aware and/or less interested in the family planning services offered in P4HB. In the introduction to this report, we organized our findings around the program goals and objectives. Here, we provide a summary conclusion from the analysis, challenges to achieving the stated goals of the P4HB and a set of recommendations for the program as it matures further.

Conclusions

Overall, the progress on key P4HB goals and related program objectives is mixed. The combined pre/post analysis using PRAMS and vital records/claims indicates effects of P4HB on 1) increasing access to pregnancy prevention, 2) reducing unintended births, 3) reducing teen births, 4) increasing age at first birth and 5) reducing very short interpregnancy intervals but only for the subset of Hispanic women.

However, there is no evidence to indicate that the P4HB program has had significant effects on the state's desired goals of reducing VLBW and LBW births to Medicaid insured women. Indeed, there is an upward trend in the descriptive data on these outcomes and analysis based on the quasi-experimental design showed no significant effects. We have noted difficulties in analyzing the impact of P4HB on these outcomes due to the lack of a precisely defined control group and the fact the post-P4HB study period was interrupted by ACA policies that provided subsidized insurance for near-poor women in Georgia and other non-expansion states. A

positive outcome is that women eligible for the IPC component of P4HB who enroll and use services experience a significant decrease in subsequent adverse birth outcomes compared to RSM women with a VLBW delivery who do not enroll.

One reason for the lack of progress on overall reductions in VLBW and LBW is the fact that the P4HB program has never enrolled the anticipated percentage of eligible women in Georgia's communities. Enrollment increased with 'auto-enrollment', dropped significantly when the auto-enrollment process ended and currently, the Georgia Gateway system is enrolling women who as with the 'auto enrolled' group, may be unaware of or less interested in P4HB services. As a result, the use of family planning services among FP only enrollees has dropped markedly. Since the use of any family planning services and, in particular, the use of the more effective contraceptive methods reduces the probability of pregnancies within short periods and clinically inappropriate interpregnancy intervals, it is important that the state continue to address the issues the Georgia Gateway system has created.

In summary, to meet the key goals of reducing VLBW and LBW infants on Medicaid there is a need to enroll and retain larger numbers of eligible women in the P4HB components and once enrolled, to increase the percentage aware of services covered, of providers willing to serve them and ultimately, the percentage using effective family planning services.

Threats to Success

There are numerous reasons the P4HB has not attained its stated goals. While some of these may be beyond the control of the state, there key threats noted in prior reports and that still apply:

- Low levels of enrollment and penetration of the eligible population in the community;

- Low retention of enrollees in both the FP only and IPC components of the program beyond the one-year mark;

- Limited understanding of the program itself – including the enrollment process and the program's eligibility criteria and covered services – by women and their health care providers;

- Increased confusion among prospective enrollees with the Georgia Gateway system and apparent lack of awareness and/or understanding of covered services;

- Limited marketing or large-scale outreach to eligible women and prospective providers in the community;

- Lack of focus on how the FP only component can work to decrease the probability of a VLBW infant born by reducing unintended births to first-time mothers;

- Disruption of the Title X provider system, a potential source of care for many women in the income range targeted and paid for by P4HB, that only now has returned to prior levels of clientele but still lacks complete data on contraceptive usage;

- Lack of adequate promotion of and access to the most effective contraceptive methods;

- Lack of coordination with the federal exchange that can ensure women pre-conception who would otherwise become eligible for Medicaid coverage when pregnant.

Our analysis of the chronic health conditions for which the IPC and RM women are receiving services shows those women with chronic health conditions are indeed utilizing services for a variety of conditions that are linked to adverse reproductive health outcomes if not under control with proper management. This highlights the importance of the IPC services for promoting *subsequent* reproductive health outcomes. While this is a positive outcome for P4HB its overall goals will not be met without increased focus on the FP only component. Here, the focus needs to be on avoiding unintended pregnancies and if/when the woman desires to become pregnant to emphasize her pre-conception health and well-being. There could be further savings to the Medicaid program if providers make these women aware of the full range of insurance options open to them.

