

# TAKING THE UNINTENDED OUT OF PREGNANCY:

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**COLORADO'S SUCCESS WITH  
LONG-ACTING REVERSIBLE  
CONTRACEPTION**



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**COLORADO**

Department of Public  
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado.

Dear Colleague,

The Colorado Department of Public Health and Environment and the State of Colorado are proud to share our experience in reducing unintended pregnancy in Colorado. Taking the Unintended Out of Pregnancy: Colorado's Success with Long-Acting Reversible Contraception provides the story of the department's Colorado Family Planning Initiative and how, with a committed donor and experienced family planning professionals, the state's teen birth and abortion rates were cut in half in just five years.

It is well-documented that unintended pregnancies lead to unintended consequences. Women who are not ready to have babies can face poor health outcomes for themselves and their children, may not complete school, struggle to advance their careers and rely more on public assistance.

Over a period of years, increased family planning funding from a private donor allowed us to address these challenges by training public health providers, supporting family planning clinics and removing the financial barriers to long-acting reversible contraception (intrauterine devices and implants). Improving access to these highly effective methods led to a reduction in unintended pregnancy, saved the state money, and secured a healthy future for thousands of Colorado women and their families.

We thank our generous donors, dedicated staff and committed partners throughout Colorado who helped make the initiative a success. We also thank the state legislature for increasing funding for the state health department's family planning program once private funding for the initiative ended.

Colorado is a national leader in enabling women to control their futures by reducing unintended pregnancy. We think you will find the information in the accompanying report helpful in your own efforts to provide comprehensive family planning services.

Sincerely,

Dr. Larry Wolk, MD, MSPH  
Executive Director and Chief Medical Officer  
Colorado Department of Public Health and Environment



## ACKNOWLEDGMENTS

The principal author, Darci Cherry, MPH, conducted numerous interviews and composed a comprehensive narrative about Colorado's experience with long-acting reversible contraception. Family planning staff who were interviewed are listed in Appendix A. Sue Ricketts, PhD, provided an analysis of rapidly declining fertility rates and changes in measures of maternal and infant health in addition to providing editorial guidance. Both Ms. Cherry and Dr. Ricketts are with the Colorado Department of Public Health and Environment.

Marcelo Coca Perrailon, PhD, Richard Lindrooth, PhD, and Mark Gritz, PhD, estimated how many births were averted in recent years that could be attributed to the Colorado Family Planning Initiative. In addition, they estimated the public costs associated with averted births. They are at the University of Colorado Anschutz Medical Campus, along with Shannon Sainer, MSW, Rose Hardy, MPH, and Melanie Whittington, MA, who provided invaluable assistance with the estimates.

Cost data was provided by the following agencies:

The Colorado Department of Health Care Policy and Financing (Medicaid)

The Colorado Department of Public Health and Environment (Special Supplemental Nutrition Program for Women, Infants and Children/WIC)

The Colorado Department of Human Services (Temporary Assistance to Needy Families/TANF, Supplemental Nutrition Assistance Program/SNAP, and the Colorado Child Care Assistance Program)

The Colorado Department of Education (Colorado Preschool Program)

The Colorado Department of Housing (Housing Choice Voucher Program)

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The Women's Foundation of Colorado

## EXECUTIVE SUMMARY

In 2008, the Colorado Department of Public Health and Environment (CDPHE) secured funding from a private donor to launch the Colorado Family Planning Initiative (CFPI), an expansion of the Family Planning Program that would provide training, operational support and low- or no-cost long-acting reversible contraceptives (LARCs) to low-income women statewide. LARC methods are defined as intrauterine devices (IUDs) and implants.

By the middle of 2015, the initiative provided LARCs to more than 36,000 women. Between 2009 and 2014, birth and abortion rates both declined by nearly 50 percent among teens aged 15-19 and by 20 percent among young women aged 20-24. Public assistance costs associated with births that were averted among women aged 15-24 totaled between \$54.6 and \$60.6 million for four entitlement programs.

**THIS INITIATIVE  
EMPOWERED  
THOUSANDS OF  
COLORADO WOMEN  
TO CHOOSE WHEN  
AND WHETHER TO  
START A FAMILY.**

Reducing the barriers to safe and effective birth control allowed them to continue their education, further their careers and plan their futures free from the burdens of unintended pregnancy.

## HISTORY

The CDPHE Family Planning Program has provided low-income women access to contraceptives and other services at Title X family planning clinics across Colorado for more than four decades.

Despite these efforts, 40 percent of all pregnancies and 60 percent of pregnancies among young women aged 15-24 remained unintended in 2007.

In 2007, a private funder chose Colorado to invest \$27 million in expanding family planning services to reduce unintended pregnancy. Colorado had a national reputation for providing such services, a strong network of Title X family planning clinics, and a demonstrated willingness to expand access and use of LARCs. The CDPHE Family Planning Program supported clinics with a combination of local, state and federal funds, but did not have the resources to build clinic capacity or provide LARCs.

## IMPLEMENTATION

LARCs are more than 99 percent effective, last three to 10 years, and require no further action after insertion, making them the easiest and most effective form of birth control. Their high cost, however, forced clients to choose less expensive forms of birth control like condoms and pills or join a growing waiting list of women requesting LARCs.

With resources from the private funder, CDPHE launched the Colorado Family Planning Initiative in 2009 with the goal of reducing unintended pregnancy by increasing the number of clients served and enabling access to LARC methods. The Colorado Family Planning Initiative provided funding for LARC purchases, trained health care providers, and provided operational and outreach support. Clinics hired staff, enlisted health care providers for LARC insertion, upgraded equipment and billing procedures, added sites and increased hours, and reached out to local schools and other community partners.

A separately-funded campaign called Beforeplay provided clinics with a website resource where young people learn about birth control methods and locate reproductive health services.

## SUSTAINABILITY

During the implementation of the Colorado Family Planning Initiative between 2009 and 2015, the long-term goal was always to find sustainable funding to continue making a positive impact on the health and well-being of Colorado women.

Passage of the Affordable Care Act in 2010 and Colorado's subsequent Medicaid expansion in 2013 allowed women to obtain annual reproductive health exams and birth control with no co-pay. Title X clinic revenue collection flipped from 80 percent client paid to 75 percent third-party paid (mostly by Medicaid) within six years, with third-party payer revenue up from \$345,000 to more than \$4,000,000.

Despite this shift, nearly half of all female Title X clients remained uninsured and in need of subsidized services. In 2015, CDPHE worked with family planning advocates and legislators to secure sustainable funding to continue the Colorado Family Planning Initiative. While funding legislation was unsuccessful that year, the investment in public awareness paid off. Colorado foundations stepped forward with \$2.1 million in bridge funding and the momentum obtained through positive media coverage, improved collaboration and enhanced legislative relationships led to the passage of a \$2.5 million increase in funding for the CDPHE Family Planning Program in 2016.

## IMPACT

The Colorado Family Planning Initiative had a seismic impact on the health and well-being of women throughout Colorado. The initiative dramatically increased access to family planning services and the inclusion of long-acting reversible contraceptives produced remarkable results:

### LARC USE:

With cost and access no longer an issue, the number of LARCs inserted nearly quadrupled in the first six years, and the percentage of LARC users in Title X clinics increased from 6.4 percent to 30.5 percent.

## THANKS IN LARGE PART TO THE COLORADO FAMILY PLANNING INITIATIVE:

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### TEEN BIRTH RATE WAS NEARLY CUT IN HALF

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### TEEN ABORTION RATE WAS NEARLY CUT IN HALF

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## UNINTENDED PREGNANCY:

The Colorado Family Planning Initiative helped cut unintended pregnancy rates by 40 percent among women aged 15-19 and 20 percent for women aged 20-24 between 2009 and 2014.

## FERTILITY (BIRTH) RATE:

The Colorado Family Planning Initiative helped cut the fertility rate nearly in half for women aged 15-19 and by 20 percent for women aged 20-24.

## ABORTION:

The Colorado Family Planning Initiative helped cut the abortion rate nearly in half for women aged 15-19 and by 18 percent for women aged 20-24.

## MATERNAL HEALTH:

The Colorado Family Planning Initiative helped increase the average maternal age at first birth, reduce the proportion of all births to mothers without a high school education, reduce the number of births to unmarried women under age 25 without a high school education, reduce the number of repeat births to young women and increase the length of time between births.

## PUBLIC AWARENESS:

The Colorado Family Planning Initiative's success made Colorado a leader in innovative family planning programming, a public health resource for family planning services and a model for other state level family planning efforts. Gov. John Hickenlooper and other political leaders lauded the initiative, CDPHE Family Planning Program staff authored an authoritative journal article and spoke at numerous conferences, and local and national media published positive coverage and supportive opinion pieces.

## COSTS AVOIDED

A University of Colorado team of economists concluded that between half and two-thirds of the observed decline of 5,020 births among women aged 15-24 between 2010 and 2014 could be directly attributed to the Colorado Family Planning

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**BIRTHS TO WOMEN  
WITHOUT A HIGH  
SCHOOL EDUCATION  
FELL 38%**

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**SECOND AND HIGHER  
ORDER BIRTHS TO  
TEENS WERE  
CUT BY 57%**

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**BIRTH RATE AMONG  
YOUNG WOMEN  
AGES 20-24 WAS  
CUT BY 20%**

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## AVERAGE AGE OF FIRST BIRTH

# INCREASED

## BY 1.2 YEARS AMONG ALL WOMEN

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## RAPID REPEAT BIRTHS

# DECLINED

## BY 12% AMONG ALL WOMEN

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## COSTS AVOIDED:

# \$66.1-\$69.6

# MILLION

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Initiative. Using two different methodologies, Medicaid costs associated with the averted births were estimated at between \$52.3 and \$53.7 million. Temporary Assistance to Needy Families (TANF) costs avoided were between \$5.8 and \$7.0 million, Colorado Food Assistance Program/Supplemental Nutrition Assistance Program (SNAP) avoided costs were \$5.2 to \$5.5 million and WIC avoided costs were \$2.7 to \$3.4 million. The total avoided cost for the four entitlement programs was between \$66.1 and \$69.6 million.

## CONCLUSIONS

By any measure, the Colorado Family Planning Initiative has been a success. While not the sole catalyst for change, access to LARC devices has shown amazing public health and economic results. The increase in women using LARC methods has skyrocketed, helping to drive down fertility and abortion rates dramatically among young women. An estimated half to two-thirds of the decline in the number of births to women aged 15-24 between 2009 and 2014 can be attributed to the Colorado Family Planning Initiative, with associated averted public assistance costs totaling between \$66.1 and \$69.6 million.

The impact of the Colorado Family Planning Initiative extends beyond Colorado's borders. CDPHE Family Planning Program staff members have become nationally recognized experts, presenting at public health conferences, publishing articles, consulting with other states and making a valuable contribution to the national dialogue on long-acting reversible contraceptives. They have provided a model for comprehensive family planning services that can improve the health and well-being of women across the nation.

Now that Colorado has built a sustainable family planning funding model with more public and private health insurance coverage under the Affordable Care Act and new state funding, the Colorado Department of Public Health and Environment and its partners can continue the work of the Colorado Family Planning Initiative. Taking the unintended out of pregnancy has helped empower thousands of young women to continue their education, further their careers and choose when to start a family.

**WE HAD A REALLY SOLID TITLE X PROGRAM  
BOTH AT THE STATE LEVEL AND AT THE LOCAL  
LEVEL. A LOT OF THE LOCAL CLINICIANS HAD  
BEEN THERE FOREVER AND WERE VERY  
COMMITTED AND DEDICATED.**

**—STATE HEALTH DEPARTMENT STAFF**

# INTRODUCTION

With generous support from a private donor and in collaboration with family planning clinics across Colorado, the Colorado Department of Public Health and Environment (CDPHE) led an effort that lowered state unintended pregnancy and fertility rates significantly by removing barriers to long-acting reversible contraceptives (LARC). The Colorado Family Planning Initiative (CFPI) enabled thousands of Colorado women to avoid unintended pregnancy by providing training to health care providers, supporting family planning clinics, and eliminating or lowering the cost of intrauterine devices (IUDs) and implants at Title X clinics across the state.

The Colorado Family Planning Initiative was embedded in an existing family planning network which requires patient-centered counseling on all contraceptive methods. Contraceptive choice ultimately rests with the patient. CFPI allowed women who chose a LARC the opportunity to obtain one on the same sliding fee scale as other methods, which was not previously possible.

**THE WHOLE THING WAS VERY  
UNIQUE FROM THE GET-GO.  
– STATE HEALTH DEPARTMENT STAFF**

## SECTION I:

# HISTORY

The history and impact of the Colorado Family Planning Initiative are documented in this report, based on a series of interviews conducted with key family planning staff who implemented the initiative, data analysis of maternal and infant health measures, and estimates of costs avoided credited to the initiative.

## WHY COLORADO WAS CHOSEN FOR THE INITIATIVE

In 2007, a private donor interested in reducing unintended pregnancy<sup>1</sup> at the state level was searching for the ideal location in which to make a significant investment in expanded family planning services.<sup>2</sup> The donor was looking for a mid-size state with a diverse population and Colorado met those requirements. In addition, there was an opportunity to reduce Colorado's rate of unintended pregnancy where 40 percent of all births were reported as unintended at the time of conception, a proportion that had varied little for many years. For low-income women and young women ages 15-24, the percent of unintended births rose to 50 percent and 60 percent, respectively. In these data, the donor saw an opportunity to make a difference.

Colorado had demonstrated an interest in expanding family planning services through a Reproductive Health Waiver (Medicaid Waiver), working on the application process for nearly 10 years. The waiver would expand coverage of family planning services to women and men between 150 percent and 200 percent of the federal poverty level, but had not yet been approved by the Centers for Medicare and Medicaid Services (CMS).

Colorado had an excellent reputation nationally for providing family planning services through a network of Title X family planning clinics using a combination of federal, state and local funds; however, funding levels did not adequately cover the full array of contraceptive methods. Most clinics had clients waiting for opportunities to access the most effective, but also most expensive, long-acting reversible contraceptive methods, namely intrauterine devices (IUDs) and implants. State and federal funding for clinics had remained relatively flat for years while Colorado's population had continued to grow.

These factors suggested that an investment in efforts to reduce unintended pregnancy could have very meaningful results in Colorado. The donor saw an opportunity to support a state doing exemplary work

in family planning and improve access to and capacity for family planning services.

## ASSESSING THE LANDSCAPE

To begin work in Colorado, the donor first wanted to understand family planning service delivery in the state and compile a list of likely organizations to house the potential project. Two local contractors were hired to represent the donor in Colorado. The contractors toured the state interviewing family planning service providers and related agencies to better understand statewide capacity and document unmet needs, particularly as they related to family planning services for low-income and uninsured women and men.

The interviews highlighted the fact that one strategy would not fit Colorado's diverse needs and that one agency could not be the sole recipient of the funding. Therefore, the contractors designed three general strategies for investment:

**Enhance** existing family planning services for low-income and uninsured women to include better access, provider training, supplies and equipment.

**Implement** family planning education in schools and communities to encourage conversation and provide clear and correct information.

**Advocate** to ensure adequate funding so that agencies can sustain their work.

After identifying these needs, the donor funded the Colorado Initiative to Reduce Unintended Pregnancy and invested in 16 agencies over the course of the initiative, from 2007 to 2015. By funding a variety of agencies in Colorado, the donor intended to broaden each agency's knowledge of statewide family planning efforts and improve collaboration and coordination of services.

The primary goal of the Colorado Initiative to Reduce Unintended Pregnancy was to reduce

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1. Unintended pregnancy is composed of births described by the mother as not wanted at the time of conception or wanted later, plus terminated pregnancies.

2. Family Planning includes, but is not limited to: contraceptive services, preconception health, basic infertility services, services to help achieve pregnancy, STD services and breast and cervical cancer screening

unintended pregnancy by increasing access to family planning services for low-income women and men, improving the capacity of health care settings to provide family planning services, and increasing coverage of all contraceptive methods by removing cost barriers for the most effective methods: long-acting reversible contraception (Appendix B).

Long-acting reversible contraceptives include intrauterine devices (IUDs) and implants. Women who do not want to get pregnant may want to use LARC methods because they are very effective (at rates exceeding 99 percent) and long-lasting, but often opt for less effective methods because they are unable to afford LARCs. Compared to other contraceptive methods, LARCs remain highly effective for three to 10 years once correctly inserted. They are safe for all age groups and require no further action on the part of the patient beyond the original insertion.

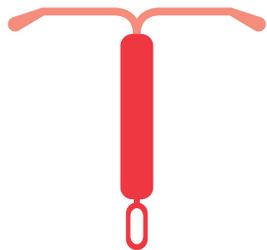
**PRIOR TO STARTING THIS PROGRAM, WE PROBABLY PUT IN ONE OR TWO LARC METHODS A MONTH.**

**MAYBE.**

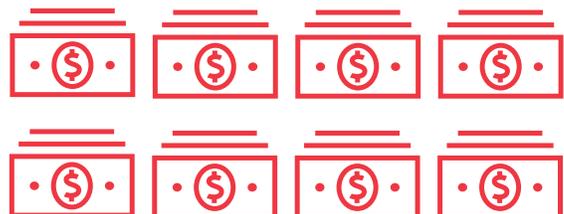
**— LOCAL TITLE X CLINIC STAFF**

**SNAPSHOT:  
LONG-ACTING REVERSIBLE CONTRACEPTIVES (LARCS)**

**LARCS INCLUDE  
INTRAUTERINE DEVICES (IUDS).**

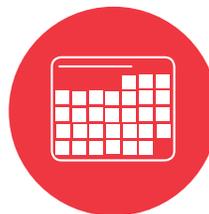


**LARCS CAN COST UP TO \$800.**



**99%**

**LARCS ARE  
VERY EFFECTIVE;  
EXCEEDING 99%.**



**LARCS REQUIRE NO  
FURTHER ACTION  
AFTER INITIAL  
INSERTION.**

**3-10  
YEARS**

**LARCS LAST  
FOR 3-10 YEARS.**

**LARCS ARE SAFE FOR ALL AGE GROUPS.**



## THE STATE HEALTH DEPARTMENT AS CHANGE AGENT

Over the course of the donor's listening tour in Colorado, it became clear that the Family Planning Program at the Colorado Department of Public Health and Environment (CDPHE) could be a strong partner for reaching low-income and uninsured populations. CDPHE had more than four decades of experience as a Title X grantee, contracting with local family planning clinics. The department had an excellent reputation for working collaboratively with local partners to provide services across the state and strong working relationships with other state agencies. In addition, CDPHE was the only organization in Colorado with a statewide model of reproductive health services, with clinics open to anyone seeking care. For these reasons, the donor chose CDPHE as its largest grantee. While the donor supported a number of other LARC-related projects during the same timeframe, this report focuses on CDPHE's efforts.

## THE COLORADO FAMILY PLANNING INITIATIVE

The donor invited the CDPHE Family Planning Program to submit a proposal to expand services provided by Title X funding in an effort to reduce unintended pregnancy. Program staff proposed an expansion within the existing network of Title X family planning clinics as the best way to effectively and quickly distribute funds. CDPHE was able to expedite the funding process by using existing contracts with agencies within the network. CDPHE and local agencies also had a history of excellent working relationships, which contributed to the success of this new collaboration. Title X regulations and protocols provided a rigorous foundation to support high-quality health care, and Title X reporting requirements ensured the ongoing collection of data. The proposal focused on the unmet need for long-acting reversible contraceptives, vasectomies, and tubal ligations in Title X family planning clinics statewide. Clinics had waiting lists of women and men seeking these effective, but prohibitively expensive, contraceptive methods and services. Providing these services became the focus of the CDPHE proposal.

CDPHE has been a recipient of federal Title X Family Planning Program funds since 1970, when the program was enacted as part of the Public Health Service Act. Title X funding provides comprehensive family planning services to all who want and need them, with priority given to clients with low incomes. Colorado uses a combination of federal, state and local funds to support a network of family planning clinics across the state. Each clinic is operated by a local agency with support and oversight provided by CDPHE. Agencies include local health departments, Federally Qualified Health Centers (FQHCs), hospitals and private nonprofit clinics. In 2014, 69 clinics run by 28 local agencies served more than 55,000 women and men in Colorado (see map in Appendix K).<sup>3</sup>

**IT WAS BRILLIANT TO ROLL THIS OUT THROUGH THE TITLE X CLINICS WHERE THERE WAS INFRASTRUCTURE ALREADY IN PLACE.**

**— STATE HEALTH DEPARTMENT STAFF**

The CDPHE Family Planning Program named its expansion proposal the Colorado Family Planning Initiative (CFPI). The goals were straightforward and could be tracked at the clinic level with little added burden: reduce unintended pregnancy in Colorado by increasing the number of family planning clients served and improving access to LARC methods.

Embedded within these goals was a need to build capacity at local clinics before they could increase client numbers or provide LARC methods at the levels proposed in the Colorado Family Planning Initiative work plan. Each clinic had different capacity needs, including staffing, supplies and equipment, training, education and outreach strategies, adjustment of clinic hours and procedures, and development of collaborations. The proposed work

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3. A current map of family planning sites can be found [here](#). Also see Appendix K. A list can be found [here](#).

plan included technical assistance, conferences and training to address these needs. CDPHE hired a Colorado Family Planning Initiative coordinator when the proposal was approved and the process of distributing funds to local agencies began.

CDPHE and local agencies were initially concerned about the future of the program when the funding ended, as is common with substantial grant awards with limited funding periods. As originally envisioned by the donor, there would be no break in funding to clinics because Colorado Family Planning Initiative funds would fill a gap while Colorado's Medicaid Waiver application was under review, on its way to probable approval. In addition to expanding coverage from the eligibility cap of 150 percent of the federal poverty level to 200 percent of the federal poverty level, the waiver would also permit a drawdown of \$9 in federal funding for each \$1 in state funding for family planning services. By redirecting state funding for Title X agencies to match the federal contribution, clinics could increase Medicaid revenue and replace the temporary private donor funding.

## LOCAL AGENCY EFFORTS

The uncertainty of being able to sustain the costs of the Colorado Family Planning Initiative beyond the life of the original funding did not deter local agencies. They remained committed to providing previously unavailable services in their communities to virtually all clients who wanted them. Optimistic about the potential outcomes of implementing the Colorado Family Planning Initiative, local agencies submitted their work plans to the Colorado Family Planning Program for funding.

Under the larger goal of reducing unintended pregnancy rates, agency work plans described the activities and budgets needed to increase the number of clients served and the number of clients provided with IUDs and implants.

The specifics of each work plan varied by clinic capacity, community needs and the population served. In general, clinics proposed to spend their funds to do the following:

- Purchase LARC methods.
- Establish contracts with local health care

providers for LARC placements, vasectomies and tubal ligations.

- Develop or enhance outreach and education efforts.
- Collaborate with local partners, particularly schools.
- Hire and/or train staff (medical, outreach/education, front desk/scheduling, billing).
- Improve clinic infrastructure (electronic health records, billing, clinic efficiency).
- Upgrade or purchase equipment (exam tables, lights, etc.).
- Expand current efforts (offer family planning services at additional sites, increase clinic hours, offer evening appointments, etc.).

As local agencies refined their work plans, CDPHE staff created a structure to accept funds from a private donor and distribute those funds to their Title X contractors. This challenging and time-consuming process was made more difficult when the state enacted a hiring and travel freeze during the economic downturn in 2008-2009 and when CDPHE began restructuring efforts during a similar time period.

Using this delay to their advantage, program staff provided training and technical assistance to local family planning clinics in preparation for implementation of their work plans. Training for health care providers and clinic staff included strategies for counseling clients and managing side effects related to LARC use; understanding and incorporating LARC best practices; and developing referral contracts with other providers for LARC placements, tubal ligations and vasectomies. The ability to provide relevant training and ongoing technical assistance proved to be an important aspect of the Colorado Family Planning Initiative. This was not a new role for CDPHE because site visits, technical assistance and ongoing training had been part of the Title X network for years. Colorado Family Planning Initiative funding provided opportunities to offer additional training and address new issues related to LARC. Family Planning staff at CDPHE adjusted its efforts as needs were identified and continued to provide training opportunities to clinic staff throughout the life of the project.

**IT SEEMED LIKE A MIRACLE. IT WAS HARD TO IMAGINE THAT ALL OF A SUDDEN WE COULD HAVE NEW, FOCUSED EFFORTS ON LONGER-ACTING METHODS AND A FUNDING SOURCE FOR ALL OF OUR PATIENTS WHO OTHERWISE COULDN'T AFFORD THEM.**

**— LOCAL TITLE X CLINIC STAFF**

**FUNDING DISBURSEMENT**

Although it took time to resolve contracting logistics, CDPHE disbursed funds to local agencies during the last six months of 2008 and began implementing the Colorado Family Planning Initiative in 2009. In the first year of implementation, Colorado Family Planning Initiative funding allowed clinics to purchase and provide LARC methods to their clients at little to no cost, a service that had previously been available on a limited basis due to cost.

Title X guidelines require all contraceptive methods, counseling, education and exam fees be incorporated into a schedule of discounts, or a sliding fee scale, for clients according to income. These guidelines also require clinics to offer all contraceptive-related services to clients with incomes at or below 100 percent of the federal poverty level at no cost. Because most Title X clients have incomes at that level, most services are provided at no cost.

Prior to the Colorado Family Planning Initiative, the expense of LARC methods (as much as \$800 per device) had prohibited widespread use at Title X clinics and waitlists for these methods were common. In 2007, fewer than 2,500 of the 46,000 female clients at Title X clinics were LARC users. Clinics rarely provided sterilization procedures to women and men who wanted them, due to the expense. A small portion of Colorado Family Planning Initiative funds were made available for tubal ligations and vasectomies and clients previously on waitlists were finally able to receive these procedures.

Relatively early in implementation, clinics made impressive strides in providing more clients with family planning services, increasing the number of clients selecting LARC methods, and increasing the number of sterilization procedures provided.

- The Colorado Family Planning Initiative increased the number of women and men receiving family planning services in Title X clinics by 30 percent, from 51,000 in 2007 to nearly 66,000 in 2010.
- The Colorado Family Planning Initiative increased IUD insertions from nearly 1,300 in the first year of implementation (July 1, 2008- June 30, 2009) to more than 2,700 in the second year. Similarly, implant placements more than doubled, from nearly 600 insertions in fiscal year 2009 to almost 1,500 in fiscal year 2010.
- The Colorado Family Planning Initiative increased sterilization procedures from 44 tubal ligations and 51 vasectomies in fiscal year 2007 to 378 tubal ligations and 333 vasectomies in the second year of Colorado Family Planning Initiative funding (fiscal year 2010).

The Colorado Family Planning Initiative received private funding totaling \$27,370,246 between 2008 and 2015. With that investment, the initiative continued as initially planned through June 2015, with two exceptions: a small change in plans for a statewide media campaign and an adjustment of clinic activities needed to address health care reform after the passage of the Affordable Care Act.

## BEFOREPLAY CAMPAIGN

Under the broad umbrella of the Colorado Initiative to Reduce Unintended Pregnancy, the private donor planned to fund a statewide media campaign intended to complement CDPHE's efforts. Beforeplay was a public awareness campaign for young people to encourage them to make healthy sexual decisions. The campaign launched in 2012, three years into the Colorado Family Planning Initiative, once Title X clinics had developed the capacity to expand services.

