

Research

Research Brief on

Changes in Interpregnancy Intervals for Family PACT and Medi-Cal Clients Between 2008 and 2011

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- **Between 2008 and 2011 interpregnancy intervals for low income women in California improved. The use of highly effective contraception doubled during this time period.**
- **Increasing postpartum use of highly effective contraception contributes to the improvement of interpregnancy intervals for low income women in California.**



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INTRODUCTION

A primary goal of California state-funded family planning programs is to improve the reproductive health of all California women. One critical metric for both maternal and child health is a woman's interpregnancy interval (IPI) or the length of time between the birth of a child and the next conception. Research has shown that IPIs less than 18 months are associated with increased risk of preterm birth, birth defects, and preeclampsia.¹⁻³ A March of Dimes analysis estimated that the average medical cost during the first year of life of a healthy term baby is \$5,085 compared to \$55,393 for a premature or low birth weight baby.⁴ As all of these adverse pregnancy outcomes are costly to society, the U.S. Department of Health and Human Services Healthy People 2020 objectives include a goal of reducing the proportion of pregnancies conceived within 18 months of a prior birth by 10%.⁵ Postpartum contraception, particularly highly effective contraception, plays an important role in avoiding short IPIs.⁶ Since 2007, the Office of Family Planning has made efforts to increase access to highly effective reversible contraception in California, albeit not with a particular focus on postpartum contraception.⁷ This research brief updates a 2008 analysis on IPI for women served by California's Family Planning, Access, Care, and Treatment (Family PACT) program and Medi-Cal.⁶

METHODS

The data for this brief come from California's Birth Statistical Master File (BSMF)* and were linked to Family PACT and Medi-Cal databases. The sample consisted of 117,644 multiparous women who gave birth in 2008 and 111,962 multiparous women who gave birth in 2011 and who had at least one Family PACT program or Medi-Cal claim within 18 months after their previous birth. Multiparous women were identified using BSMF data since 2002. Interpregnancy intervals were defined as the time between a birth and the conception date of the mother's next live birth. Conception dates were calculated for each birth from the date of the mother's last menses prior to pregnancy (as recorded in the birth record) plus nine days.

An IPI less than 18 months was considered short. We categorized IPIs as: (a) extremely short if 0 – 6 months, (b) very short if 7 – 12 months, (c) short if 13 – 17 months, and (d) optimal if 18 months or more.

* Identical procedures and exclusions were applied to both 2008 and 2011 California Birth Statistical Master File data. A detailed description of the exclusions and the linkage process methodology can be found in Thiel de Bocanegra et al., 2014.⁶

RESULTS

The socio-demographic characteristics of multiparous women receiving Family PACT and/or Medi-Cal services were similar in 2008 and 2011. See Table 1.

Between 2008 and 2011 there was a two-fold increase in the use of highly effective reversible contraception, and the percentage of women delivering after an extremely short, very short, or short IPI decreased from 36% to 32%. See Table 2.

Within each category of short IPIs, improvements were seen. Specifically, a two percentage point drop in “extremely short” birth intervals, a one percentage point decline in “very short” birth intervals, and a one percentage point decline in “short” IPIs.

Declines in short IPIs were similar across all state-funded family planning service delivery systems. Overall, the percentage of women with short IPIs declined by six percentage points for clients who received services from only Family PACT or only Medi-Cal, while the changes for clients who received services from both Family PACT and Medi-Cal were smaller. See Figure 1.

Table 1. Socio-demographic Characteristics of Multiparous Women Delivering in California in 2008 and 2011 who Received Interpregnancy Health Services Funded by Family PACT and/or Medi-Cal

Measure	2008 N = 117,644	2011 N = 111,962
Ethnicity		
Latina	72%	71%
White	14%	14%
African American	7%	8%
Asian/Pacific Islander	5%	5%
Native American	1%	1%
Other/Unknown	1%	1%
Maternal Birthplace		
Foreign	51%	45%
United States	49%	55%
Age at index birth		
Adolescent (< 20)	22%	21%
Adult (≥ 20)	78%	79%

Source: California Birth Statistical Masterfile Data; Family PACT Enrollment and Claims Data; Medi-Cal Enrollment and Claims Data.