Recommendations

With the renewal and extension of P4HB for ten years, the state needs to carefully review the strengths and weaknesses of this important safety net program and take action to ensure its success. Specific recommendations are as follows:

1. Seek funds for a new, state-wide, multi-strategy marketing campaign designed to enhance consumer and health care provider awareness of the P4HB program. This campaign should include information about P4HB eligibility, enrollment via Georgia Gateway and services as well as details about the renewal and access to Federally Qualified Health Centers (FQHCs), including those that are part of the GFPS, as well as public health department clinics to promote P4HB enrollment and services.
2. In this process, clarify to women and Medicaid participating providers that the P4HB program will continue to operate for ten years.
3. Educate the CMOs and their participating providers regarding the covered services. A clear list of the procedure costs and the need to use family planning modifiers should be conveyed to CMOs and providers. The state should consider publishing this list on its website as in Florida's program (see below). https://ahca.myflorida.com/Medicaid/Family_Planning/pdf/FamilyPlanningCoveredProcedureCodes_January2019.pdf . New and existing Medicaid providers should be engaged on a regular basis regarding P4HB eligibility, benefits, enrollment procedures as well as recertification of eligibility procedures.
4. Outreach and education of Medicaid providers should also incorporate information about the availability of post-partum LARC insertion during a delivery hospitalization; while not paid for under P4HB, this policy dovetails with the goals and objectives of P4HB.

5. Outreach and education of Medicaid participating providers should clarify the extension of postpartum Medicaid coverage now in place due to federal legislation related to the Covid-19 public health emergency. Importantly, this clarification should note the separate extension to 6 months postpartum under Georgia's newly approved Section 1115 waiver that is scheduled for implementation in July 2021.
6. Monitor the participation of eligible women in P4HB among those in the community as well as among those delivering a baby under RSM or LIM coverage.
7. DCH should consider 'leveraging' payments to CMOs to learn more about the understanding their clients have of all components of the P4HB program and satisfaction with it. For example, a campaign to reach out to enrollees in the first few months should be encouraged or incentivized for the CMOs and their network of providers as early engagement has been shown to be effective.
8. CMOs and their providers should educate women on the recommendations for earlier and more visits in the postpartum period (or the 'fourth trimester') advocated by the American College of Obstetricians and Gynecologists.[11] This should include the importance of achieving adequate interpregnancy intervals for intended pregnancies, and the more effective forms of contraceptives available to them through the P4HB program.
9. Initiate another round of outreach to the neonatal intensive care units (i.e., the site of care for newborn VLBW infants), particularly the Regional Perinatal Centers, throughout Georgia to inform the social workers, nurse case managers, and physicians of the availability of the IPC and RM components of P4HB and the benefits it provides.

10. Promote retention of enrollees in both the FP only and IPC components of the program. The state should review processes for recertification of women for continued P4HB program eligibility to assure that barriers for continued enrollment are minimized. This is especially important as the Georgia Gateway system continues to enroll women in Medicaid, P4HB and other public programs.
11. Assess the role of the Gateway System in women's knowledge of and enrollment in other public services. For example, is the system bringing women into P4HB and connecting them to SNAP or other public programs for which they are eligible?
12. Monitor the means by and intensity with which the Resource Mothers of the four CMOs are outreaching to engage IPC and RM only enrollees to fully participate in the benefits available to them. Encourage the Resource Mothers across the CMOs to share best practices and lessons learned in interfacing with the IPC enrollees to engage in family planning and preventive services as well as services for the care of chronic conditions.
13. Encourage engagement of the CMOs with public health district leaders to see if enrollment of the VLBW infants' mothers in certain areas is higher than in other areas of the state without a coalition with the public health personnel. Ensure that public health personnel are aware of how the Georgia Gateway system is or is not working to enroll a high percentage of those women truly eligible for the IPC and RM only components of P4HB.

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Appendix A. Data on Deliveries and Infants 2009-2018

In this Appendix, we provide the tabled data on counts of deliveries and births in each CY of P4HB as well as birth outcomes for the pre and post P4HB period for which we have complete claims data. We also show data for the subset of births for which we have linked claims/vital records data. We continue to compare the information gained from the claims data regarding birth outcomes to that which we observe in the linked files. We provided a summary of the changes we see in the numbers of deliveries and live born infants across study years in the forgoing text (Section VIII).

