

Annual Report

Planning for Healthy Babies Program® (P4HB®)

1115 Demonstration in Georgia

YEAR 5

Submitted to the Centers for Medicare and Medicaid Services

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TABLE OF CONTENTS

Executive Summary	3
I. Overview of Planning for Health Babies Program®	11
Demonstration Objectives.....	12
Demonstration Evaluation Objectives	14
II. Summary of Fifth Year Activities	14
Communication and Outreach	14
DCH Supported Activities	15
CMO Supported Activities	16
III. Enrollment of Eligible Women	17
Enrollment Trends	18
Duration of Enrollment.....	20
Participation Rates	21
IV. Use of Family Planning Services	23
Family Planning and Birth Control Visits by Medicaid and Title X Clients.....	24
Methods of Contraception Used	27
Use at Title X Clinics.....	30
V. Use of Services by IPC Women	34
IPC Service Use Related to Chronic Conditions	34
VI. Outcomes among P4HB Participants	37
Averted Births.....	37
P4HB Participants and non-Participants.....	39
IPC Participants versus non-Participants	40
VII. Effects of P4HB Program on Outcomes 2009-2015	43
PRAMS Analyses.....	44
Claims / Vital Records Analyses	50
Overall Patterns.....	51
Regression Analysis of Medicaid Compared to Sample of Private Insured.....	52
VIII. Medicaid Paid Births in 2015	55
IX. Conclusions and Recommendations	57
Recommendations.....	61
Appendix A: Data on Deliveries and Infants	64
Appendix B: Budget Neutrality Worksheet.....	69

Executive Summary

The Planning for Healthy Babies Program[®] (P4HB[®]), Georgia's section 1115(a) Medicaid Demonstration, expands the provision of family planning services to uninsured women capable of childbirth, ages 18 through 44 years, with family incomes at or below 200 percent of the federal poverty level (FPL). These women must not be otherwise eligible for the state's Medicaid or Children's Health Insurance Program (CHIP) programs. In addition to family planning services, women meeting the above eligibility requirements are eligible to receive Interpregnancy Care (IPC) services, which include nurse case management/Resource Mother outreach, if they've delivered a very low birth weight (VLBW) infant (less than 1,500 grams) on or after January 1, 2011. The P4HB program offers nurse case management/Resource Mother Outreach services to women ages 18 through 44 years with a family income at or below 200 percent of FPL, who are eligible for Georgia's Low Income Medicaid (LIM) Class of Assistance or the Aged, Blind and Disabled (ABD) Classes of Assistance and delivered a VLBW infant on or after January 1, 2011.

The P4HB program, initially approved for a three-year period from January 1, 2011, through December 31, 2013, has received numerous temporary extensions since December 2013. The current temporary extension expires on March 31, 2017. Georgia is awaiting approval of the P4HB extension request submitted to CMS in September 2014. At the start of the Demonstration, DCH projected (based on 2008 survey data) that 276,548 women would be eligible for services under the Demonstration and that by the end of Year 1, 110,620 of those women would be enrolled and 33,186 would be using services. Despite multiple engagement efforts by DCH and providers in the community, both enrollment and utilization of services by those enrolled have been much lower than predicted in Georgia's concept paper. Using an estimate from the American Community

Survey (ACS) of uninsured women with incomes at or below 200% FPL in Georgia in 2015 (this corresponds to Program Year (PY) 5 of the P4HB program), slightly over 5% of the estimated eligible population was enrolled in the FP only component at the end of PY5. Adjusting the number of eligible women in the community to better reflect the number who might be ‘in need’ of family planning services--those who are sexually active, able to get pregnant and not currently pregnant or trying to get pregnant as estimated by the Alan Guttmacher Institute (AGI), the percentage enrolled in PY5 was estimated at 9.8%. This is a substantial decline from the estimated 20% of the eligible population ‘in need’ of family planning services and enrolled in PY3. Indeed, all of the enrolled percentages were far below those expected by the state during the design and implementation of the P4HB program.

The costs of the P4HB program were tracked with the P4HB program’s enrollment during PY5, as reported in the fourth quarter (Q4) 2015 P4HB Quarterly Report to CMS. Total expenditures declined from a peak of \$5.1 million in Q3 2013 to a low of \$1.1 million in Q4 2015. The member months for the FP only component peaked in Q3 2013 and then declined in Q4 2013 and have continued to decline through the end of 2015 to end at 34,657 for Q4 2015. The PMPM payments to the CMOs totaled \$3.6 million in PY5, resulting in a total of approximately \$47 million in federal and state funds spent for the P4HB program since implementation. The IPC component of the program experienced an increase in member months beginning in Q4 2013 to reach 522 member months, and then peaked at 906 in Q2 2014 ending at 755 member months by the end of Q4 2015.

Following our evaluation design, we have reported on P4HB program participation and service utilization as well as effects of the P4HB program on: 1) use of family planning services among Medicaid enrolled women and users of Title X; 2) trends in total number of Medicaid paid

deliveries/births and birth weight distributions; 3) pregnancies and births among P4HB enrollees and infant birth weight outcomes; 4) comparisons between P4HB participants and non-participants (specifically, Right from the Start Medicaid [RSM] enrollees) with respect to time until next pregnancy; and 5) utilization and management of chronic conditions among IPC enrollees. Most of these analyses are based on claims data and in some instances, linked claims and vital records.

We continue to address data on the use of family planning services in Medicaid and within Title X since Title X clinics are central to the provision of family planning services for women in the income range targeted by the P4HB program. We note that much of the analysis used data for the time-period during which Georgia's Department of Public Health (DPH) was the Title X grantee for the state. In July 2014, the Georgia Family Planning System (GFPS) became the new Title X grantee for the state. Given concerns that this change disrupted access to family planning services for P4HB and other Medicaid enrollees, the Emory evaluation team used the 2014 data available from DPH and GFPS to report on selected utilization measures for the first and second halves of 2014 in our last annual report. In this PY5 Annual Report, we use the Office of Population Affairs (OPA) Family Planning Annual Report's (FPAR) data for the full CY2014 and CY2015.

In this fifth Annual Report, we include the analyses noted above as well as initial results based on the quasi-experimental design using data from the period prior to P4HB implementation (2009-2010) and post P4HB (2011-2015) for Medicaid births in comparison to privately insured women with an education level of high school or less. For the first time, we also include analysis of the effects of the P4HB program on women's reports of unintended pregnancy and use of efforts to prevent pregnancy prior to conception, based on a sample of live births in the Pregnancy Risk

Assessment Monitoring System (PRAMS) for Georgia and comparison states. The following are key findings:

Enrollment

- Enrollment of eligible women into the FP only component of P4HB continued to decline, while the enrollment of women eligible for the IPC component grew through 2013 but declined through 2014/2015;
- The percentage of women eligible for the FP only component of P4HB and ‘in need’ of services declined from 20% in 2013 to 9.8% in 2015;
- The percentage of women eligible for the IPC component of the demonstration who enrolled in a care management organization (CMO) declined from near 20% in 2014 to approximately 18% in 2015.

Use of Family Planning Services

- The use of any family planning service among *all* Medicaid enrolled women ages 18-44 years peaked at 33% in 2010, then declined slightly to approximately 28% in 2015;
- Use among non-Medicaid insured women seeking services from Title X providers rose to 10% of ‘non-Medicaid Title X women using some form of contraceptive’ in 2013 but we are unable to accurately measure this usage past the middle of 2014, when this percentage equaled 9.7%, due to the change in Title X grantee;
- The use of Tier 1 (most effective) contraceptive methods by *all* Medicaid enrolled women ages 18-44 years using some form of contraceptive was highest in 2012 at approximately 33% and declined slightly to approximately 32% in 2015;
- The use of long-acting reversible contraceptives (LARCs), a subset of Tier 1 contraceptive methods that are reversible, among *all* Medicaid enrolled women using some form of

contraceptive increased from approximately 16% in 2009 to approximately 19% in 2012 and nearly 20% by 2015;

- For women in Medicaid, the overall pattern of Tier 1 contraceptive use was driven more by the non-P4HB enrolled women than P4HB enrolled women for whom the use of Tier 1 contraceptives declined from approximately 23% in 2011 to a low of approximately 15% in 2014 and 16% in 2015;
- Between 2011 and 2015, the use of LARCs among P4HB enrolled women using some form of contraceptive declined while it increased slightly among non-P4HB Medicaid women using some form of contraceptive;
- While the auto-enrollment of eligible women in P4HB was terminated in 2013, we found that over 20% of all P4HB FP only enrollees who were enrolled sometime during 2015 were long-term, auto-enrolled women;
- In continuing to examine the differences in the use of contraceptive methods by sub-groups of enrollees, we found that the use of Tier 1 contraceptives among users of any type of method was lower for the auto-enrolled P4HB women than the non-auto enrolled women during 2012-2014 but were similar during 2015;
- The percentage of users of any contraceptive method who used LARCs was again lower among auto-enrolled versus non auto-enrolled women during 2012-2014 but higher during 2015;
- These patterns may reflect the behavior of the subset of auto-enrolled women choosing to stay enrolled in P4HB for two years or longer.

Outcomes

- Based on the quasi-experimental design, preliminary results based on PRAMS data indicate that following the implementation of the P4HB program there was:
 - an increase in the percentage of women who reported doing something to prevent pregnancy during both the preconception and postpartum periods among women who were uninsured pre-pregnancy but Medicaid-insured at delivery—the group targeted by P4HB; and
 - a reduction in the probability that these women reported their pregnancy as unintended. This latter result held across alternative derivations of the rate of unintended pregnancy based on the PRAMS survey questions;
- Regression analysis based on updated, linked claims and vital records data demonstrated significant effects of P4HB on delaying first birth and reducing the probability of repeat birth. Specifically, in the 2012-2013 post-P4HB period versus the pre-P4HB period, regression analyses revealed: (1) an increase in the age at first birth among RSM participants; and (2) a reduction in the probability of a repeat birth among women ages 18-44 years, especially among those ages 18-24;
- However, these effects of repeat births were not seen when comparing the 2014-2015 post-P4HB time-period to the pre-P4HB period, perhaps due to the inclusion of some women in the 100% to 200% FPL income range who were eligible for P4HB but were obtaining subsidized private insurance coverage and hence, confounding our analytic control group of private insured;

- None of the expected effects of P4HB on reducing preterm, LBW or VLBW infant outcomes was found in either the analysis of the PRAMS or linked claims/vital records data;
- Among participants in the P4HB program's FP only component, the cumulative percentage of enrollees with evidence of pregnancy is lower in comparison to a sample of RSM women with an index birth in the same year but not participating in the P4HB program throughout our follow-up period:
- By the 18th month of follow-up, the cumulative percentage of FP only women enrolling for years 2011-2014 with evidence of pregnancy was 15.4%, whereas for RSM non-participants, this percentage equaled 20.4%;
- Among the IPC participants enrolled from 2011-2014 (referred to as the 2011-2014 IPC enrollee cohort), 71 (14.6%) experienced a subsequent pregnancy within 12 months of their index VLBW delivery compared to 18.6% of a comparison group of RSM women (ages 18-44) with a VLBW delivery in the same time period and this difference was statistically significant;
- By 18 months after the index VLBW delivery, the difference in the proportion experiencing a pregnancy was no longer significant (22.1% for the 2011-2014 IPC enrollee cohort vs. 24.7% for the RSM comparison cohort).
- The proportion of women experiencing a delivery within 18 months of their index VLBW delivery was not significantly lower for the IPC enrollee cohort compared to the RSM comparison cohort (13.3% vs. 16.6%). There was not a significant difference in the proportion of those deliveries ending in an adverse birth outcome (fetal death, stillbirth, very low or low birth weight delivery) between these two groups.

Threats to Success

- The percentage of women eligible for the FP only component of the P4HB program who actually enrolled in the program declined to approximately 5%;
- The decline in female family planning users at Title X clinics suggests access to these services has been diminished but this is based on data in which a significant portion of the data is missing;
- For the 2011-2015 period, there was also a decline in the use of LARCs among those P4HB women using some form of birth control and a parallel increase in the percentage using oral contraceptives, with the exception of a small number of auto-enrolled women remaining in the program for two years;
- Retention of enrollees in both the FP only and IPC components of the program past the one-year mark when re-certification occurs is reducing the number of member months for both components.

Overall State Trends in Medicaid Births and Costs

- All Medicaid births, including stillbirths, continued to increase in number and in total costs from 2011 through 2012, but declined from 2013 through 2015 at which time they equaled 77,768;
- Low birth weight (1500 grams up to < 2500 grams) infants accounted for 6.6% of all live births paid for by Medicaid in 2015 and cost the state almost \$63 million;
- Very low birth weight (< 1500 grams) infants accounted for 2.2% of all live births paid for by Medicaid in 2015 and cost the state almost \$115 million;
- The overall distribution of Medicaid live births by birth weight indicated little change over the 2009 through 2015 period when measured by claims data;

- A reduction from 2.0% VLBW in 2009 to 1.9% VLBW in 2015, based on linked vital records, was observed;
- The first year of infant life costs for all VLBW infants paid for by Medicaid continued to be high when counting the \$67,609 at delivery plus \$14,119 post delivery costs.

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 became available effective January 1, 2011 and was designed for women deemed eligible by meeting the following criteria: 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).

The P4HB program also provides Interpregnancy Care (IPC) services, inclusive of nurse case management/Resource Mother outreach, to women who meet the above eligibility criteria and delivered a very low birth weight (VLBW) infant (<1500 grams or < 3 pounds 5 ounces) on or after January 1, 2011. 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 very low birth weight infant on or after January 1, 2011. DCH identified the following as key outcome goals for the P4HB Demonstration:

- **Primary:** Reduce Georgia's LBW and VLBW rates;
- **Secondary:** Reduce the number of unintended pregnancies in Georgia;

- **Tertiary:** Reduce Georgia's Medicaid costs by reducing the number of unintended pregnancies by women who otherwise would be eligible for Medicaid pregnancy-related services.