Colorado-based donor representatives coordinated the campaign, hiring a professional communications company to run it. CDPHE provided messaging and educational support, which proved critical because campaign testing determined that the CDPHE logo added credibility to the Beforeplay message. CDPHE family planning staff continued to serve in advisory roles for several years, helping to write blogs, social media posts and website content.

The purpose of the Beforeplay campaign ([www.beforeplay.org](http://www.beforeplay.org)) was to normalize the statewide conversation about reproductive health and increase the visibility of Title X clinics and other health centers offering affordable reproductive health services (Appendix C). Additionally, reliable and easy-to-understand information on the website helped women and men:

- Locate health care centers for reproductive health services.
- Understand health care coverage options for reproductive health.
- Access emergency contraception.
- Select birth control methods.
- Learn about sexually transmitted diseases, testing and treatment.
- Assess readiness for pregnancy.

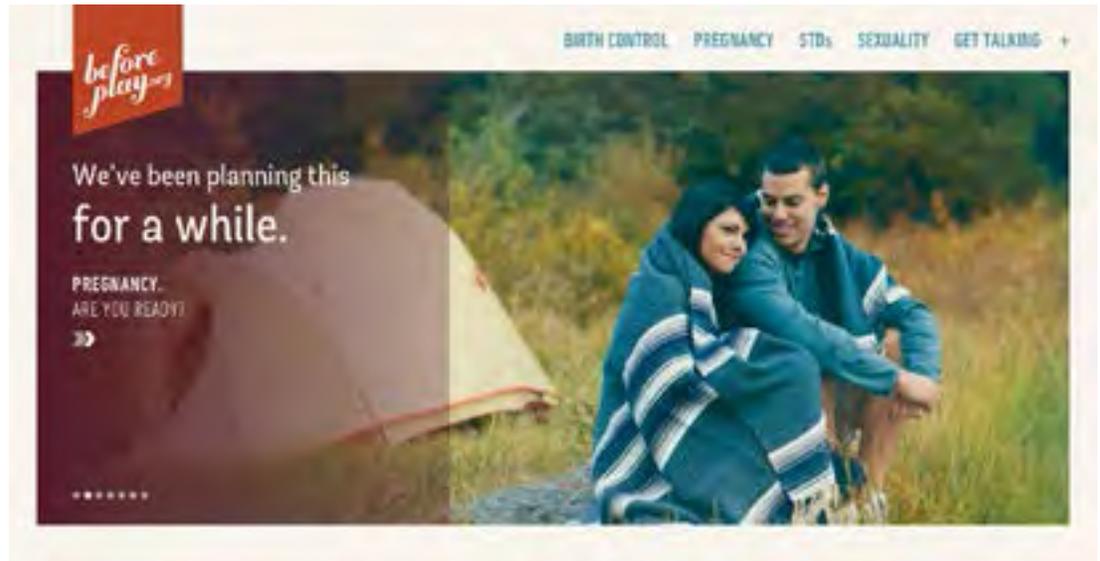
For local Title X clinics, especially those with few resources for conducting outreach and marketing, the Beforeplay campaign provided a helpful tool. Campaign materials were developed with a range of images and messages so that agencies across the

state could tailor the materials to best fit their communities. In addition, materials could be co-branded with local agency contact information and logos. The website and campaign materials were also available in Spanish.

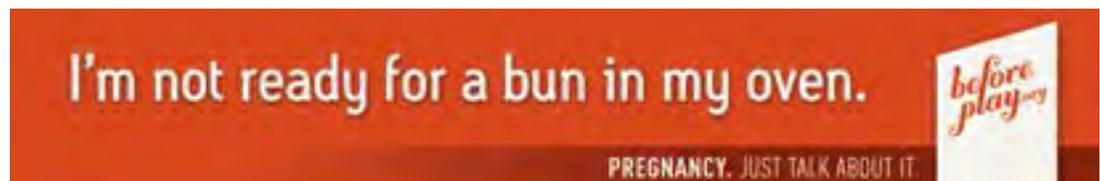
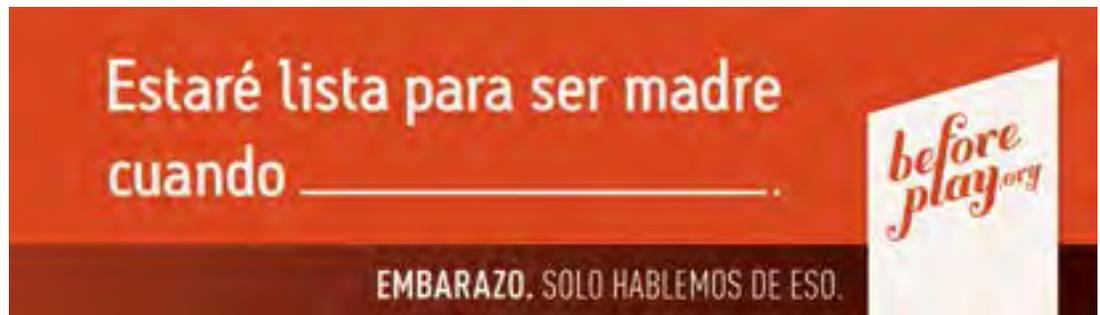
*Catchy billboards in English and Spanish helped normalize the conversation and got people talking.*



*Beforeplay.org users can locate local health centers, find emergency contraception, decide if he/she is ready to have a baby and learn the facts on STDs and birth control.*



*Digital advertising was an effective channel to reach the target demographic in English and Spanish and directed users to Beforeplay.org.*



## THE AFFORDABLE CARE ACT

During the Colorado Family Planning Initiative implementation, the U.S. Congress passed the Affordable Care Act, making health care available to most U.S. citizens. In 2013, Colorado launched its online insurance exchange portal and expanded Medicaid to all Colorado citizens earning as much as 133 percent of the federal poverty level. This allowed women to obtain annual reproductive health exams and family planning methods of choice with no co-pay. It also meant a substantial change in business practices for local Title X clinics. For the first time, clinics could routinely bill a payer source for services provided. They needed to prepare to accept these newly insured patients.

The plan for sustaining expanded family planning services offered through the Colorado Family Planning Initiative focused on approval and implementation of the Colorado Medicaid Waiver. The Medicaid Waiver and the Colorado Family Planning Initiative shared the same goal of reducing unintended pregnancy by expanding access to affordable family planning services. In 2008, Colorado once again submitted a waiver application to the Centers for Medicare and Medicaid Services (CMS) as a collaborative effort between CDPHE and the Colorado Department of Health Care Policy and Financing, the state's Medicaid agency. If approved, the waiver would allow coverage of family planning services to women and men ages 19-50 with incomes up to 200 percent of the federal poverty level. Title

X clinics would be able to bill Medicaid and replace the temporary funding provided by the Colorado Family Planning Initiative.

Into 2011, the sustainability of the initiative continued to rely on approval of the state's Medicaid Waiver. The Colorado Family Planning Initiative work plan included training activities for providers and outreach to consumers regarding the expansion of family planning services through the Medicaid Waiver. However, the passage of the Affordable Care Act (ACA) in March 2010 was groundbreaking and by fall 2011 the long-term landscape of health care coverage began to shift.

The Affordable Care Act offered the opportunity to expand Medicaid eligibility and made the need for Colorado's Medicaid Waiver uncertain. Colorado had to assess the feasibility of pursuing the waiver application. The earliest possible implementation of Colorado's Medicaid Waiver would begin in Fall 2012 and would be reevaluated by CMS in the context of health care reform after only a single year. Limited implementation time, the high cost of updating enrollment and billing systems, and the likelihood of expanded Medicaid eligibility through ACA prompted Colorado to withdraw the state's waiver application in November 2011.

## **SUSTAINABILITY**

It was important to CDPHE and the private donor to continue the work of the Colorado Family Planning Initiative beyond initial private funding. Without the Medicaid Waiver and within the new health care reform environment, the Family Planning Program had to adjust the Colorado Family Planning Initiative sustainability strategy. The donor redirected funding initially designated to support Medicaid Waiver implementation to activities needed to prepare Title X clinics to access other sources of sustainable funding and continue providing high-quality family

“

**LET'S SEE WHAT IMPACT WE CAN HAVE ON UNINTENDED PREGNANCY BY MAKING THESE EXPENSIVE METHODS AVAILABLE.**

**THE DONORS UNDERSTOOD THAT WE HAD WAITING LISTS. IF FINANCIAL BARRIERS WERE REMOVED, WHAT WOULD HAPPEN?**

**— STATE HEALTH DEPARTMENT STAFF**

”

planning services to more clients. These activities focused on improving Medicaid and private insurance enrollment, coding, and billing; negotiating with private insurers; training health care providers outside the Title X network to integrate family planning services into their practices; and outreach to Medicaid-eligible populations and enrollment specialists to increase knowledge of family planning services covered by Medicaid.

During this time, Title X clinics moved from a “free clinic” business model to one that generated income and received reimbursement for clinical services. In some cases, clinics had to implement strategic planning, change management and develop new business methods to prepare clinic staff for a paradigm shift in the delivery of services.

While some Title X clinics had been successfully billing a diverse collection of payers, this was not standard. Most clients were not covered by private insurance or Medicaid. The low volume of covered clients and the administrative burden of submitting claims resulted in high numbers of rejected claims. To diversify funding streams and increase the likelihood of replacing Colorado Family Planning Initiative funding, clinics had to learn to bill third-party payers successfully. To reach this goal, the Colorado Family Planning Initiative:

- Provided training on Medicaid and insurance eligibility and enrollment.
- Provided insurance coverage outreach and educational materials to clients.
- Funded infrastructure support for billing, including upgraded computer systems and software, billing training and quality assurance.
- Developed a customized coding and billing manual for Colorado Title X clinics.
- Centralized enrollment and billing technical assistance for Title X clinics.
- Worked with private insurers to secure essential community provider status for Title X clinics.
- Provided targeted technical assistance on negotiating sustainable reimbursement rates.

- Developed contract templates for clinics to use with private insurers in their regions.
- Facilitated strategic planning meetings with key staff on long-term funding scenarios and change management.
- Provided one-on-one coaching with clinic staff on fiscal management, cost setting and reimbursement tracking.

Efforts at the state and clinic level to improve business practices at Title X clinics and diversify billing sources proved successful. Prior to the Colorado Family Planning Initiative, the largest proportion of revenue collected by clinics came from clients, who paid for services on a sliding fee scale, based on income. In 2008, 80 percent of the revenue collected in Colorado’s clinics came from clients and 20 percent from third-party payers, primarily Medicaid. By 2014 the inverse was true: 75 percent of collected revenue came from Medicaid and private insurance and 25 percent was collected from clients. The Colorado Family Planning Initiative sustainability efforts increased third-party payer revenue from \$345,000 in 2008 to more than \$4 million in 2015.

The Family Planning Program expects most clients to eventually have a payer source for family planning services, but realizes it will take time for that shift to occur. Despite significant increases in clients with private insurance or Medicaid from 2008 to 2014, nearly half of all female Title X clients remain uninsured. Funding beyond the increases in insurance and Medicaid reimbursements is necessary to sustain positive Colorado Family Planning Initiative outcomes.

The need for family planning services offered at low to no cost will remain despite improvements in insurance coverage options. An estimated 50,000 Colorado women ages 13-44 did not have insurance coverage for family planning services in 2015. An additional 33,100 women were covered, but were not using insurance because of concerns related to confidentiality (Appendix D).

“

**TO BE ABLE TO GIVE ANYONE ACCESS TO THESE (LARC) DEVICES, THAT IS WHERE CFPI WAS A GAME CHANGER FOR OUR ORGANIZATION.**

**IT DIDN'T MATTER IF YOU WERE 15 OR 35,  
OR WHETHER YOU WERE UNINSURED.  
BEING ABLE TO OFFER THE SAME THINGS  
TO ANYONE WHO CAME IN FOR A FAMILY  
PLANNING VISIT, THAT WAS A HUGE  
CHANGE FOR US WITH THIS FUNDING.**

— LOCAL TITLE X CLINIC STAFF

”

**YOU ONLY GET ONE CHANCE IN  
LIFE AT SOMETHING LIKE THIS.**

**— STATE HEALTH DEPARTMENT STAFF**

## SECTION II:

# IMPACT

The goal of the Colorado Family Planning Initiative was to reduce unintended pregnancy in Colorado by increasing access to family planning services and making the most effective contraceptives available to all women regardless of cost. To monitor this goal, Title X clinics continued to collect data on client characteristics and services provided and added measures related specifically to the Colorado Family Planning Initiative's efforts, including number and type of LARC methods. These data provided information on growth in the number of clients served and shifts in contraceptive methods. CDPHE also analyzed statewide changes in the number of births and fertility rates, abortion rates, unintended pregnancy rates, births by educational level and age, and a number of other associated measures of maternal and infant health.

While it is not possible to tie all health measures directly to the Colorado Family Planning Initiative and the provision of LARC, the initiative clearly improved access to expanded family planning services across the state and helped reduce unplanned pregnancy among young women. Taken separately or as a whole, each of the measures described below demonstrates the profound changes that took place in the years after the initiative began.

## TITLE X CLIENT CHARACTERISTICS AND SERVICES

The Family Planning Program primarily serves the Title X priority population of young, low-income women and men. The number of female clients served in Title X clinics increased substantially, from 46,348 in 2008 to a high of 56,733 in 2010 following the implementation of the Colorado Family Planning Initiative. This increase demonstrates the strong appeal of LARCs that were previously unavailable. Total female clients served gradually declined to 47,513 in 2014, which was the last full year of the Colorado Family Planning Initiative funding from the private foundation (Figure 1).

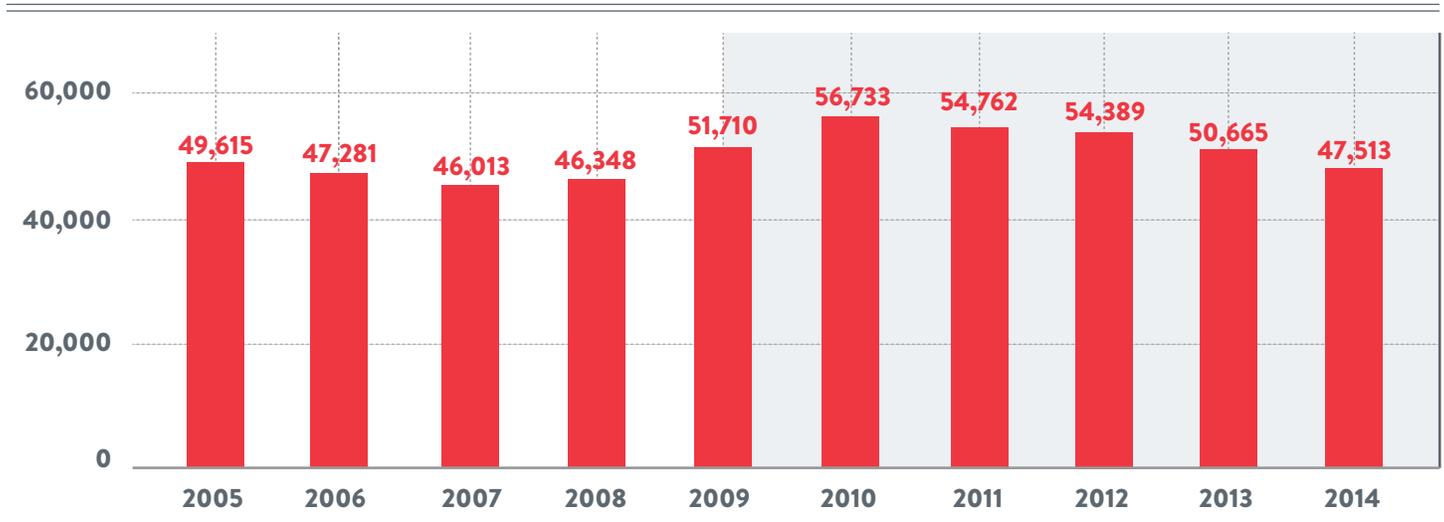
Several factors contributed to the gradual decline in the number of clients served. In early 2012, the U.S. Preventive Services Task Force (USPSTF) made changes to cervical cancer screening guidelines, reducing recommended Pap tests for most women from annually to every three years. As a larger proportion of the Title X clinic population selected LARC methods, there were fewer women returning to clinics to refill prescriptions or replenish supplies of shorter acting contraceptives. Additionally, because LARC methods provide contraceptive coverage for three to 10 years, women may not feel the need to return to a Title X clinic if they are not experiencing any side effects. Finally, with the implementation of the Affordable Care Act, previously uninsured women

now had coverage that allowed more options when selecting a health care provider and some of these women opted to seek reproductive health care services with other providers in their communities.

Although the number of clients varied, the demographic characteristics of women remained the same. Title X clinics continued to serve young, low-income clients. More than half the female clients were younger than age 25 and about 90 percent of clients had incomes at or below 150 percent of the federal poverty level (Table 1). Most clients were white, mirroring Colorado's total population; however, race was not known for 15.7 percent of clients in 2008 and 20.4 percent in 2014. At 40 percent, the proportion of Hispanic clients was higher than Colorado's total Hispanic population of 20 percent. Client insurance status was the only characteristic that changed significantly between 2008 and 2014. The proportion of uninsured clients declined from 70.0 percent in 2008 to 52.3 percent in 2014 while the percent of clients covered by Medicaid or private insurance increased.

Before implementation of the Colorado Family Planning Initiative, few Title X clients used LARC methods. In fiscal year (FY) 2008, 6.4 percent of female clients reported current use of a LARC method. By FY 2015, 30.5 percent of female clients were using LARC methods (Figure 2). The number of

**FIGURE 1:**  
**NUMBER OF FEMALE CLIENTS IN TITLE X CLINICS IN COLORADO, 2005–2014**



■ The Colorado Family Planning Initiative began in 2009.

LARC users seen in Title X clinics in a given year increased from 2,269 in FY 2008 to 12,142 in FY 2015 (Figure 3).

In the years following Colorado Family Planning Initiative implementation, clinics provided LARC

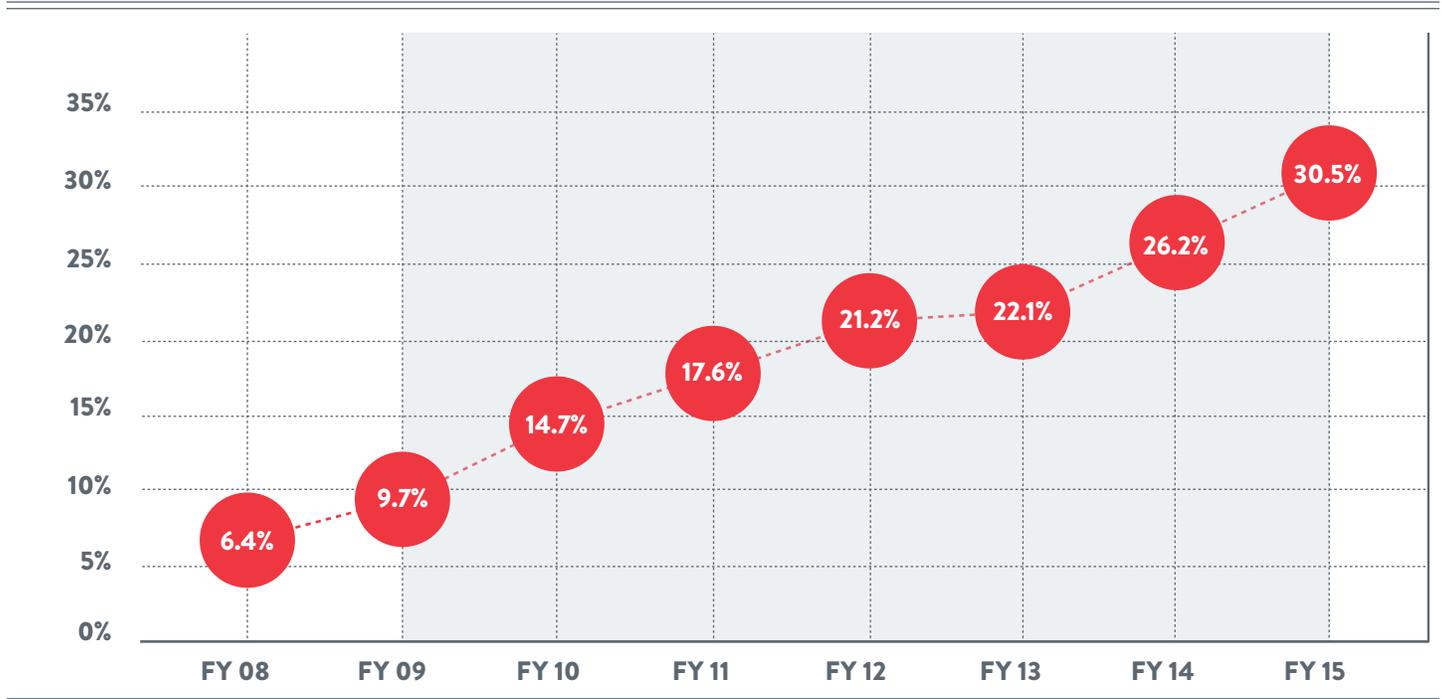
methods and care to women in numbers that had not been previously possible. The high cost of purchasing and inserting LARC methods prior to the Colorado Family Planning Initiative prohibited clinics from regularly offering them as options for their clients and it was common for clinics to have long

**TABLE 1:  
TITLE X FEMALE CLIENTS BY SELECTED CHARACTERISTICS, COLORADO, 2008 AND 2014**

	2008		2014	
	NUMBER	PERCENT	NUMBER	PERCENT
<b>TOTAL CLIENTS</b>	46,348	100.0%	47,513	100.0%
<b><u>BY AGE</u></b>				
<15	677	1.5%	995	2.1%
15–19	11,579	25.0%	10,397	21.9%
20–24	13,381	28.9%	13,237	27.9%
25–29	9,134	19.7%	8,874	18.7%
30–34	5,289	11.4%	6,364	13.4%
35+	6,288	13.6%	7,646	16.1%
<b><u>BY RACE</u></b>				
White	35,565	76.7%	32,696	68.8%
Black	2,043	4.4%	3,387	7.1%
Asian/Pacific Islander	619	1.3%	1,038	2.2%
American Indian/Native Alaskan	413	0.9%	378	0.8%
Other	447	1.0%	314	0.7%
Unknown	7,261	15.7%	9,700	20.4%
<b><u>BY ETHNICITY</u></b>				
Hispanic	18,589	40.1%	22,321	47.0%
Non-Hispanic	25,638	55.3%	22,216	46.8%
Unknown	2,121	4.6%	2,976	6.3%
<b><u>BY % OF FEDERAL POVERTY LEVEL (FPL)</u></b>				
Total	42,807	100.0%	47,518	100.0%
<=100	31,904	74.5%	36,589	77.0%
101–150	6,521	15.2%	5,841	12.3%
>=151	4,382	10.2%	5,088	10.7%
<b><u>BY INSURANCE TYPE</u></b>				
Total*	43,032	100.0%	47,518	100.0%
Public (Medicaid)	5,200	12.1%	15,031	31.6%
Private	3,419	7.9%	5,333	11.2%
Uninsured	30,127	70.0%	24,833	52.3%
Unknown	4,286	10.0%	2,321	4.9%

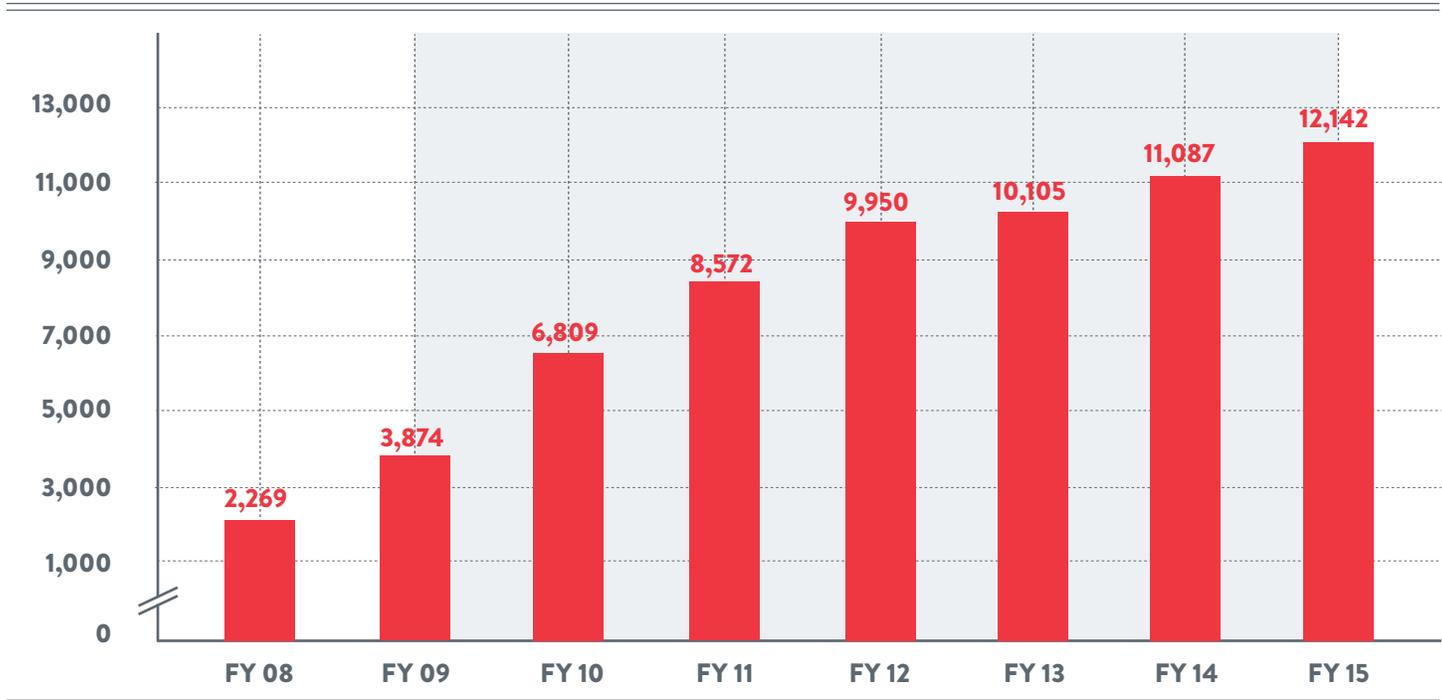
\* Client population totals are different for FPL and Insurance Type due to changes in the data system.

**FIGURE 2:**  
**PERCENT OF TITLE X CLINIC CONTRACEPTORS USING LARC METHODS, COLORADO, FY 2008–FY 2015**



■ The Colorado Family Planning Initiative began in 2009.

**FIGURE 3:**  
**NUMBER OF LARC USERS IN TITLE X CLINICS, COLORADO, FY 2008–FY 2015**



■ The Colorado Family Planning Initiative began in 2009.

waiting lists. With additional funds through the Colorado Family Planning Initiative, Title X clinics were able to provide more than 36,000 LARC methods to women who could not have otherwise afforded them (Figure 4). LARC placements increased from 1,876 insertions in the first year to 6,806 in the last year of the initiative (Figure 5).