Table A.1 Number of Medicaid Paid Births by Birth Weight Based on Claims Data (2009-2019)

	2009		2010		2011		2012		2013		2014	
Weight Category	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
VLBW	1,718	2.0	1,650	2.0	1,506	2.0	1,612	2.0	1,716	2.2	1,616	2.1
LBW	4,679	5.5	4,547	5.6	4,210	5.6	4,672	5.9	4,737	6.0	5,098	6.5
Normal BW	78,890	92.4	75,187	92.3	69,331	92.3	73,255	92.0	72,186	91.7	71,214	91.3
Stillbirth	83	0.1	79	0.1	40	0.1	50	0.1	42	0.1	38	0.1
Total	85,370		81,463		75,087		79,589		78,681		77,966	

	2015		2016		2017		2018		2019	
Weight Category	**N**	**%**	**N**	%	N	%	N	%	N	%
VLBW	1,695	2.2	1,716	2.2	1,638	2.2	1,583	2.3	1,610	2.3
LBW	5,146	6.6	5,522	7.2	5,608	7.5	5,350	7.7	5,521	7.8
Normal BW	70,893	91.2	69,215	90.5	67,145	90.3	62,975	90.1	63,968	90.0
Stillbirth	34	0.0	1	0	0	0	0	0	2	0.0
Total	77,768		76,454		74,391		69,908		71,101	

Table A.2 Birth Weight Distribution from Claims versus Vital Records (2009-2019)

	2009		2010		2011		2012		2013	
	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %
VLBW	1.9%	2.0%	1.9%	2.0%	1.8%	2.0%	1.9%	2.0%	2.0%	2.1%
LBW	8.3%	5.4%	8.5%	5.5%	8.2%	5.5%	8.4%	5.8%	8.4%	5.9%
NORMAL BW	89.8%	92.6%	89.6%	92.5%	90.0%	92.5%	89.8%	92.2%	89.6%	92.0%
Link Rate	89.0%		89.1%		82.2%		90.5%		91.4%	

Distribution of birth weight categories *only* for babies linked to birth certificate.

	2014		2015		2016		2017		2018	
	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %
VLBW	2.0%	2.1%	2.0%	2.1%	2.1%	2.2%	2.0%	2.1%	2.1%	2.2%
LBW	8.7%	6.3%	8.7%	6.5%	9.0%	7.1%	9.2%	7.3%	9.4%	7.4%
NORMAL BW	89.3%	91.6%	89.3%	91.4%	88.9%	90.7%	88.8%	90.6%	88.5%	90.4%
Link Rate	91.5%		92.3%		92.7%		92.7%		92.8%	

	2019	
	Birth Certificate Weight Category	Claims Weight Category %
VLBW	2.1%	2.2%
LBW	9.2%	7.5%
NORMAL BW	88.7%	90.3%
Link Rate	93.8%	