Demonstration Objectives

The primary goal of the Demonstration is to reduce Georgia's LBW and VLBW rates among Medicaid insured women. The following related objectives were identified to effect achievement of the goals of the Demonstration:

- Improve access to family planning services by extending eligibility for these services to the newly eligible women noted above during the length of the Demonstration.
- Provide access to interpregnancy primary care health services for eligible women who deliver a VLBW infant during the effective period of the Demonstration.
- Decrease unintended and high-risk pregnancies among Medicaid eligible women.
- Decrease late teen pregnancies by reducing the number of first or repeat teen births among Medicaid eligible women ages 18-19 years.
- Decrease the number of Medicaid-paid deliveries from the number expected to occur in the absence of the Demonstration beginning in the second year.
- Increase child spacing intervals through effective contraceptive use to foster reduced LBW rates and improved health status of women.
- Increase consistent use of contraceptive methods by providing wider access to family planning services and incorporating care coordination and patient-directed counseling into family planning visits.

- Increase family planning utilization among Medicaid eligible women by using an outreach and public awareness program designed with input from family planning patients and providers as well as women needing but not receiving services.
- Decrease Medicaid spending attributable to unintended births and LBW and VLBW babies.

These objectives point to several quantifiable performance measures that are being assessed pre- and post- implementation of the Demonstration. The evaluation of these outcomes uses a quasi-experimental design, where possible, to test for changes pre and post the Demonstration in the following performance measures:

- Total family planning visits per poor and near poor woman;
- Use of contraceptive services/supplies per poor and near poor woman;
- Use of interpregnancy care services (primary care and outreach) by women with a VLBW delivery;
- Average interpregnancy intervals for poor and near poor women;
- Average interpregnancy intervals for women with a VLBW delivery;
- Teen and repeat teen births for poor and near poor 18 and 19 year olds;
- Rate of LBW and VLBW deliveries among the Medicaid population with comparisons to the statewide rates for LBW and VLBW deliveries;
- Rate of LBW and VLBW deliveries¹ among poor and near poor women and among Medicaid enrolled women compared to other populations within the state;

¹ While we include assessment of the rate of very low birth weight deliveries as a performance measure, we note that our power to detect differences will be limited due to the smaller number of IPC participants, the relatively short time-period of the Demonstration over which these downstream outcomes can be observed, and potentially low participation rates.

- Rate of infant mortality among the Medicaid population with a comparison to the statewide rate for infant mortality;
- Rate of infant mortality² among poor and near poor women and among Medicaid enrolled women compared to other populations within the state.

Demonstration Evaluation Objectives

The objectives of the evaluation are to test for changes in the performance measures pre and post P4HB and to assess whether there is evidence of a causal pathway through the expanded access to care that the P4HB program provides. This PY5 report contains the first set of the planned pre/post analyses for all births in the state and for births to Medicaid enrollees versus lower income privately insured women as a comparison group. The latter analysis is based only on those Medicaid births occurring during 2009-2013, as the research team was able to link these to vital records for these years.

II. SUMMARY OF FIFTH YEAR ACTIVITIES

Communication and Outreach

During PY5, DCH and each of the participating CMOs conducted outreach activities to increase awareness of the P4HB program and to encourage participation by both consumers and providers. DCH also worked throughout the year with the Title X grantee, the Georgia Family Planning System (GFPS), to enhance outreach and enrollment in P4HB. In PY5, GFPS received a grant that supported the FQHCs and their assistance of women with family planning needs who wished to

² While we include assessment of the rate of infant mortality as a performance measure, our power to detect differences in this outcome is limited by its relatively low incidence and the issues noted above.

apply for the P4HB program. The communication and outreach efforts for PY5 are summarized below.

DCH Supported Activities

In PY5, DCH: 1) educated providers at FQHCs and local health departments about the P4HB program; 2) utilized consumer-based outreach; 3) collaborated with GFPS to enhance outreach and enrollment in P4HB; and 4) completed an annual evaluation. The DCH link for the P4HB program is: <http://dch.georgia.gov/planning-healthy-babies>.

1. **Educate Providers.** DCH communicated regularly throughout the year with Medicaid providers at FQHCs and local health departments regarding the P4HB program. DCH met with GFPS to discuss and implement enhanced outreach efforts regarding P4HB at participating FQHCs. DCH also communicated with staff from Valley Health Care Systems, Inc. in Columbus, Georgia and provided P4HB brochures to aid their outreach efforts. Only one round of provider surveys was performed in PY5. The provider surveys were distributed in June and July 2015 and focused on 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 2015. Throughout the year, DCH issued 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 provided women with information regarding P4HB eligibility and enrollment as well as details about selecting a CMO. These letters were identified as one of the most frequently cited sources for the P4HB applicants' knowledge about the program in 2015. DCH also regularly communicated with DPH to reinforce the requirement with the local

county health departments throughout the state of Georgia that they must provide P4HB information to women applying for presumptive eligibility in the Medicaid RSM program. Finally, RSM outreach staff continued to educate the public about all of the medical assistance plans available through DCH, including the P4HB program.

3. **Agency Collaborations:** During PY5, DCH worked very closely with GFPS to enhance outreach about P4HB and to strengthen enrollment in the program for women with family planning needs who sought services at FQHCs. In Q2 of 2015, DCH attended a press conference held at the GFPS' office to announce the grant they received for this initiative. In addition, DCH attended the February 2015 Medical Care Advisory Committee to discuss performance outcomes and described the role of the P4HB program in improving outcomes for mothers and infants
4. **Annual Evaluation:** DCH worked with Emory University to prepare the fifth annual P4HB evaluation.

CMO Supported Activities

Each of the three 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>; http://www.pshpgeorgia.com/2011/02/18/planning-for-healthy-babies-program-p4hb-effective-january-1-2011/langswitch_lang/es/).

During PY5, 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;
- 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 about the P4HB program and its IPC component in particular.

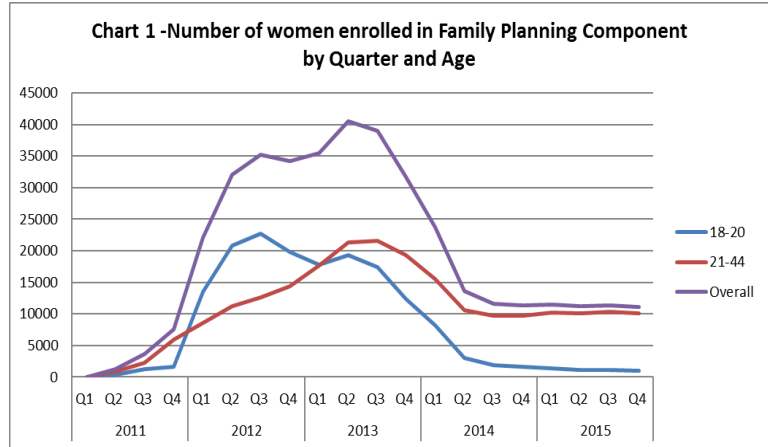
The CMOs took part in local and community education events to discuss the P4HB program with prospective clients and continued provider education and training regarding the P4HB program. They issued provider toolkits about P4HB to new providers and discussed the P4HB program at new provider orientations.

III. ENROLLMENT OF ELIGIBLE WOMEN

For the P4HB program to achieve its goals as described above, the program needed to enroll significant portions of women, in the income range targeted by the program, who were otherwise uninsured. Throughout our quarterly reports, we have provided summaries of the P4HB enrollment process, barriers to enrollment, and enrollment patterns. As these reports have documented, the auto-enrollment of P4HB FP only women significantly increased the number and pattern of enrollment in the P4HB program. The discontinuation of auto-enrollment in July 2013 coincided with significant declines in enrollment in the FP only component of P4HB. We report below on trends in the number of women enrolled in the FP only and IPC components of the P4HB program through the most current data, December 2015.

Enrollment Trends

The data as graphed in Chart 1 clearly illustrates the decline in enrollment in the P4HB family planning only component that began in the third quarter of 2013. By the end of PY5, the number of women enrolled in one of the CMOs and



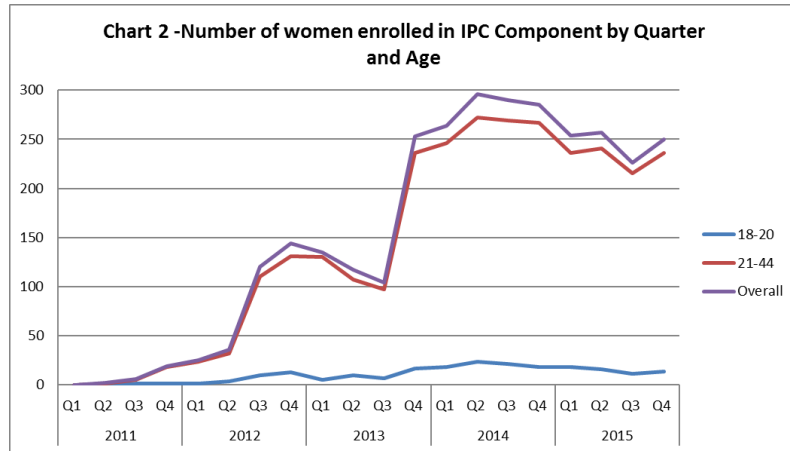
eligible to receive FP only services was 11,133, down by 73% from its peak of 40,593 in Q2 2013. The number enrolled in the last quarter of 2015 equaled 92% of the 12,094 deemed eligible for this component (as shown in our Quarter 4, PY5 report).

As shown in Chart 1, the patterns of enrollment indicate a marked decrease in enrollment for both major age groups shown but the decline continued for the 18-20 year olds while flattening out for the older (21-44 years old) age group. For the 21-44 years old group, enrollment declined by almost half (48%) from Q3 of 2013 when enrollment for this group peaked at 22,619 through Q3 of 2014 when their number equaled 9,720. From that point on, however, enrollment in the family planning only component for this age group increased slightly (3%) to 10,092. In contrast, enrollment for the 18-20 years old age group peaked in Q3 2012 when they accounted for 64% of the total enrollment and has declined continuously through the last quarter of data shown. By Q4 2015 there were only 1,041 women in the 18-20 years old age group enrolled in this component of P4HB, accounting for only 9% of the total enrolled.

As noted in prior reports, the gap between the numbers of women deemed eligible and the number actually enrolled in the FP component of P4HB narrowed from 2012 through 2014. By the end of

2014, the gap was 9.8% compared to 14.3% at the end of 2012; this continued through the end of 2015 when the gap was only 8%.

In Chart 2, we show the trends in the number of women enrolled in the IPC component of P4HB by the two age groups discussed above. Approximately 81% of the P4HB participants deemed eligible for the IPC component



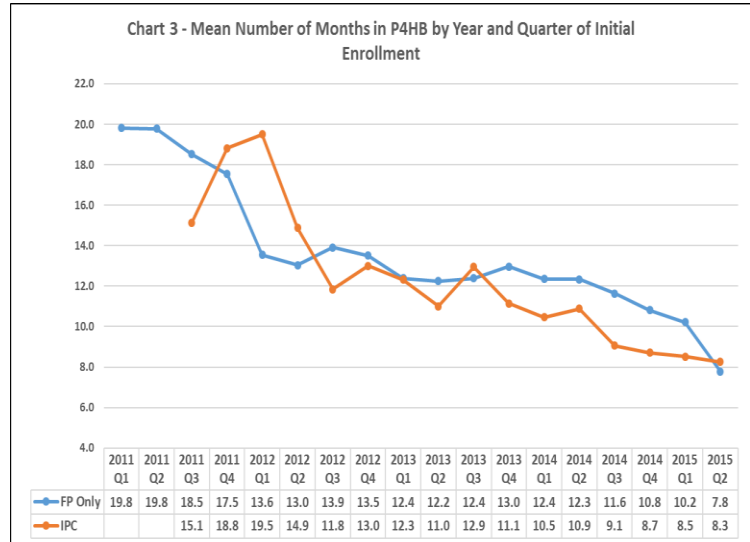
were actually enrolled in a CMO by the end of 2014 (285 of 350 deemed eligible) but this declined to approximately 76% by the end of 2015. The patterns by age group are again, markedly different. Those in the 18-20 age group have been quite stable, remaining below 25 in total throughout; IPC enrollment for these younger women peaked at 24 in Q2 2014 but has steadily declined to only 14 by the last quarter of 2015. During 2014, the increase in total enrollment of women in IPC was not as dramatic as in 2013 but there was an increase over the year from 264 in Q1 2014 to 285 in Q4 2014 (8.0% increase). Over the four quarters of 2015, however, the total number of women in the IPC component declined slightly from 254 in Q1 to 250 in Q4 2015. While the number of women enrolled in the 18-20 years old group essentially remained static during 2015, they remain a small percentage (6%) of the total enrollment in IPC.

The number of women enrolled in the Resource Mothers only component of the P4HB program totaled 50 by the end of PY5. Combined with the 250 women enrolled in the IPC component, there were 300 women who had delivered VLBW infants and received, through the P4HB program, nurse case management and Resource Mother services, primary care and other IPC

services available to them, by the end of PY5. The total number of 300 IPC and RM only women at the end of PY5 is down from the 317 women in this group at the end of PY4.