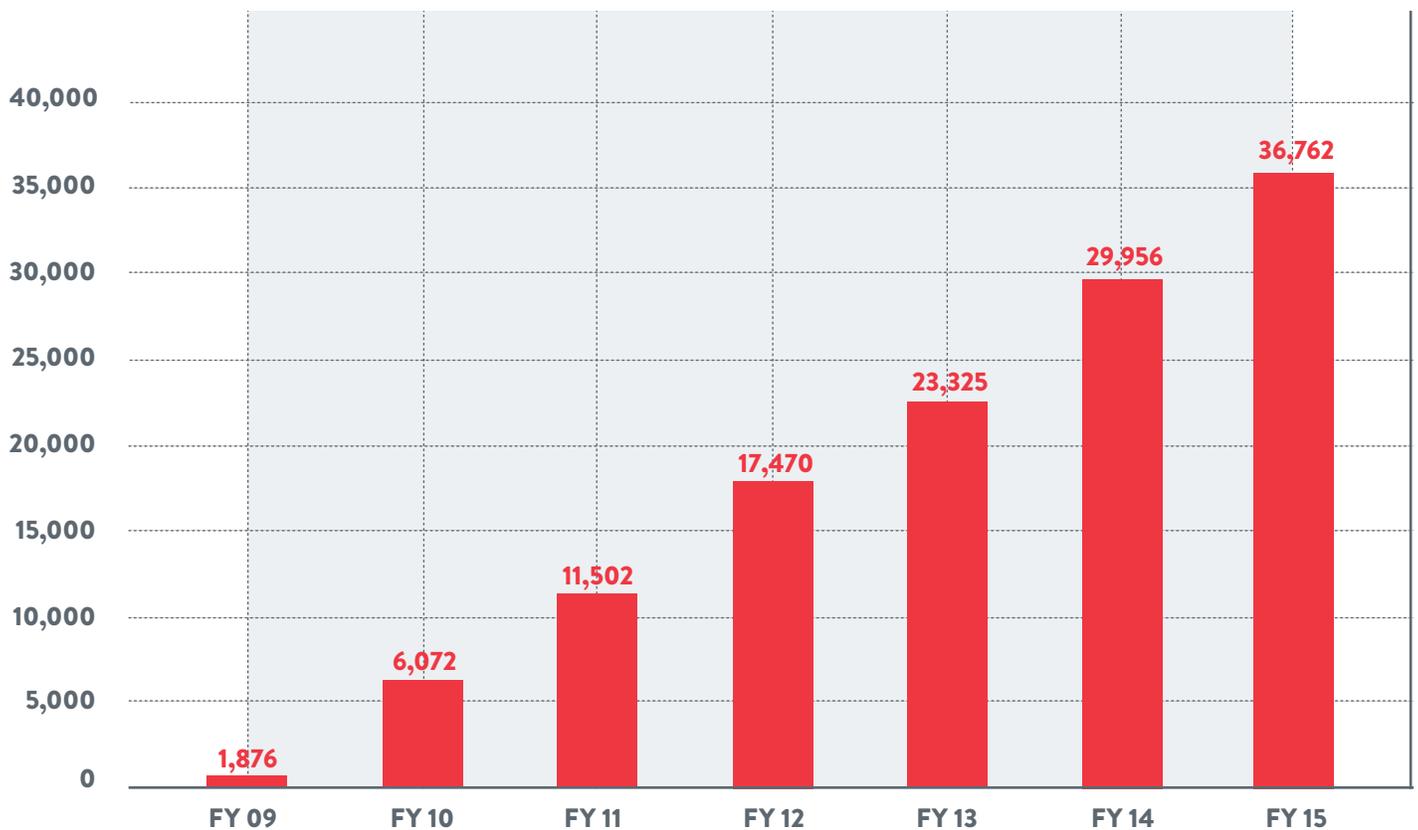
Permanent sterilizations are effective options for women and men not wanting pregnancy. Title X clinics are allowed to provide the procedures following the federal sterilization consent guidelines

which include age restrictions and a 30-day wait period. Prior to the Colorado Family Planning Initiative, these costly procedures were only sporadically available in very limited numbers and clinics had long waiting lists. Funding from the Colorado Family Planning Initiative allowed Title X clinics to offer vasectomies, tubal ligations and non-surgical tubal occlusions at little or no cost to clients. During the Colorado Family Planning Initiative, Title X clinics provided 1,570 vasectomies, 587 tubal ligations and 958 non-surgical tubal occlusions to family planning clients.

## STRENGTHENING OUR PARTNERSHIPS WAS INTEGRAL.

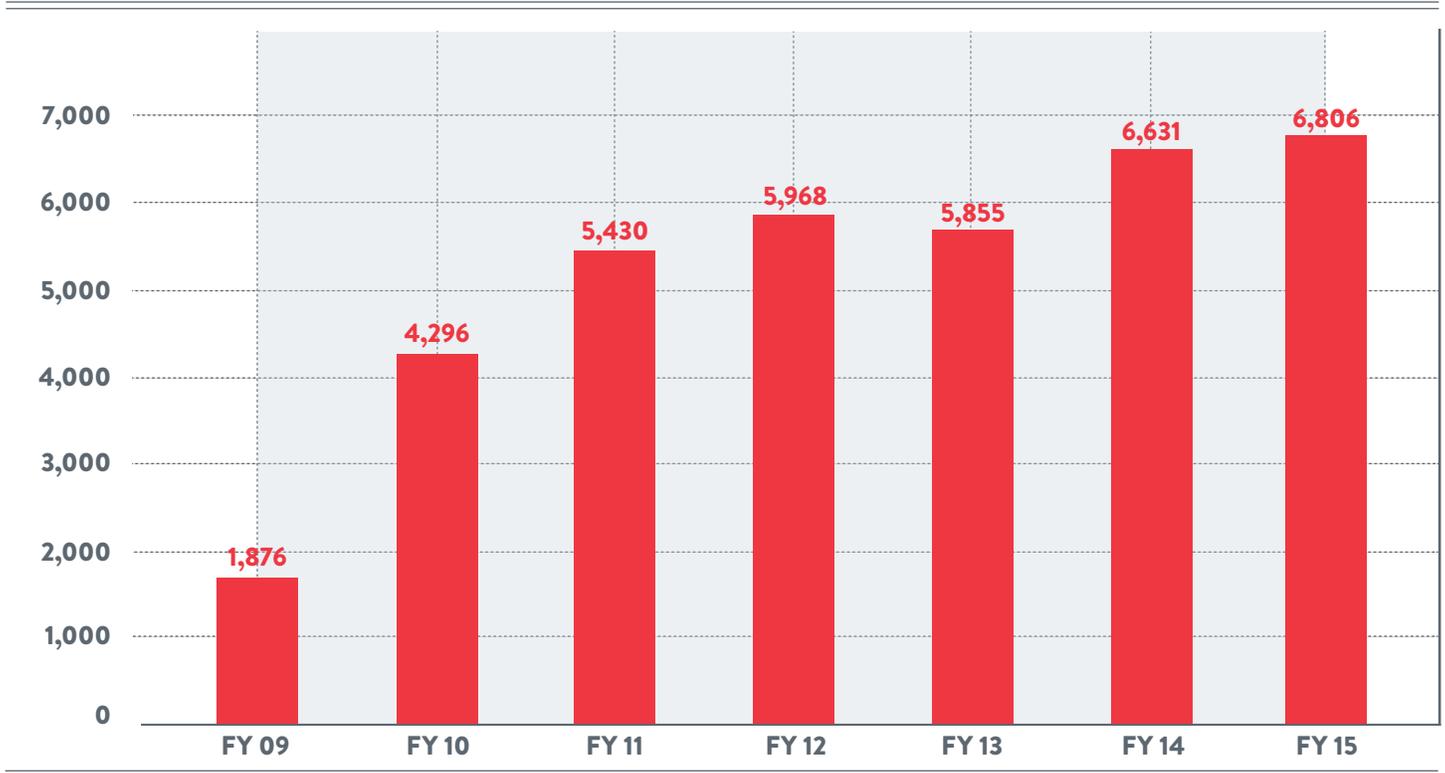
– LOCAL TITLE X CLINIC STAFF

**FIGURE 4:**  
CUMULATIVE NUMBER OF LARC INSERTIONS IN TITLE X CLINICS, COLORADO, FY 2009–FY 2015



■ The Colorado Family Planning Initiative began in 2009.

**FIGURE 5:**  
**NUMBER OF ANNUAL LARC INSERTIONS IN TITLE X CLINICS, COLORADO, FY 2009–FY 2015**



■ The Colorado Family Planning Initiative began in 2009.

**WE KNEW THAT THERE WAS GOING TO BE A BIG NEED FOR TRAINING AND EDUCATION OF PROVIDERS ON NOT ONLY THE TECHNICAL INSERTION PART OF LARC METHODS, BUT ALSO HOW BEST TO TALK WITH PATIENTS ABOUT LARC METHODS AND REMOVE SOME OF THE MISCONCEPTIONS THAT PEOPLE HAD.**

**–LOCAL TITLE X CLINIC STAFF**

## MATERNAL AND INFANT HEALTH MEASURES

When examining state level measures of maternal and infant health, it must be noted that Title X clinics funded by the private donor were not the only entities providing significant interventions to reduce unintended pregnancy and improve birth outcomes. As mentioned previously, 16 organizations received funding from the private donor through the Colorado Initiative to Reduce Unintended Pregnancy; CDPHE was the largest grantee both in funding amount and statewide scope of services. It is believed that while CDPHE's efforts drove the majority of the health outcome improvements

described below, the results would not have been as significant without the work of the other grantees.

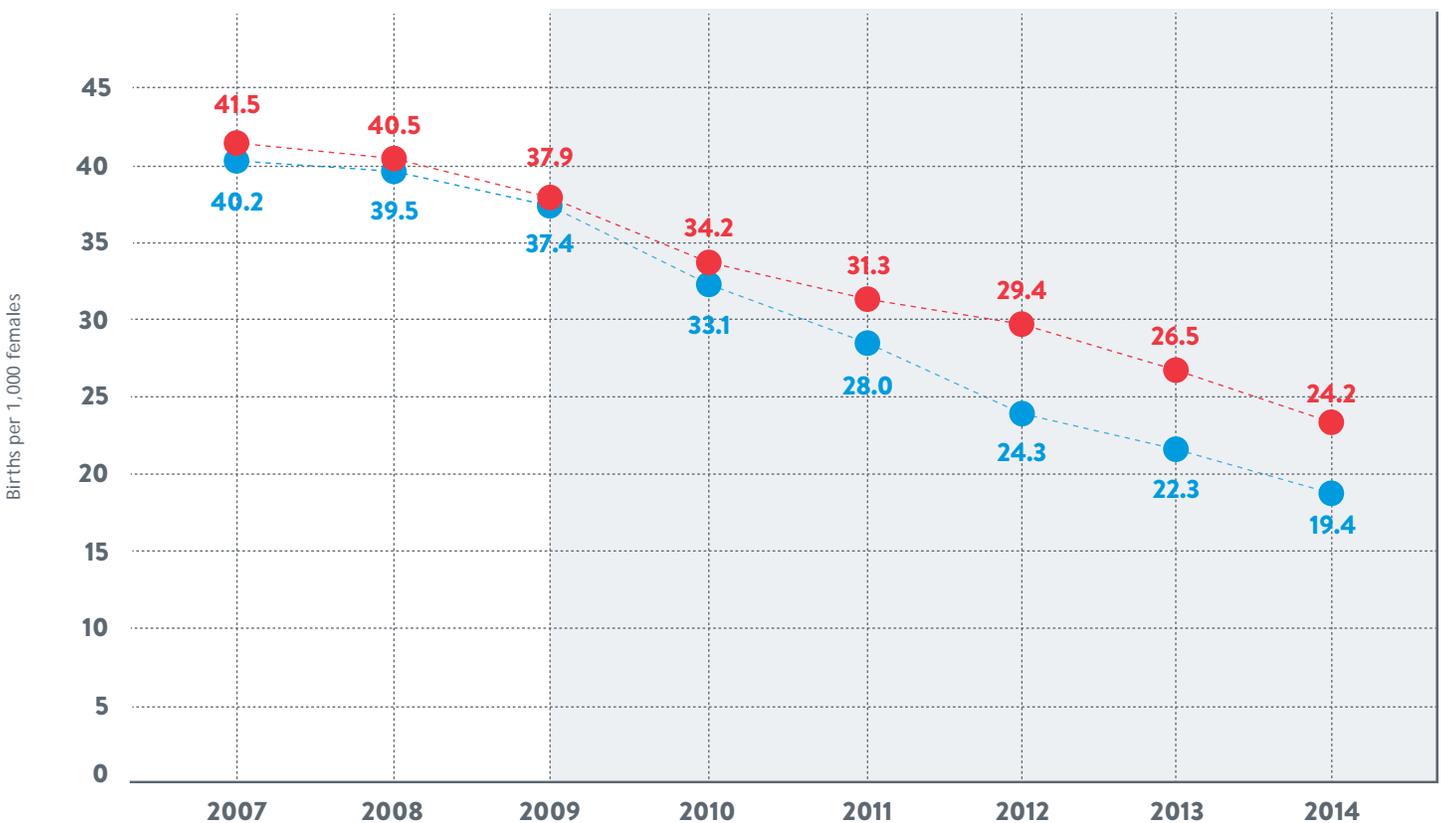
## FERTILITY RATES

In 2007, two years before the implementation of the Colorado Family Planning Initiative, the fertility rate for women ages 15-19 was 40.2 births per 1,000 women; in 2009 when the Colorado Family Planning Initiative began, the rate was 37.4 (Figure 6). In the next five years the rate was cut virtually in half, dropping 48 percent from the 2009 rate to 19.4 births per 1,000 women in 2014.

# THE IMPORTANCE OF LARC IS MUCH MORE INSTILLED IN OUR PROVIDERS' HEARTS. CFPI CHANGED OUR PRACTICE, TOTALLY.

– LOCAL TITLE X CLINIC STAFF

FIGURE 6:  
U.S. AND COLORADO FERTILITY RATES, AGES 15-19, 2007-2014



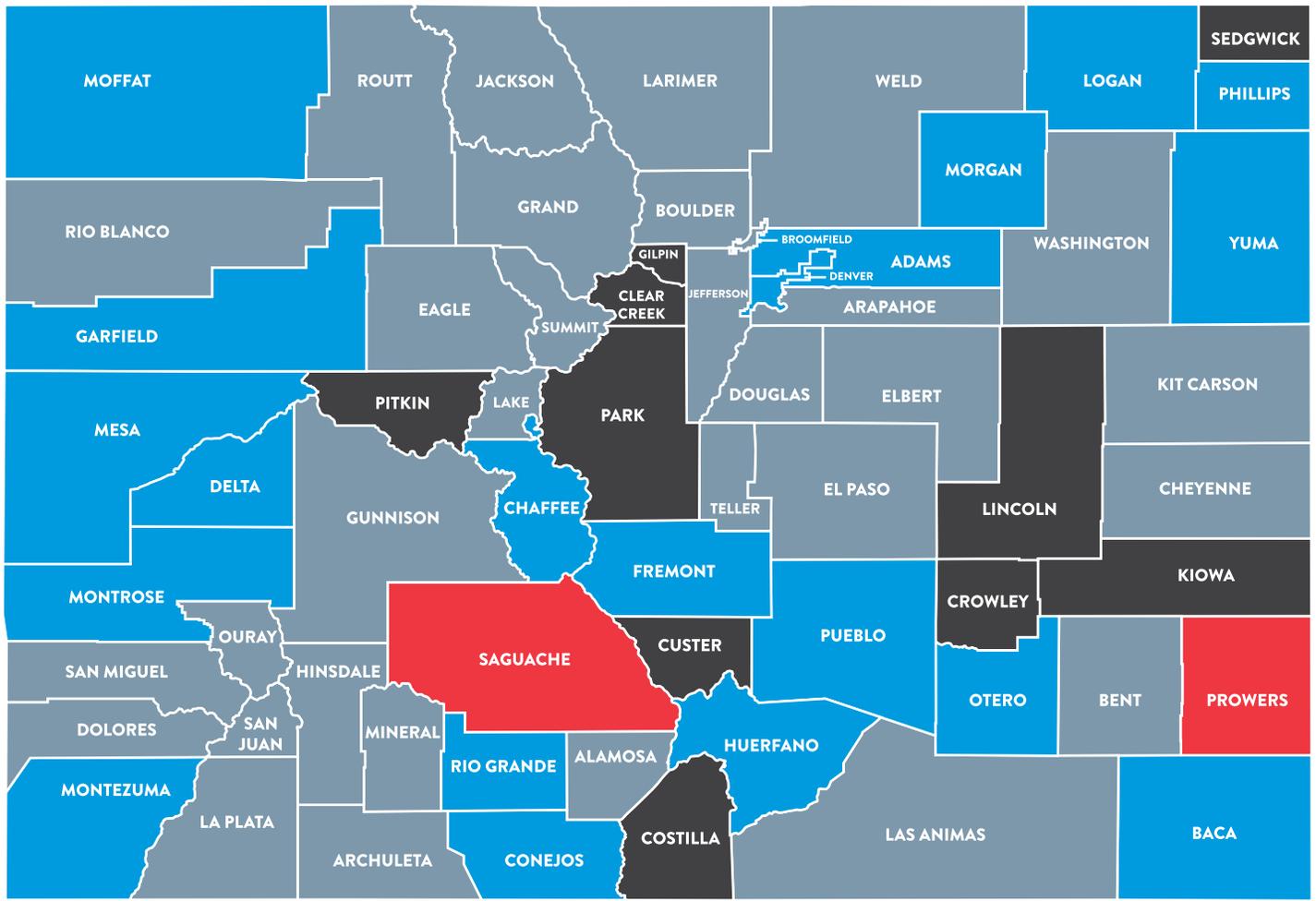
■ The Colorado Family Planning Initiative began in 2009. | ● U.S. ● Colorado



**WE HAD STATEWIDE CONFERENCES FOR THE TITLE X SITES FROM ALL AROUND THE STATE. WE HAD TRAININGS AND TALKS AND LECTURES AND ROUNDTABLES. IT REALLY HELPED GET EVERYONE INVIGORATED.**

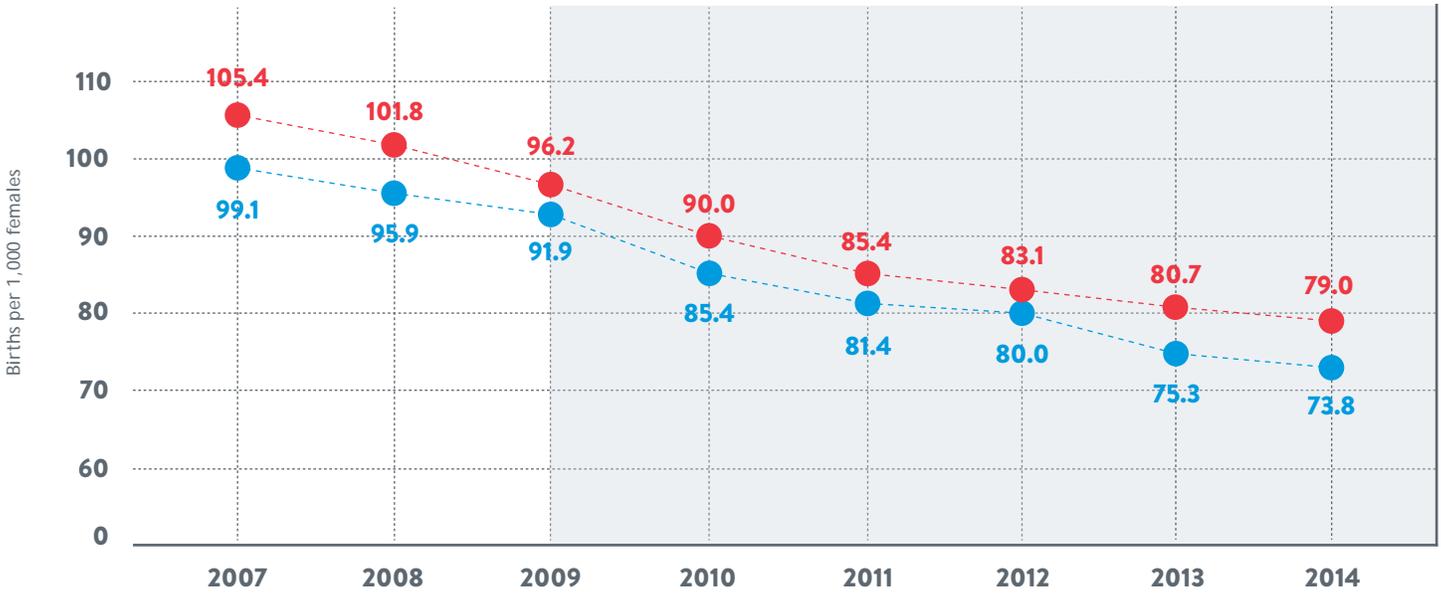
**–STATE HEALTH DEPARTMENT STAFF**

**FIGURE 8:  
FERTILITY RATES BY COUNTY, AGES 15–19, COLORADO, 2014**



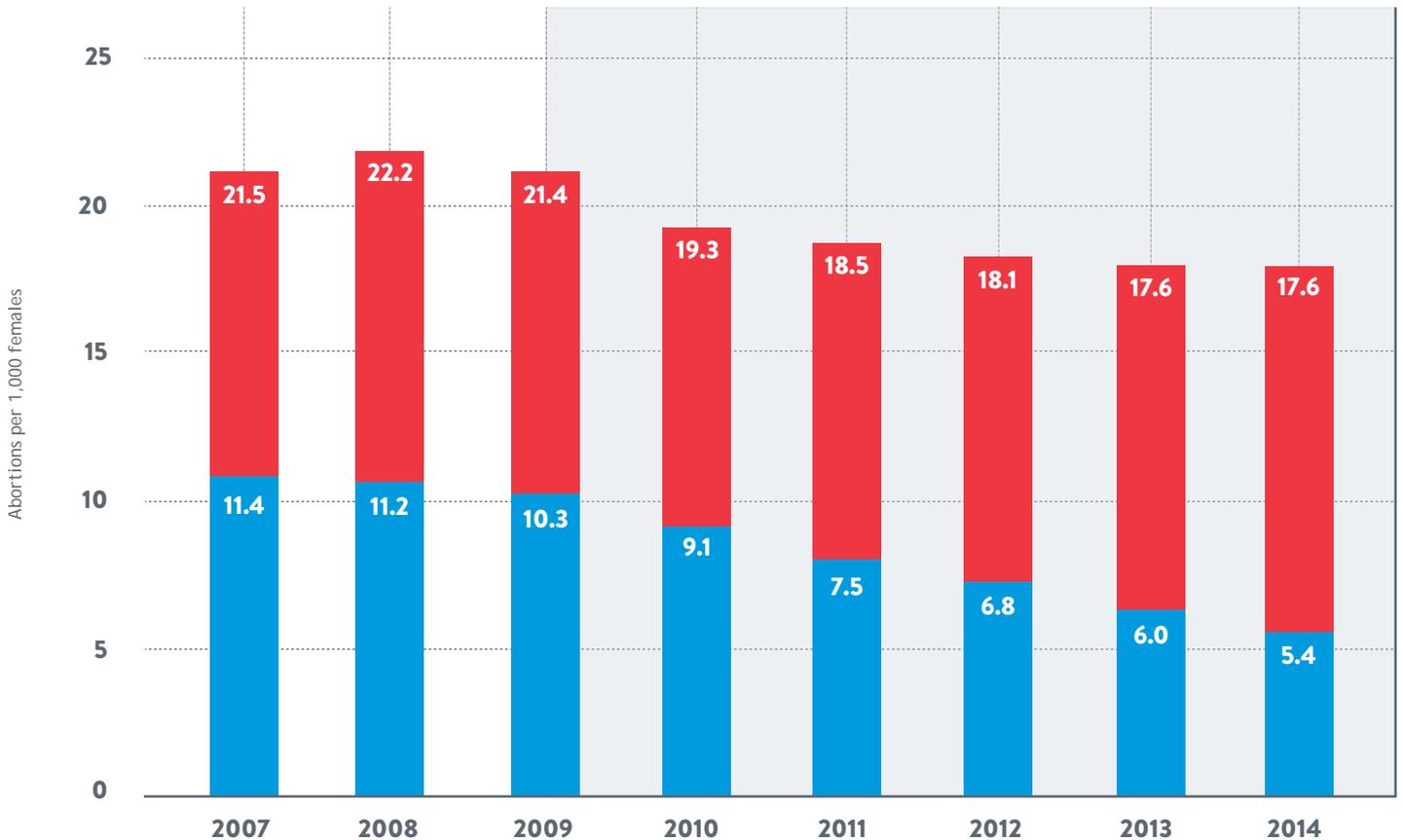
Less than 25 births/1,000 females
  25-49.9 births/1,000 females
  50+ births/1,000 females
  Data suppressed due to small numbers

**FIGURE 9:**  
**U.S. AND COLORADO FERTILITY RATES, AGES 20-24, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009. | ● U.S. ● Colorado

**FIGURE 10:**  
**ABORTION RATES IN COLORADO, AGES 15-19 AND AGES 20-24, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009. | ● Ages 15-19 ● Ages 20-24

## ABORTION RATES

In 2007, the abortion rate for 15-19 year olds in Colorado was 11.4 abortions per 1,000 women (Figure 10). During the Colorado Family Planning Initiative it dropped nearly by half, from 10.3 in 2009 to 5.4 in 2014. During the same time period, the rate for 20-24 year olds dropped 18 percent,

from 21.4 to 17.6 abortions per 1,000 women. The drop in abortion rates parallels the drop in fertility rates, demonstrating that unplanned pregnancies were being averted, thereby reducing the demand for abortions. Table 2 shows the number of abortions each year for the two age groups, and a cumulative total of the decline in the number since 2009.

**THE AFFORDABLE CARE ACT COVERS PREVENTIVE CARE, SO IF WE CAN GET THEM IN HERE THEN THE INSURANCE WILL HELP TAKE CARE OF LONG-ACTING REVERSIBLE CONTRACEPTIVES. BUT THEN YOU’VE GOT THE YOUNG PEOPLE WHO DON’T WANT THEIR PARENTS TO KNOW BECAUSE THEIR PARENTS WOULD JUST DIE. SO, WE DON’T HAVE ANYTHING FOR THOSE YOUNG PEOPLE IF CFPI FUNDING GOES AWAY.**

**-LOCAL TITLE X CLINIC STAFF**

**TABLE 2:  
NUMBER OF ABORTIONS AND CUMULATIVE CHANGE, AGES 15-19 AND 20-24, COLORADO, 2007-2014**

YEAR	NUMBER OF ABORTIONS			CUMULATIVE CHANGE IN TOTAL NUMBER OF ABORTIONS SINCE 2009
	AGES 15-19	AGES 20-24	AGES 15-24	AGES 15-24
2007	1,895	3,534	5,429	
2008	1,851	3,667	5,518	
2009	1,711	3,544	5,255	
2010	1,488	3,448	4,936	-319
2011	1,251	3,034	4,285	-970
2012	1,150	3,000	4,150	-1,105
2013	1,027	2,991	4,018	-1,237
2014	939	3,110	4,049	-1,206

## UNINTENDED PREGNANCY RATES

The unintended pregnancy rate dropped 40 percent during the Colorado Family Planning Initiative, from 35 per 1,000 teens in 2009 to 21 in 2014 (Figure 11). Among young women ages 20-24, the unintended pregnancy rate of 75 per 1,000 was more than twice as high as the teen rate in 2009 (Figure 12). By 2014, the rate had dropped to 60, a decline of 20 percent. While unintended pregnancy remains far more prevalent among women 20 to 24 than among teens, the unintended pregnancy rate dropped more rapidly for women under the age of 20 (Figure 11).