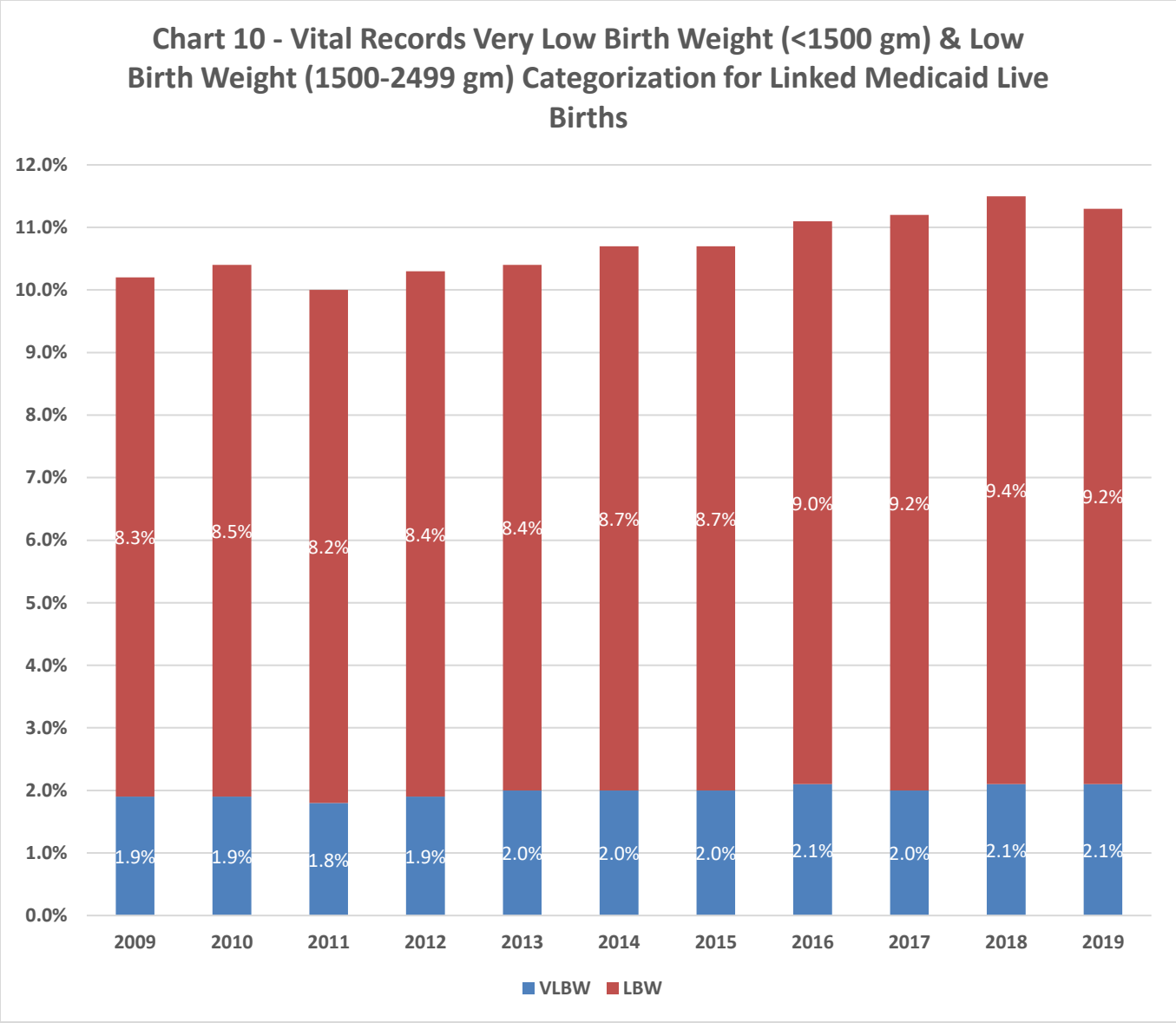
Chart 10 - Vital Records Very Low Birth Weight (<1500 gm) & Low Birth Weight (1500-2499 gm) Categorization for Linked Medicaid Live Births
12.0%
11.0%
10.0%
9.0%
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
8.3%
8.5%
8.2%
8.4%
8.4%
8.7%
8.7%
9.0%
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1.9%
1.9%
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2.1%
2.0%
2.1%
2.1%
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
VLBW
LBW

Table A.3 Medicaid Deliveries for Calendar Year 2019 (CY2019)

MEASURE	Counts	Total $ Paid Mother	Average $ Paid Mother
All Medicaid Deliveries[1]			
Total Deliveries[2]	71,000	400,564,206	5,641.75
Liveborn deliveries	62,567	390,926,242	6,248.12
Stillborn deliveries (>= 22 weeks)[1]	627	3,213,387	5,125.02
Fetal deaths < 22 weeks[1]	7,806	6,424,577	823.03
Deliveries[1] to Demonstration			
Entire Demonstration population[6]	5,721	33,208,793	5,804.72
Total Deliveries			
Liveborn deliveries	4,951	32,435,112	6,551.22
Stillborn deliveries (>= 22 weeks)[1]	44	217,297	4,938.57
Fetal deaths < 22 weeks[1]	726	556,384	766.37
FP only[3]			
Liveborn deliveries	4,734	30,978,699	6,543.87
Stillborn deliveries (>= 22 weeks)[1]	39	188,465	4,832.44
Fetal deaths < 22 weeks[1]	690	530,409	768.71
IPC [4]			
Liveborn deliveries	97	630,914	6,504.27
Stillborn deliveries (>= 22 weeks)[1]	1	4,237	4,236.51
Fetal deaths < 22 weeks[1]	14	7,849	560.68
Resource Mother only[5]			
Liveborn deliveries	120	825,499	6,879.16
Stillborn deliveries (>= 22 weeks)[1]	4	24,595	6,148.78
Fetal deaths < 22 weeks[1]	22	18,126	823.89