Duration of Enrollment

The data in Chart 3 shows the mean number of months enrolled for women in both the FP only and the IPC components of the Demonstration by the quarter in which the woman was first enrolled in P4HB. For women enrolling in the early months of P4HB, the mean months enrolled are longer simply

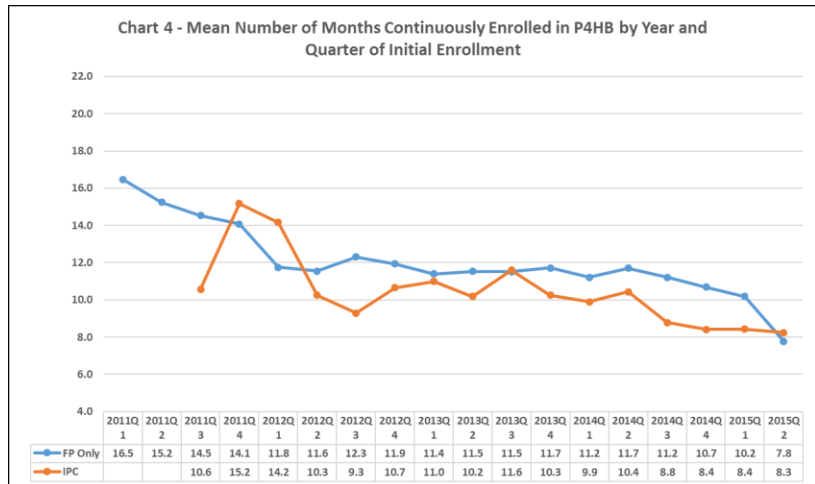


because we can observe them over a longer period. Still, the maximum months enrolled were close to 20, never reaching two years. For those enrolling initially in any quarter of 2012 or 2013, for which we have at least two years of follow up data, the number of months enrolled averaged between 12 to 13 months for women in the FP only component. For women enrolling in 2012 or 2013, the mean tended to be between 11-12 months, but enrollees in the first two quarters of 2012 stayed in as long as 19 months. In separate data, we look at the mean months continuously enrolled; a break of even one month in coverage could result in an unwanted outcome. As the data in Chart 4 indicates, the mean months that women were continuously enrolled stayed really close to 12 months from the cohort enrolling in the family planning only component in Q1 2012 through those enrolling in Q3 2014. There is more variability in mean months enrolled for women enrolling in the IPC component but here too, there is stability in the mean months enrolled from Q2 2012 through Q2 2014 at about 10 months or a little more.

Participation Rates

Throughout the P4HB program’s history, the state has monitored the number of women in the community applying and being determined eligible for enrollment.

It is very important for the program



to enroll and retain a significant number of women in the community eligible for its benefits in order to achieve its stated goals. As in our prior reports, we used data from the American Community Survey (ACS) for each year to estimate the number of uninsured women 18-44 years with incomes at or below 200% of FPL in order to gauge the percentage of eligible women who have enrolled. The estimate for 2015 of eligible women in the community is 207,966; this excludes women who were non-citizens and hence, not eligible for P4HB.

As shown below in Table 1, we estimated that in the first year of the P4HB program, less than 3% of the total number of women eligible in the community based on income, age and citizenship (296,949 from the ACS) were enrolled. In 2012, we estimated 285,927 uninsured women citizens in Georgia within the age and income group targeted by the P4HB program. In 2012, or PY2, approximately 12% of this eligible population was enrolled in the family planning only component of P4HB and in PY3, this remained fairly stable at 11%. In PY4, however, this percentage dropped in half to approximately 5%; while it is close to 5% in PY5 this is a slight increase from its value in PY4. Given the implementation of the ACA in 2014, the number of women with incomes less

than or equal to 200% FPL remaining uninsured has declined in Georgia; the estimated number of uninsured declined 19% from 2013 to 2014 and another 11% from 2014 to 2015.

Table 1. Enrollment of Population Eligible in the Community

Demonstration Group	Enrolled in 4 th 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	34,184	155,830 ⁴	21.9%
IPC/Resource Mother Only	221	1,522	14.5%
2013 P4HB Enrollment/Participation			
FP Only 2013 ³	31,690	287,220	11.1%
FP Only 2013	31,690	156,535 ⁴	20.2%
IPC/Resource Mother Only	318	1,716	18.5%
2014 P4HB Enrollment/Participation			
FP Only 2014 ³	11,370	232,718	4.9%
FP Only 2014	11,370	126,831 ⁴	9.0%
IPC/Resource Mother Only	317	1,616	19.6%
2015 P4HB Enrollment/Participation			
FP Only 2015 ³	11,133	207,966	5.4%
FP Only 2015	11,133	113,341 ⁴	9.8%
IPC/Resource Mother Only	300	1,695	17.7%

¹Those 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 – 2014 as shown in column 3. ²Those eligible for IPC include uninsured women 18-44 with income < 200% FPL residing in Georgia with a live born infant under 1500 grams at delivery. Women enrolled in RSM with a VLBW infant should be the denominator for this calculation. 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 2015 (n = 1,695 in Table A.1 shown later) as the denominator. ³We use the numbers enrolled as of the 4th quarter of 2015 (and reported in our 4th Quarter 2015 Report) for consistency with the earlier parts of this report.

⁴This 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 were actually in need of 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, and 113,341 for 2015 as shown in column 3.

When we consider 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 enrolled in PY2 and PY3 was around 20%. This

dropped, markedly however, to only 9% of the eligible group ‘in need’ of services in PY4 and was only a bit higher at 9.8% in PY5.

If the declines in the percentage of eligible women enrolled is due to increased coverage under Medicaid or subsidized insurance on the Marketplace, there may be less concern for their access to family planning services. We are not able, however, to document the causes for this decline. While women in this income range also have access to free or reduced cost family planning at Title X clinics, we report on large declines in the reported use of family planning services at these sites in a later section of this annual report.

In contrast to the FP only component of P4HB, the data in Table 1 show that the percentage of women with a VLBW infant enrolled in the IPC and Resource Mother only components of the program grew from a low of 14.5% in PY2, to a high of 19.6% in PY4, with a slight decline to 17.7% in PY5.

IV. USE OF FAMILY PLANNING SERVICES

An important objective of the P4HB program is to improve access to family planning services for a sufficient number of eligible women in the community. In turn, for the program to meet its goals of reducing unintended pregnancies and improving infant outcomes it is important that women utilize effective family planning services once they are enrolled. As noted in prior reports, the use of family planning services through the P4HB program should be in addition to those provided through other public programs, such as Title X, in order for the use of family planning services by all women of reproductive age in the income range targeted by the P4HB program to increase.

In prior reports, we indicated that while the use of contraceptives at Title X clinics shifted toward long-acting, reversible contraceptives (LARCs) and the percentage of eligible women using Title

X services increased from 2009-2013, when viewed as a combined, publicly funded family planning delivery system, total family planning services (paid for by Medicaid or Title X) did not increase enough to result in a growing percentage of women with incomes at or below 200% FPL with a family planning or birth control visit from 2009 through 2013.

Family Planning and Birth Control Visits by Medicaid and Title X Clients

In this section of the PY5 annual report, we update the data on use of family planning services by Medicaid enrolled women through 2015 using claims data and report on Title X usage for 2014 and 2015. As noted in our PY4 Annual Report, we can no longer track detailed Title X funded use by individual women as provided by the prior Title X grantee, the Georgia Department of Public Health. We now use the aggregate data available from the FPAR, which is the uniform reporting method used by all Title X service grantees, presented in summary form to protect the confidentiality of users. We continue to use the detailed Medicaid claims and enrollment files to report on the trends in use of family planning services paid for by Medicaid, the Medicaid recipients' use of contraceptives and among users, use by relative effectiveness of the contraceptives.

We note that we have made some changes in the coding of these services and contraceptive methods due to the introduction of ICD-10 diagnosis codes in October 2015. We have also made changes in response to a request from the OPA to compare the codes they were using in a multi-state Medicaid study to those we have been using to measure contraceptive usage. As we made this comparison, we realized that the Georgia CMOs are not using Therapeutic Class coding when reporting on drug usage and, due to this practice, a number of P4HB enrolled women who were using oral contraceptives were not previously identified as contraceptive users. In addition, we

recognized that we should include an additional diagnosis code that indicated contraceptive use even though a separate procedure or drug code was not observed for the woman. In enacting these coding changes, we recognized that a larger number of family planning visits and users of contraceptive methods would be captured, and that the newly identified group of contraceptive users would primarily include users of oral contraceptives. Given these major changes in coding for the 2015 data, and to assure our ability to examine trends pre and post implementation of the P4HB program, we updated our prior years of Medicaid data to be consistent.

The first bank of data in Table 2 reflects the percentage of Medicaid enrolled women ages 18-44 years with any Medicaid family planning or family planning related visit reimbursed at the 90:10 FMAP over the pre/post P4HB period. In turn, the percentage of P4HB enrolled women with any Medicaid family planning or family planning related visit including visits for the additional P4HB covered services (e.g. treatment of STIs or primary care provider visits for IPC women) is shown. The additional P4HB covered services are reimbursed at the state's regular FMAP rate. In the last bank of data, the percentage of all Medicaid enrolled women with any family planning or family planning related visit is shown for those women *not* enrolled in the P4HB program during the year. As the data show, the percentage of all Medicaid enrolled women 18-44 years of age and actually using family planning or family planning related services declined slightly over the 2009-2015 time-period; in 2009, this percentage was approximately 33% but it declined in most of the following years to equal 27.8% in 2015. The percentage of all Medicaid enrolled women for whom the visit involved the provision of some form of birth control also declined over the pre/post period from 29% in 2009 to 20% in 2015.

Table 2. Use of Family Planning and Birth Control Visits among Medicaid Enrolled, P4HB, and Medicaid Non-P4HB

	Use Among Medicaid Women Ages 18-44			Use Among P4HB Women P4HB Enrolled ²			Use Among Medicaid Non-P4HB Women Ages 18-44		
	All Medicaid Enrolled ¹						All Medicaid Non-P4HB Enrolled ³		
	Any Family Planning Visit ¹	Mean Visits Per User	Any Visit /Service for Birth Control ¹	Any Family Planning Visit ²	Mean Visits Per User	Any Visit /Service for Birth Control ²	Any Family Planning Visit ³	Mean Visits Per User	Any Visit /Service for Birth Control ³
2009	32.8	2.7	29.2						
2010	33.4	2.8	29.6						
2011	31.2	2.4	24.6	35.0	3.0	29.1	31.2	2.3	24.5
2012	30.4	2.5	22.7	27.3	3.5	21.8	30.8	2.3	22.8
2013	31.0	2.5	22.5	27.9	3.7	21.3	31.6	2.4	22.7
2014	28.9	2.5	21.1	26.2	3.6	19.6	29.2	2.4	21.3
2015	27.8	2.5	20.2	41.0	4.0	32.9	27.2	2.4	19.5

¹ Denominator is all women ages 18-44 enrolled in Medicaid including those in P4HB at least one month during year. ² Denominator is all women enrolled in P4HB at least one month during the year. ³ Denominator is all women ages 18-44 enrolled in Medicaid but not enrolled in P4HB during the year.

These overall patterns are driven by the combination of usage of family planning services by P4HB and non-P4HB Medicaid insured women. Among women in P4HB, the percentage with a family planning visit began at a higher level in 2011 at 35% but declined to 26.2% from that point through 2014; it then increased markedly to 41% in 2015. On the other hand, non-P4HB enrolled Medicaid women with any family planning visit mirror the overall pattern of usage from 2011-2015, indicating a general decline. With respect to the usage of family planning visits for birth control, the pattern for non-P4HB enrolled women ‘mirrors’ the overall pattern, ending at approximately 20% in 2015 but the percentage of P4HB enrolled women with birth control visits declines and then increases, ending at approximately 33% of these women with a family planning visit for birth control.

We note that in the process of assembling the revised data on contraceptive usage, we recognized that the auto enrollment of women into the FP only component of P4HB played a significant role in increasing overall enrollment to its peak during the 2012-2013 program years. We found it

informative, therefore, to continue to compare the utilization patterns of the auto and non auto-enrolled women as we look at these revised data in descriptive terms and as we test for effects of P4HB in these first two years of implementation. In this process, we found that a sizeable portion of the women who were auto-enrolled (prior to the termination of the auto-enrollment process in 2013) had stayed in the program for over two years and hence, affected the utilization patterns in 2014 and 2015.

The data in Table 3 indicate that the percentage of auto-enrolled women with a family planning visit or visit/service for birth control was lower than the percentage for non auto-enrolled women in each year but while both groups increased usage during 2014-2015, these increases were markedly larger for the auto-enrolled. While the percentage with a visit/service for birth control among the non auto-enrolled increased from 29.3% to 33.5% during 2014-2015, this percentage increased from a low of 12.2 percent to 30.8 percent for the auto-enrolled. The mean months enrolled among auto-enrolled women ever enrolled in 2015 was 25.1 months.

Table 3. Use of Family Planning and Birth Control Visits among P4HB Enrolled Women by Auto-Enrollment Status, 2012-2015

	Use Among P4HB Women P4HB Non Auto-Enrolled			Use Among P4HB Women P4HB Auto Enrolled		
	Any Family Planning Visit ²	Mean Visits Per User	Any Visit /Service for Birth Control ²	Any Family Planning Visit ³	Mean Visits Per User	Any Visit /Service for Birth Control ³
2012	39.3	3.5	31.4	20.3	3.5	16.2
2013	40.3	3.7	30.7	22.3	3.6	17.1
2014	38.3	3.7	29.3	16.8	3.5	12.2
2015	41.8	4.0	33.5	38.3	4.0	30.8

Methods of Contraception Used

Another way the introduction of the P4HB program could affect usage of family planning services is to move women using some form of contraception toward one of the more effective methods of contraception. In Table 4 below, we show the distribution of the users of some form of

contraceptive by the WHO tiers of effectiveness 1-4. We also show the percentage of users of some form of contraceptive who are using long-acting reversible contraceptives (LARCs) in the last column of Table 4. Before discussing these data, we note that the percentages were affected by the change in coding to: 1) mirror the OPA list of codes; and 2) use NDC codes in addition to therapeutic class to address the CMOs' reporting issue. A key change that occurs from the use of the OPA codes is a significant portion (8-10%) of the users have a visit for birth control but no procedure or drug code to indicate what type is used and hence, the tier cannot be specified.

Table 4. Distribution of Contraceptive Methods Paid by Medicaid for All Medicaid Enrolled 2009-2015

Year	Percent of Contraceptive Methods among Users of Some Birth Control by Tier, All Medicaid Enrolled, Ages 18-44				
	Tier 1	Tier 2	Tier 3/4	Tier Not Specified	LARC
2009	27.36	62.36	1.83	8.45	16.46
2010	24.60	65.25	1.69	8.46	14.00
2011	32.81	55.12	1.40	10.66	19.03
2012	33.00	55.19	1.53	10.28	19.64
2013	31.09	57.43	1.70	9.78	17.86
2014	31.35	58.37	1.61	8.68	18.52
2015	31.72	58.57	0.95	8.77	19.70

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.