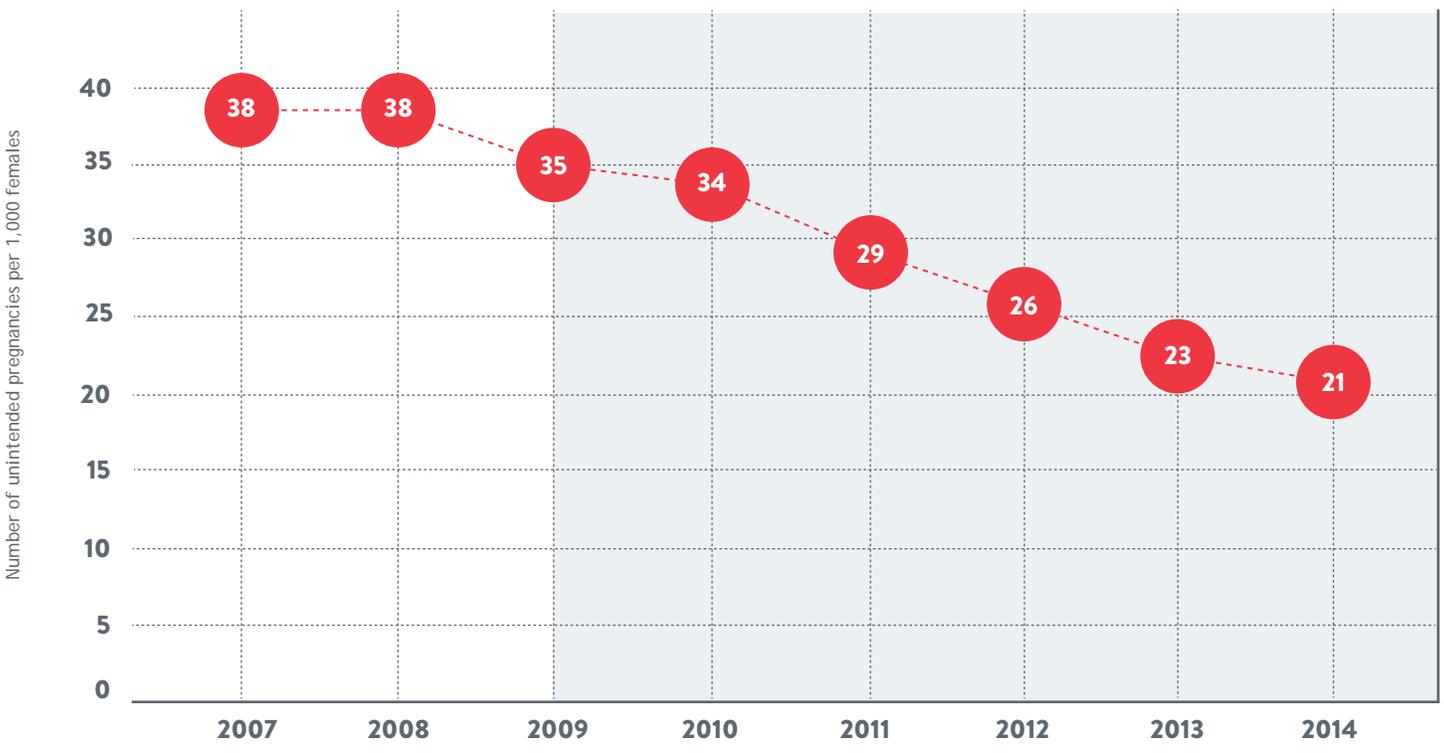
Unintended pregnancy rates are shown as the number of unintended pregnancies per 1,000 women. The number includes births wanted later or not at all plus all pregnancy terminations, but excludes unintended pregnancies ending in miscarriage. The Pregnancy Risk Assessment Monitoring System (PRAMS) survey is used to collect information from women regarding feelings about their pregnancies at the time of conception.

In 2012, a new response category was added to capture those women who were not sure what they wanted when they got pregnant, and these responses are included in the unintended pregnancy rates. While the addition of this new response category would have the effect of increasing the overall unintended pregnancy rate, Colorado's rate continued to drop after the change in the survey.

## BIRTHS TO WOMEN WITHOUT A HIGH SCHOOL EDUCATION

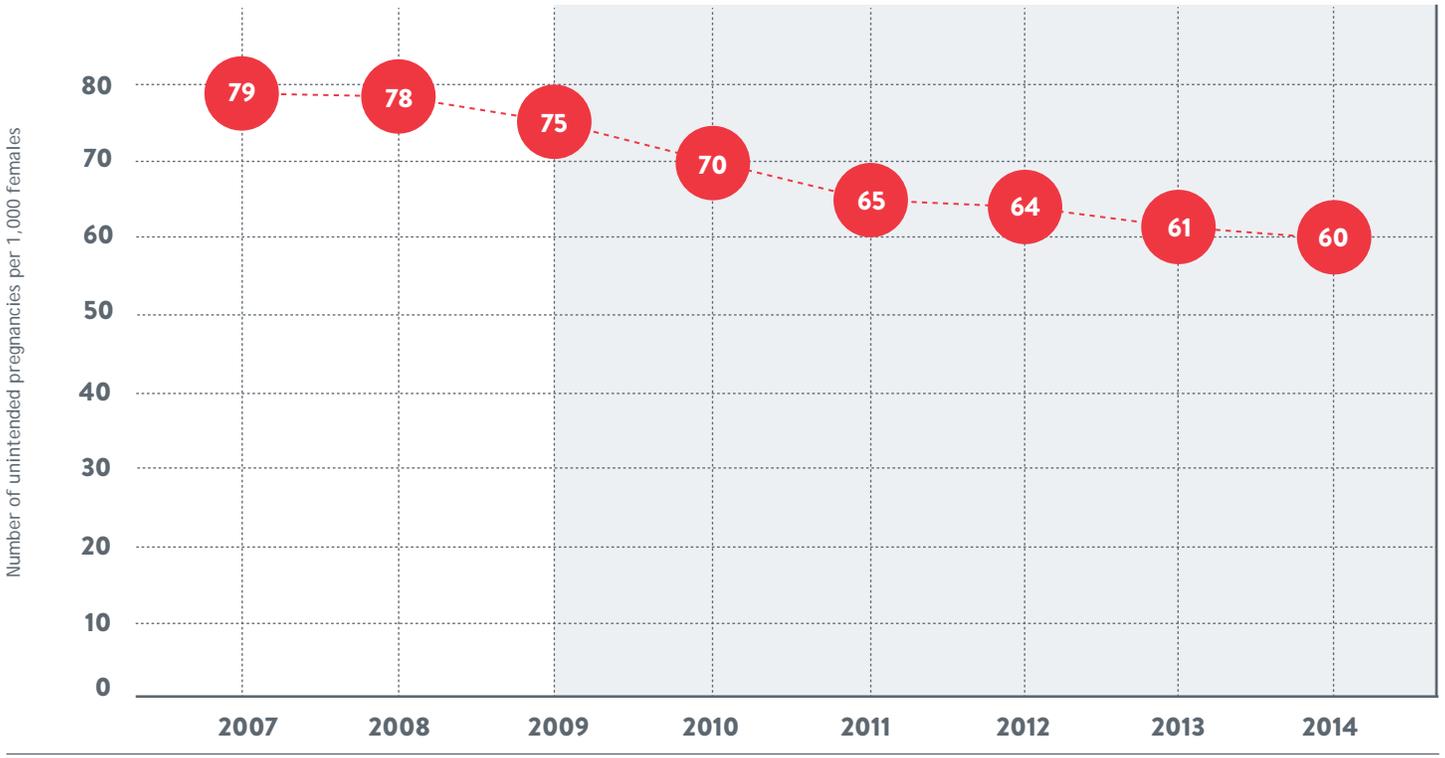
In 2009, one of every five women (19.8 percent) giving birth in Colorado did not have a high school education (Figure 13). By 2014, that number had dropped to one in eight (12.2 percent), a decline of 38 percent. This dramatic change indicates that many more teens were able to delay giving birth until after they had finished high school in 2014 compared to 2009, and older women with less than a high school education were better able to avoid unwanted pregnancy.

**FIGURE 11:**  
**UNINTENDED PREGNANCY RATES, AGES 15-19, COLORADO, 2007-2014**



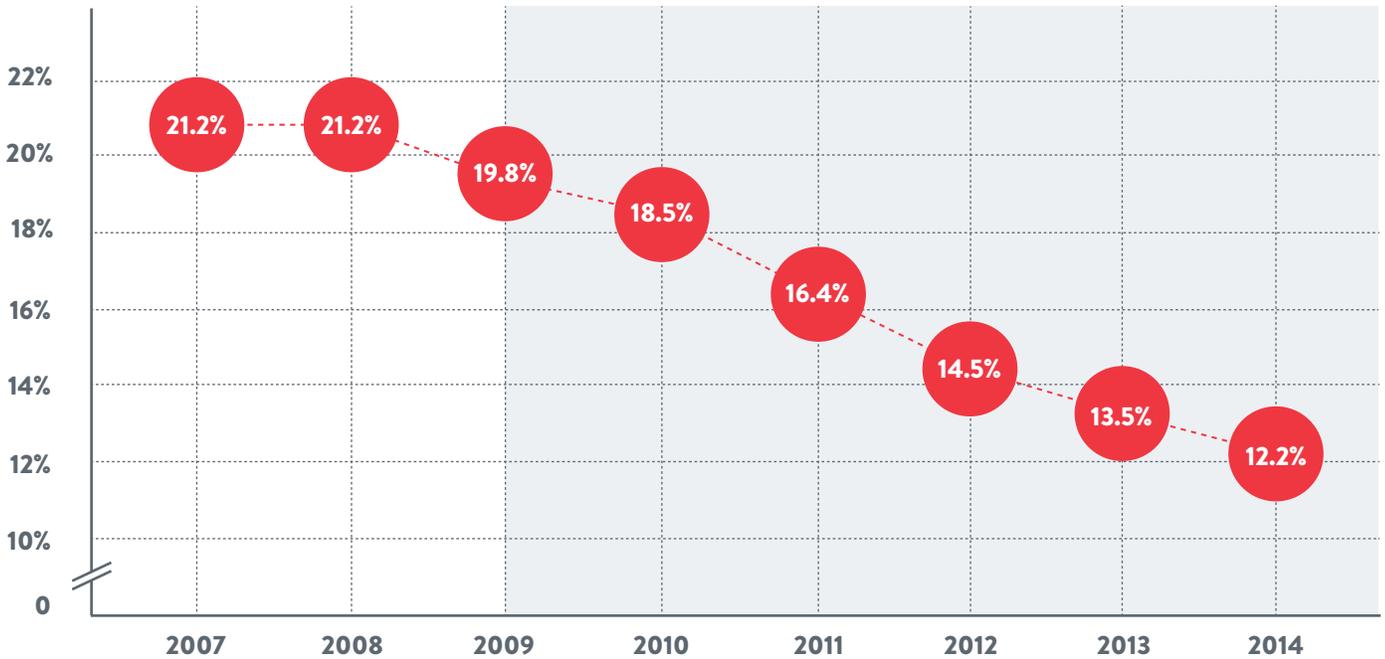
■ The Colorado Family Planning Initiative began in 2009.

**FIGURE 12:**  
**UNINTENDED PREGNANCY RATES, AGES 20–24, COLORADO, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009.

**FIGURE 13:**  
**PERCENT OF BIRTHS TO MOTHERS WITH LESS THAN A HIGH SCHOOL EDUCATION, COLORADO, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009.

## HIGH RISK BIRTHS

Births can be considered high-risk when the mother is younger than 25, unmarried and does not have at least 12 years of education.<sup>4</sup> Such children are at increased risk for poor infant health outcomes, and mothers are more likely to live in poverty and require greater access to government support services.<sup>5,6</sup>

Prior to the implementation of the initiative, 6.4 percent of Colorado's births were considered high-risk. During the Colorado Family Planning Initiative, that percentage fell by nearly half, to 3.4 (Figure 14) and the number dropped from 4,324 births in 2009 to 2,198 in 2014 (Figure 15). The clients served by the Colorado Family Planning Initiative were primarily young, low-income women, many of whom were unmarried and without a high school education.

“

**THE UNLIMITED SUPPLY OF LONG-ACTING METHODS THAT WE HAD CONTRIBUTED TO OUR SUCCESS.**

**YOU COULD COUNSEL SOMEBODY ABOUT THE HOST OF OPTIONS THAT WE HAD AND THEN TURN AROUND AND PUT AN IMPLANON IN HER ARM THAT AFTERNOON. THAT WAS A WONDERFUL FEELING FOR OUR PATIENTS AND PROVIDERS.**

**– LOCAL TITLE X CLINIC STAFF**

”

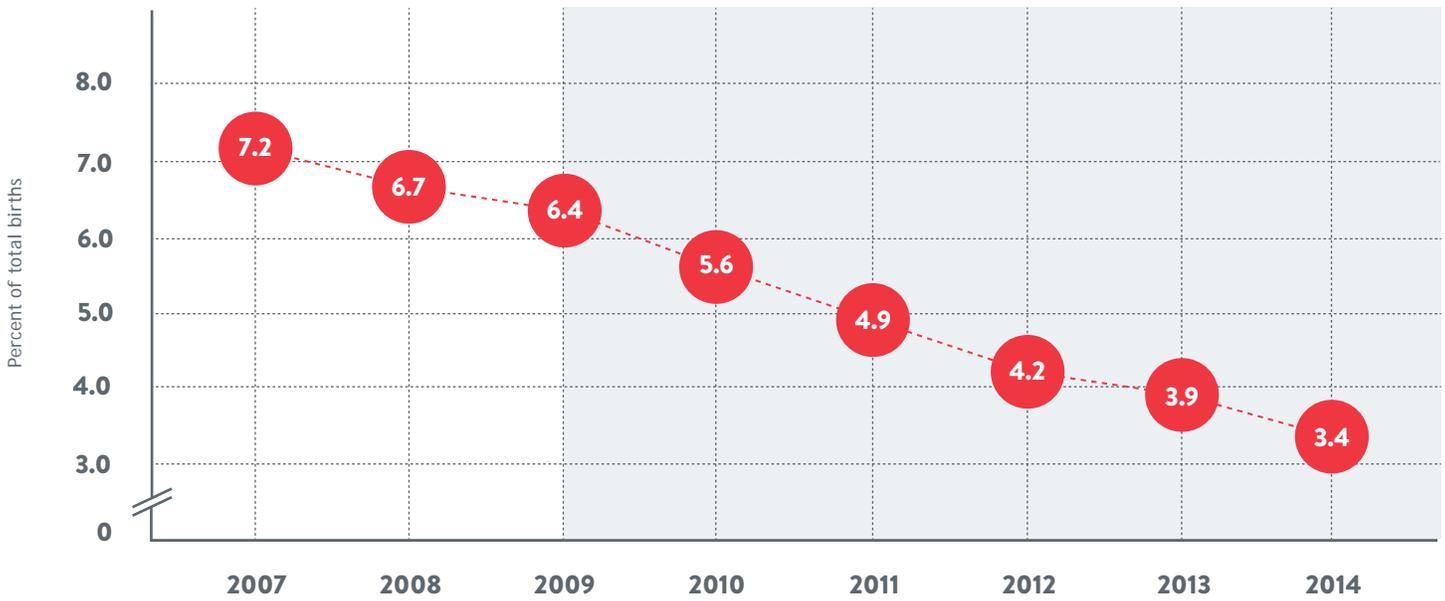
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4. Colorado Department of Public Health and Environment definition

5. Fraser AM, Brockert JE, and Ward RH, Association of young maternal age with adverse reproductive outcomes, *N Engl J Med*, 1995, 332:1113-1118.

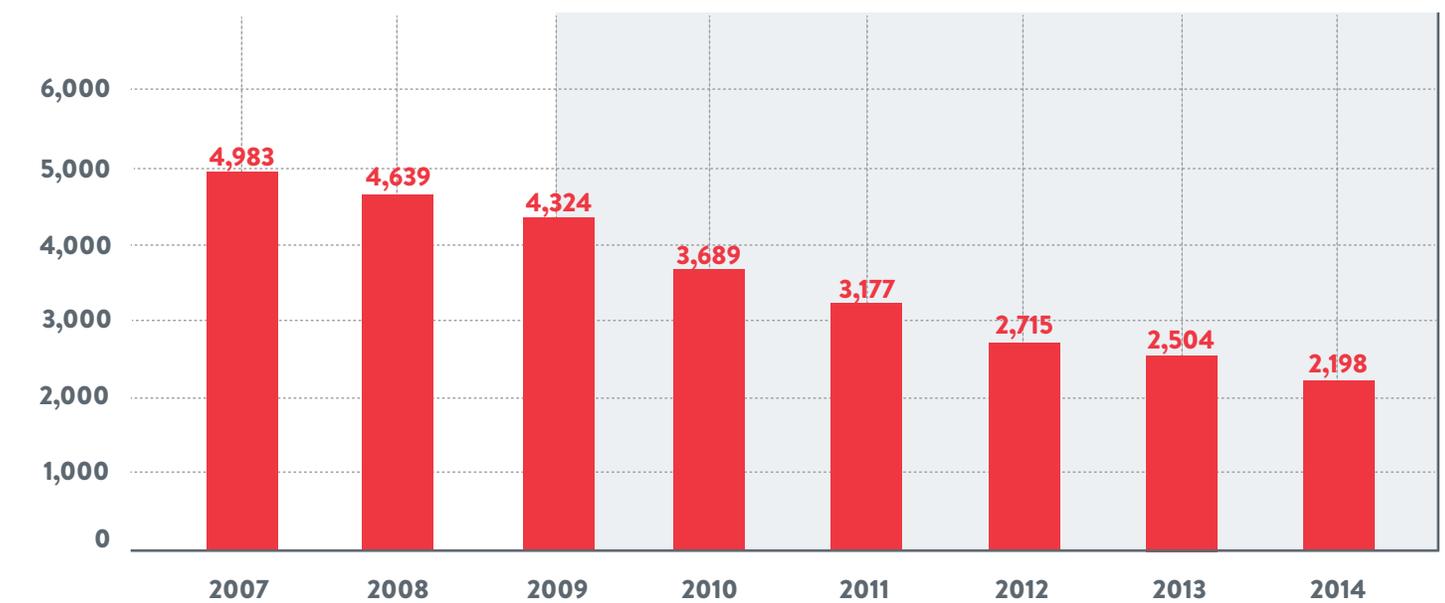
6. Cooper LG, Leland NL and Alexander G, Effect of maternal age on birth outcomes among young adolescents, *Social Biology*, 1995, 42(1-2):22-35.

**FIGURE 14:**  
**PERCENT OF HIGH-RISK BIRTHS\*, COLORADO, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009.

**FIGURE 15:**  
**NUMBER OF HIGH-RISK BIRTHS\*, COLORADO, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009.

\*High risk birth is defined as a mother who is younger than 25, unmarried and does not have at least 12 years of education.

## AVERAGE AGE AT FIRST BIRTH

Between 1990 and 2009, the average age at first birth increased from 24.9 to 25.9 years old, an increase of 1 year in age over a span of 19 years (Figure 16). Since 2009 and the rollout of the Colorado Family Planning Initiative, the average age at first birth increased 1.2 years in a span of just four years, with the average age of first birth reaching 27.1 years in 2014. The reduction in teen births and births among women ages 20-24 was the critical factor in shifting the average age at first birth to older ages. An older age at first birth is associated with healthier outcomes for both mother and child.<sup>5,6</sup>

**WE'RE THRILLED THAT THERE IS NOW AN IUD THAT IS \$50. THAT'S LESS EXPENSIVE THAN WHAT IT IS TO PURCHASE BIRTH CONTROL PILLS.**  
—LOCAL TITLE X CLINIC STAFF

### SNAPSHOT: IMPACT ON AGE OF FIRST BIRTH, 2009–2014

---

**BEFORE THE COLORADO PLANNING INITIATIVE BEGAN, THE AVERAGE AGE AT FIRST BIRTH WAS:**



**SINCE THE COLORADO PLANNING INITIATIVE BEGAN, THE AVERAGE AGE AT FIRST BIRTH IS NOW:**



**AND THE AVERAGE AGE AT FIRST BIRTH**

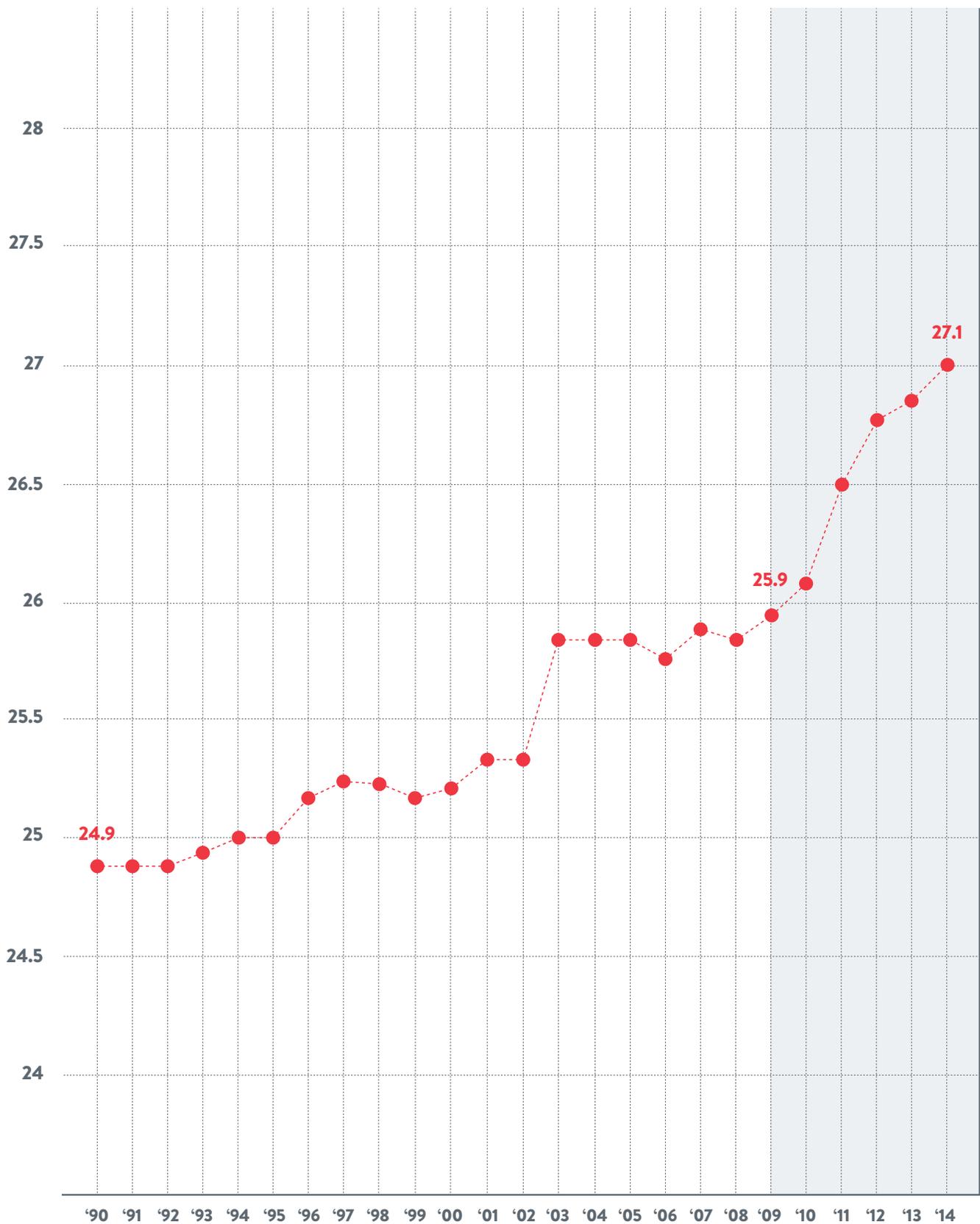


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5. Fraser AM, Brockert JE, and Ward RH, Association of young maternal age with adverse reproductive outcomes, *N Engl J Med*, 1995, 332:1113-1118.

6. Cooper LG, Leland NL and Alexander G, Effect of maternal age on birth outcomes among young adolescents, *Social Biology*, 1995, 42(1-2):22-35.

**FIGURE 16:**  
**AVERAGE AGE AT FIRST BIRTH, COLORADO, 1990-2014**



■ The Colorado Family Planning Initiative began in 2009.