[1] Deliveries were defined as human conceptions ending in live birth, stillbirth (>= 22 weeks gestation), or fetal death (< 22 weeks). Ectopic and molar pregnancies and induced terminations of pregnancy were NOT included.

- ***Deliveries of Live births** were identified in the claims by using ICD-9 diagnostic codes 640-676 plus V27.x **OR** ICD-9 procedure codes 72, 73, or 74 plus V27.x **OR** CPT-4 codes 59400, 59409, 59410, 59514, 59515,59612,59614,59620, 59622 plus V27.x or Z37.x OR ICD-10 diagnostic codes O0 – O9 plus Z37.x or ICD-10 procedure codes 10A, 10D, or 10E plus Z37.x*
- ***Deliveries of Stillbirths** were identified by using ICD-9 diagnostic code 656.4x (intrauterine fetal death >= 22 weeks gestation) OR specific V-codes [V27.1 (delivery singleton stillborn, V27.3 (delivery twins, 1 stillborn), V27.4 (delivery twins, 2 stillborn), V27.6 (delivery multiples, some stillborn), V27.7 (delivery multiples, all stillborn)] or ICD-10 diagnostic codes Z37.1, Z37.4, or Z37.7*
- ***Deliveries associated with Fetal deaths** < 22 weeks were identified by using ICD-9 diagnostic codes 632 (missed abortion) and 634.xx (spontaneous abortion) or ICD-10 diagnostic codesO03 or O02.1 .*
- *In the case of a twin or multiple gestations, the delivery was counted as a live birth delivery if ANY of the fetuses lived. Costs were accumulated over the pregnancy and attributed to the delivery event if there was a fetal death that preceded a live birth.*

Table A.4 Infant Counts and Costs for Mother and Infant at the Delivery Hospitalization Calendar Year 2019 (CY2019)

MEASURE	Counts	Average $ Paid Mother[3]	Total $ Paid Infant Delivery Hospitalization	Average $ Paid Infant Delivery Hospitalization
All Medicaid Live births [1]	71,099	6,466	326,970,058	4,599
VLBW	1,610	7,406	126,934,408	78,841
LBW	5,521	7,119	58,572,832	10,609
Normal BW	63,968	6,396	141,462,819	2,211
All Medicaid Stillbirths[2]	2	6,237	1648	824

[1]*Liveborn infants were identified and further categorized according to infant birth weight as very low birth weight (VLBW) < 1500 grams, low birth weight (LBW) 1500 – 2499 grams, and normal birth weight >= 2500 grams). Birth weight categories for liveborn infants were then defined using encounter data as follows:*

- *VLBW (< 1500 grams): ICD-9 = 764.xx or 765.xx or V21.3 that pertain to weight < 1500 grams: ICD-10 = PO5.XX or PO7.XX that pertain to weight < 1500 grams*
- *LBW (1500 – 2499 grams): ICD-9 = 764.xx or 765.xx or V21.3 that pertain to weight 1500 - 2499 grams: ICD-10 = PO5.XX or PO7.XX that pertain to weight 1500-2499 grams*
-

NBW (≥ 2500 grams): ICD-9 = 764.xx or 765.xx or V21.3 that pertain to weight ≥ 2500 grams or not otherwise classified as VLBW, LBW or stillborn; ICD-10 not otherwise classified as VLBW, LBW or stillborn

[2] *Stillborn infants were identified using ICD-9 diagnosis codes V35.xx, 768.0, 768.1, or 779.9 or ICD-10 diagnosis codes P95, Z37.1, Z37.4, or Z37.7*