As the data in Table 4 show, the use of Tier 1 contraceptives in general increased from 2009 (27%) to 2015 (approximately 32%). The largest increase is from 2010 (approximately 27%) to 2011-2012 (approximately 33%) as the P4HB program was being implemented. The increase in the use of LARCs from approximately 16% to almost 20% in 2015 is part of the reason for the overall increase in Tier 1 contraceptives and again, the largest increase in the use of LARCs is in 2011-2012. The increase in Tier 1 usage is accompanied by a decline in the use of Tier 2 birth control methods, largely oral contraceptives. We note that the percentage using oral contraceptives in this report is higher in each year than previously reported due to including separate NDC codes to address the issue of records missing the therapeutic class.

If the P4HB program is working as intended, the patterns of family planning service and contraception usage among enrollees (with required months of continuous enrollment) should show increases as P4HB enrollees become more aware of their benefits, more accustomed to their CMO providers and more of them receive advice regarding their reproductive health care.

Table 5. Distribution of Contraceptive Methods Paid by Medicaid for Women in P4HB versus Not in P4HB, 2009-2015

Year	% of Contraceptive Methods by Tier Paid by Medicaid: P4HB Enrolled Women					% of Contraceptive Methods by Tier Paid by Medicaid: Medicaid Non-P4HB Enrolled Women Ages 18-44				
	Tier 1	Tier 2	Tier 3/4	Tier Not Specified	LARC	Tier 1	Tier 2	Tier 3/4	Tier Not Specified	LARC
2011	22.71	63.27	2.91	11.11	15.48	33.08	54.91	1.36	10.65	19.13
2012	16.71	64.59	3.26	15.43	12.89	35.29	53.87	1.29	9.55	20.59
2013	16.61	66.21	3.56	13.61	12.57	33.64	55.88	1.37	9.11	18.79
2014	14.69	70.03	3.35	11.93	11.48	32.93	57.26	1.44	8.37	19.19
2015	16.27	73.47	1.90	8.36	13.49	33.02	57.31	0.87	8.80	20.22

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.

As shown in Table 5, the use of Tier 1 contraceptives among all P4HB users of some form of contraceptive declined from 2011-2015, ending at about 16% of P4HB users being in the Tier 1 category. This is consistent with the decline seen for all Medicaid enrolled women shown in Table 4 for the 2011-2015 years but the decline here is steeper. There is also a decline in the use of LARCs among those P4HB women using some form of birth control and a parallel increase in the percentage using oral contraceptives. In contrast, the patterns seen for non-P4HB enrolled women indicated stability in the use of Tier 1 contraceptives at 33% in 2011 and 2015 but with an increase in 2012 to 35%; this pattern also applies to the use of LARCs among these women with the percentage in 2015 (20.2%) being slightly higher than in 2011 (19.1%).

In Table 6, we have combined data for women in all components (FP only, IPC and RM) of the P4HB program but provided separate data for those in the program who were auto-enrolled versus not during 2012-2015. We do this in order to reflect the large numbers of auto-enrolled in the

2012-2013 peak enrollment years and the behavior of those auto-enrolled who stayed in the program through 2015.

Table 6. Distribution of Contraceptive Methods Paid by Medicaid for P4HB Enrolled Women by Auto-Enrollment Status, 2011-2015

Year	% of Contraceptive Methods by Tier Paid by Medicaid: P4HB Non-Auto Enrolled Women					% of Contraceptive Methods by Tier Paid by Medicaid: P4HB Auto Enrolled Women				
	Tier 1	Tier 2	Tier 3/4	Tier Not Specified	LARC	Tier 1	Tier 2	Tier 3/4	Tier Not Specified	LARC
2011	22.71	63.25	2.92	11.13	15.46	**				
2012	20.02	61.69	3.10	15.19	15.03	12.99	67.86	3.45	15.71	10.47
2013	18.24	63.18	3.75	14.84	13.58	15.28	68.69	3.41	12.61	11.74
2014	16.58	68.00	3.27	12.14	12.60	11.15	73.80	3.50	11.54	9.41
2015	16.17	73.36	1.86	8.61	13.17	16.64	73.91	2.02	7.42	14.69

**Small number of observations in 2011

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.

We again see the decline in the percentage of all P4HB users in the Tier 1 category, falling from approximately 23% to approximately 16% and a corresponding increase in the percentage using contraceptives classified as Tier 2, which includes oral contraceptives. The percentage of the auto-enrolled using Tier 1 methods is lower than for the non-auto-enrolled women in 2012-2013, but is similar in 2015 at approximately 16%. The increase in the use of Tier 1 among the auto-enrolled during 2014 to 2015 and in particular, the increase in their use of LARCs over this year from 9.41% to 14.69%, may reflect the behavior of those auto-enrolled women who chose to remain in the program through 2015. By 2015, the patterns of usage by Tiers 1-4 are quite similar for the auto and non auto-enrolled P4HB women.

Use at Title X Clinics

Since July 2015, 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 perhaps different

clientele than the prior grantee, the Department of Public Health (DPH). Hence, we anticipated some changes as the new grantee took over and discussed some of these in our last annual report. We also noted that the implementation of the ACA meant that some of the lower income clients served by Title X could more readily obtain private insurance coverage and hence, may have sought other, non-Title X providers.

Here, we first provide a quick summary of what we reported in the PY4 Annual Report comparing data from the first six-months of 2014, when DPH was the Title X grantee, to the second six months of 2014 when GFPS was the Title X grantee. In this prior analysis, we found:

- a 58% decline in the monthly number of female users;
- a 70% decline in uninsured clients;
- declines in the number of contraceptive users after their visit;
- a 74% decline in the use of highly effective, reversible birth control methods which include LARCs; and
- among GFPS users < age 25, a 74% decline in those receiving a test for chlamydia infection.

These patterns indicated that as the Title X grantee changed in the state, women's access to Title X services changed in a direction that would put more of their clientele at risk for unintended pregnancies as well as undetected sexually transmitted infections. We also noted in the PY4 Annual Report that the percent of the Title X grantee users who were publicly insured did not markedly decline (-2%) from the first to the last six months of 2014, indicating a group of Medicaid insured women continued to use Title X clinics under the GFPS. While some of these could be

P4HB enrollees, the decline in users with incomes \leq 250% FPL and the increase in users with incomes over 250% FPL is not consistent with P4HB eligibility levels.

In Table 7 below, we show the FPAR data on Title X users for the full calendar years of 2014 and 2015. As we review these data, we note that the amount of ‘unknown’ data for several of the key data elements summarized in Table 7 increased markedly from 2014 to 2015 and this affected our ability to draw clear conclusions regarding the patterns of change as the new grantee took over. In the following text, we report percentages inclusive of the percent unknown.

In the first bank of data, we see a clear drop in the number of females getting family planning services at the clinics of the new Title X grantee; this number declined by approximately 31% from 97,483 in 2014 to 66,912 in 2015. We note that the data on gender are complete and indicate that the clientele served by the new grantee has shifted away from females, equal to 95.3% of all users in 2014 but only equal to 77.5% of all users in 2015.

The Title X grantee reported no data on income levels for 36% of their clients (compared to 10% in 2014) in 2015; using all of the data in this bank, there appears to be a shift away from serving the lower income clientele (<101% FPL) at 76% in 2014 to just below 47% in 2015. Since the percentage of women with incomes > 101% FPL only changes from approximately 14% in 2014 to 17% in 2015, it appears that most of those with unknown income data are from the lowest income category. The data on insurance indicate that a lower percentage of uninsured Title X users were seen by the grantee in 2015 (approximately 40%) than in 2014 (approximately 58%); in this bank of data there was a lower percentage of unknowns (4-6%) than in other banks of data shown for the two years.

Table 7. Title X Users of Family Planning Services during 2014 and 2015

	FPAR Data Report for 2014 ¹		FPAR Data Report for 2015 ¹	
	Annual	%	Annual	%
Number of Family Planning Users by Gender				
Female	97,483	95.3%	66,912	77.5%
Male	4,840	4.7%	19,397	22.5%
Total	102,323	100.0%	86,309	100.0%
Number of Family Planning Users by Income in Relation to Federal Poverty Level (FPL)²				
<101% FPL	78,118	76.3%	40,103	46.5%
101% to 250% FPL	12,646	12.4%	11,745	13.6%
Over 250% FPL	1,100	1.1%	3,265	3.8%
Unknown/Not reported	10,459	10.2%	31,196	36.1%
Total	102,323	100.0%	86,309	100.0%
Number of Family Planning Users by Insurance Coverage at the time of the Visit				
Private	14,973	14.6%	23,753	27.5%
Public	22,393	21.9%	24,719	28.6%
Uninsured	59,130	57.8%	34,105	39.5%
Unknown/Not reported	5,827	5.7%	3,732	4.3%
Total	102,323	100.0%	86,309	100.0%
Number of Female Family Planning Users by Effectiveness of Primary Contraceptive Method After the Visit				
Tier 1, Non-reversible ³	1,866	1.9%	5,345	8.0%
Tier 1, Reversible ⁴	6,770	6.9%	4,010	6.0%
Tier 2 ⁵	53,233	54.6%	11,020	16.5%
Tier 3,4 ⁶	9,243	9.5%	6,293	9.4%
Unknown/Not reported	26,371	27.1%	40,244	60.1%
Total	97,483	100.0%	66,912	100.0%
Number of Female Family Planning Users Less than 25 Years with Chlamydia Testing				
Tested	16,729	40.1%	7,073	32.9%
Not tested	25,025	59.9%	14,420	67.1%
Total	41,754	100.0%	21,493	100.0%

¹ Family Planning Annual Report (FPAR) data as reported by the Georgia Title X grantee;

² Federal Poverty Level, as determined by reported household income relation to Federal Poverty Guidelines published for 2014

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 & intrauterine devices.

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

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

The remaining data in Table 7 pertain to female family planning users. First, we note that the portion of female family planning users for which the type of contraceptive method used after the visit is *not* reported has increased markedly from 2014 to 2015. In 2014, nearly 27% of all female family planning clients had unknown contraceptive use after the visit while in 2015, this

percentage equaled 60%. Using the known data in this bank, the percentage reporting a Tier 1, *non-reversible* (sterilization by any method) increased from approximately 2% to 8%. The percent using Tier 1, *reversible* methods (LARCs) was fairly stable declining from 6.9% to 6.0%. The data indicate a marked decline in Tier 2 usage from approximately 55% in 2014 to approximately 17% in 2015. Without knowing the composition of usage among *all* female planning users leaving with a contraceptive method, it is impossible to say whether the overall distribution shifted toward more effective methods from 2014 to 2015.

Finally, we note that there was a further decline in the percentage of female family planning users less than 25 years of age who were tested for chlamydia; this percentage declined from 40% in 2014 to approximately 33% in 2015. While we know of no reimbursement barrier to the provision of this service at the GFPS sites, it may be that the billing process is different/less detailed than the Title X process and hence, women may actually be getting these services but it is not recorded in the FPAR data. Still, this further decline 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 (See: Screening for chlamydial infection: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2007;147(2):128-134.)

V. USE OF SERVICES BY IPC WOMEN

IPC Service Use Related to Chronic Conditions

A key goal of the IPC component of the P4HB program is to help these women who deliver a VLBW infant maintain or improve their health by providing access to the expanded set of services noted earlier. In past years, we have focused the content of the annual report on capturing the

number of encounters for services by IPC enrolled women and the types of services for which IPC enrolled women received care (such as care for preventive services, acute gynecologic conditions or other gynecologic testing, dental conditions, other acute conditions, contraceptive services, and chronic health conditions). Given the growing interest in the chronic conditions affecting the IPC enrolled women, and their known adverse impact on subsequent reproductive health outcomes, we have shifted the focus of the administrative data for CY 2015 to ascertain the types of chronic conditions for which these women are seeking and receiving care under the P4HB program.

The specifications of services used, as shown in Table 8, are based on both ICD-9 and ICD-10 coding since the ICD-10 system came into place in the last quarter of CY 2015. Among the IPC component's participants, the claims data indicate that 139 of the 378 women (37%) enrolled in IPC in PY5 utilized services indicative of care for a chronic condition. The most common form of chronic condition for which IPC enrolled women received services was severe mental illness (13%); this category is dominated by depression-other with almost 9% of IPC women being seen for this condition. Fewer of the IPC women received care for major depression (1.9%) or bipolar depression (1.9%). The next most common chronic condition for which IPC enrolled women received care was for tobacco use at 11.4% of IPC women. Use of tobacco during the prenatal period is detrimental to the mothers' and infants' health, and smoking post-partum is strongly related to infant deaths attributed to sudden infant death syndrome (SIDs). Following these two chronic conditions in percentage of IPC enrolled women receiving care services were obesity and hypertension, both at 10%.