## SECOND AND HIGHER ORDER BIRTHS

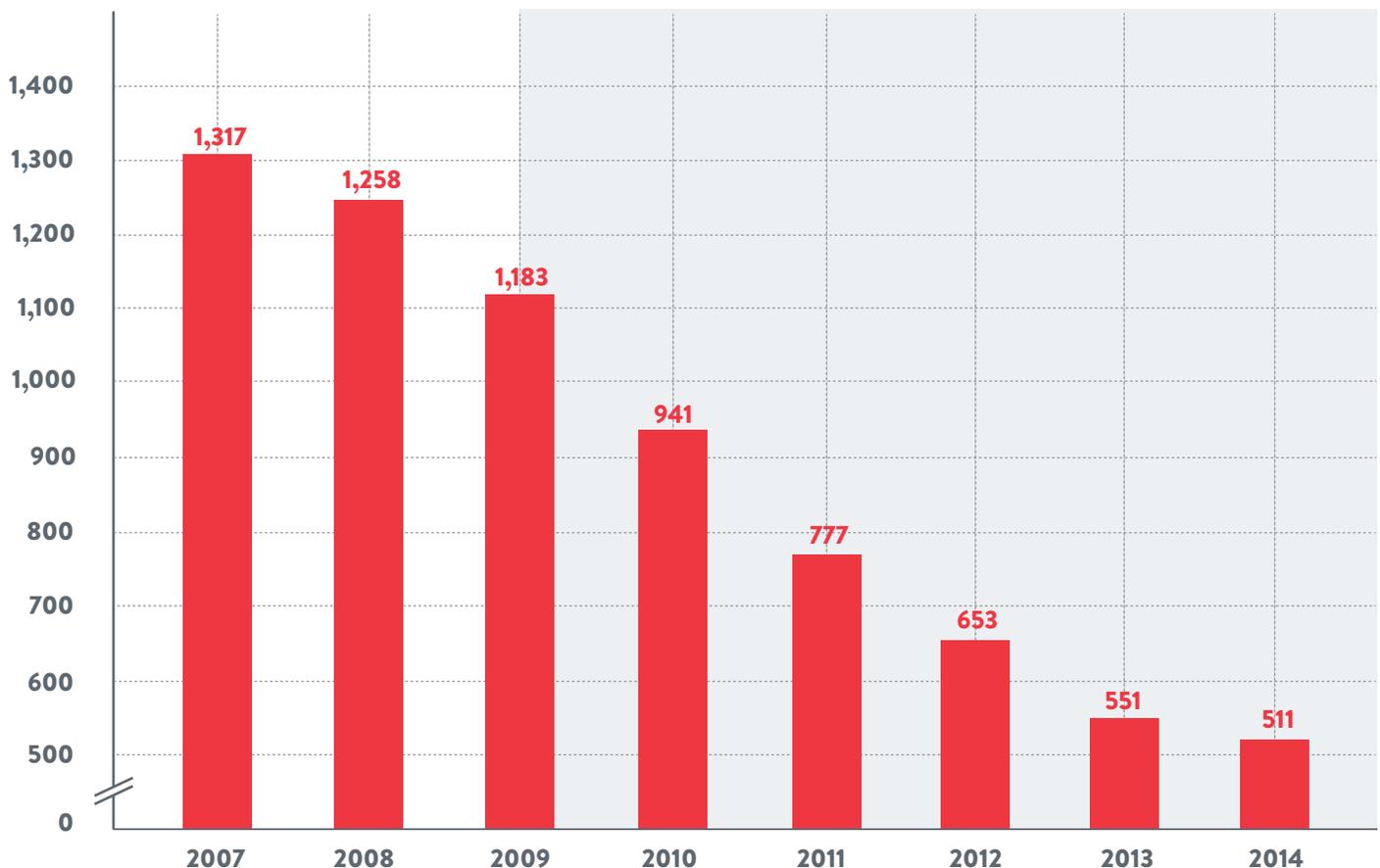
The number of second (or third, or fourth) teen births dropped by 57 percent between 2009 and 2014, from 1,183 to 511 (Figure 17). The proportion

of repeat teen births fell from one in five (19.1 percent) to just over one in seven (15.2 percent) during the same period. The number of repeat births dropped for 20-24 year olds by 19 percent between 2009 and 2014 (Figure 18).

**WHEN WE GO TO CONFERENCES, EVERYBODY KNOWS  
WHAT'S GOING ON IN COLORADO AND THEY WANT TO  
FIGURE OUT HOW THEY CAN DO THE SAME THING.**

—LOCAL TITLE X CLINIC STAFF

**FIGURE 17:**  
**NUMBER OF SECOND AND HIGHER ORDER BIRTHS, AGES 15-19, COLORADO, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009.

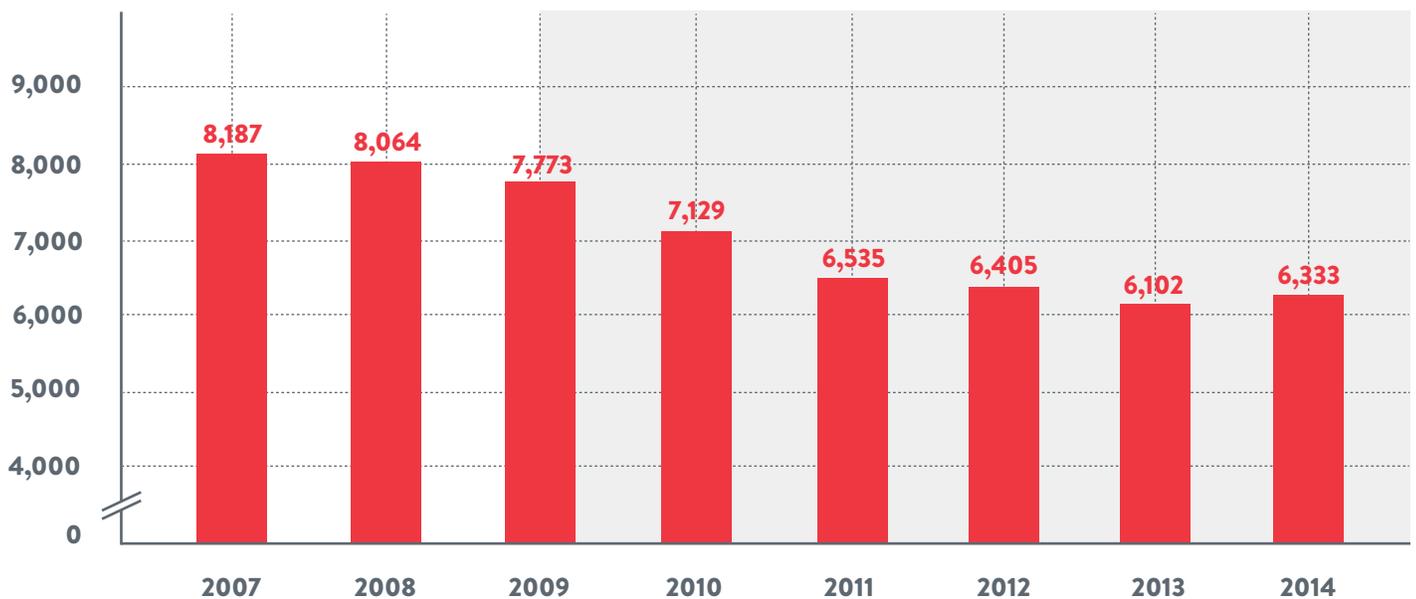
“

IT WAS GREAT WHEN I COULD  
SHARE EXAMPLES FROM  
CONSTITUENTS SHOWING WHAT  
A DIFFERENCE THIS MONEY MADE:  
HOW THE MONEY HAD CHANGED  
THE LIVES OF FAMILIES IN OUR  
COUNTY, ALLOWING YOUNG FAMILIES  
TO COMPLETE THEIR EDUCATION.  
IT REALLY MADE A DIFFERENCE .

– LOCAL TITLE X CLINIC STAFF

”

FIGURE 18:  
NUMBER OF SECOND AND HIGHER ORDER BIRTHS, AGES 20-24, COLORADO, 2007-2014



■ The Colorado Family Planning Initiative began in 2009.

## RAPID REPEAT BIRTHS

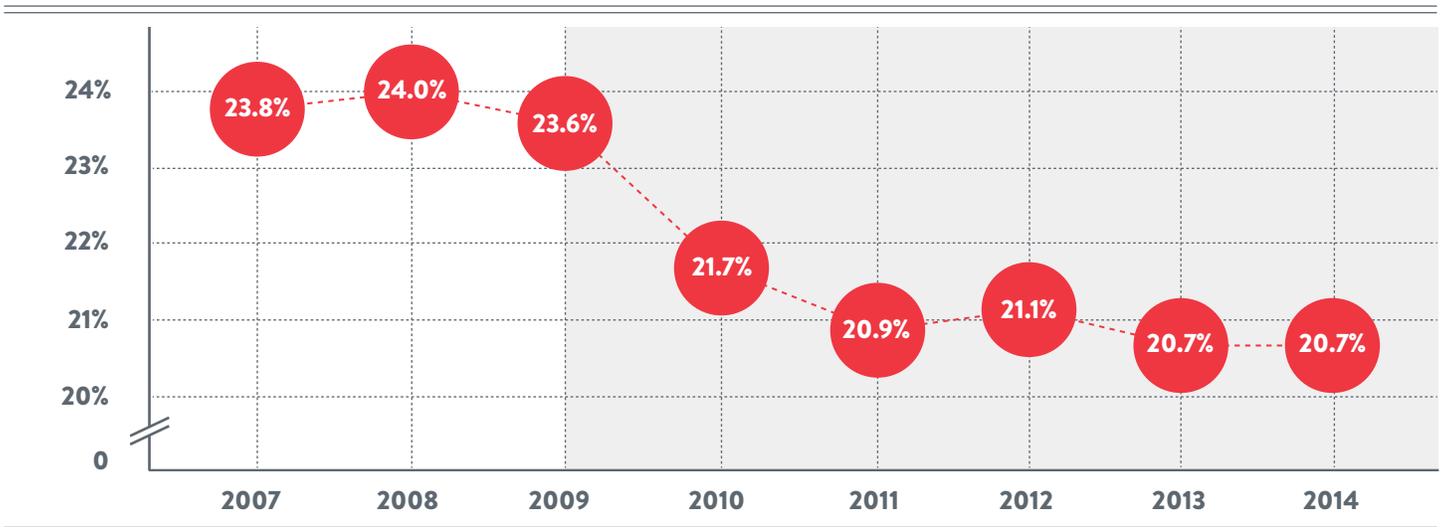
Births that occur less than 24 months after a previous delivery are considered rapid repeat births. These births are associated with poorer infant health outcomes like prematurity and low birth weight.<sup>7,8</sup> In 2009, nearly one-quarter (23.6 percent)

of all births to women who had already had a birth occurred this quickly (Figure 19). In 2010, the percentage dropped to 21.7 percent and in 2014, the percentage fell to 20.7, reducing the proportion to nearly one-fifth. While the change in the proportion does not seem large, the actual decline of 12 percent is significant.

**WE HAVEN'T HAD DOLLARS FOR YEARS. TO HELP A WOMAN WHO HAS HAD FIVE OR SIX CHILDREN WHO DOESN'T WANT ANY MORE PREGNANCIES — IT'S JUST PRETTY REWARDING. WE COULDN'T HAVE DONE THAT WITHOUT THIS PROJECT.**

**— LOCAL TITLE X CLINIC STAFF**

**FIGURE 19:**  
**PERCENT OF BIRTHS OCCURRING WITHIN 24 MONTHS OF PREVIOUS BIRTH, COLORADO, 2007-2014**



■ The Colorado Family Planning Initiative began in 2009.

7. Zhu BP, Rolfs RT, Nangle BE and Horan JM. Effect of the interval between pregnancies on perinatal outcomes, N Engl J Med, 1999, 340:589-594.

8. Klerman LV, Cliver SP and Goldenberg RL. The impact of short interpregnancy intervals on pregnancy outcomes in a low-income population, American Journal of Public Health, 1998, 88(8):1182-1185.

## **SUMMARY OF MATERNAL AND INFANT HEALTH MEASURES**

It is clear that a reduction in unintended pregnancy among teens and young women in recent years had a powerful, positive effect on a number of measures of maternal and infant health. With reduced unintended pregnancy rates came reduced abortion rates as well as reduced fertility rates. An increase

in maternal age at first birth was associated with a reduction in the proportion of births to mothers who did not finish high school. Repeat births decreased in number and did not occur as rapidly. By improving access to comprehensive reproductive health services, the Colorado Family Planning Initiative contributed to the improvements observed in maternal and infant health measures at the community and state levels.

“

**IT'S INCREDIBLY IMPORTANT FOR US TO BE ABLE TO PROVIDE YOUNG PEOPLE WITH THE EDUCATION AND THE TOOLS TO STAY SAFE.**

**IF WE CAN GIVE THEM THE THREE YEARS BETWEEN 15 AND 18, THE SUCCESS RATE OF THESE YOUNG PEOPLE WILL SURPASS ANYTHING THAT THEY COULD DO IF THEY WERE PREGNANT.**

**LET'S MAKE SURE THEY HAVE THE TIME TO GET AN EDUCATION OR FIND A JOB AND START TAKING CARE OF THEMSELVES BEFORE WE HAVE THE EXPECTATION THAT THEY CAN TAKE CARE OF SOMEBODY ELSE.**

**—LOCAL TITLE X CLINIC STAFF**

”

**DO YOU REALIZE HOW  
MUCH MONEY IS BEING  
SAVED IN WELFARE ALONE  
BY PREVENTING EARLY AND  
UNWANTED PREGNANCIES?**

**IT BOGGLES MY MIND.**

**—LOCAL TITLE X CLINIC STAFF**

## SECTION III:

# COSTS AVOIDED

After several years of Colorado Family Planning Initiative implementation, it was apparent that the initiative had the potential to reduce costs in Colorado's public programs that supported the same priority population served by Title X clinics: young, low-income women and their children.

Preliminary analysis of avoided costs due to a reduction in the number of births prompted further investigation to better understand other potential cost savings associated with the Colorado Family Planning Initiative. That work is described in this section.

## BIRTHS AVERTED AND COSTS AVOIDED AMONG YOUNG WOMEN

With significantly fewer births among women ages 15-24 (Table 3), in part due to the work of the Colorado Family Planning Initiative, analysts at CDPHE hypothesized that a subsequent reduction in expenditures could have occurred for public programs in Colorado serving young, low-income women and their children. In particular, savings in Medicaid program costs for delivery and infant health care would have been associated with declines in births for teens and young women. Such early indications of cost avoidance prompted further analysis. In the fall of 2015, CDPHE contracted with health economists at the University of Colorado to estimate potential cost savings in seven public programs – savings that could be attributable to the Colorado Family Planning Initiative.

### PREGNANCIES AVERTED

To calculate potential costs avoided due to the Colorado Family Planning Initiative, it was necessary to first estimate the number of births, miscarriages and abortions (pregnancy outcomes) averted due to the initiative. The number of pregnancies averted attributable to the Colorado Family Planning Initiative was difficult to estimate in the absence

of a randomized controlled experiment. However, two methods had been previously used to study the impact of similar initiatives using observational data: a decision-analytic (Markov) model and a propensity score weighted difference-in-difference regression model. Each method relied on different assumptions and together provided a range of estimates of births averted due to the Colorado Family Planning Initiative. The analysis was limited to ages 15 to 24, where changes were the largest, but Title X clinics served both younger and older women.

### DECISION-ANALYTIC (MARKOV) MODEL

The decision-analytic (Markov) model is a simulation method that mimics the decisions of a group of women choosing among different contraceptive methods and allows for the comparison of decisions made under two different scenarios, one being the Colorado Family Planning Initiative scenario and the other being the opposite, non-observable (counterfactual) scenario in which the Colorado Family Planning Initiative did not occur. Based on published contraceptive failure rates and the mix of contraceptives used in each scenario, the number of pregnancies and subsequent number of miscarriages, abortions and births was calculated for each scenario. In the first scenario, in which the Colorado Family Planning Initiative was implemented,

**TABLE 3:  
NUMBER OF BIRTHS AND CUMULATIVE CHANGE, AGES 15-19 AND 20-24, COLORADO, 2007-2014**

YEAR	NUMBER OF BIRTHS			CUMULATIVE CHANGE IN TOTAL NUMBER OF BIRTHS SINCE 2009
	AGES 15-19	AGES 20-24	AGES 15-24	AGES 15-24
2007	6,657	16,252	22,909	
2008	6,569	15,870	22,821	
2009	6,201	15,257	21,458	
2010	5,422	14,321	19,743	-1,715
2011	4,687	13,443	18,130	-3,328
2012	4,123	13,297	17,420	-4,038
2013	3,807	12,861	16,668	-4,790
2014	3,361	13,077	16,438	-5,020

outcomes were modeled using the mix of contraceptives obtained by clients of Title X clinics in Colorado after 2009, the year the Colorado Family Planning Initiative was implemented. In the counterfactual scenario, in which the Colorado Family Planning Initiative was not implemented, outcomes were modeled assuming that women would have selected the same contraceptive mix as in the two years prior to the Colorado Family Planning Initiative. The difference in the number of pregnancies and pregnancy outcomes between these two scenarios was the effect that could be attributed to the Colorado Family Planning Initiative.

The underlying assumption of the decision-analytic model is that in the absence of the Colorado Family Planning Initiative, Title X clients would not have experienced an increase in the use of LARC methods, which have markedly lower failure rates. Importantly, the decision-analytic model simulated pregnancy outcomes using the actual number of Title X clients in Colorado. Consequently, the number of pregnancy outcomes under the two scenarios was proportional to the number of women who benefited from the initiative. Appendix E contains a more detailed explanation of the decision-analytic (Markov) methodology.

According to the decision-analytic model, the Colorado Family Planning Initiative resulted in a 17.0 percent reduction in all outcomes (pregnancies, births, miscarriages and abortions) between 2009 and 2014 for women ages 15-19 and a 7.8 percent reduction for women ages 20-24. In terms of the number of outcomes, 3,743 pregnancies were averted, comprised of 2,583 births, 561 miscarriages, and 599 abortions. From 2009 to 2014, nearly half of the observed decline in fertility rate for teens and 39 percent of the observed decline in fertility rate for women 20-24 can be attributed to the Colorado Family Planning Initiative. For the combined age group, the 2,583 births averted accounted for 51.4 percent of the observed decline in the number (5,020) of total births (Table 3). In addition, for the combined age group 15-24, the Colorado Family Planning Initiative resulted in a 49.7 percent reduction in the number (1,206) of abortions (Table 2).

“

**THE COLORADO FAMILY PLANNING INITIATIVE IS SUSTAINABLE BECAUSE IT IS EFFICIENT, EFFECTIVE PUBLIC HEALTH POLICY.**

**IT SAVES MONEY SO THERE IS NO REASON WHY IT SHOULDN'T BE ON THE BUDGET FOR THE STATE.**

**– STATE HEALTH DEPARTMENT STAFF**

”

## PROPENSITY SCORE WEIGHTED DIFFERENCE-IN-DIFFERENCE REGRESSION

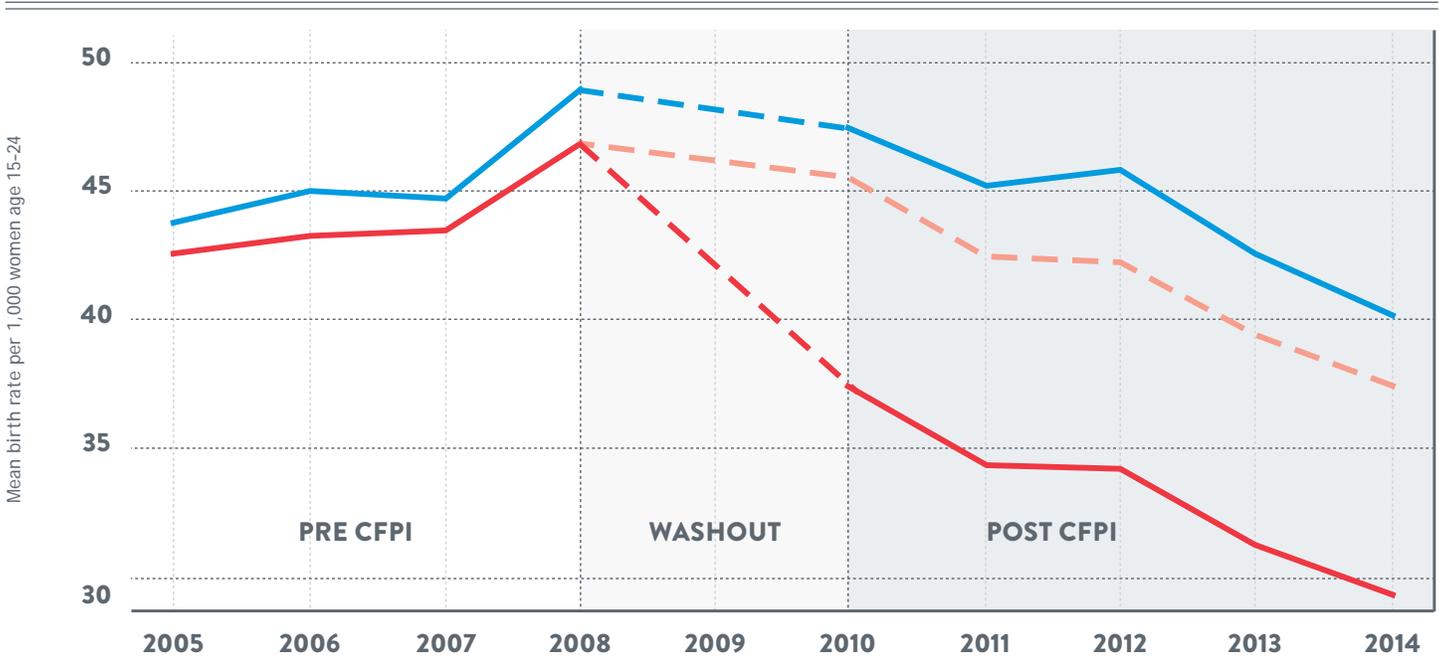
The difference-in-difference method for calculating the number of pregnancy outcomes averted by the Colorado Family Planning Initiative relied on a comparison group to control for contemporaneous trends in fertility rates not related to the initiative. This was important because the Colorado Family Planning Initiative launch in early 2009 coincided with a reduction in teen and young adult fertility rates in the U.S., a national increase in the use of LARC, and a major economic recession. Consequently, it was very likely that not all of the subsequent reduction in fertility rates could be attributed to the Colorado Family Planning Initiative. To account for changes in fertility rates not related to the Colorado Family Planning Initiative, rates in Colorado before and after implementation of the Colorado Family Planning Initiative were compared to rates before and after in a control group of counties

in other states. The control group counties were very similar to counties in Colorado, but did not have similar initiatives. Counties were included in the control group when they closely matched Colorado counties on:

- Total population.
- Percent of the population that was female ages 15-19 and ages 20-24.
- Percent of females in each age range (15-19 and 20-24) who were white, black, Hispanic or another race.
- Percent of civilian females in the labor force.
- Unemployment rate.

Because of data limitations, fertility rates for Colorado and the control counties could only be

**FIGURE 20:**  
**ADJUSTED TRENDS IN FERTILITY RATES, AGES 15-24, 2005-2014**



■ Colorado with the Colorado Family Planning Initiative (CFPI)

▨ Colorado without the Colorado Family Planning Initiative (CFPI)

■ Control

Pre Colorado Family Planning Initiative

Washout Period

Post Colorado Family Planning Initiative

calculated at the population level by mother’s age at the time of giving birth. Therefore, the number of births averted obtained from the difference-in-difference model combined the effects of the Colorado Family Planning Initiative and any other circumstances impacting fertility rates that took place in Colorado at the same time. To isolate the effect of the Colorado Family Planning Initiative, estimates of the number of births averted obtained from the difference-in-difference model were adjusted for the percentage of the population most likely to receive care at Title X clinics.

According to the model, the Colorado fertility rate in the post Colorado Family Planning Initiative period was substantially lower than it would have been if the program had not been carried out (Figure 20). The average annual difference in fertility rate was 8.2 births per 1,000 women ages 15-24. The total number of births averted between 2010 and 2014 was estimated to be 3,324 (Table 4), contributing 66.2 percent of the overall observed decline of 5,020 births (Table 3).

A more detailed explanation of the propensity score weighted difference-in-difference methodology can be found in Appendix E.

**SUMMARY OF THE TWO METHODS**

Each method described above utilized different assumptions and data, and together, produced a range of estimates of pregnancy outcomes averted due to the effect of the Colorado Family Planning Initiative (Table 4).

**TABLE 4:  
NUMBER OF PREGNANCIES, MISCARRIAGES, ABORTIONS AND BIRTHS AVERTED DUE TO THE COLORADO FAMILY PLANNING INITIATIVE BY PREGNANCY OUTCOME AND ESTIMATION METHOD, AGES 15-24, 2010-2014**

ESTIMATION METHOD	PREGNANCIES AVERTED	MISCARRIAGES AVERTED	ABORTIONS AVERTED	BIRTHS AVERTED
Decision-analytic (Markov) model	3,743	561	599	2,583
Difference-in-difference	*	*	*	3,324

\*Unavailable due to dataset limitations.



**OUR TREND LINE FOR AN UPTAKE OF LARC WAS GRADUALLY GOING UP, UP, UP AND THEN IT HIT A POINT WHERE IT JUST SKYROCKETED. I THINK THAT WAS WHEN THAT CRITICAL MASS OF PEOPLE STARTED TALKING ABOUT IT.**

**– LOCAL TITLE X CLINIC STAFF**



## COSTS AVOIDED

After calculating the number of pregnancy outcomes averted due to the Colorado Family Planning Initiative, potential costs avoided were estimated for seven public programs, four entitlement<sup>9</sup>, and three non-entitlement. The entitlement programs were Medicaid, Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), and Special Supplemental Nutrition Program for Women and Children (WIC). The three non-entitlement programs were the Colorado Child Care Assistance Program, the Colorado Preschool Program and the Colorado Housing Choice Voucher Program. These public programs were considered to be among those most likely to be accessed by low-income women who were pregnant or had small children. While other programs serve women in this situation, these were among the largest statewide support programs available for this high-need group, although data were not available for home visiting programs.

A total of \$66,063,664 to \$69,625,751 in entitlement program costs for Colorado women ages 15 to 24 and their infants were avoided from 2010 to 2014 due to the Colorado Family Planning Initiative (Table 5). These totals combine federal and state costs. Estimates of program costs avoided were based on the number of pregnancies averted and the following factors for each program:

- Percent of pregnancy outcomes (e.g., births, miscarriages) eligible to receive program benefits.
- Probability that an eligible pregnancy outcome (primarily births) would have received benefits.
- Average length of time benefits would have been used.
- Average cost per participant.

For entitlement programs such as Medicaid, estimates may be interpreted as actual cost savings because of the Colorado Family Planning Initiative. For other programs, such as the Colorado Preschool Program, estimates should be interpreted as

potential costs avoided rather than realized savings. These programs are not entitlement programs and have waiting lists; only an elimination of waitlists would lower overall program expenses. For these programs, the potential costs avoided total \$2,433,167 to \$3,342,538 (Table 6).

“

**WE WERE ABLE TO HELP  
WOMEN WHO WOULD  
OTHERWISE HAVE NEVER  
BEEN HELPED.**

**—LOCAL TITLE X CLINIC STAFF**

”

Cost estimates were also calculated by state and federal shares. Total state costs avoided for the four entitlement programs were between \$26.2 and \$26.9 million and total state costs potentially avoided for the three non-entitlement programs were between \$1.4 and \$2.1 million. Federal costs avoided equaled \$39.9 to \$42.8 million for the entitlement programs and \$1.0 to \$1.3 million potentially avoided for the other programs.

The following tables present brief descriptions of each of the seven public programs included in the cost savings analysis. Detailed descriptions of the programs and the methods used to calculate costs avoided for each program are included in Appendix F.

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9. Entitlement programs guarantee services or benefits by law to all who qualify. Non-entitlement programs do not guarantee services or benefits; because of budget constraints, such programs are often unable to serve all who qualify.

**TABLE 5:  
ENTITLEMENT PROGRAM COSTS AVOIDED FOR WOMEN AGES 15-24 AND THEIR INFANTS DUE TO THE COLORADO FAMILY PLANNING INITIATIVE BY ESTIMATION METHOD, 2010-2014**

ENTITLEMENT PROGRAMS	TOTAL AVOIDED COSTS, 2010-2014*	
	Decision-Analytic (Markov) Model	Difference-in-Difference Model
Medicaid	\$52,312,090	\$53,742,813
Temporary Assistance to Needy Families (TANF/Colorado WORKS)	\$5,808,101	\$7,010,153
Colorado Food Assistance Program/Supplemental Nutrition Assistance Program (SNAP)	\$5,202,626	\$5,520,205
Colorado Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	\$2,740,847	\$3,352,580
<b>ACTUAL COST SAVINGS</b>	<b>\$66,063,664</b>	<b>\$69,625,751</b>

\*Amounts are expressed in 2014 dollars.