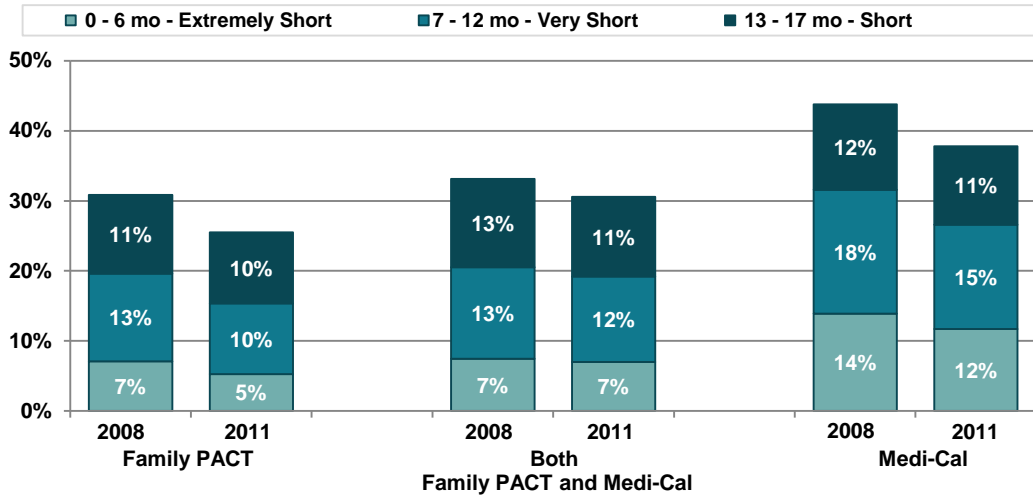
Table 2. Changes in Contraceptive Use and Interpregnancy Interval among Low Income California Women, 2008 to 2011

Measure	2008 N = 117,644	2011 N = 111,962
Contraception*		
Highly effective reversible contraception	4%	8%
Effective contraception	55%	49%
Less effective contraception	7%	8%
No contraception	33%	35%
Interpregnancy Interval		
Extremely short (<6 months)	10%	8%
Very short (7-12 months)	14%	13%
Short (13-17 months)	12%	11%
Optimal (18+ months)	64%	68%

* Highly effective reversible contraception- intrauterine contraception (IUC) and contraceptive implants; Effective contraception- injection, oral contraception, contraceptive patch, and vaginal ring; Less effective contraception- barrier method and spermicide.

Source: California Birth Statistical Masterfile Data; Family PACT Enrollment and Claims Data; Medi-Cal Enrollment and Claims Data.

Figure 1.
Changes in the Percentage of Short Interpregnancy Intervals by
Receipt of California State-Funded Family Planning Services, 2008 to 2011



Source: California Birth Statistical Masterfile Data; Family PACT Enrollment and Claims Data; Medi-Cal Enrollment and Claims Data.

CONCLUSION

Between 2008 and 2011, the interpregnancy intervals for California women improved. Especially noteworthy were reductions in the percentage of extremely short IPIs, as these are associated with the most costly maternal and child health outcomes.⁸ Efforts to increase Californians' access to highly effective contraception, which have likely played an important role in improving IPIs, are to be commended. However, further targeted attention to the provision of contraception in the postpartum period is warranted, as an estimated 36,000 California women (30% of multiparous women) receiving a Family PACT and/or Medi-Cal service had a short IPI preceding their delivery in 2011. Particular consideration of the contraceptive needs of women receiving only Medi-Cal services appears necessary, as they are most likely to experience short IPIs.

As the average medical cost to the State in the first year of life of a premature or low birth weight baby is up to 10 times higher than the cost of a healthy term baby, reducing rates of short IPIs (which result in premature births, low birth weight infants, and congenital defects) may produce considerable cost savings for the State of California.

REFERENCES

- DeFranco EA, Stamilio DM, Boslaugh SE, Gross GA, Muglia LJ. A short interpregnancy interval is a risk factor for preterm birth and its recurrence. *Am J Obstet Gynecol.* 2007; 197:264.e1-264.e6.
- Kwon S, Lazo-Escalante M, Villaran MV, Li CI. Relationship between interpregnancy interval and birth defects in Washington State. *J Perinatol.* 2012 Jan; 32(1):45-50. doi: 10.1038/jp.2011.49. Epub 2011 May 5.
- Gemmill A, Lindberg LD. Short Interpregnancy Intervals in the United States. *Obstet Gynecol.* 2013; 122:64-71. doi: 10.1097/AOG.0b013e3182955e58.
- March of Dimes. Premature Babies Cost Employers \$12.7 Billion Annually. White Plains, NY, 2014, Feb 7. Available at: <http://www.marchofdimes.com/news/premature-babies-cost-employers-127-billion-annually.aspx>. Accessed 2014, Aug 20.

5. U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Available at: <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=13>. Accessed 2014, June 9.
6. Thiel de Bocanegra H, Chang R, Howell M, et al. Interpregnancy intervals: impact of postpartum contraceptive effectiveness and coverage. *Am J Obstet Gynecol*. 2014 Apr; 210(4):311.e1-8. doi: 10.1016/j.ajog.2013.12.020. Epub 2013 Dec 13.
7. Lewis C, Darney P, Thiel de Bocanegra H. Intrauterine contraception: impact of provider training on participant knowledge and provision. *Contraception*. 2013 Aug; 88(2):226-31. doi: 10.1016/j.contraception.2013.06.004. Epub 2013 Jun 11.
8. Nerlander LM, Callaghan WM, Smith RA, Barfield WD. Short Interpregnancy Interval Associated with Preterm Birth in US Adolescents. *Matern Child Health J*. 2015 Apr; 19(4):850-8. doi: 10.1007/s10995-014-1583-z.

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