Table 8. Chronic Conditions for IPC and Resource Mother Only Participants

Condition	Resource Mother	IPC
	N = 125	N = 378
≥ 1 Condition	70 (56.0%)	139 (36.7%)
Severe Mental Illness	28 (22.4%)	49 (13.0%)
Depression – Other	21 (16.8%)	33 (8.7%)
Depression - Major	5 (4.0%)	7 (1.9%)
Depression - Bipolar	4 (3.2%)	7 (1.9%)
Cardiovascular	25 (20.0%)	39 (10.3%)
Hypertension	24 (19.2%)	37 (9.8%)
Hyperlipidemia	5 (4.0%)	3 (0.8%)
CHF/Ischemia	1 (0.8%)	1 (0.3%)
Endocrine Disorders	28 (22.4%)	51 (13.5%)
Obesity	21 (16.8%)	37 (9.8%)
Diabetes	8 (6.4%)	8 (2.1%)
Thyroid Disorders	3 (2.4%)	9 (2.4%)
Substance Use	14 (11.2%)	48 (12.7%)
Tobacco	12 (9.6%)	43 (11.4%)
Drugs	2 (1.6%)	7 (1.9%)
Alcohol	1 (0.8%)	4 (1.1%)
Autoimmune	4 (3.2%)	3 (0.8%)
Lupus	4 (3.2%)	2 (0.5%)
Rheumatoid Arthritis	2 (1.6%)	1 (0.3%)
Neurologic	20 (16.0%)	29 (7.7%)
Migraine/headaches	19 (15.2%)	28 (7.4%)
Seizures	1 (0.8%)	3 (0.8%)
Atopic and Allergic	17 (13.6%)	15 (4.0%)
Asthma	8 (6.4%)	12 (3.2%)
Allergies	9 (7.2%)	3 (0.8%)
Anemia	23 (18.4%)	25 (6.6%)
Chronic fatigue/malaise	12 (9.6%)	5 (1.3%)
Gastrointestinal Reflux	8 (6.4%)	8 (2.1%)

The patterns of chronic conditions for which the RM only women were treated include the same conditions as observed for the IPC women but, as the data show, their rates of receiving services for mental health conditions, chronic fatigue/malaise, and cardiovascular conditions were substantially higher than those observed for the IPC women. Notably, 22% of RM only women were treated for severe mental illnesses (vs. 13% of IPC women), again dominated by depressive-other disorders; 4% were treated for major depression and nearly 3% for bipolar disorders. Approximately 10% of RM only women were treated for chronic fatigue/malaise vs. 1.3% of IPC women. Regarding cardiovascular and related conditions, almost 19% of RM only women were

treated for hypertension (vs. 9.8% of IPC women), and similarly, almost 17% of RM only women were treated for obesity (vs. 9.8% of IPC women). Finally, while 4% of RM only women were treated for hyperlipidemia, only 0.8% of IPC women were. In contrast, the percentage of RM only women who received care for tobacco use was slightly lower than for IPC women at 9.6%.

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. The mechanism through which this would occur was an anticipated lowering of the percentage of all Medicaid births that are LBW and VLBW. In turn, the state anticipated an increase in the use of family planning services as well as the management of contraceptive use and health conditions that affect reproductive outcomes, which would help lengthen the interpregnancy intervals of P4HB enrolled women. Additionally, the treatment of acute and the management of chronic conditions of women enrolled in the IPC component would lead to better health of the women, and in turn better birth outcomes.

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 9 below, we present an estimate of the number of births that the state would have ‘expected’ to see among participants in the family planning only component of the P4HB program. The expected birth count 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.³ The estimated fertility rate was 160 per 1,000 for the fifth program year. If this rate is applied to all women enrolled in the family planning only and other program components at the end of PY4 (11,687 from Table 1) and hence, at risk of a delivery in PY5, the number of expected births is 1,870 in PY5 as shown below.

Table 9. An Estimate of Averted Births among the P4HB Demonstration Population

Number of ‘Expected’ Births Among Participants ¹	Number of Deliveries/Live Births in 2015 to Participants ²	Number of ‘Averted’ Births
1,870	488	1,382

¹Based 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.pdf²Reflects the count of all deliveries of a live born in all three components in 2015 for women enrolled in Demonstration at the end of 2014, 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 2015, would be 576.

The above estimates indicate that the number of actual births in PY5 to P4HB participants (488) enrolled at the end of 2014 is less than that expected and the number of ‘averted births’ is 1,382. 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. This would be a pregnancy within an appropriate interpregnancy interval and means the number of ‘averted’ births could be under counted in the above calculations. The positive number of averted births in Table 9, while smaller than in earlier years, still indicates potential savings to the state from a lower-than-expected birth rate among those enrolled in the P4HB program. We noted in earlier reports that the P4HB program compared well to that of other states with family planning waivers (Bronstein, Adams and Edwards, 2003)⁴ in that states reported that births to participants ranged from a low of 11% (AR,

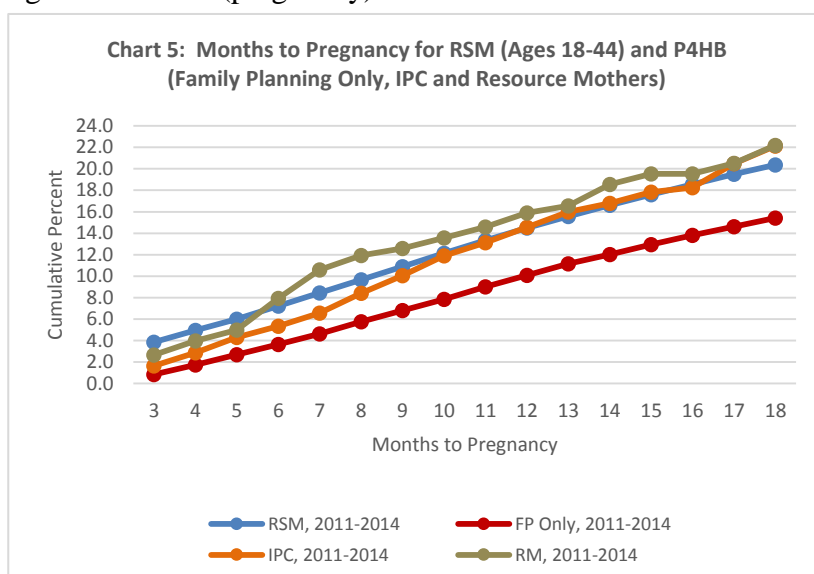
³ Department of Community Health (DCH). (2011) Planning for Healthy Babies Concept Paper. Available at: http://dch.georgia.gov/sites/dch.georgia.gov/files/imported/vgn/images/portal/cit_1210/33/52/156793595PlanningforHealthyBabiesProgram121709Final.pdf

⁴ See Bronstein, J, Adams EK and J Edwards. *Evaluation of Medicaid Family Planning Demonstrations*. Final Report under CMS Contract # 752-2-415921 completed by CNA Analysis and Solutions, Alexandria, VA, November, 2003.

SC) of the ‘expected’ number of births to as high as 80% (NM). In PY5, the 488 births among P4HB Demonstration participants in Georgia constituted about 26% of the number ‘expected’.

P4HB Participants and Non-Participants. In this annual report, we continue to examine the outcomes of pregnancy or delivery among P4HB women after they enroll in the waiver program. As in last year’s annual report, we have organized the data in this section by annual cohorts representing the woman’s initial enrollment into the P4HB program as this allows us to follow women from their initiation to a given outcome (pregnancy) as shown in Chart 5. This chart shows

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 claims data. We chart the data for the 2011-2014 cohorts of P4HB



FP only enrollees and for comparison purposes, we chart the same outcome for RSM women with an index birth in 2011-2014, regardless of their infants’ birthweights, who were never enrolled in the P4HB program. For the RSM women, the pregnancy observed is a new pregnancy following an index birth. From the data shown in the chart, the percentage of women for whom we observe a pregnancy is consistently lower for the women enrolled in the FP only component than the RSM women. As the number of months we observe these women increases, the percentage with a pregnancy increases. By the eighteenth month following their initial month of enrollment into the FP only component of P4HB, nearly 15% of enrollees had evidence of a pregnancy. This compares

to 20% of RSM women who qualified for, but did not enroll in, the P4HB program with this outcome. These data are suggestive of P4HB's success in delaying a new or repeat pregnancy among eligible and participating women compared to women in the same income range, eligible for the P4HB program, but not participating.

We also show in Chart 5, the cumulative percentage of IPC and RM only enrolled women with a pregnancy by month since their enrollment. Both of these groups had delivered a VLBW infant just before their enrollment into P4HB. As the chart shows, they are more likely to have a repeat pregnancy than all RSM women with any infant birthweight outcome. The percentage with a repeat pregnancy is generally higher among the RM only group than the IPC group each month until the 17-18th month. By the end of the 18th month, the cumulative percentage of RM and IPC women with a repeat pregnancy is equal at 22%. While this indicates that the majority (78%) of these two groups avoided a repeat pregnancy [paid by Medicaid] for at least 18 months, a sizeable percentage of these two groups (15-16%) did have a repeat pregnancy within a short period (12 months or less).

IPC Participants versus Non-Participants

A pregnancy conceived within 18 months of enrollment, regardless of outcome, is indicative of a short interpregnancy interval and is an adverse outcome that the P4HB program was designed to prevent. To evaluate the effect of the P4HB program on the IPC participants, we compared their outcomes to a group of women who were eligible for IPC but not participating, namely, RSM women with an index birth of a VLBW infant between 2011-2014 as they would have qualified for the IPC component of P4HB but chose not to participate. In Table 10, we show the percentages of women in the 2011-2014 IPC enrollee cohort and the RSM comparison cohort with a repeat

pregnancy within six, twelve and eighteen months' post-enrollment. Among the 2011-2014 IPC enrollee cohort, a significantly smaller percentage experienced a repeat pregnancy within six and twelve months of their index VLBW delivery compared to women in the RSM comparison cohort. However, by 18 months after the index VLBW delivery, there was no longer a statistically significant difference between the two cohorts (22.1% for the 2011-2014 IPC enrollee cohort vs. 24.7% for the RSM comparison cohort).

Table 10. 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 2011-2014 N = 488	RSM – VLBW 2011-2014 N =2,437
Pregnant within 6 months	26 (5.3%)	250 (10.3%) ^{^^^}
Pregnant within 12 months	71 (14.6%)	453 (18.6%) ^{^^}
Pregnant within 18 months	108 (22.1%)	601 (24.7%)
Delivery within 18 months	N = 353* 47 (13.3%)	N = 2,136* 355 (16.6%)
Fetal Deaths	5	41
Still Births	5	19
Very Low Birth Weight (<1500 g)	10	27
Low Birth Weight (1500-2499 g)	4	60
Normal Weight (≥2500 g)	21	187
Unknown Weight	2	21
Adverse Outcomes**	24	147

*IPC and RSM-VLBW index deliveries through 06/30/2014 **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 codes O03 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 (632) that preceded a live birth.

In the last row of Table 10, we also show the percentage of women in each cohort with a delivery within 18 months of their index VLBW delivery, along with the outcomes of those deliveries. Of note, future analyses will allow for more data run out and thus will describe and compare the birth

outcomes for all pregnancies conceived by IPC and RSM enrolled women, according to the birth interval. The above data show that the proportion of women experiencing a delivery within 18 months of their index VLBW delivery was not statistically significantly lower for the IPC enrollee cohort compared to the RSM comparison cohort (13.3% vs. 16.6%). There also was not a significant difference in the proportion of those deliveries ending in an adverse birth outcome (fetal death, stillbirth, very low or low birth weight delivery).

Next, we used regression analysis to assess the difference in the: 1) probability of a repeat pregnancy within 18 months; and 2) the probability of a delivery within 18 months among IPC women and RSM women with a VLBW infant. In this analysis (Tables 11 and 12), 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. We first show descriptive data in Table 11.

Table 11. Descriptive Characteristics of IPC and RSM Women with VLBW Infants, Ages 18-44

Characteristic	IPC N=487	RSM VLBW N=2,429
Pregnant within 18 months from index date	22.2%	24.6%
Delivery within 18 months from index date	13.3%	16.6%
Age	27.6	26.1
Married	14.4%	13.7%
Race		
White	24.4%	29.7%
Black	59.6%	61.6%
Other	3.1%	1.9%
Unknown	12.9%	6.8%
Rural/Urban Area		
Urban	42.9	66.1
Rural	23.2	30.8
Missing	19.7	3.1
Year		
2011	3.7%	14.0%
2012	25.1%	27.7%
2013	26.1%	30.8%
2014	45.2%	27.6%
Number of months enrolled in Medicaid in 18 months following index date (mean, SD)	12.5 (4.4)	8.4 (6.7)

Note: Total counts for IPC and RSM-VLBW are the regression sample size and are smaller than Table 10 due to missing values in covariates.

As these data show, the IPC women are only slightly older (27.6 vs 26.1 years old) than the comparison group of RSM women with an index VLBW delivery and both groups were highly unlikely to be married. The race data are difficult to interpret as maternal race data are missing from the claims or vital records data for 13% of IPC women and 7% of the comparison RSM group. There is also a large percentage of IPC women (almost 20%) for whom we cannot classify as living in an urban or rural area of the state. In the following regressions, we keep an ‘unknown’ category in these variables.

Table 12. 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	-7.83 ^{^^^}
Repeat Delivery within 18 Months after Index Delivery	-6.19 ^{^^^}

[^] *P-value* < 0.10, ^{^^} *P-value* < 0.05, ^{^^^} *P-value* < 0.01

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.

The regression results shown in Table 12 indicate that participation in the IPC component of the P4HB program is associated with a reduced probability (7.8 percentage points) of a repeat pregnancy within 18 months of an index VLBW delivery. In turn, P4HB program participation is associated with a reduced probability of repeat delivery within 18 months of 6.2 percentage points. We note that there are likely unobserved characteristics of the women with a VLBW infant that affect their decision to participate in IPC that may also affect these outcomes and hence, it is hard to imply causality from these findings.

VII. EFFECTS OF THE P4HB PROGRAM ON OUTCOMES

When the P4HB program was implemented, the Emory team proposed to work with the state in the evaluation of the P4HB program by obtaining and linking data to enable the state to assess

changes in the performance measures noted earlier. The state hypothesized that the P4HB 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. Because the P4HB program is targeted at the income range of women who would qualify for Medicaid ‘if’ they become pregnant, we hypothesized that this increased use of contraceptives should lead to reduced unintended pregnancies and in turn, unintended births among the RSM eligible group of women in Georgia (as well as improved inter-pregnancy intervals). Since teens are at high risk of unintended pregnancy, a related hypothesis was that the rate of unintended births and repeat teen births would also fall post P4HB. An overall improvement in the use of family planning services and the outcomes noted could also occur among all Medicaid women if there were ‘spillover’ effects on the LIM and disabled women in Medicaid and perhaps, to younger teens (<18 years) in Medicaid.