**THIS REALLY CHANGED OUR ENTIRE ATTITUDE  
ABOUT WHO WE ARE AND THE EXPERTS THAT  
WE ARE IN THIS AREA.  
—LOCAL TITLE X CLINIC STAFF**

**TABLE 6:  
NON-ENTITLEMENT PROGRAM POTENTIAL COSTS AVOIDED FOR WOMEN AGES 15-24 AND THEIR INFANTS DUE TO THE COLORADO FAMILY PLANNING INITIATIVE BY ESTIMATION METHOD, 2010-2014**

NON-ENTITLEMENT PROGRAMS	TOTAL POTENTIAL AVOIDED COSTS, 2010-2014*	
	Decision-Analytic (Markov) Model	Difference-in-Difference Model
Colorado Childcare Assistance Program (CCCAP)	\$1,682,623	\$2,134,652
Colorado Preschool Program (CPP)**	\$679,588	\$1,122,244
Colorado Housing Choice Voucher Program (Section 8)	\$70,956	\$85,642
<b>POTENTIAL COST SAVINGS</b>	<b>\$2,433,167</b>	<b>\$3,342,538</b>

\*Amounts are expressed in 2014 dollars.

\*\*CPP primarily serves children ages 3-4 years, so it was assumed that children born in 2010 would not have received services until 2013; cost savings reflect the 2013-2014 time period.

## MEDICAID

### PROGRAM DESCRIPTION:

The Medicaid program is a federal-state partnership that provides health coverage to vulnerable Americans including low-income pregnant women, children, the elderly and people with disabilities. Coverage includes a wide range of outpatient and inpatient medical services, including dental, mental health and maternity care.

### ELIGIBILITY:

Any child age 18 or younger and pregnant women over age 19 with a household income under 260 percent of the federal poverty line. Parents, caregivers, or childless adults may also be eligible if their household income is less than 133 percent of the federal poverty line. Immigrants without legal U.S. residency are eligible for medical emergencies, which include labor and delivery.

Probability that eligible participants would have received benefits	Except for women without legal U.S. status, who would not be eligible for prenatal care, the assumption is that all deliveries would be covered.
Average amount of time participants received benefits	See Appendix E
Average annual cost per participant	See Appendix E
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$52,312,090 to \$53,742,813
<i>State share</i>	\$26,156,045 to \$26,871,407
<i>Federal share</i>	\$26,156,045 to \$26,871,407

\*Amounts are expressed in 2014 dollars.

## TEMPORARY ASSISTANCE TO NEEDY FAMILIES (TANF/COLORADO WORKS)

### PROGRAM DESCRIPTION:

The federal Temporary Assistance to Needy Families (TANF) program provides cash assistance and work support to low-income families with dependent children. The cash assistance is intended to pay for basic needs such as rent, utilities, food and clothing, among other expenses. The federal government funds TANF through block grants to states, which design and implement local TANF features, including benefit levels, eligibility criteria and time limits. Colorado Works is the state's TANF program.

**ELIGIBILITY:** Women who are pregnant or have a child (or are a child's caretaker); lawfully present in the U.S.; and low-income.

Probability that eligible participants would have received benefits	19.6%
Average amount of time participants received benefits	3 years
Average annual cost per participant	\$4,368
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$5,808,001 to \$7,010,153
<i>State share</i>	Not applicable
<i>Federal share</i>	\$5,808,001 to \$7,010,153

\*Amounts are expressed in 2014 dollars.

**SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)/COLORADO FOOD ASSISTANCE PROGRAM**

**PROGRAM DESCRIPTION:**

The federal Supplemental Nutrition Assistance Program (SNAP) provides nutrition benefits to low-income households including access to food, nutrition education and education on food preparation. In Colorado, the SNAP program is called the Colorado Food Assistance Program. Funded by the federal government, it is managed by the Colorado Department of Human Services and is implemented at the county level by local human service agencies.

**ELIGIBILITY:**

Low-income; proof of citizenship; proof of residency, and work, employment or educational enrollment requirements.

Probability that eligible participants would have received benefits	75%
Average amount of time participants received benefits	2 years
Average annual cost per participant	\$1,621
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$5,202,626 to \$5,520,205
<i>State share</i>	Not applicable
<i>Federal share</i>	\$5,808,001 to \$7,010,153

\*Amounts are expressed in 2014 dollars.

**SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS AND CHILDREN (WIC)**

**PROGRAM DESCRIPTION:**

With the goal of keeping pregnant and breastfeeding women and children under age 5 healthy, the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides food, breastfeeding support, nutrition education and health care referrals to qualified families. CDPHE manages Colorado’s WIC program, administering funds to local agencies to provide services.

**ELIGIBILITY:**

Colorado residents; pregnant; breastfeeding, or legal guardian to a child under 5 years old; low-income.

Probability that eligible participants would have received benefits	61.7% for women and infants; 41.4% for children
Average amount of time participants received benefits	1 year for women and infants; 2 years for children (ages 1-4)
Average annual cost per participant	\$143-\$657
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$2,740,847 to \$3,352,580
<i>State share</i>	Not applicable
<i>Federal share</i>	\$2,740,847 to \$3,352,580

\*Amounts are expressed in 2014 dollars.

## COLORADO CHILD CARE ASSISTANCE PROGRAM (CCCAP)

### PROGRAM DESCRIPTION:

The Colorado Child Care Assistance Program (CCCAP) provides child care assistance to low-income families that are working, searching for employment, or currently receiving training. CCCAP is overseen by the Colorado Department of Human Services, but is administered through county departments of social or human services. CCCAP is funded through a combination of federal, state and local funds.

### ELIGIBILITY:

Low-income; legal U.S. residents or citizens; working or looking for work or enrolled in education or training programs; have a child younger than 13 years old (or younger than 19 years old if the child has special needs).

Probability that eligible participants would have received benefits	8%
Average amount of time participants received benefits	2 years
Average annual cost per participant	\$4,442
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$1,682,623 to \$2,134,652
<i>State share</i>	\$740,354 to \$939,247
<i>Federal share</i>	\$942,269 to \$1,195,405

\*Amounts are expressed in 2014 dollars.

## COLORADO PRESCHOOL PROGRAM (CPP)

### PROGRAM DESCRIPTION:

The Colorado Preschool Program (CPP), administered by the Colorado Department of Education and funded by the state, provides eligible children the opportunity to attend half-day or full-day preschool or full-day kindergarten.

### ELIGIBILITY:

Complex process that depends on many socioeconomic risk factors. Three most common risk factors are low income, in need of language development, poor social skills.

Probability that eligible participants would have received benefits	14.3%
Average amount of time participants received benefits	3 years
Average annual cost per participant	\$3,603
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$679,588 to \$1,122,244
<i>State share</i>	\$679,588 to \$1,122,244
<i>Federal share</i>	Not applicable

\*Amounts are expressed in 2014 dollars.

CPP primarily serves children ages 3-4 years, so it was assumed that children born in 2010 would not have received services until 2013; cost savings reflect the 2013-2014 time period.

## HOUSING CHOICE VOUCHER PROGRAM (HCVP)

### PROGRAM DESCRIPTION:

The Housing Choice Voucher Program (HCVP; formerly known as Section 8) provides access to safe, sanitary and affordable housing for low-income families, elderly and disabled individuals. HCVP is a federally-funded program administered by the Colorado Department of Housing, which contracts with local county housing authorities and nonprofit organizations to implement the program.

### ELIGIBILITY:

18 years of age or older; a U.S. citizen or eligible immigrant; low-income.

Probability that eligible participants would have received benefits	0.16%
Average amount of time participants received benefits	3 years
Average annual cost per participant	\$6,489
Actual cost savings due to CFPI, Ages 15-24, 2010-2014*	\$70,956 to \$85,642
<i>State share</i>	\$6,031 to \$7,280
<i>Federal share</i>	\$70,956 to \$85,642

\*Amounts are expressed in 2014 dollars.

## SUMMARY OF THE IMPACT OF THE COLORADO FAMILY PLANNING INITIATIVE

The Colorado Family Planning Initiative has afforded thousands of women the opportunity to control their fertility in recent years by improving access to the most effective contraceptive methods. At the state level, this increase in the use of LARC methods has contributed to significant improvements in maternal and infant health measures and a substantial reduction in costs for seven public programs in Colorado. With total federal and state costs avoided estimated at between \$66.1 and \$69.6 million for women ages 15 to 24, the \$27.3 million provided by the private donor for women of all ages proved to be an effective investment in the health of women and children in Colorado.

“

**WE ARE THRILLED BY THE RESULTS OF THE COST AVOIDANCE ANALYSIS.**

**FINALLY, WE WERE ABLE TO DEMONSTRATE THE FINANCIAL IMPACT OF OUR WORK.**

**—STATE HEALTH DEPARTMENT STAFF**

”

**WE KNEW WE WOULD HELP INDIVIDUAL  
WOMEN POSTPONE PREGNANCY BY  
MAKING LARC EASILY AVAILABLE, BUT  
WE NEVER EXPECTED TO SEE THE  
TEEN BIRTH RATE CUT IN HALF.**

**— STATE HEALTH DEPARTMENT STAFF**

## SECTION IV:

# ADVOCACY

The success of the Colorado Family Planning Initiative brought local and national attention to the effectiveness of providing LARC to clients in Title X clinics and implementing system changes that made the continued provision of LARC sustainable. Beginning in 2014, data describing the health, economic and societal impacts of the Colorado Family Planning Initiative were disseminated by CDPHE and became widely available. The resulting attention became a springboard for further advocacy nationwide.

## RESEARCH

“Game Change in Colorado: Widespread Use of LARC Methods and Rapid Decline in Births among Young Low-Income Women,” authored by Sue Ricketts, Greta Klingler and Renee Schwalberg, became available online in July 2014 in the Guttmacher Institute’s journal *Perspectives on Sexual and Reproductive Health* (Appendix G). This study assessed the effectiveness of the Colorado Family Planning Initiative on fertility rates, abortion rates, high-risk births and WIC infant caseload at the program and population levels for the first two years of the Colorado Family Planning Initiative. During this time, Title X clinic caseloads and LARC use among clients had increased, while fertility rates had dropped beyond what was expected. Additionally, in counties served by the Colorado Family Planning Initiative, abortion rates and the proportion of high-risk births fell significantly.

To assist with the dissemination of the journal article and publicize the success of the Colorado Family Planning Initiative, Colorado Governor John Hickenlooper and CDPHE Executive Director Dr. Larry Wolk co-hosted a press conference at the Colorado Capitol Building on July 3, 2014. The press attention was overwhelmingly positive and the Colorado Family Planning Initiative received widespread news coverage (Appendix H). The Family Planning Program was inundated with inquiries and staff conducted many interviews. As a result, some of the most widely read and respected national publications featured CDPHE’s work, including the following:

- Denver Post: Colorado Claims Contraceptive Program Caused Big Drop in Teen Birth Rates, <http://www.denverpost.com/2014/07/03/colorado-claims-contraceptive-program-caused-big-drop-in-teen-birth-rates/>.
- Washington Post: How Colorado’s Teen Birthrate Dropped 40% in Four Years, <http://www.washingtonpost.com/news/morning-mix/wp/2014/08/12/how-colorados-teen-birthrate-dropped-40-in-four-years/>.
- New York Times: Colorado’s Effort Against Teenage Pregnancies is a Startling Success, [http://www.nytimes.com/2015/07/06/science/colorados-push-against-teenage-pregnancies-is-a-startling-success.html?\\_r=0](http://www.nytimes.com/2015/07/06/science/colorados-push-against-teenage-pregnancies-is-a-startling-success.html?_r=0).

## EXPERTISE

As a result of published works and subsequent media coverage that brought attention to the effectiveness of the Colorado Family Planning Initiative, the Family Planning Program at CDPHE and local Title X clinics gained status as LARC experts and continue to guide national dialogue on the subject. The national platform provides opportunities to not only share expertise, but also to advocate for changes to programs and policies based on the success of the Colorado Family Planning Initiative. This opportunity for advocacy has been an important and unexpected outcome of the project. The following comprise a few highlights:

- Colorado Family Planning Program staff have trained, advised and coached more than 30 state, local, nonprofit and health system family planning efforts in replicating the Colorado Family Planning Initiative success.
- Title X clinic staff have become national clinical trainers on LARC device insertion and counseling techniques.
- The Brookings Institute featured Colorado in its “Improving Children’s Life Prospects by Reducing Unplanned Pregnancies” conference for a dozen other states, community organizations and governmental agencies.
- The Association of State and Territorial Health Officials invited CDPHE to participate in a six-state learning group partnership that focuses on LARC policy and services.
- The U.S. Centers for Disease Control and Prevention asked the Colorado Family Planning Program to participate with health care purchasers, payers and providers in its 6|18 Initiative to improve health outcomes and control health care costs by offering proven interventions for six common and costly health conditions, including unintended pregnancy.
- CDPHE selected unintended pregnancy as one of 10 “Winnable Battles” for public health in Colorado ([www.colorado.gov/pacific/cdphe/colorados10winnablebattles](http://www.colorado.gov/pacific/cdphe/colorados10winnablebattles)).

## SUSTAINABLE FUNDING

Capitalizing on the positive momentum of the Colorado Family Planning Initiative results, research and media coverage, CDPHE worked with family planning advocates and legislators in January 2015 to introduce Colorado House Bill (HB) 15-1194, “Authorize General Fund Dollars for LARC Services” (Appendix I). This was the first time that CDPHE supported family planning legislation, cultivating new legislative champions and raising awareness through extensive media coverage. CDPHE leadership and family planning experts testified on behalf of the bill and local Title X agencies and clients told their success stories to legislators.

The funding bill did not pass in 2015, but the investment in public awareness paid off. 13 Colorado foundations provided \$2.1 million in bridge funding, supplemented by \$500,000 from the original private donor, to continue the Colorado Family Planning Initiative through June 2016. This one-time funding opportunity allowed local Title X clinics to maintain their ability to provide access to LARCs and continue this successful statewide initiative.

Not to be deterred by the failed legislative request in 2015, the state health department introduced another legislative initiative the following year. In April 2016, the Colorado Legislature voted to increase the Family Planning Program’s funding by \$2.5 million, starting with the state’s 2016-17 budget. This funding will support all existing and new family planning services in Title X clinics, including the provision of LARC devices. While CDPHE is confident that Title X clinics will continue to increase private and public insurance enrollment and reimbursements, the additional annual support provided in the state’s budget will sustain the positive impacts of the Colorado Family Planning Initiative.

“

**FOR THOSE INVOLVED IN THIS INITIATIVE, IT WAS ALMOST UNIFORMLY NOT JUST A JOB — IT WAS A PASSION. IT LIT A FIRE IN PEOPLE. WE HAD THIS INCREDIBLE OPPORTUNITY AT THIS MOMENT IN TIME. IT WAS SUCH AN IMPORTANT CAUSE, PERSONALLY AND PROFESSIONALLY. PEOPLE JUST RAN WITH IT.**

**— STATE HEALTH DEPARTMENT STAFF**

”

**IT WAS ABSOLUTELY TRANSFORMATIONAL  
FOR OUR ORGANIZATION.  
— LOCAL TITLE X CLINIC STAFF**

## SECTION V:

# THE FUTURE

Looking to the future, the Family Planning Program aims to build on its past successes to ensure the sustainability of the Colorado Family Planning Initiative. Maintaining high rates of LARC use in both Title X clinics and in other health care settings in Colorado will continue to decrease the unintended pregnancy rate, improve maternal and infant health and avoid costs associated with public programs serving women and their infants in Colorado.

## ACCESS TO LARCS

With Colorado Family Planning Initiative funding, providers within and beyond the Title X network were trained in the provision of LARC methods and promoted their use, contributing to widespread acceptance of LARC methods among Colorado women. Integrating family planning services and access to LARC into Title X and other health care practices continues to sustain the positive health outcomes reached under the Colorado Family Planning Initiative. Current clinical guidelines support the use of LARCs for most women, and private and public insurance plans now offer coverage for contraception as a result of the Affordable Care Act (Appendix J). Additionally, the new, low-cost Liletta IUD contributes to easier access to one particular IUD. The cost benefits of this new offering are substantial when it comes to providing meaningful access to LARC into the future.

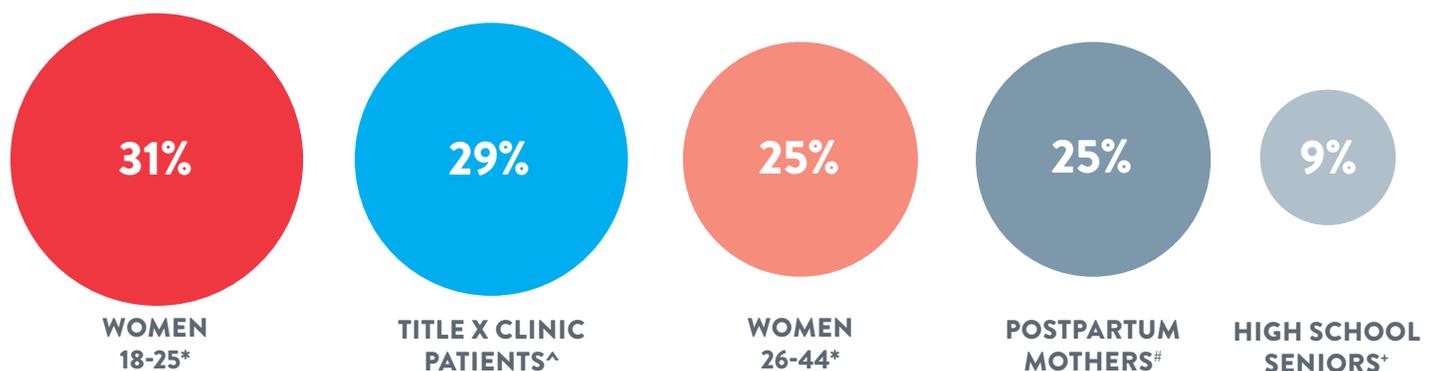
In the 2013 Healthy Kids Colorado Survey, 9 percent of female high school seniors using a contraceptive method reported using a LARC method (Figure 21). Among postpartum women in Colorado using contraception, 25 percent reported using a LARC method. The same proportion was reported among all women ages 26-44. Among women ages 18-25, that proportion increased to 31 percent. LARC use among women in Title X clinics reached 29 percent in 2014 and 33 percent in 2015. With these data, the Family Planning Program will monitor LARC use at the population level and continue to track use in Title X clinics.

With widespread acceptance, decreased costs and increased coverage for the most effective contraceptives, Colorado expects LARC use to continue to increase and unintended pregnancy rates to continue to decrease.

## THE WHOLE INTENTION WAS TO PROVIDE LARC AND TO HELP YOUNG WOMEN. AT THE END OF THE DAY CFPI WAS MASSIVELY SUCCESSFUL.

– LOCAL TITLE X CLINIC STAFF

**FIGURE 21:**  
**PERCENT OF LARC USERS AMONG COLORADO WOMEN USING CONTRACEPTION, 2013 AND 2014**



\* Behavioral Risk Factor Surveillance System, 2013

^ Title X Family Planning clinic data, 2014

# Pregnancy Risk Assessment Monitoring System, 2013

+ Healthy Kids Colorado Survey, 2013, female students

## CONCLUSIONS

The Colorado Family Planning Initiative achieved its goals. Because of the initiative, more women in Colorado were able to obtain highly effective long-acting reversible contraceptive methods, in essence taking the unintended out of pregnancy. Significant improvements occurred in key maternal and infant health measures in the state. Title X clinics implemented new business practices that improved billing and provided sustainable reimbursement for services. The potential costs avoided by public programs due to the efforts of the Colorado Family Planning Initiative far outweighed the initial investment.

The impact of the Colorado Family Planning Initiative extends beyond Colorado's borders. With the support of Colorado's governor and state health department executive directors, Family Planning staff continues to influence and contribute to the national dialogue on LARCs. Title X clinical providers are considered LARC experts and routinely provide trainings and share lessons learned with other Colorado communities.

In 2016, the Colorado legislature recognized the positive impact of the initiative and increased funding to the Colorado Department of Public Health and Environment's Family Planning Program, ensuring that access to comprehensive reproductive health services will continue. Moving forward, the elements of the Colorado Family Planning Initiative will be incorporated into the Family Planning Program, and the provision of long-acting reversible contraceptives will become a standard service offered to all Title X clients seeking care.

The Colorado Family Planning Initiative enabled thousands of women to effectively control their futures. As one LARC recipient said, "Having access to low cost LARC methods allowed me to make my own choices about my reproductive health. Money was no longer an obstacle for me to protect myself and put myself in control of my body and my life." And by allowing women to control their futures, the initiative greatly benefited not only these women, but the entire state of Colorado. We are proud of this work and the impact we have had on so many women and on the state as a whole.

“

**BECAUSE OF COLORADO LARC FUNDING, OUR EFFORTS TO ADDRESS UNINTENDED PREGNANCY HAVE BEEN SUCCESSFUL.**

**THE LARC PROGRAM IS ONE OF THE FEW PUBLIC HEALTH EFFORTS TO HAVE MEASURABLE COMMUNITY IMPACTS IN A SHORT AMOUNT OF TIME.**

**I APPRECIATE THAT COLORADO FOUNDATIONS RALLIED TO HELP US CONTINUE THIS PROGRAM.**

**– LOCAL PUBLIC HEALTH DIRECTOR**

”

## APPENDIX A: COLORADO FAMILY PLANNING INITIATIVE STAFF INTERVIEWED

The Family Planning Program at the Colorado Department of Public Health and Environment would like to thank the following people who were interviewed about their experiences with the Colorado Family Planning Initiative. Their expertise and insight contributed greatly to this report.

Debbie Channel,  
Clinic Manager,  
Spanish Peaks Outreach and Women's Clinic,  
Spanish Peaks Regional Health Center

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Former Director of Family Planning Program,  
Colorado Department of Public Health and  
Environment

Candace Grosz, LCSW, MSW,  
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Prevention Services Division, Colorado  
Department of Public Health and Environment

Bonnie Horn Koehler,  
Delta County Health Officer,  
Delta County Health Department

Molly Lee, FNP-C,  
Chief Nursing Officer and Clinician,  
Summit Community Care Clinic

Susan B. Levy, RN, JD,  
Executive Director/CEO,  
Boulder Valley Women's Health Center

Ellen Marshall,  
Co-Coordinator,  
Colorado Initiative to Reduce Unintended  
Pregnancy

Mary Martin, LCSW,  
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Colorado Department of Human Services

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Denver Health Medical Center

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Director, Family Planning Program,  
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Delta County Health Department

Stephanie Teal, MD, MPH,  
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Medical Consultant for Family Planning,  
Colorado Department of Public Health and  
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Denver Health Community Health Services

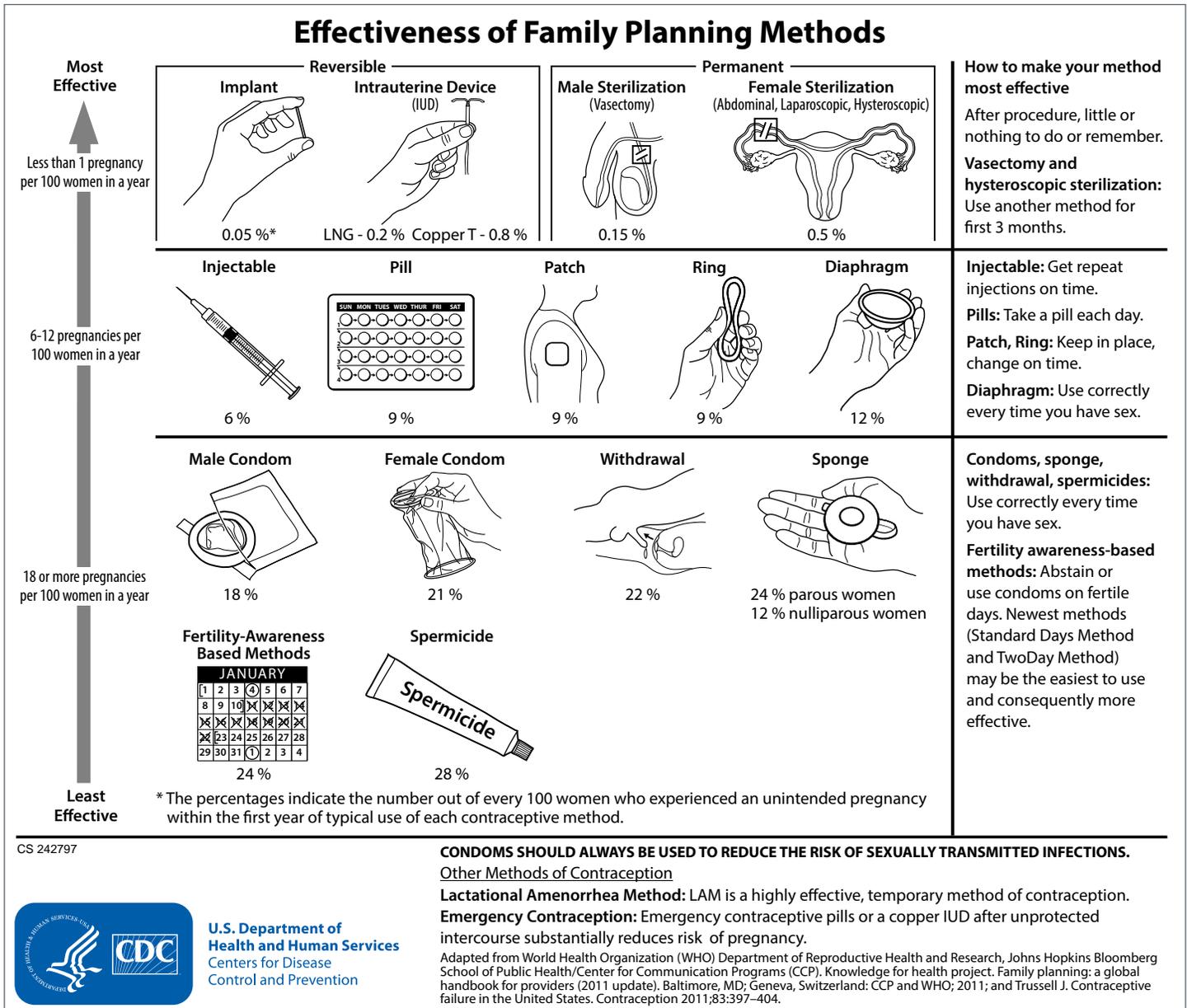
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Prevention Services Division,  
Colorado Department of Public Health and  
Environment

Warrenetta H. Underwood, RN, BSN,  
Assistant Director of Community Health Services  
and Program Coordinator for the Title X Family  
Planning Program,  
Larimer County Department of Health and  
Environment

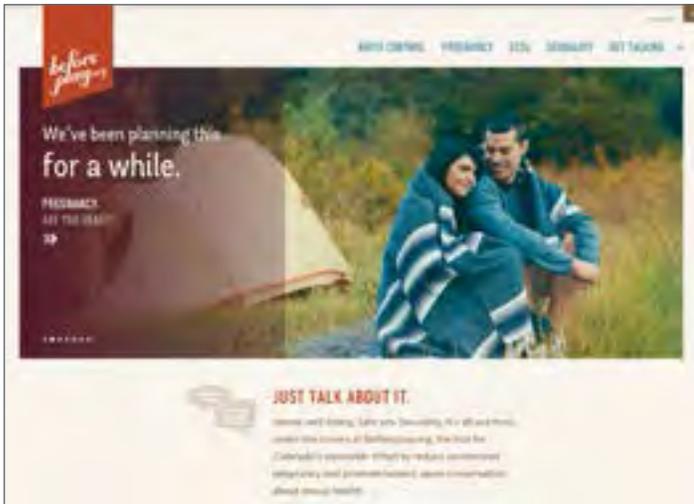
Jennie Wahrer, RN, BSN,  
Manager, Maternal and Child Health,  
Eagle County Public Health and Environment

## APPENDIX B: EFFECTIVENESS OF FAMILY PLANNING METHODS

Available at: [http://www.cdc.gov/reproductivehealth/unintendedpregnancy/pdf/contraceptive\\_methods\\_508.pdf](http://www.cdc.gov/reproductivehealth/unintendedpregnancy/pdf/contraceptive_methods_508.pdf)



## APPENDIX C: BEFOREPLAY MEDIA CAMPAIGN



The Colorado Department of Public Health and Environment supported [Beforeplay.org](https://beforeplay.org), a public outreach campaign to help normalize the conversation around sexual health and well-being by helping Colorado “Just Talk About It.”