[3] *Amounts paid for mothers at the time of delivery were summarized for all deliveries in table 2 and are summarized here by birth weight of the infant for the subset of mothers (n = 51,576) who could be linked to an infant based on the SSN of the head of the household and other factors used in an algorithm developed by Truven.*

**Link to mother not available*

T**able A.5 Infant Costs during First Year of Life (Post-Delivery Hospitalization) for Medicaid Live Births (CY2019)**

MEASURE	Infants[1] Born on Medicaid in First 6 Months of CY2019	1st Year of Life Post-Delivery Hospitalization			
		Average $ Paid per Infants[2]Born in First 6 Months of CY2019[6]	Total $ Paid[3] Extrapolated to All Infants[4] from those Born in First 6 Months	Total $ Paid Extrapolated to Continuously Enrolled Infants[5]	Average $ Paid per Continuously Enrolled Infants[5]
Medicaid Live births[1]in First 6 Months of 2016	33,655	3,378	245,703,873	243,526,177	3,327
VLBW	523	13,341	21,478,382	21,930,599	13,621
LBW	2,524	5,054	27,902,582	27,883,203	5,050
Normal BW	30,608	3,069	196,322,909	193,712,375	3,028

[1] The *33,655 liveborn infants born in the first six months of CY2019 were categorized as very low birth weight (VLBW) < 1500 grams, low birth weight (LBW) 1500 – 2499 grams, and normal birth weight >= 2500 grams) as noted in table A.4.*

[2]*Costs for all infants born in the first six months of CY2019 are included regardless of their disenrollment or death.*

[3]*Dollars paid for services for infants in their first year of life were counted beginning with the first service date occurring after their delivery hospitalization discharge date. Paid claims for infants born in CY2019 were complete through June of 2020; expenses paid after this date will not be counted in their first year costs.*

[4]*Costs for the full first year of the infant's life were only available for those infants born in the first six months of 2019 (and based on claims paid only through June 2020). We used the average costs for this cohort of infants born in the first part of 2019 (n = 33,655) to extrapolate to an annual estimate for CY 2019.*

[5] *Costs for all infants born in the first six months of CY2019 are included only for those 32,650 alive and continuously enrolled (data on enrollment were only available through December 31, 2019). We used the average costs for this cohort of infants (n = 32,650) to extrapolate to an annual estimate for CY 2019 as shown in the last column.*

[6] *Omits those with 0 Medicaid dollars, private third party liability or Medicare coverage.*