PRAMS Analysis

As initially proposed in our evaluation design, we used data from the Pregnancy Risk Assessment Monitoring System (PRAMS) to assess outcomes that could not be measured using claims data such as an unintended live birth. The PRAMS is a mixed-mode, population-based, state-specific surveillance system of selected maternal behaviors and experiences during pregnancy and following childbirth. Our study sample included data from the years prior to implementation of the P4HB program (2008-2010) and the years following implementation (2012-2013); we excluded data from the transition year of P4HB implementation (2011). To test the effects of P4HB using PRAMS data, we identified women who were uninsured pre-pregnancy but Medicaid insured at delivery as these women were most likely in the income range targeted by P4HB. We

included these women in the Georgia PRAMS sample and similarly defined women in the PRAMS sample in three control states (Arkansas, Oklahoma, and Maryland). A key criterion in selecting our control states was a formal test of equality in trends of outcome measures in Georgia and our control states. We verified that the trends were similar allowing the control states to serve as a counterfactual for Georgia.

Dependent Variables

Unintended Birth: Unintended birth is a key outcome of interest that we can only measure with survey data. Due to changes in the PRAMS survey during our study period, we tested several measures of unintended pregnancy/birth. For years 2008-2010, the PRAMS data asked the question: “*Thinking back to just before you got pregnant with your new baby, how did you feel about becoming pregnant?*” and included as possible responses the following options: 1) *I wanted to be pregnant sooner*, 2) *I wanted to be pregnant later*, 3) *I wanted to be pregnant then*, and 4) *I didn’t want to be pregnant then or at any time in the future*. In 2012, however, a fifth response choice was added: 5) *I wasn’t sure what I wanted*. While PRAMS data have generally been used to classify pregnancies as unintended if a woman wanted to be pregnant later or did not want to be pregnant then or at any time in the future, we had to address the additional response introduced in 2012-2013. We therefore tested several ways of using the data to measure unintended pregnancy/birth. For our first measure, we considered a mother’s answer to a second question: *When you got pregnant with your new baby, were you trying to get pregnant?* We then classified mothers as having an unintended pregnancy/birth if they responded that they were: 1) *unsure what they wanted*; or 2) *were not trying to get pregnant*. With this measure, we tested models excluding mothers who were unsure what they wanted. Finally, we completed a separate analysis of whether

a mother was trying to get pregnant, based on the answer to the following question: *When you got pregnant with your new baby, were you trying to get pregnant?*

Pregnancy Prevention Effort: Our analysis assessed women's reports of efforts to prevent pregnancy in the preconception and postpartum periods as well as their report of problems getting birth control during the preconception period. Pregnancy prevention during the preconception period was based on the mother's yes/no response to the question: *"When you got pregnant with your new baby, were you or your husband or partner doing anything to keep you from getting pregnant?"* This question lists the key things people do to keep from getting pregnant: birth control pills, condoms, withdrawal, or natural family planning. Pregnancy prevention post-partum is a yes/no to the question: *"Are you and your husband or partner doing anything now to keep from getting pregnant?"* Problems getting birth control pre-conception is a yes/no to the question: *"I had problems getting birth control when I needed it"* which was a possible response to the question: *"What were your reasons or your husbands' or partners' reasons for not doing anything to keep from getting pregnant?"*

Birth Weight: We examined two models estimating the probability of a low or very low birthweight infant. In these models, low birthweight was defined as less than 2,500 grams, while very low birthweight was defined as less than 1,500 grams.

Age at Birth: While we estimated a number of models examining the mothers age at birth, most of these results were statistically insignificant. We present in Table 13 below, the results using a continuous measure (age in years) at first birth. Mothers with a previous live birth were excluded from this analysis.

Analyses

Using the PRAMS data, we completed both descriptive and multivariable analysis. In Table 13 below we show the means for each of the dependent variables for the sample of women uninsured pre-pregnancy but insured at delivery in Georgia and our control states; the unadjusted means are shown for the pre (2008-2010) and post (2012-2013) time periods. As the descriptive data show, the rate of unintended pregnancy, regardless of the way we measured it, declined between the pre and post period for women in our Georgia as well as control states' samples. In Georgia, this rate was 61% in the pre period but declined to 57% in the post period while this rate declined from 60% to 51% in the control states. Those with live births who reported they were 'not trying' to get pregnant went up in both Georgia and the control states with 72% of Georgia women reporting this in the post period compared to 60% of the comparison women.

Table 13. Descriptive Statistics PRAMS 2008-2013

	Georgia				Control States (AR, MD, OK)			
	Pre P4HB		Post P4HB		Pre P4HB		Post P4HB	
	(n=1,057)		(n=455)		(n=4,494)		(n=1,074)	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Unintended Pregnancy*	61.0%	2.4%	56.8%	3.5%	60.4%	1.2%	50.8%	2.4%
Unintended Pregnancy**	61.0%	2.4%	44.6%	4.0%	60.4%	1.2%	44.1%	2.6%
Not Trying	70.9%	2.3%	72.3%	3.2%	69.4%	1.1%	60.1%	2.4%
Pregnancy Prevention Pre-conception	40.2%	2.9%	70.9%	3.7%	44.9%	1.5%	40.5%	3.1%
Pregnancy Prevention Post-partum	82.8%	1.8%	80.8%	2.7%	86.1%	0.8%	79.0%	1.9%
Problems getting birth control pre-conception	9.0%	1.7%	6.5%	1.8%	6.3%	0.7%	6.3%	1.5%
Very Low Birthweight ($\leq 1,500$ g)	1.8%	0.2%	1.2%	0.3%	1.5%	0.1%	1.7%	0.2%
Low Birthweight ($\leq 2,500$ g)	9.0%	0.5%	10.0%	1.5%	8.4%	0.2%	8.1%	0.5%
Age at First Birth	23.3	0.36	24.1	0.62	23.0	0.17	24.8	0.29

Notes: Pre-period 2008-2010, Post-period 2012-2013. Sample is limited to Medicaid at delivery and uninsured pre-pregnancy
 * "Were you trying" was used if respondent said "was not sure" to intent question in 2012 or 2013. If not sure and not trying, then coded as unintended ** Dropped those saying 'was not sure' (2012-2013)

There are markedly different trends in Georgia versus the comparison states on using pre-conception pregnancy prevention methods; in Georgia this increased from 40% to 71% over the pre/post period while in the control states, this declined from 45% to 41%. Pregnancy prevention post-partum declined in Georgia and the control states' samples but more so in the latter. An important question for evaluating the P4HB program is whether these women reported problems getting pregnancy prevention methods pre-conception; here, nearly 9% of women in Georgia said 'yes' in the pre period but this declined to 7% in the post period while the percent saying 'yes' to this question in the control states stayed stable at 6%. With respect to birth outcomes, the descriptive data suggest that very low birth weight rates improved in Georgia relative to the comparison states while the rate of low birth weight (inclusive of very low birth weight) did not. Finally, age at first birth went up slightly in both samples. These means are unadjusted for age, race/ethnicity and other factors affecting these outcomes. We report on the outcomes after adjusting for these and other factors in the text below.

Multivariable Analysis: We used the difference-in-difference method to estimate the effects of P4HB on these outcomes. With this method, changes in the outcomes from the control group are subtracted from those of the treatment group, controlling for any group-specific and time-specific effects that may have altered the outcomes during the study years. As noted, the treatment group includes mothers in Georgia that were uninsured pre-pregnancy but insured with Medicaid at delivery and the control group includes these women in the control states (Arkansas, Oklahoma, and Maryland). We used logistic or multinomial logistic analysis to examine all dichotomous outcomes and linear regression to estimate continuous measures. We controlled for mothers age, race/ethnicity, number of stressors, if the mother drank alcohol three months before her pregnancy,

if the mother smoked three months before her pregnancy, number of previous live births, and number of terminations. All regression models included state and year fixed effects, and adjusted standard errors for clustering at the state/year level. Analyses was conducted in Stata version 14.2 and account for the complex sample design of the PRAMS.

Table 14. Estimated Marginal Effects on Pregnancy Prevention and Birth Outcomes

	Marginal Effect	Standard Error	p-value
Unintended Pregnancy*	-0.068	0.035	0.054
Unintended Pregnancy (drop unsure)**	-0.114	0.036	0.002
Not trying	0.021	0.035	0.557
Pregnancy Prevention Pre-conception	0.294	0.041	<0.001
Pregnancy Prevention Post-partum	0.031	0.016	0.054
Problems getting birth control pre-conception	0.019	0.023	0.409
Very Low Birthweight	-0.006	0.029	0.847
Low Birthweight	0.006	0.144	0.969
Age at First Birth	-1.020	1.111	0.363

Controls: age, race/ethnicity, education, number of stressors, drank, smoked, year, number of previous live births, number of previous terminations. * “Were you trying” was used if respondent said “was not sure” to intent question in 2012 or 2013. If not sure and not trying, then coded as unintended ** Dropped those saying ‘was not sure’ (2012-2013) Standard errors clustered by state/year Pre-period 2008-2010, Post-period 2012-2013. Sample is limited to Medicaid at delivery and uninsured pre-pregnancy

The results shown in Table 14 indicate that regardless of the measure of unintended pregnancy used, there were reductions in unintended pregnancy for women in Georgia relative to similar women in the control states. Using the first measure in Table 14, the results indicate a reduction in births from unwanted pregnancies of 6.8 percentage points for the target group of women with

a Medicaid paid birth in Georgia. When the women who are ‘unsure’ are dropped from this analysis, the magnitude of the effect is larger and statistically significant. The only remaining results that are statistically significant ($p < .05$) include a large increase of 29 percentage points in the probability of using pregnancy prevention methods pre-conception and a three-percentage point increase in using pregnancy prevention methods post-partum.

Claims/Vital Records Analyses

In addition to the PRAMS analysis, we updated our analysis of the linked claims and vital records data to assess the effects of the P4HB program. The descriptive data on the outcomes for 2009/2010, 2012/2013 and 2014/2015 for RSM and other Medicaid paid births and for a comparison group of women delivering a live birth in Georgia over the study period are presented below in Table 15. The comparison group should be women whose coverage of family planning services was not likely affected by the P4HB program, and in the analysis that follows, we again used privately insured women with a high school or less level of education. We chose a lower education level in order to compare women who we would expect to have incomes more comparable to the RSM and other Medicaid insured women, all of whom have incomes less than or equal to 200% FPL.

The 2009-2015 linked claims and vital records data were used to assess the effects of the P4HB program on the following outcomes of interest: 1) age at first birth; 2) teen births; 3) repeat births; 4) maternal smoking; 5) interpregnancy intervals; 6) preterm birth; and 7) birth weight distribution, as shown below. These descriptive data indicated that between 2009 and 2015, some of the outcomes of interest improved favorably for the RSM and other Medicaid eligible women versus the private insured, lower educated group of women. We note that the descriptive data in Table 15 reflect two ‘post P4HB’ time periods: 2012-2013 before the ACA and 2014-2015 after the ACA.

While Georgia did not expand Medicaid, many women who would be eligible for the P4HB program (women with incomes between 100% and 200% FPL) could obtain subsidized private insurance through the federal Marketplace exchange post ACA. This could confound our control group in 2014 and 2015. Hence, we examine data for 2014-2015 separately from 2012-2013 post-P4HB years. We also note that we have improved the linkage of mothers and their babies within the claims data as we found very low linkage rates for 2012. This improvement led to more VLBW infants being included in this analytic sample.

Overall Patterns

Table 15. Maternal Health and Birth Outcomes for Medicaid and Private Insured Women 2009, 2015

Data for Medicaid and Private Insured Comparison Group on Targeted Maternal Health and Birth Outcomes, * All Live Births						
	Private Insured ≤ High School			Medicaid Women		
Maternal Health Outcomes	2009/2010	2012/2013	2014/2015	2009/2010	2012/2013	2014/2015
Age at First Birth ¹	27.1	26.8	27.2	22.9	23.2	23.7
Age 18-19 at First Birth ¹	6.5%	7.6%	6.3%	25.9%	21.3%	18.6%
Teen Birth ²	2.8%	3.3%	2.8%	13.1%	10.1%	8.5%
Repeat Birth ³	64.9%	65.4%	61.4%	62.3%	63.4%	63.6%
Maternal Smoking ⁴	4.6%	3.9%	4.0%	10.0%	9.1%	9.2%
Interpregnancy Interval ≤6months ⁵	6.0%	5.9%	5.3%	12.8%	10.9%	11.3%
Birth Outcome						
Preterm (<37 weeks) ⁶	9.8%	9.2%	7.8%	11.6%	11.5%	10.0%
Low Birth Weight (≤2500 grams) ⁷	6.9%	6.2%	5.9%	8.9%	8.9%	9.2%
Very Low Birth Weight (≤1500 grams) ⁸	1.5%	1.1%	1.0%	1.6%	1.6%	1.7%

*All outcomes are measured using linked Medicaid and vital records data. ¹Age 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.

Age at first birth was higher for the private insured comparison group prior to P4HB and remained stable in the follow-up P4HB periods. For the Medicaid insured women, age at first birth increased only slightly, by 0.8 of a year, from the pre (2009-2010) to post-P4HB periods. The increase in age at first birth for the Medicaid women appears related to a decrease for teen births. While the

percentage of teen births was lower for private insured compared with Medicaid eligible women in 2009-2010 and 2014-2015 at approximately 6.5%, this percentage for Medicaid women equaled 13.1% in 2009-2010 but declined to 10.1% in 2012-2013 and declined further to 8.5% in 2014-2015.

There were also declines in maternal smoking and very short interpregnancy intervals for both the private and Medicaid groups 2009-2010 to 2014-2015. The declines pre and post-P4HB seen in the maternal risk factors (teen pregnancy, smoking, short interpregnancy intervals) that are associated with poor birth outcomes would likely correlate with changes in preterm, low birth weight and very low birth weight rates. While we see slight improvements in all three outcomes for the privately insured sample, this does not hold for the Medicaid insured women.

The descriptive data provide some insight on the expected changes pre and post the P4HB program but changes in the overall distribution of income, levels of employment, etc. will lead to changes in the numbers of women in need of and qualifying for Medicaid paid services. In order to control for some of the secular changes that may affect the fertility and birth outcomes of both the Medicaid and comparison group of women, we used data pre and post-P4HB to test whether there were differences in the changes seen pre- versus post-P4HB for the two groups. Such a quasi-experimental design enables a more rigorous examination of the causal impacts of P4HB.