Since its launch in February 2012, more than 75 percent of [Beforeplay.org](https://beforeplay.org) visitors access the site through non paid channels (search engine optimization, direct traffic, social media, referral from other websites and email) with STD search terms representing 10 percent of organic site traffic. The site is optimized to support mobile traffic which represents 62 percent of site visits.

The [Beforeplay.org](https://beforeplay.org) Facebook presence engages an active community of about 31,000 followers from Colorado and beyond. Beforeplay.org’s also has a presence on [Tumblr](https://www.tumblr.com/), [Pinterest](https://www.pinterest.com/), [Twitter](https://twitter.com/beforeplay), [Instagram](https://www.instagram.com/beforeplay) and [Google+](https://www.google.com/) with content optimized for each channel. These communications platforms help normalize the conversation around sexual health and well-being.

Outreach team members visited health fairs, bars, concerts, festivals and other public events across the state. More than 185 people have donated their time with the [Beforeplay.org](https://beforeplay.org) outreach team and [Beforeplay.org](https://beforeplay.org) has had a presence at hundreds of events. [Beforeplay.org](https://beforeplay.org) has also provided materials, given presentations and helped student groups with safer sex outreach at 30 of Colorado’s colleges, community colleges and universities.

Branded [Beforeplay.org](https://beforeplay.org) materials are a significant touch point for developing a relationship between Coloradans and the campaign. To date about 600,000 items have been put in the hands of our target audience at events including concerts, parades, sports, art walks, community college and university campuses and bars.

All of Colorado’s publicly funded family planning agencies conducted outreach with [Beforeplay.org](https://beforeplay.org) materials (the majority co-branded with their health center). Additional partnerships included co-branded advertising in Mesa County, co-promotion of “Sex Ed with Mel” videos from Jefferson County and campus health centers.

[Beforeplay.org](https://beforeplay.org) online advertising was aimed at our target demographic to direct users to our multiple web resources. Ads on buses, benches and shelters were placed to encourage users to explore the mobile site in their down time. Posters in bar restrooms, print ads in sports magazines and Pandora radio spots got people thinking about sexual health conversations in unlikely places. Catchy billboards, TV and cinema ads helped normalize the conversation and got people talking. Multiple ad mediums were focused on “hard to reach” rural areas that frequently don’t have this kind of messaging.

The [Beforeplay.org](https://beforeplay.org) campaign created major buzz in the news in Colorado and throughout the United States. More than 20 broadcast segments have aired on local news stations covering the campaign throughout the state and more than 75 articles have been written in publications including, USA Today, Denver Post, Jezebel.com, Westword, Men’s Health Network, The Daily Camera, 5280 Magazine, Nerve.com and many more outlets.

The [Beforeplay.org](https://beforeplay.org) campaign is also available in Spanish. Since February 2013, the web traffic to the Spanish site has steadily increased by an average of 7 percent month over month, with 11 percent of all site traffic viewing the Spanish site. Billboards and bus benches with messaging in Spanish were placed in neighborhoods with higher use of the language. Outreach materials were created specifically with a look and feel connecting to the Latino community. Bilingual outreach team members engaged with people at events where Spanish was the primary spoken language.

## APPENDIX D: COLORADO WOMEN WITHOUT COVERAGE FOR FAMILY PLANNING, 2015 ESTIMATES

This table provides estimates of the number of women in Colorado without coverage for family planning services in 2015. Out of a female population of just over 1.1 million, 686,500 (59 percent) are in need of family planning. Among this group, 113,300 (17 percent) are covered by Medicaid, 522,600 (76 percent) are covered by private insurance (non-Medicaid) and 50,000 (7 percent) are uninsured. In addition to those who are uninsured, an estimated 33,100 women need family planning

services because they do not utilize their Medicaid or private insurance. A total of 83,100 women are without coverage for family planning.

Out of the 83,100 women without coverage, 7,000 are teens, 25,300 are below 139 percent of the federal poverty level (FPL), 12,500 are between 139 percent and 250 percent of the federal poverty level, and 38,300 are above 250 percent of the federal poverty level.

### COLORADO WOMEN WITHOUT COVERAGE FOR FAMILY PLANNING, 2015 ESTIMATES

	TOTAL FEMALE POPULATION <sup>a</sup>	% IN NEED OF FAMILY PLANNING <sup>b</sup>	ESTIMATED # IN NEED OF FAMILY PLANNING	# COVERED BY MEDICAID <sup>c</sup>	# COVERED BY NON-MEDICAID <sup>d</sup> INSURANCE	# UNINSURED <sup>e</sup>	ESTIMATED # COVERED BUT NOT USING INSURANCE <sup>d</sup>	TOTAL UNINSURED AND COVERED BUT NOT USING INSURANCE
<b>AGES 13-19</b>	248,100	29%	71,900	18,600	49,300	3,500	3,500	7,000
<b>AGES 20-24</b>								
<b>BELOW 139%FPL</b>	218,800	65%	143,100	52,100	72,100	18,800	6,500	25,300
<b>139-250% FPL</b>	187,100	61%	114,500	19,800	87,800	6,900	5,600	12,500
<b>ABOVE 250% FPL</b>	506,100	71%	357,000	22,800	313,400	20,800	17,500	38,300
<b>ALL TEENS AND WOMEN 20-44, ALL POVERTY LEVELS</b>	1,160,100	59%	686,500	113,300	522,600	50,000	33,100	83,100

Prepared by Health Statistics and Evaluation Branch, Colorado Department of Public Health and Environment, September 16, 2015

FPL: Federal Poverty Level

<sup>a</sup>Population and poverty estimates were provided by the Colorado State Demography Office.

<sup>b</sup>Estimates of percentages in need of family planning are from the Guttmacher Institute, 2012. These are sexually active women who are able to bear children (fecund), who are not pregnant and who do not desire a pregnancy.

<sup>c</sup>Estimates of Medicaid, Non-Medicaid and Uninsured coverage are based on the Colorado Health Access Survey carried out by the Colorado Health Institute in the spring of 2015.

<sup>d</sup>An estimated 5.2% of women covered by insurance fall in this category. The percentage is based on a provider survey done in June 2015 by the Colorado Department of Public Health and Environment. The primary reason for not using insurance is concern for breach of confidentiality.

Note: Estimates are rounded.

## APPENDIX E: COST AVOIDANCE METHODOLOGIES

Two cost avoidance methodologies are provided in this appendix. The decision-analytic (Markov) methodology appears first, followed by the difference-in-difference methodology.

### DECISION ANALYTIC/MARKOV MODEL

We developed a recursive decision analytic model, also known as a Markov model, to compare the probability of pregnancy and pregnancy outcomes (miscarriage, abortion and birth) under two scenarios (1-5). In the Colorado Family Planning Initiative (CFPI) scenario, we modeled outcomes using the actual mix of contraceptives obtained by clients of Title X clinics in Colorado after 2009, the year the initiative was implemented. In the opposite, non-observable or counterfactual scenario, we modeled outcomes assuming that women would have used the same contraceptive mix as in the two years prior to the initiative. The difference in outcomes between these two scenarios is the effect that can be attributed to CFPI.

Our decision tree, adopted from Burlone et al. (3), assumed that each year a woman decides if she will use a contraceptive method (or not). If she decides to use a contraceptive method, she may choose between short- or long-acting methods. Possible outcomes at the end of the cycle are no-pregnancy and pregnancy, which may result in miscarriage, abortion, or delivery. All analyses are stratified by age group, 15-19 and 20-24.

### MODEL INPUTS

The inputs needed for modeling outcomes are 1) contraceptive failure rates, 2) the probabilities of pregnancy outcomes (miscarriage, abortion, or delivery), and 3) the mix of contraceptives used under the two scenarios. We obtained typical-use failure rates and pregnancy outcomes from a literature review (6). Typical use failure rates vary slightly by age, with women 20-24 experiencing lower failure rates than women 15-19. According to Guttmacher Institute data for Colorado, the likelihood of a pregnancy ending in birth in each age group is 69

percent, a miscarriage 15 percent, and a pregnancy termination (abortion) 16 percent (7).

We obtained the actual mix of contraceptives used by Title X clinic clients in 2007-2014 from the iCare dataset. The initiative resulted in a large increase in the use of LARC methods with a corresponding decrease in other contraceptive methods, particularly hormonal pills.

### POPULATION

To translate the effect of the initiative into the number of births averted and other outcomes that are proportional to the number of women who received services in Colorado Title X clinics, we applied the model results to the number of unique Title X clients by year obtained from the iCare dataset.<sup>1</sup>

### RESULTS

According to the Markov model, the Colorado Family Planning Initiative resulted in a 17.0 percent reduction in all outcomes (pregnancies, births, miscarriages and abortions) between 2009 and 2014 for women aged 15-19 and a 7.8 percent reduction for those aged 20-24.

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1. iCare dataset, Family Planning Program, Colorado Department of Public Health and Environment

5. Trussell J, Koenig J, Stewart F, Darroch JE. Medical care cost savings from adolescent contraceptive use. *Fam Plann Perspect*. 1997;29(6):248-55, 95.

6. Hatcher RA, Trussell J, Nelson AL. *Contraceptive technology*: Ardent Media; 2007.

7. Guttmacher Institute, *State Facts About Abortion: Colorado*. Retrieved April 11, 2016, from [https://www.guttmacher.org/sites/default/files/factsheet/colorado\\_1.pdf](https://www.guttmacher.org/sites/default/files/factsheet/colorado_1.pdf).

## DIFFERENCE-IN-DIFFERENCE METHODOLOGY

We controlled for contemporaneous trends in birth rates using a control group of counties that matched the demographic characteristics of Colorado. To identify the control group, we first excluded counties in Iowa and Missouri from the control group because these states were exposed to programs that were similar to CFPI during the same time period. We used propensity score methods to estimate analytic weights that gave more importance to counties that were similar to those counties in Colorado that participated in the CFPI.

## DATA

The primary outcome of the difference-in-difference analysis is the birth rate per 1,000 women ages 15-24. We obtained birth rates for all U.S. counties from the Centers for Disease Control and Prevention (CDC). We supplemented the CDC data with information on county demographics, educational attainment, income, and unemployment rates from the Area Resource File (ARF) which is distributed by the Health Resources and Services Administration. The sample period included four years of pre-CFPI implementation data (2005-2008), and five years of post-CFPI data when the initiative was fully implemented (2010-2014). We excluded counties that were different from CFPI counties based on propensity score weights.

## METHODOLOGY

To estimate the propensity scores, we estimated the probability a county is in Colorado before the CFPI was launched controlling for county demographic and

economic characteristics. We started with a parsimonious specification and added interaction terms and quadratic terms of continuous variables until we settled on the specification that yielded the smallest standardized differences and had sufficient overlap between CFPI and control counties. The inverse probability weights of each county were constructed using the 2008 values. The propensity score weighted difference-in-difference specification passed tests of parallel pre-period trends for each specification of fixed effects. Our preferred specification includes county fixed effects and robust standard errors clustered by county.

## RESULTS

Overall the means of the demographic variables used to define the control group are very similar. However, residents in Colorado have higher average education levels and incomes than residents in the comparison counties. The standardized differences of the variables used in the propensity score specification were within the range that defines acceptable balance on the majority of variables.

We used the parameter estimates from the difference-in-difference specification to compute the number of total births averted. The difference-in-difference estimates reflect all births, regardless of whether the woman was a client at a Title X clinic. There is likely to be spillover from the CFPI program due to the educational component available regardless of income and a general increase in awareness of the availability and effectiveness of LARCs. We hypothesize that this is higher in Colorado due to the availability of LARC methods through the other agencies funded under the umbrella of the Colorado Initiative to Reduce Unintended Pregnancy, as well as to a general climate of increasing acceptance of LARCs for all women and informal peer networks of users who promoted the methods. Consequently, we calculated the number of births to mothers who are more likely to benefit from the Colorado Family Planning Initiative using an estimate of the number of women who are either uninsured or eligible for public insurance using Title X utilization data and the percent of women at or below 100 percent of the Federal Poverty Level.<sup>2</sup>

Our estimated number of births averted due to CFPI from 2010 to 2014 is 3,324 for the age group 15-24.

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2. Data obtained from Title X Family Planning Annual Report: 2013 National Summary. Office of Population Affairs. <https://www.hhs.gov/opa/sites/default/files/fpar-2013-national-summary.pdf>

## APPENDIX F: COST AVOIDANCE PROGRAM SUMMARIES

Summaries of seven support programs are shown below in alphabetical order:

1. Colorado Child Care Assistance Program (CCCAP)
2. Colorado Housing Choice Voucher Program (Section 8) (CHCVP)
3. Colorado Medicaid Program (Medicaid)
4. Colorado Preschool Program (CPP)
5. Colorado Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
6. Colorado Supplemental Nutrition Assistance Program (SNAP)
7. Temporary Assistance to Needy Families (TANF/Colorado Works)

### COLORADO CHILD CARE ASSISTANCE PROGRAM (CCCAP)

#### PROGRAM DESCRIPTION

The Colorado Child Care Assistance Program (CCCAP) provides child care assistance to families that are working, searching for employment, or currently receiving training, including families that receive assistance from Colorado Works, Colorado's Temporary Assistance for Needy Families (TANF) program (1). For many low-income families, high-quality child care may be cost prohibitive. State-subsidized child care assistance reduces the financial burden of child care, which in turn may allow qualifying parents to attain self-sufficiency and help children develop social and academic skills.

Research has linked high-quality child care to improvements in academic, language and cognitive developments in children (2). One study found that children enrolled in subsidized child care prior to preschool were more likely to continue on to high-quality subsidized preschool programs that were focused on improving school-readiness (such as Head Start or public preschool). Even though families that received early child care subsidies continued to use subsidies for preschool, these preschool programs tended to be of higher quality than those of families that did not receive subsidized child care prior to preschool (3).

CCCAP is overseen by the Division of Early Care and Learning, part of the Colorado Department of Human Services (CDHS), but it is administered through county departments of social/human services. CCCAP is funded through a combination of federal, state and local funds (3). In fiscal year 2014-2015, 56 percent, 31 percent, and 13 percent of funds came from federal, state, and local governments, respectively.<sup>3</sup>

#### POTENTIAL SAVINGS

To estimate the potential impact of the Colorado Family Planning Initiative (CFPI) on CCCAP, it was necessary to determine the proportion of births averted that would have been eligible to receive benefits. The probability that a birth averted would have obtained CCCAP benefits depends on many factors. Eligibility criteria is set by counties but counties are required to serve families that have incomes of 165 percent or less of the federal poverty level (FPL) and may not serve families that have incomes greater than 85 percent of the state median income (1). The income level is determined at the time of application ("entry level" income) but the income level is subject to redetermination of eligibility ("exit level" income). Each county sets exit eligibility levels, although they must be higher than the entry income eligibility level and cannot exceed the maximum ceiling. In addition, eligible participants must be legal US residents or citizens, working or looking for work, or enrolled in education

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3. Data provided by the Colorado Department of Human Services.

or training programs, and must have a child under 13 years old (or younger than 19 years old if the child has special needs). We assumed that the most important factor in determining eligibility was entry-level income. Entry-level income ranges from at or below 165% FPL (e.g. El Paso County) to 225% FPL (e.g. Denver County) (4). To calculate the average entry FPL guideline in Colorado, we merged entry-level family income guidelines data from the Colorado Office of Early Childhood with US Census data of population totals by county in 2010 (4, 5). Using both data sources, the population-weighted average entry level family income guideline in the state is approximately at or below 182% FPL.

According to the State Demography Office of the Colorado Department of Local Affairs, the forecasted total number of children 4 years of age or younger in 2014 was 335,397. Of these, approximately 123,426 (36.8 percent) were at or below 185% FPL. In the year 2014, CCCAP, on average, served 9,811 children 4 years of age or younger. Therefore, we estimated that the probability that a low-income child in Colorado obtained child care services through CCCAP was approximately 7.95 percent

(9,811/123,426). We were unable to obtain information on the number of years a child receives program benefits. Consequently, we assumed that children receive child care services for only two years.

Table 1 shows data from 2012 to 2014 on the number of distinct children 4 years old or younger served by CCCAP and total statewide expenditures on the program. Over this three-year period, on average, expenditures for each child were \$4,443 per year. Expenditures for a child enrolled in CCCAP depended on the provider reimbursement rate by county and the amount of child care used. Since costs increased by approximately 4.6 percent per year from 2012-2014, we assumed the same rate of growth to estimate costs per child from 2009 to 2011.

Table 2 shows two estimates of costs averted from 2010 to 2014 using our estimates of births averted and the costs shown in Table 1. All amounts are expressed in 2014 dollars. The calculation of costs averted takes into account the likelihood of receiving services. The Markov model results in lower total costs averted than the propensity score weighted difference-in-difference model.

**TABLE 1:  
COLORADO CHILD CARE ASSISTANCE PROGRAM (CCCAP) EXPENDITURES FOR CHILDREN  
AGED 0-4 BY YEAR, 2012-2014**

YEAR	EXPENDITURES	NUMBER OF CHILDREN	COST PER CHILD
2012	\$40,963,103	9,672	\$4,235
2013	\$42,776,806	9,604	\$4,453
2014	\$45,495,078	9,811	\$4,637

Source: Data provided by the Colorado Department of Human Services (CDHS)

**TABLE 2:  
ESTIMATED COLORADO CHILD CARE ASSISTANCE PROGRAM (CCCAP) POTENTIAL COSTS AVERTED  
BY MODEL, 2010 TO 2014**

	2010	2011	2012	2013	2014	TOTAL	FEDERAL	STATE
<b>MARKOV</b>	\$255,444	\$472,075	\$351,309	\$307,676	\$296,120	\$1,682,623	\$942,269	\$740,354
<b>DIFFERENCE-IN-DIFFERENCE</b>	\$126,416	\$315,057	\$570,103	\$643,104	\$479,971	\$2,134,652	\$1,195,405	\$939,247

Source: Author's calculation. Estimates are based on decision-analytic (Markov) model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.

## LIMITATIONS

Because there are more families interested in CCCAP than there are slots available, our estimates should not be interpreted as actual costs saved by the program. Instead, they should be interpreted as potential costs avoided due to CFPI. Only a large reduction in eligibility and waitlists would affect expenses in this program.

## SUMMARY

We estimated that the Colorado Family Planning Initiative had the potential to avoid from \$1,682,623 to \$2,134,652 in Colorado Child Care Assistance Program expenses (expressed in 2014 dollars). This range includes federal and state expenses. We estimated that the federal costs potentially avoided were between \$942,269 and \$1,195,405 and that the state costs potentially avoided were between \$740,354 and \$939,247.

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## COLORADO HOUSING CHOICE VOUCHER PROGRAM (SECTION 8)

### PROGRAM DESCRIPTION

The Housing Choice Voucher Program (HCV; formerly known as Section 8) provides access to safe, sanitary and affordable housing for low-income families, elderly and disabled individuals. Started in the 1970s, HCV now provides vouchers to over 2.2 million families with more than 5 million individuals nationwide (1). Studies have found that housing vouchers significantly reduces homelessness, housing insecurity and crowdedness for families with children and improves child health, academic outcomes and stability in the home (2, 3).

HCV is a federally-funded program administered by the state Department of Housing, which contracts with local county housing authorities and non-profit organizations to implement the program (4). Nationwide, 2,230 agencies implement the voucher program (1). Participants are free to choose any type of housing (single-family homes, townhomes, or apartments) that meets certain safety criteria. The HCV Program subsidizes the difference between the rent payment and market rental value. A participant's income determines the portion of subsidy provided (5).

Due to the demand for housing assistance, many states and counties have long waitlists for participants and participants must enter into an annual lottery. Some participants may move off the waitlist more quickly than others based on need. For example, families who are homeless or spending more than 50 percent of their income on housing are prioritized (5). In Colorado for 2015, approximately 16 percent of those who applied obtained a HCV voucher, out of 6,048 on the waitlist.<sup>4</sup>

### POTENTIAL SAVINGS

To estimate the potential impact of the Colorado Family Planning Initiative (CFPI) on HCV, it is necessary to determine the proportion of mothers who would have been eligible to apply and the probability that eligible mothers would actually receive a voucher. Eligibility depends on a number of factors. Applicants must be 18 years of age or older, a U.S.

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4. Data provided by the Division of Housing at the Colorado Department of Local Affairs.

citizen or eligible immigrant, and must have legal capacity to enter into a lease under state and local law. In addition, applicants are subjected to income limits. In 2016, a family of 2 was required to have an annual income at or below \$32,000, or about 200 percent of the Federal Poverty Level (FPL). Although some mothers would not qualify for housing vouchers due to age and immigration status, most would qualify because of low income. In 2014, 97.0 percent of Title X clinic’s clients had an annual income at or below 200 percent of the FPL.<sup>5</sup>

However, due perhaps to the low chances of obtaining benefits, few eligible individuals apply to the program. To estimate the probability that an individual obtains benefits in Colorado, we assumed that a low income is the most important factor in determining eligibility. Using 2015 Current Population Survey data (6), 1,585,900 individuals were at or below 200% FPL in Colorado, which translates into approximately 636,908 households, assuming an average of 2.49 individuals per household (7). Of these, 997 obtained a housing voucher through HCV in 2015.<sup>6</sup> Therefore, the probability that an income-eligible household obtains HCV benefits in Colorado is approximately 0.16 percent (997/636,908). In 2015, the average annual total rental subsidy was \$6,489, with a Federal contribution of 91.5 percent.<sup>6</sup> We assumed that mothers would have received benefits for a total of three years.

Table 1 shows two estimates of potential federal savings resulting from the births averted by year expressed in 2014 dollars. We assume that benefits received would be equal to \$6,489 per year. The

**TABLE 1:  
ESTIMATED COLORADO HOUSING CHOICE VOUCHER PROGRAM POTENTIAL COSTS AVERTED  
BY MODEL, 2010 TO 2014**

	2010	2011	2012	2013	2014	TOTAL	FEDERAL	STATE
<b>MARKOV</b>	\$8,662	\$15,266	\$19,055	\$15,655	\$12,318	\$70,956	\$64,925	\$6,031
<b>DIFFERENCE-IN-DIFFERENCE</b>	\$4,287	\$10,188	\$21,649	\$24,684	\$24,835	\$85,642	\$78,363	\$7,280

Source: Author’s calculation. Estimates are based on decision-analytic (Markov) model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.

5. Authors’ calculations using the iCare dataset, Family Planning Program, Colorado Department of Public Health and Environment.

calculation of costs averted takes into account the likelihood of receiving services.

**LIMITATIONS**

There is considerable uncertainty about the number of mothers who would have applied and obtained benefits in the program. We assumed that low income is the most important eligibility criterion and contrasted the number of eligible individuals to the number of individuals who obtained program benefits. This methodology may be conservative. Furthermore, since HCV has a long waitlist, our estimates should not be interpreted as actual costs saved by the program. Instead, they should be interpreted as potential costs avoided due to CFPI. Only a large reduction in eligibility and waitlists would affect expenses in this program.

**SUMMARY**

We estimated that the Colorado Family Planning Initiative had the potential to avert \$70,956 to \$85,642, expressed in 2014 dollars, from 2010 to 2014. These estimates combine \$64,925 to \$78,363 in federal expenses and \$6,031 to \$7,280 in state expenses.

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## MEDICAID

### PROGRAM DESCRIPTION

Established in 1965, Medicaid was created as a federal-state partnership to provide health coverage to vulnerable Americans including low-income pregnant women, children, the elderly, and people with disabilities. Over fifty years later, more than 70 million people receive coverage through Medicaid (1), including one in 10 women in the U.S. (2). Under the Affordable Care Act (ACA) of 2010, some states chose to expand eligibility to low-income non-disabled, childless adults living at or below 138 percent of the federal poverty line. By July 2016, 32 states have implemented Medicaid expansions (3).

Medicaid provides coverage on a wide range of outpatient and inpatient medical services, including dental, mental health and maternity care. While some benefits vary from state to state, all states have been required to provide family planning services since 1972. Nearly 50 percent of births are paid for by Medicaid and two-thirds of women enrolled in Medicaid are of reproductive age (2). As a result, women enrolled in Medicaid are more likely to talk with providers about reproductive and sexual health topics than women receiving private insurance (2). Additionally, research has found that Medicaid expansion significantly decreases the rate of uninsured women of reproductive age (ages 15-44), ensuring more women have access to prenatal and maternity care if needed (4).

In Colorado, Medicaid is administered by the Colorado Department of Health Care Policy and Financing (HCPF). Currently more than 1.3 million Coloradans are enrolled in Medicaid (5), a number that includes a large increase in enrollment resulting from the 2014 Colorado Medicaid expansion (6,7). Since the expansion, any child age 18 or younger and pregnant women over age 19 with a household income under 260 percent of the federal poverty line are eligible for Medicaid. Parents, caregivers, or childless adults may also be eligible for Medicaid if they have a household income less than 133 percent of federal poverty line (8). Immigrants without legal US residency are not eligible for Medicaid, but in an emergency, which includes childbirth, immigrants without legal US residency may apply for short-term Emergency Medicaid (9,10).

### MEDICAID SPENDING METHODOLOGY

To calculate savings resulting from the Colorado Family Planning Initiative, we used administrative claims data obtained from HCPF from July 2009 to June 2015. We used these claims to estimate average Colorado Medicaid spending on prenatal care, childbirth, postpartum care and infant care. The sample was limited to paid Medicaid fee-for-service (FFS) claims; it does not include costs associated with Medicaid managed care. We separately calculated the average healthcare spending for mothers aged 15-19 and 20-24. Spending was not calculated for mothers younger than 15 or older than 24.