Appendix B. Budget Neutrality Worksheet for Federal Costs in CY 2018

Georgia's P4HB Budget Neutrality Worksheet for: FEDERAL COST CY 2018						
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	TOTAL
WITHOUT DEMONSTRATION - All P4HB Participants (FP and IPC) - FP and associated services (Effective FP?)						
FP and FP-Related Services for All P4HB Pop - 90:10 and reg	FP Enrollee Member Months	79,754	104,068	114,831	122,939	421,592
FMAP rates (multivits, immunizations, admin., etc)	IPC Enrollee Member Months	2,845	3,137	2,819	2,507	11,308
	PMPM for FP Members FP related Services	$26.62	$26.62	$26.62	$26.58	$26.61
	PMPM for IPC Members FP related Services	$22.69	$22.69	$22.69	$22.69	$22.69
	Total	$ 2,187,542	$ 2,841,388	$ 3,120,675	$ 3,324,611	$ 11,474,903
First Year Infant Costs for VLBW Babies < 1,500 grams (all Medicaid paid births)	Estimated Persons					2,117
	Cost per Person	$ 68,826	$ 72,642	$ 63,236	$ 56,052	$ 65,188.83
	Total	$ -	$ -	$ -	$ -	$ 138,004,756
First Year Infant Costs for LBW Babies 1,500 to 2,499 grams (all Medicaid paid births)	Estimated Persons					$ 5,768
	Cost per Person	$ 9,520	$ 10,610	$ 10,837	$ 8,722	$ 9,922.24
	Total	$ -	$ -	$ -	$ -	$ 57,231,488
TOTAL WITHOUT- DEMONSTRATION COSTS		**$ 2,187,542**	**$ 2,841,388**	**$ 3,120,675**	**$ 3,324,611**	**$ 206,711,146**
WITH DEMONSTRATION - IPC SERVICES excl. Resource Mothers Only Participants Only						
Interpregnancy Care Services at the FMAP rate	Member Months	2,845	3,137	2,819	2,507	11,308
	PMPM	$ 117.00	$ 117.00	$ 117.00	$ 115.50	$ 116.63
	Total	$ 332,879	$ 367,044	$ 329,837	$ 289,563	$ 1,319,323
First Year Infant Costs VLBW Infants < 1,500 grams (all Medicaid paid births adjusted for effect of IPC services)	Persons	368	397	380	378	1,523
	Cost per Person	$ 68,826	$ 72,642	$ 63,236	$ 56,052	$ 65,188.83
	Total	$ 25,328,040	$ 28,838,843	$ 24,029,490	$ 21,187,545	$ 99,383,918
First Year Infant Costs for LBW Babies 1,500 to 2,499 grams (all Medicaid paid births adjusted for effect of IPC Services)	Persons	1,562	1,606	1,727	1,734	6,629
	Cost per Person	$ 9,520	$ 10,610	$ 10,837	$ 8,722	$ 9,922.24
	Total	$ 14,869,587	$ 17,039,714	$ 18,716,046	$ 15,124,006	$ 65,749,352
First Year Infant Costs for Normal Weight > 2,500 grams only for women who participated in the IPC	Persons	9	10	10	15	44
	Cost per Person	$ 2,984	$ 5,100	$ 4,976	$ 2,667	$ 3,931.78
	Total	$ 26,854	$ 51,002	$ 49,757	$ 40,012	$ 167,625
TOTAL WITH DEMONSTRATION COSTS		**$ 40,557,361**	**$ 46,296,602**	**$ 43,125,130**	**$ 36,641,125**	**$ 166,620,218**
DIFFERENCE						**$ 40,090,928**

Budget Neutrality. The budget neutrality requirement for Georgia's P4HB program under the original STCs, as noted, is based on the potential of the Demonstration to 'shift' the birth weight distribution. Specifically, the budget neutrality spreadsheet requires that, in addition to the incremental costs of IPC services, the federal costs for all low and very low birth weight babies plus normal birth weight babies born to IPC enrollees in each Demonstration year must be less than the total federal costs (using current PY average costs) for the number of low and very low birth weight babies in the *base year* (2008) for the P4HB program to be considered budget neutral. As the program matured the state was better able to gauge whether the Demonstration prevented enough unintended first births and through better management of the health of women with very low birth weight babies, prevented enough repeat births among this group, such that the distribution of all Medicaid births shifted away from the low and very low birth weight categories.

In this PY9 report, we provide data on the seventh year of the Demonstration, using the claims for CY 2019 to give us a full estimate of the first year of life costs for infants born in 2018. We note that the birth weight distribution is based on linked claims and vital records data. Vital records data are used when available and when the newborn does not link to vital records, birth weight is then based on claims data. As shown in the data in the budget neutrality sheet, there were 1,523 VLBW infants and 6,629 LBW infants born under Medicaid coverage in CY 2019. The average costs for the delivery and first year of life for these infants across the four quarters in PY9 were $65,189 for VLBW and $9,922 for LBW infants, respectively.

When the total federal costs for the per member per month payments for the FP only components of the Demonstration and the base year VLBW and LBW infants is totaled, it equals approximately $207 million. To calculate the effects of the Demonstration, we subtract from this total, the costs of the IPC per member per month payments, the 2019 costs for first year of life for VLBW and LBW infants and the costs of any births to IPC enrollees that are of normal birth weight. These costs total approximately $167 million. We note that the count of births of normal birthweight to IPC women are for women ever enrolled in IPC and with a birth occurring in 2018. The difference in the costs with and without the Demonstration is approximately $40 million as shown in the bottom of the spreadsheet. This constitutes the estimated savings to the federal government from the implementation of the P4HB Demonstration in CY2018.