Regression Analysis of Medicaid Compared to Sample of Private Insured

As proposed in our evaluation design, we tested for effects of the P4HB program by analyzing changes in the above maternal and infant outcomes pre and post the P4HB implementation (Q1 2012) for the targeted group [women in RSM with lower income ranges and aged 18-44 years] over the pre/post P4HB period relative to the control group [private insured, low education levels].

Specifically, we used a pre/post (0/1) indicator, a Medicaid/private insured indicator (0/1), and interacted these two indicators (pre/post times Medicaid/private insured) to test for differences in the changes pre and post P4HB. We controlled for other factors (age group, race/ethnicity, marital status, mother’s education, mother’s tobacco use, month of birth and the percent poverty level of their census tract) in all equations. First birth (0/1) was included when analyzing the infant outcomes and we included only singletons in the regression analysis. The results shown in Table 16 reflect the two post-P4HB time periods: 2012-2013 before the ACA and 2014-2015 after the ACA. As in the PRAMS analysis, we omit data from the transitional year (2011).

The estimated effects shown in the table below can be interpreted as the change in the probability of the outcomes (with the exception of 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 but results, as noted in prior Annual Reports, are preliminary. In our discussion of the results in Table 16 we focus on the effects which are significant at $p < .05$ or greater.

Table 16. Estimated Effects of P4HB Implementation on Targeted Maternal Health and Birth Outcomes* All Live Births

OUTCOME	Ages 18-44		Ages <18		Ages 18-19		Ages 18-24	
Maternal Health Outcomes								
	Post12_13 *MCD	Post14_15 *MCD	Post12_13 *MCD	Post14_15 *MCD	Post12_13 *MCD	Post14_15 *MCD	Post12_13 *MCD	Post14_15* MCD
Age at First Birth ¹	.53 ^{^^^}	.57 ^{^^^}	--	--	--	--	--	--
Age 18-19 at First Birth ¹	-1.55 ^{^^}	-1.20	--	--	--	--	--	--
Teen Birth ²	-.54 ^{^^^}	-.45 [^]	--	--	--	--	--	--
Repeat Birth ³	-1.65 ^{^^}	2.41 ^{^^^}	-6.39 [^]	1.19	-2.28	1.42	-2.40	1.70
MaternalSmoking ⁴	-.36 [^]	-.14			.49	-1.86	-.12	-.29
Interpregnancy Interval ≤6months ⁵	-.99 [^]	.36			.83	-13.17	.51	.08
Birth Outcomes (Live born infants)								
Preterm (<37 weeks) ⁶	.26	.13	-1.75	-1.04	1.80	-1.48	1.41	.57
Low Birth Weight (< 2500 grams) ⁷	.47	1.26 ^{^^^}	-6.52	-.02	2.74	1.93	1.24	1.67 ^{^^}
Very Low Birth Weight (<1500 grams) ⁸	.22	.42 ^{^^^}	-4.31	-2.02	.60	1.13	.39	.37

[^] P-value < 0.10, ^{^^} P-value < 0.05, ^{^^^} P-value < 0.01

(With the exception of age at first birth, estimated effects from logistic models are multiplied by 100 to provide percentage point changes in the dependent variable.) *All outcomes are measured using linked Medicaid and vital records data. \diamond Insufficient sample size in control group.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 inter-birth 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.

We found: 1) increases in the age at first birth; and 2) reductions in first, or any, births to 18-19 year olds; and 3) reductions in repeat births among women in the age group targeted by P4HB (18-44 years) in the 2012-2013 post-P4HB period. The result on age at first birth suggests about a half-year increase in the age at which Medicaid women have their first birth relative to the privately insured control group. The results on repeat births indicate that Medicaid insured women were less likely to have another birth compared to the privately insured control group by 1.65 percentage points in the 2012-2013 post-P4HB versus the pre-P4HB period. While we did not find a significant effect ($p < .05$) on repeat births specifically for the teen groups in the 2012-2013 post-P4HB period, the marginal effects were in the expected negative direction as was the effect for maternal smoking and very short interpregnancy intervals.

In contrast to the above results, virtually all of the effects seen in the 2012-2013 post- P4HB period are not apparent for the 2014-2015 post-P4HB period. There is still an indication of increased age at first birth but there is no longer a significant effect on teen births and the effect on repeat births is reversed (+2.4 percentage points) from that seen in the 2012-2013 time-period. Finally, there are unexpected, positive effects on the probability of LBW and VLBW infant outcomes for the Medicaid women compared to the privately insured sample.

Our findings for the 2014-2015 post-P4HB time-period indicate that the evaluation of the P4HB program can perhaps only be done using data for the period prior to the ACA as so many changes took place for women in the income range targeted by P4HB with the ACA. We stress that all of the multivariate analysis presented here are preliminary and that we will continue to improve the methods and search for alternative comparison groups. We will consider, for example, propensity scoring methods to make our treatment and control group more comparable in terms of observed co-variables as well as the possibility of obtaining other states' vital records for analysis of Medicaid insured women pre- and post-P4HB in Georgia versus Medicaid insured in states without changes in family planning policy.

As we noted in the PY4 Annual Report, the state of Georgia implemented a change in reimbursement for Medicaid smoking cessation services for pregnant women required by the ACA in January 2012 coinciding with the post-P4HB period. While this should reinforce the effect of the P4HB program on reducing poor birth outcomes, we do not see any of these effects and indeed, now observe significant increases in poor birth outcomes for the RSM women compared to privately insured women especially in the 2014-2015 post-P4HB period. Thus, while the combined PRAMS and vital records/clams analysis indicates effects of P4HB on increasing access to pregnancy prevention, reducing unintended births, reducing teen births and increasing age at first birth, we do not find evidence that the P4HB program had any effects on birth outcomes.

VIII. MEDICAID PAID BIRTHS IN 2015

We continue to track the total number of Medicaid paid births and births to P4HB program participants as in prior annual reports to CMS. We placed these large summary tables for 2015 in Appendix A in order to focus on other components of the evaluation in this report. As noted in the Appendix (Table A.1), the number of Medicaid paid births, including stillbirths, declined from

85,370 in 2009 to 81,463 in 2010 and to a low of 75,087 in the first year (2011) of the P4HB program; these declines may only mirror downward trends seen nationally, possibly due to the financial conditions imposed on families during the recession. Birth counts increased from the 2011 level to approximately 79,000 in 2012 and 2013 but have declined slightly in 2014 and 2015. The total number of births, including stillbirths, paid by Georgia Medicaid in 2015 equaled 77,768. As the data in Table A.1 also 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 with a slight increase to 2.2% in CY 2013 that is also seen in the CY 2015 claims data. We have previously reported that the birth weight distribution using claims data is very close to that using the linked vital records for the percentage of VLBW infants, at about 2%, but differs from the vital records on the percentage of LBW infants and hence, on the percentage of normal birth weight infants. Whereas the claims data indicate that approximately 92% of Medicaid paid births were normal birthweight, the vital records data indicate a lower rate, approximately 89%. We ultimately treat the vital records as the ‘gold standard’ when measuring birth weight and work primarily with the linked records when completing the evaluation of P4HB as noted in our earlier text. We do note that the linkage rate, while close to 90% in 2009-2010, fell to nearly 82% in 2011 but has increased to almost 92% in CY 2014 and CY 2015. Based on the linked records, the percentage of VLBW infants paid for by Medicaid has declined slightly to 1.9% in 2015 from 2.0% in 2009.

Data in Table A.3 show that the Medicaid costs for the mother across all deliveries (including deliveries of both live born and stillborn infants) totals about \$350 million and the average costs per mother was \$4,754. The total costs for the 77,768 infants (including stillborn) delivered to Medicaid enrolled women in 2015 was approximately \$430 million, leading to a total maternal and infant cost of \$780 million to the state Medicaid program. As in prior years, the average costs

at delivery for the infant born VLBW was significantly higher at an estimated \$67,609 in CY 2015, compared to the costs for an infant of normal birthweight, which equaled \$2,211 in CY 2015.

The costs to Medicaid 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 2015 averaged \$14,119 and totaled nearly \$24 million. This average costs for VLBW infants is markedly higher (68%) than the average in CY 2014 (\$9,348). The difference appears to be driven by the very large costs of care for a few VLBW infants since the median is not that different between the two years.

In comparison, the average costs to Medicaid for the first year of life for a normal birth weight infant in CY 2015 was \$2,362. The bulk of the total cost for all infants in their first year is for these infants of normal weight, at \$167 million, with a total cost for all infants of \$211 million. While nearly 90% of all infants born under Medicaid coverage are of normal birth weight, the more the P4HB program can ‘shift’ the birthweight distribution toward these 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.

IX. CONCLUSIONS AND RECOMMENDATIONS

The data and conclusions reported within this annual report pertain largely to the fifth year of the P4HB Demonstration and measures based on linked Medicaid and vital records data were available for PY5 in contrast to other years where they lagged by one year. For the first time, this PY5 Annual Report includes some analysis of the effects of the P4HB based on the Pregnancy Risk Assessment Monitoring System (PRAMS) data. This analysis uses the quasi-experimental design originally proposed to CMS.

As reported in prior years, while there have been extensive efforts throughout the state to make women and providers aware of the P4HB program, the percentage of women eligible who actually enrolled in the program has consistently fallen well below the expected numbers. In addition, there was again a decline in the number of women enrolled in the FP only component of the P4HB program in PY5 resulting in a little over 11,000 enrolled in this component, down from a peak of over 40,000 in Q2 2013. Since the number of uninsured has also declined, this resulted in about 5% of eligible women enrolled in this component of the Demonstration in PY5, slightly up from the 4.9% found for PY4. While uninsured women in the income range targeted by the P4HB program has declined in Georgia, there was an estimated 207,966 women who remained uninsured in 2015 and it is likely that many of them would qualify for and benefit from the P4HB program.

A key goal of the P4HB program is to increase the use of family planning services and in turn, the use of the more effective contraceptive methods among those women not wanting to get pregnant. In prior reports, the increased use of LARCs, one of the most effective contraceptive methods, appeared to be occurring more in the Title X component of the publicly-financed family planning service system in Georgia (i.e., Title X and Medicaid). As noted in this report, we have changed the codes used to capture family planning usage paid by Medicaid due to not only the introduction of ICD-10 coding but also expanding our codes to include those now being used by OPA in a multi-state effort to measure Medicaid usage and finally, fully capturing the use of oral contraceptives by using specific NDC codes rather than the therapeutic class which Georgia's CMOs apparently were not reporting. Given these changes, the data now indicate that the use of Tier 1 contraceptives among women using any form of birth control increased for all Medicaid enrolled women but that this pattern was driven more by the non-P4HB enrolled women than the P4HB women for whom the use of Tier 1 contraceptives declined from 2011-2015. This decline

for P4HB women applied to the use of LARCs within Tier 1 contraceptives while the use of LARCs among non-P4HB women was higher and actually increased slightly between 2011-2015. While auto-enrollment into the P4HB program was terminated in 2013, we found over 20% of all P4HB family planning only enrollees enrolled sometime during 2015 were long-term, auto-enrolled women and their higher use of LARCS among users of any method appear to affect the overall patterns 2014-2015.

While there was evidence in prior reports that women enrolling in the P4HB FP only component were more likely to use some family planning services during the year than all Medicaid enrolled women ages 18-44 years, the data presented here only supports this for the years of 2011 and 2015. It appears that the lower use rates among the auto-enrolled (who chose not to stay in the program) may be behind the lower use rates for the P4HB program during 2012-2014 versus other Medicaid women.

The FPAR data presented in this PY5 report documents a continued decline in the use of Title X funded services, inclusive of preventive screenings needed by young women. While the total number of female users at Title X clinics declined by 31%, there was some evidence of increased use of LARCs. However, this latter finding is based on data for only 40% of all female users in the year. There is a continued need for an enhanced effort by DCH to inform providers and their patients about the availability of services through the P4HB program as well as through the broader family planning service provider system in Georgia, including federally qualified health centers (FQHCs) which are the GFPS's participating providers. Efforts to encourage the appropriate billing and recording of contraceptive usage would also enhance the state's ability to continue to monitor the effects of the P4HB program.

Our analysis of the PRAMS data 2008-2013 indicated that there were effects on: 1) increased use of pregnancy prevention pre-pregnancy and in turn, 2) reductions in the probability women who were Medicaid insured at delivery but uninsured pre-pregnancy reported an unintended pregnancy leading to the live birth reported in PRAMS. There was also evidence that the use of pregnancy prevention post-partum increased with the implementation of the P4HB program in Georgia; similar women in three control states were used as a control group to test for these effects. These effects may reflect the early years of the P4HB program when auto-enrollment helped increase the total numbers of participants in the program. Analysis of the linked Medicaid and vital records data supported only some of the expected findings and these only held for the first two years post-P4HB, 2012-2013. When data for the 2014-2015 time-period was analyzed, the findings were not as expected and often, reversed those found in 2012-2013. One factor behind these patterns could be the introduction of the ACA which meant women who are eligible for P4HB and RSM coverage ‘if’ pregnant between 100% FPL and 200% FPL could obtain subsidized private insurance coverage on the Marketplace exchange. The composition of our comparison group of privately insured women could be confounded by women taking up this subsidized coverage.

Our analysis of the chronic conditions for which the IPC and RM women are receiving services highlights the predominant role of mental health disorders. The leading conditions for these women were: 1) severe mental illnesses, 2) cardiovascular disease and 3) endocrine disorders. We note that we used a more systematic set of codes for analyzing the use of services by IPC and RM only enrollees in hopes that we can classify women with certain chronic conditions during the prenatal period, which should be followed up after delivery and over the two years that they are enrolled in P4HB.

Recommendations

Currently, the state is providing services under a temporary extension of the P4HB program through March 2017. This allows the state to continue providing needed family planning and related services to women with incomes at or below 200% FPL who remain uninsured. Even as the number of uninsured women in the targeted income range drops in Georgia, the P4HB program remains an important safety net program for women of reproductive age. It continues to be important for DCH to work with all providers, including the GFPS providers, to inform women of the program and enroll and retain more of the eligible women in the community into the program.

Specific recommendations are as follows:

1. Reinforce the success of outcomes seen in the Demonstration by continuing to work with the CMOs to increase enrollees' awareness of benefits, use of family planning services and if desired, contraceptive services. Regarding the latter, the CMOs and their network of providers should help women be aware of the more effective forms of contraceptives available to them through the P4HB program, especially LARCs, and the availability of coverage of LARCs in the immediate postpartum period.
2. Continue to enhance education and outreach to Medicaid participating providers regarding P4HB. New and existing Medicaid providers should be engaged on a regular basis regarding P4HB eligibility, benefits, and enrollment procedures. Additionally, such communication should clarify the renewal status of P4HB as some providers may not be aware that the P4HB program continues to operate in the state. Medicaid providers should also be encouraged to discuss the availability of post-partum LARC insertion with their pregnant patients.

3. Initiate another round of outreach to the neonatal intensive care units, particularly the Regional Perinatal Centers, throughout Georgia in which the VLBW infants are cared for in order to inform the social workers, nurse case managers, and physicians of the availability of the IPC component of P4HB and the benefits it provides to eligible women who enroll. Increasing their role in helping eligible women enroll into the program could help bring participation back to a higher level.
4. Monitor the means by and intensity with which the Resource Mothers of the three CMOs are outreaching to engage IPC enrollees to 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.
5. Given the growing enrollment of RM participants and their higher use of services for chronic conditions, ensure that the CMOs are reaching out to them in the same manner as women in the IPC component regarding the use of effective family planning services as well as the use of services to manage any chronic conditions they may have. Preventive and other services to address their chronic conditions are important in maintaining their health.
6. Continue to partner with DPH, the GFPS, obstetrical care providers and delivery hospitals to engage them in enrolling women, within the target population, into the P4HB program. Consider obtaining funds for a new and enhanced consumer and provider marketing campaign for the P4HB program that includes information 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.

7. Monitor the engagement of the CMOs with public health district leaders in parts of the state to see if enrollment of the VLBW infants' mothers in those areas is higher than in other areas of the state without such a coalition and enrollment effort. Report to the districts the percentage of women eligible for the IPC and RM only components of the P4HB program in their areas that are actually being enrolled into the program.
8. Evaluate the change in policies beginning in January 2015 that were intended to decrease the time between the eligibility determination and actual CMO enrollment for P4HB benefits.
9. Assess how women are learning about access to P4HB when they use the states' new Medicaid enrollment processes and if/how this system leads them to the P4HB program.
10. Assess the effects of the changes in reimbursement for LARC insertion immediately postpartum made by the state of Georgia and fully effective beginning in 2016.

APPENDIX A

DATA ON DELIVERIES AND INFANTS

In this Appendix, we continue to provide data on all deliveries and births in CY 2015 as part of the annual reporting process. We also report on birth outcomes for the full pre and post period of P4HB for which we now have complete claims data and the subset for which we have linked claims/vital records data. We note that we received both 2014 and 2015 vital records in time for this annual report and hence, include both of these updates here. We continue to compare the information gained from the claims data regarding birth outcomes to that which we observe in the linked data. To this end, we provide a brief summary of the changes we are seeing in the numbers of deliveries and live born infants in the study years.

Table A.1 Number of Medicaid Paid Births by Birth Weight Based on Claims Data (2009-2015)

Weight Category	2009		2010		2011		2012		2013		2014		2015	
	N	%	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	1,695	2.2
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	5,146	6.6
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	70,893	91.2
Stillbirth	83	0.1	79	0.1	40	0.1	50	0.1	42	0.1	38	0.1	34	0.0
Total	85,370		81,463		75,087		79,589		78,681		77,966		77,768	

Table A.2 Birth Weight Distribution from Claims versus Vital Records (2009-2014)

	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	
	Birth Certificate Weight Category	Claims Weight Category %	Birth Certificate Weight Category	Claims Weight Category %
VLBW	2.0%	2.1%	2.0%	2.1%
LBW	8.7%	6.3%	8.7%	6.5%
NORMAL BW	89.3%	91.6%	89.3%	91.4%
Link Rate	91.5%		92.1%	

The data in Table A. 1 above show that, unadjusted for any changes in the characteristics of women with a delivery paid by Medicaid over the pre and post P4HB time-period, the percentage of deliveries with a very low birth weight (based on claims data) has remained markedly stable at 2.0-2.2 percent. The total number of such deliveries/births has declined from 1,718 to 1,695. When the birth weight distribution is measured based on vital records (Table A.2), we consistently see a lower percentage of VLBW deliveries/births but the percentage has remained quite stable at 1.8-2.0 percent.

In prior years, we have also reported on the counts of stillborn deliveries, fetal deaths and total and average costs of deliveries paid by Medicaid. The data are shown for CY 2015 in Table A.3. The number of total deliveries (73,352) is down from the number (74,794) in CY 2014 with declines in all categories except for fetal deaths; these increased from 6,716 in CY 2014 to 7,360 in CY 2015. The average dollars paid for a mother at delivery were slightly lower overall in CY 2015 compared to CY 2014 with the exception of live born deliveries for which this cost increased from \$5,165 to \$5,203.

Table A.3 Medicaid Deliveries for Calendar Year 2015 (CY 2015)

MEASURE	Counts	Total \$ Paid Mother	Average \$ Paid Mother
All Medicaid Deliveries¹			
Total Deliveries ²	73,532	349,565,516	4,754
Live born deliveries	65,319	339,841,683	5,203
Stillborn deliveries (>= 22 weeks) ¹	853	3,396,942	3,982
Fetal deaths < 22 weeks ¹	7,360	6,326,891	860
Deliveries¹ to Demonstration			
Entire Demonstration population⁶			
Total Deliveries	5,709	28,108,594	4,924
Live born deliveries	5,097	27,379,185	5,372
Stillborn deliveries (>= 22 weeks) ¹	72	305,191	4,239
Fetal deaths < 22 weeks ¹	540	424,217	786
FP only³			
Live born deliveries	5,028	26,949,796	5,360
Stillborn deliveries (>= 22 weeks) ¹	68	292,903	4,307
Fetal deaths < 22 weeks ¹	528	420,577	797
IPC⁴			
Live born deliveries	45	273,010	6,067
Stillborn deliveries (>= 22 weeks) ¹	3	10,846	3,615
Fetal deaths < 22 weeks ¹	6	1,886	314
Resource Mother only⁵			
Live born deliveries	24	156,380	6,516
Stillborn deliveries (>= 22 weeks) ¹	1	1,442	1,442
Fetal deaths < 22 weeks ¹	6	1,754	292

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 codes O03 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.

Counts of Infants and Costs 2015

In Table A.4, we present data on the costs at delivery for the 77,734 live births in CY 2015. The costs of infants' delivery hospitalization are down only slightly (\$4,302 compared to \$4,397) from last year while the costs of a VLBW infant is down by almost 8% (\$67,609 compared to \$73,398).

Table A.4 Infant Counts and Costs for Mother and Infant at the Delivery Hospitalization Calendar Year 2015 (CY2015)

MEASURE	Counts	Average \$ Paid Mother ³	Total \$ Paid Infant Delivery Hospitalization	Average \$ Paid Infant Delivery Hospitalization
All Medicaid Live births ¹	77,734	5,331	334,393,219	4,302
VLBW	1,695	6,357	114,596,947	67,609
LBW	5,146	5,886	63,051,491	12,253
Normal BW	70,893	5,275	156,744,781	2,211
All Medicaid Stillbirths ²	34	5,098	95,195	2,800

¹Liveborn 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 live born 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 = P05.XX or P07.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 = P05.XX or P07.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 = 53,216) 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.

In Table A.5, we show the estimated costs for infants in their first year of life. As noted in prior reports, we use the average costs of infants born in the first half of the year to extrapolate to the infants born in the second part of the year. The total dollars paid by Medicaid for continuously enrolled infants equaled over \$211 million and averaged \$2,605 for all infants but \$15,628 for infants born VLBW. This is a marked increase (68%) over the average for CY 2014 (\$9,348). This increase appears to be driven by a few, more expensive babies since the median [not shown] is not that different between the two years.

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

MEASURE	Infants ¹ Born on Medicaid in First 6 Months of CY2015	1 st Year of Life Post-Delivery Hospitalization			
		Average \$ Paid per Infants ² Born in First 6 Months of CY2015 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 2014	36,708	2,634	211,481,247	211,901,378	2,605
VLBW	566	14,119	23,931,705	26,489,460	15,628
LBW	2,157	3,906	20,100,276	20,373,014	3,959
Normal BW	33,985	2,362	167,449,266	165,038,904	2,328

¹ The 36,708 live born infants born in the first six months of CY2015 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.

²Costs for all infants born in the first six months of CY2015 are included regardless of their disenrollment or death.

³Dollars 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 CY2015 were complete through June of 2016; expenses paid after this date will not be counted in their first year costs.

⁴Costs for the full first year of the infant's life were only available for those infants born in the first six months of 2015 (and based on claims paid only through June 2016). We used the average costs for this cohort of infants born in the first part of 2015 (n = 36,708) to extrapolate to an annual estimate for CY 2015.

⁵ Costs for all infants born in the first six months of CY2015 are included only for those 35,591 alive and continuously enrolled (data on enrollment were only available through December 31, 2015). We used the average costs for this cohort of infants (n = 35,591) to extrapolate to an annual estimate for CY 2015 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 2014

Georgia's P4HB Budget Neutrality Worksheet for: FEDERAL COST 2014						
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	TOTAL
WITHOUT DEMONSTRATION - All P4HB Participants (FP and IPC) - FP and associated services (Effective FP?)						
<i>FP and FP-Related Services for All P4HB Pop - 90:10 and reg</i>	FP Enrollee Member Months	78,945	52,394	35,620	33,848	200,807
<i>FMAP rates (multivits, immunizations, admin., etc)</i>	IPC Enrollee Member Months	764	906	865	872	3,407
	PMPM for FP Members FP related Services	\$35.99	\$35.99	\$35.99	\$36.04	\$36.00
	PMPM for IPC Members FP related Services	\$28.95	\$28.95	\$28.95	\$28.95	\$28.95
	Total	\$ 2,863,135	\$ 1,911,747	\$ 1,306,909	\$ 1,245,099	\$ 7,327,739
First Year Infant Costs for VLBW Babies < 1,500 grams (all Medicaid paid births)						
	Estimated Persons					2,117
	Cost per Person	\$ 61,599	\$ 61,551	\$ 54,181	\$ 51,074	\$ 57,101.20
	Total	\$ -	\$ -	\$ -	\$ -	\$ 120,883,249
First Year Infant Costs for LBW Babies 1,500 to 2,499 grams (all Medicaid paid births)						
	Estimated Persons					\$ 5,768
	Cost per Person	\$ 8,624	\$ 9,216	\$ 9,067	\$ 8,321	\$ 8,806.83
	Total	\$ -	\$ -	\$ -	\$ -	\$ 50,797,816
TOTAL WITHOUT- DEMONSTRATION COSTS		\$ 2,863,135	\$ 1,911,747	\$ 1,306,909	\$ 1,245,099	\$ 179,008,804
WITH DEMONSTRATION - IPC SERVICES excl. Resource Mothers Only Participants Only						
<i>Interpregnancy Care Services at the FMAP rate</i>	Member Months	764	906	865	872	3,407
	PMPM	\$ 137	\$ 137	\$ 137	\$ 139	\$ 137.55
	Total	\$ 104,687	\$ 124,144	\$ 118,526	\$ 121,316	\$ 468,672
First Year Infant Costs VLBW						
<i>Infants < 1,500 grams (all Medicaid paid births adjusted for effect of IPC services)</i>	Persons	376	362	433	406	1,577
	Cost per Person	\$ 61,599	\$ 61,551	\$ 54,181	\$ 51,074	\$ 57,101.20
	Total	\$ 23,161,122	\$ 22,281,508	\$ 23,460,320	\$ 20,736,077	\$ 89,639,028
<i>First Year Infant Costs for LBW Babies 1,500 to 2,499 grams (all Medicaid paid births adjusted for effect of IPC Services)</i>	Persons	1,642	1,664	1,749	1,725	6,780
	Cost per Person	\$ 8,624	\$ 9,216	\$ 9,067	\$ 8,321	\$ 8,806.83
	Total	\$ 14,160,348	\$ 15,335,137	\$ 15,858,224	\$ 14,353,107	\$ 59,706,816
<i>First Year Infant Costs for Normal Weight > 2,500 grams only for women who participated in the IPC</i>	Persons	3	2	5	4	14
	Cost per Person	\$ 8,650	\$ 3,324	\$ 4,427	\$ 3,139	\$ 4,884.88
	Total	\$ 25,949	\$ 6,648	\$ 22,135	\$ 12,556	\$ 67,288
TOTAL WITH DEMONSTRATION COSTS		\$ 14,247,895	\$ 15,403,335	\$ 15,934,540	\$ 14,416,738	\$ 149,881,803
DIFFERENCE						\$ 29,127,001

Budget Neutrality. The budget neutrality requirement for Georgia’s P4HB program, as noted, is based on the potential of the Demonstration to ‘shift’ the birth weight distribution. Specifically, the budget neutrality spreadsheet requires that the total 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 for all low and very low birth weight babies in the *base year* (2008) for the P4HB program to be considered budget neutral. As the program is maturing we are 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 PY5 report, we provide data on the fourth year of the Demonstration, using the claims for CY 2015 to give us a full estimate of the first year of life costs for infants born in 2014. 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 1,577 VLBW infants and 6,780 LBW infants born under Medicaid coverage in CY 2014. The average costs for the delivery and first year of life for infants in these two categories of birth weight were \$57,101 and \$8,807 respectively.

When the total federal costs for the per member per month payments for the family planning only components of the Demonstration and the base year VLBW and LBW infants is totaled, it equals approximately \$179 million. To calculate the effects of the Demonstration, we subtract from this total, the costs of the IPC per member per month payments, the 2014 costs for VLBW and LBW infants and the costs of any births to IPC enrollees that are of normal birth weight. These costs total approximately \$150 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 2014. The difference in the costs with and without the Demonstration is approximately \$29 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.