## MOTHERS' SPENDING

We defined an index event as a hospitalization with a Diagnosis-Related Group (DRG) code defined as discharges with codes 370 to 391 before 2014 and APR-DRG codes 540 to 640 in 2014.<sup>7</sup> These codes cover a wide range of deliveries (e.g. vaginal, cesarean) and complications (e.g. ectopic pregnancies or miscarriages) that require a hospital stay. Women who became pregnant multiple times during the sample period were treated as separate individuals for the purposes of calculating average event costs. The claims were limited to services provided within 240 days of the index admission (assuming mothers become aware of a pregnancy on average 30 days after conception) and 90 days after index discharge. We identified claims related to prenatal and postnatal care using definitions designed by the National Committee for Quality Assurance (NCQA) to identify prenatal and postnatal care utilization using administrative claims.<sup>8</sup> The definitions are based on procedure codes (Current Procedural Terminology, CPT) and International Classification of Disease, Ninth Revision (ICD-9-CM) codes recorded in Medicaid claims. In addition, we also included claims related to pregnancy complications and labor and delivery. By using the NCQA definitions, we only included Colorado Medicaid spending directly related to prenatal, delivery, postpartum care, and pregnancy-related complications.

We computed average spending by dividing the total spending by the number of index events as described above. This average spending implicitly incorporates changes in Medicaid eligibility. For example, a woman who was not eligible for prenatal care would have zero spending in the 240-day period prior to her index hospitalization but would

be included in the denominator. Similarly a woman who was eligible for prenatal care but did not utilize the services would also have zero spending. By using average spending, we take into account that some of the Title X clients who would have become pregnant may not have been eligible for prenatal care under Medicaid regulations or would not have been enrolled for other reasons, but we assume that they would have been eligible for the index event.

An alternative way of calculating average spending is to only include the spending of those continuously enrolled in Medicaid. However, this spending would not reflect variation in eligibility and would overstate average spending of a representative Medicaid enrollee since Medicaid eligibility is variable. In 2010, for example, only 53 percent of the women were continuously eligible over the entire sample before and after the index event. Between 2011 and 2014 the percentage of woman continuously eligible increased from 61 percent in 2011 to 64 percent in 2014, likely due to Medicaid expansion.

Table 1 shows the average Medicaid spending related to pregnancies by year and age group, including prenatal, delivery, and postpartum care. Our estimates for each year are based on the year of the index event. Thus an index event on January 1, 2013 includes up to 240 days of prenatal spending in 2012 and all postpartum spending in 2013. On the other hand, an index event in late December 2014 includes up to 90 days of postpartum spending that occurred in 2015 but all prenatal care in 2014.

## INFANT SPENDING

The estimates of infant spending includes all Medicaid utilization up to five years of age (birth through

**TABLE 1:  
AVERAGE PREGNANCY-RELATED MEDICAID SPENDING, MOTHERS AGE 15-19 AND 20-24, 2010-2014**

AGE OF MOTHER	2010	2011	2012	2013	2014
15-19	\$6,022	\$6,088	\$5,981	\$6,133	\$6,509
20-24	\$5,618	\$5,785	\$5,973	\$6,049	\$6,679

*Notes: Includes labor and delivery, prenatal and postnatal care spending on all services. Sample limited to mothers in Medicaid fee-for-service.*

7. DRG code definitions can be found at [https://www.colorado.gov/pacific/sites/default/files/DRG\\_Weight\\_Tables\\_070111.pdf](https://www.colorado.gov/pacific/sites/default/files/DRG_Weight_Tables_070111.pdf)

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age 4). The average was calculated by dividing total spending by the number of infants who entered Medicaid when they were born. If a child is not enrolled in Medicaid in a given year after birth, she would have zero spending for that year. Thus, as in the case of the mothers, average spending implicitly incorporates eligibility changes. Births were identified using DRG codes 385-391, 801-810 before 2014 and APR-DRG codes 580-640 in 2014.

Table 2 shows average spending by year for children covered at birth by Colorado Medicaid. Spending during the year of birth is about twice as high as spending during the following years.

### SAVINGS

To calculate costs averted resulting from the Colorado Family Planning Initiative, we use average spending for mothers and infants (Tables 1 and 2) and the estimated numbers of births averted resulting from both a decision-analytic (Markov) model and a difference-in-difference model. Table 3 shows the estimated Medicaid costs averted by method from 2010 to 2014 expressed in 2014 dollars.

**TABLE 2:  
AVERAGE SPENDING ON ALL INFANTS COVERED AT DELIVERY BY MEDICAID BORN TO MOTHERS  
AGES 15-24, 2010-2014**

CALENDAR/BIRTH YEAR	2010	2011	2012	2013	2014
2010	\$4,538				
2011	\$3,737	\$4,340			
2012	\$2,835	\$3,793	\$4,610		
2013	\$2,565	\$3,029	\$3,955	\$4,217	
2014	\$2,668	\$3,026	\$3,194	\$4,134	\$3,222

**TABLE 3:  
ESTIMATED COLORADO MEDICAID COSTS AVERTED BY MODEL, MOTHERS AGES 15-24 AND THEIR  
INFANTS, 2010 TO 2014**

	2010	2011	2012	2013	2014	TOTAL
<b>MARKOV</b>	\$8,694,616	\$10,947,082	\$10,284,663	\$11,979,961	\$10,405,768	\$52,312,090
<b>DIFFERENCE-IN-DIFFERENCE</b>	\$4,275,932	\$7,466,154	\$15,170,491	\$14,121,705	\$12,708,531	\$53,742,813

Source: Author's calculation. Estimates are based on decision-analytic (Markov) model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.

Since the Federal Medical Assistance Percentage (FMAP) for Colorado Medicaid is approximately 50 percent, the share of Colorado costs averted estimates are \$26,156,045 and \$26,871,407 for the Markov and difference-in-difference models, respectively.

### SUMMARY

We estimate that the Colorado Family Planning Initiative avoided from \$52,312,090 to \$53,742,813 in Medicaid health care expenditures for mothers ages 15-24 and their infants from 2010 to 2014. These estimates include federal and state savings. The share of Colorado costs averted ranges from \$26,156,045 to \$26,871,407.

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## COLORADO PRESCHOOL PROGRAM (CPP)

### PROGRAM DESCRIPTION

The Colorado Preschool Program (CPP), administered by the Colorado Department of Education (CDE) and funded by the state, provides eligible children the opportunity to attend half-day or full-day preschool or full-day kindergarten (1). While some eligible

children attend district schools, CPP also provides funding for slots at high-quality child care centers, community preschools or Head Start centers. CPP is managed by local school districts, with each participating school district given a predetermined number of slots. Ninety-seven percent of Colorado school districts participated in the 2014-2015 school year (2).

Research on preschool programs has found that participation in early childhood education prior to kindergarten results in short- and long-term improvements in academic and social outcomes (3). A study on school-readiness found that children enrolled in publicly funded pre-K programs had statistically significant increases in cognitive skills, social emotional development and receptive vocabulary (4). In addition, a longitudinal analysis of a cohort of children participating in CPP since 2003-2004 showed that CPP has long-term benefits on academic achievement compared to a matched comparison group that did not participate in CPP. Furthermore, children who participated in CPP showed a lower rate of grade retention (“holding back”) relative to the matched comparison group (2).

Eligibility for CPP depends on children’s socioeconomic risk factors associated with later challenges in school performance (2). The Colorado legislature caps enrollment at a limited number of slots each year, and the number of slots is not sufficient to accommodate all eligible children within a district. In the 2014-2015 school year, the state legislature authorized more than 28,000 slots for CPP and the Early Childhood at Risk Enhancement (ECARE) program. However, 4,160 children remained on a waitlist, and the CDE estimates the need is much higher than what is represented in the waitlist (2).

### POTENTIAL SAVINGS

To estimate the potential impact of the Colorado Family Planning Initiative (CFPI) on CPP, we first determined the proportion of births averted that would have been eligible to obtain a slot in the program. Eligibility for the CPP depends on many socioeconomic risk factors and the process to determine eligibility is complex. School district staff members work with families to gather information about a child’s development and learning. In addition, school staff ask families questions about challenges they and their child may have experienced. The three most common risk factors are low income, as mea-

sured by eligibility for free or reduced lunch, being in need of language development, and having poor social skills (5). To determine the probability that a birth averted would qualify for CPP, we assumed that the most important eligibility was low income.

Using the Colorado Preschool Program Legislative Report for 2015 with data for the 2014-2015 school year, 21,713 children 4 years of age or younger were enrolled in CPP. Of these children, 17,670 qualified for CPP due to their eligibility for free or reduced lunch, which depends on families being at or below 185% of the federal poverty level (FPL). According to the State Demography Office of the Colorado Department of Local Affairs, the forecasted total number of children 4 years of age or younger in 2014 was 335,397. Of these, approximately 123,426 (36.8 percent) were at or below 185% of the FPL based on data from the American Community Survey. Therefore, we estimated that the probability that a low-income child in Colorado is accepted in CPP was approximately 14.31 percent (17,670/123,426). Moreover, we assumed that children would receive program benefits for a maximum of three years.

According to the CDE, the state average funding per slot is \$3,603 per academic year. We use this average cost along with our estimate of the proportion of children that would have been eligible to calculate potential savings resulting from the CFPI. Because CPP serves mostly children aged 3 or 4, we assumed that children would have received CPP benefits only at those ages. We take into account costs incurred after 2010, but the first year of averted costs is in 2013, when the first averted births would have reached age 3.

### LIMITATIONS

There is considerable uncertainty about the number

of children that would have applied and obtained a slot in the program. Our assumption was that a birth averted would face the same probability of obtaining a slot as an average child in Colorado whose family income was at or below 185% FPL, which is likely a conservative assumption. Moreover, since CPP has a long waitlist, our estimates should not be interpreted as actual costs saved by the program. Instead, they should be interpreted as potential costs avoided due to CFPI. Only a large reduction in eligibility and waitlists would affect expenses in this program.

### SUMMARY

We estimated that the Colorado Family Planning Initiative had the potential to avert from \$679,588 to \$1,122,244 in state expenses, expressed in 2014 dollars, between 2010 and 2014. These estimates assumed that a birth averted due to CFPI would face the same likelihood of receiving Colorado Preschool Program services as an average child in Colorado born to a family with an income at or below 185% FPL. In addition, these estimates assumed that children obtained benefits starting at age 3.

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**TABLE 1:**  
**ESTIMATED COLORADO PRESCHOOL PROGRAM (CPP) POTENTIAL COSTS AVERTED BY METHOD, 2010 TO 2014**

	2013	2014	TOTAL
<b>MARKOV</b>	\$199,059	\$480,529	\$679,588
<b>DIFFERENCE-IN-DIFFERENCE</b>	\$402,229	\$720,015	\$1,122,244

Source: Author's calculation. Estimates are based on decision-analytic Markov model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.

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## **COLORADO SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)**

### **PROGRAM DESCRIPTION**

With the goal of keeping pregnant and breastfeeding women and children under age 5 healthy, the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides food, breastfeeding support, nutrition education and health care referrals to qualified families. WIC is a federal program operated by the United States Department of Agriculture Food and Nutrition Service agency, which provides grant funding to states, contingent on congressional funding approval (1). As a discretionary program, not all who are eligible actually receive benefits. Nationally, more than one in four pregnant and postpartum women participate in WIC, as well as one in four children under 5 years old and more than half of all infants (2).

Previous studies show that WIC assistance is associated with reduced infant mortality (3) and improved nutrition in children (2) and pregnant and postpartum women (4). The positive impacts of WIC appear to be larger among the most disadvantaged women, such as those receiving other forms of public assistance, high school dropouts, unmarried and teen mothers (5).

The Colorado Department of Public Health and Environment (CDPHE) manages the State's WIC program, administering funds to local and county agencies to provide services. Eligible participants must be Colorado residents, pregnant, breastfeeding,

or a legal guardian to a child under 5 years old. To participate, a family must have an income below 185% of the Federal Poverty Guidelines and may be enrolled in other programs such as Special Nutritional Assistance Program (SNAP), Medicaid or Temporary Assistance for Needy Families (TANF) (6). Furthermore, the income requirement is waived if individuals participate in other programs such as SNAP, Medicaid and TANF. In Colorado, a total of 132,700 individuals received WIC assistance in 2014.<sup>9</sup>

### **POTENTIAL SAVINGS**

To estimate the potential impact of the Colorado Family Planning Initiative (CFPI) on the WIC program, we first determined the proportion of mothers and births averted that would have been eligible to receive WIC benefits and those who would actually receive benefits. Title X clinics serve a predominantly low-income population, of which approximately 95 percent of clients had a family income at or below 150% of the Federal Poverty Level in 2009.<sup>10</sup> Therefore, we assumed that all pregnant and breastfeeding women and births averted would have been eligible for WIC assistance. However, not all eligible families actually receive benefits. Some recent estimates show that the national coverage rate for WIC (number of participants divided by the number of persons eligible) was 60.2 percent in 2013, which varies considerably between states (7). Estimates for Colorado show the coverage rate was 48.0 percent in 2013. The coverage rates for children and mothers also varies between and within states. In Colorado, these estimated coverage rates were 41.4 percent for children (age 1 to 4) and 61.7 percent for women and infants in 2013 (7).

Furthermore, WIC is a short-term program. Benefits terminate at the end of a certification period, which usually ranges from six months to a year, at which time a reapplication is needed (6). Consequently, in our base case scenario, we used Colorado's coverage rates and assumed that benefits lasted for only a year for mothers (pregnant, breastfeeding, postpartum) and infants and two years for children (age 1 to 4). Both are conservative assumptions. Initiatives like the Colorado Program Eligibility and Application Kit (PEAK) have facilitated the process of enrolling

9. Data provided by the Colorado Department of Public Health and Environment.

10. Authors' calculations using the iCare dataset from the Family Planning Program, Colorado Department of Public Health and Environment.

in multiple assistance programs at the same time, and participants may reapply to extend their eligibility.

Table 1 shows the average benefits (redemptions) by beneficiary category for years 2010 to 2014 provided by CDPHE. Because we were unable to obtain data for 2010 to 2011, we assumed that average benefits in these years would be the same as the 2012 level. Benefits include food benefits but exclude counseling and administrative costs.

Table 2 shows two estimates of costs averted from 2010 to 2014 using our estimates of births averted and the costs shown in Table 1. All amounts are expressed in 2014 dollars. The calculation of costs averted takes into account the likelihood of receiving services. The Markov model results in somewhat lower total costs averted than the propensity score weighted difference-in-difference model.

#### LIMITATIONS

In this analysis, we did not include non-food benefits such as nutritional education and breastfeeding

support. Additionally, benefits for 2010 to 2011 are based on extrapolation from 2012 data. We also assumed that a potential reduction in WIC clients does not have an effect on administrative costs.

#### SUMMARY

Based on assumptions about eligibility and likely use of the Colorado Special Supplemental Nutrition Program for Women, Infants, and Children benefits, we estimated that the Colorado Family Planning Initiative had the potential to reduce between \$2,740,847 and \$3,352,580 in federal program costs between 2010 and 2014.

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**TABLE 2:  
AVERAGE SPENDING ON ALL INFANTS COVERED AT DELIVERY BY MEDICAID BORN TO MOTHERS  
AGES 15-24, 2010-2014**

	2010-2011*	2012	2013	2014
INFANT	\$657	\$657	\$658	\$656
CHILDREN (1-4)	\$394	\$394	\$395	\$392
BREASTFEEDING	\$246	\$246	\$245	\$246
POST-PARTUM	\$143	\$143	\$139	\$147
PREGNANT	\$276	\$276	\$275	\$276

Source: 2012-2013 data provided by the Colorado Department of Public Health and Environment.

\* We assume that average benefits in 2010-2011 would be equal to those in 2012.

**TABLE 3:  
ESTIMATED COLORADO MEDICAID COSTS AVERTED BY MODEL, MOTHERS AGES 15-24 AND THEIR  
INFANTS, 2010 TO 2014**

	2010	2011	2012	2013	2014	TOTAL
MARKOV	\$748,452	\$724,675	\$400,950	\$492,154	\$374,616	\$2,740,847
DIFFERENCE-IN-DIFFERENCE	\$369,831	\$585,538	\$928,456	\$813,467	\$655,287	\$3,352,580

Source: Author's calculation. Estimates are based on decision-analytic Markov model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.

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## **COLORADO SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)**

### **PROGRAM DESCRIPTION**

The federal Supplemental Nutrition Assistance Program (SNAP) provides nutrition benefits to low-income households. Benefits include access to food, nutrition education and education about food preparation. The US Department of Agriculture administers the program but works with state

agencies, educators, and community-based organizations to educate and enroll eligible participants. Participants enrolled in the program receive an electronic card to purchase eligible food from authorized stores (1, 2). Numerous studies have found that SNAP reduces food insecurity in terms of caloric and nutritional intake (3). Other evidence suggests that nutritional assistance during pregnancy improves birth weight and reduces neonatal mortality (4).

In Colorado, the SNAP program is called the Colorado Food Assistance Program. While the Colorado Food Assistance Program is 100 percent funded by the federal government, it is managed by the Colorado Department of Human Services' Food Assistance and Energy Division, and it is implemented at the county level by human service agencies. Eligibility requirements for SNAP include income and non-income criteria. Income is tested against a percentage of the federal poverty guidelines based on both gross and net income. Households receiving Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI) are not required to pass these income tests and are assumed to be income eligible for SNAP. Non-income requirements include proof of citizenship, proof of residency, and certain work, employment or educational enrollment requirements.

### **POTENTIAL SAVINGS**

To estimate the potential impact of the Colorado Family Planning Initiative (CFPI) on the federal SNAP program, we needed to determine the proportion of births averted that would have been eligible to receive benefits. Since Title X clinics serve a predominantly low-income population, of which approximately 95 percent were 150% below the Federal Poverty Level in 2009<sup>11</sup>, we assumed that all births averted would have been eligible to obtain SNAP benefits. The birth of a child increases the size of the household, and without a corresponding increase in income, it also increases the poverty level since both income and household size are used to calculate poverty level. Furthermore, the births would have occurred within the US; therefore, citizenship and residency requirements would have been met. On the other hand, we assumed that pregnancy would

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11. Authors' calculations using the iCare dataset from the Family Planning Program, Colorado Department of Public Health and Environment.

not have changed the likelihood that a mother receives SNAP benefits. In addition to eligibility, we needed to determine the proportion of eligible births that would have actually received SNAP benefits. Some estimates suggest that in Colorado only 57 percent of eligible individuals actually obtain benefits, which is lower than the national average of 75 percent (5). On the other hand, low-income pregnant women are likely to be on or become eligible for Medicaid during pregnancy unless they are not citizens or legal residents (whereupon their labor and delivery is covered and their infant becomes Medicaid-eligible). Those with Medicaid coverage are also very likely to obtain SNAP benefits. Initiatives like the Colorado Program Eligibility and Application Kit (PEAK) have facilitated the process of enrolling in multiple assistance programs at the same time. Therefore, in our base case scenario, we assumed that the proportion of children who would have obtained SNAP benefits is equal to the national average of 75 percent. Finally, we assumed that children would receive benefits for two years. National estimates suggest that the median participation spell in SNAP is 12 months but the participation time for children in families with children and one adult is 20 months,

with 45.1 percent of them having participation of more than 24 months (6).

Table 1 shows data from 2010 to 2014 on the number of distinct clients and the total amount of benefits (excluding administrative costs) distributed in the same year. Over the whole period, on average, each SNAP client received \$1,621 in food assistance, equivalent to \$4.44 per day or \$1.48 per meal.

Table 2 shows two estimates of potential federal savings resulting from the births averted by year expressed in 2014 dollars. We assume that benefits received would be equal to the average benefit per client (Table 1). The calculation of costs averted takes into account the likelihood of receiving services. The Markov model results in slightly lower total costs averted than the propensity score weighted difference-in-difference model.

### LIMITATIONS

In calculating the potential federal savings, we assumed that the Colorado Family Planning Initiative would not have changed SNAP eligibility, nor it would have affected a mother's probability of applying.

**TABLE 1:  
AVERAGE NUMBER OF DISTINCT CLIENTS AND TOTAL BENEFITS IN COLORADO BY YEAR,  
COLORADO FOOD ASSISTANCE PROGRAM (SNAP)**

YEAR	CLIENTS	TOTAL	PER CLIENT
2010	319,775	\$506,741,450	\$1,585
2011	404,678	\$691,314,243	\$1,708
2012	453,103	\$767,641,472	\$1,694
2013	491,630	\$814,152,412	\$1,656
2014	507,934	\$829,874,666	\$1,634

Source: Data provided by the Colorado Department of Human Services (CDHS)

**TABLE 2:  
ESTIMATED COLORADO FOOD ASSISTANCE PROGRAM (SNAP) COSTS AVERTED BY MODEL, 2010 TO 2014**

	2010	2011	2012	2013	2014	TOTAL
<b>MARKOV</b>	\$991,817	\$1,883,528	\$1,325,693	\$595,893	\$405,695	\$5,202,626
<b>DIFFERENCE-IN-DIFFERENCE</b>	\$490,839	\$1,257,044	\$2,151,333	\$880,787	\$740,202	\$5,520,205

Source: Author's calculation. Estimates are based on decision-analytic (Markov) model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.

This assumption is conservative because pregnancy may have prompted some mothers to seek assistance. We also assume that a potential reduction in SNAP clients does not have an effect on administrative costs.

## SUMMARY

We estimated that births averted due to the Colorado Family Planning Initiative avoided between \$5,202,626 and \$5,520,205, expressed in 2014 dollars, from 2010 to 2014. These estimates assume that the proportion of children who would have obtained SNAP benefits is equal to the national average of 75 percent and that children would have received benefits for two years.

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## TEMPORARY ASSISTANCE TO NEEDY FAMILIES (TANF/ COLORADO WORKS)

### PROGRAM DESCRIPTION

The federal Temporary Assistance to Needy Families (TANF) program provides cash assistance and work support to low-income families with dependent

children (1). The cash assistance is accessible to recipients through electronic benefit transfers (EBTs) and is intended to be used to pay for basic needs such as rent, utilities, food, and clothing, among other expenses (2). The goal of TANF is to move people into full-time work. In 2012, the federal government mandated states to restrict funds from being spent in liquor stores, gambling and adult entertainment locations (3). Research has shown mixed educational, economic and health outcomes for children and women participating in TANF, as barriers faced by these families are multiple and complex (4, 5). One study found that health and educational factors negatively influenced women's ability to maintain employment and avoid TANF sanctions; conversely, TANF work requirements and sanctions negatively affected women and their children's health and education (4).

The federal government funds this program through block grants to states, which operate their own programs. Though TANF is federally funded, states must adhere to a maintenance-of-effort (MOE) requirement contributing state funds on programs for needy families (6). States are penalized for not meeting the MOE requirement if non-federal spending is less than 75 percent of federal spending (7). States are given control over the design and implementation of local TANF features, including benefit levels, eligibility criteria and time limits (8).

Colorado Works is the state's TANF program, providing cash assistance to individuals who are (a) pregnant or have a child (or are a child's caretaker); (b) lawfully present in the U.S.; and (c) low-income, which is defined based on family size. Pregnant women are eligible for TANF during the month before their due dates. Adults in families receiving cash assistance must work or participate in work-related activities for a specified number of hours per week depending on the number of work-eligible adults in the family and the age of children (1). Besides job training and full or part-time employment, work activities may include educational programs. For minors, this work-related activity includes high school or GED program attendance and the requirement to live with parents or another approved adult (9). In Colorado, recipients are not allowed to use EBTs in medical and retail marijuana businesses and racetracks (10). In addition, assistance is limited to a lifetime maximum of 60 months (5 years).

## POTENTIAL SAVINGS

To estimate the potential impact of the Colorado Family Planning Initiative (CFPI) on the Colorado Works/TANF program, we needed to determine the proportion of pregnant mothers and births averted that would have been eligible to receive Colorado Works benefits. The standard of assistance for one specified caretaker and one dependent child is \$3,972 per year, which translates into approximately 25% of the Federal Poverty Level.<sup>12</sup> Based solely on the income level in 2014 for clients ages 15 to 24, approximately 60.8 percent of Title X clinic clients in Colorado would be eligible for Colorado Works.<sup>13</sup> However, Colorado Works requirements for work-related activity may discourage some mothers from applying for benefits. Furthermore, some mothers may not qualify to receive benefits because of their legal status in the U.S. In 2005, estimates suggest that TANF served only 40 percent of all eligible families (11, 12).

In our base-case scenario, we assumed that 20 percent of mothers would not qualify to receive benefits because of their legal status in the U.S. We obtained this number from the Colorado Department of Public Health and Environment (CDPHE) based on a survey of Title X clinic administrators. Title X clinics do not collect information on the immigration status of their clients, nor is this a requirement to obtain services. The survey asked administrators to provide their best estimate of the percentage of female clients who were currently undocumented. This estimate is considerably higher than the 3.5 percent of unauthorized immigrants in Colorado as reported by the Pew Hispanic Center (13). We further assumed that of those eligible, only 40 percent would have received benefits (11). Therefore, our base-case scenario

assumed that 19.5 percent of pregnant mothers would have received Colorado Works benefits. Finally, we assumed that the average cumulative time of TANF assistance received by mothers was 3 years, which was similar to the national average of 37.3 months in 2009 (14).

To calculate potential costs savings, we obtained Colorado Works standards of assistance data from the Colorado Department of Human Services and assumed that a family consisting of one specified caretaker and one dependent child would receive the maximum grant amount of \$364 per month (\$4,368 per year).

Table 1 shows upper and lower-bound costs averted from 2010 to 2014 using our estimates of pregnancies and pregnancy outcomes (miscarriage, abortion, or live birth) averted and a maximum grant amount of \$4,368 per year. All amounts are expressed in 2014 dollars.

## LIMITATIONS

Because of a lack of data, we assumed that TANF recipients would have obtained benefits equal to the maximum grant amount. Moreover, we were unable to obtain estimates of the average duration of TANF benefits in Colorado and instead used the national average duration in 2009 (14).

## SUMMARY

We estimated that the CFPI had the potential to reduce federal spending in TANF/Colorado WORKS by \$5,808,001 to \$7,010,153 in 2014 dollars between 2010 and 2014. These numbers assumed that 19.5 percent of mothers would have obtained benefits for three years.

**TABLE 1:**  
**ESTIMATED UPPER AND LOWER BOUND TANF/COLORADO WORKS COSTS AVERTED, 2010 TO 2014**

	2010	2011	2012	2013	2014	TOTAL
<b>MARKOV</b>	\$709,050	\$1,249,566	\$1,559,689	\$1,281,391	\$1,008,304	\$5,808,001
<b>DIFFERENCE-IN-DIFFERENCE</b>	\$350,901	\$833,945	\$1,772,055	\$2,020,439	\$2,032,813	\$7,010,153

*Author's calculation. Estimates are based on decision-analytic (Markov) model and on propensity score weighted difference-in-difference model. Amounts are expressed in 2014 dollars.*

12. Data provided by the Colorado Department of Human Services.

13. Authors' calculations using the iCare dataset, Family Planning Program, Colorado Department of Public Health and Environment.

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## **APPENDIX G: GAME CHANGE IN COLORADO: WIDESPREAD USE OF LARC METHODS AND RAPID DECLINE IN BIRTHS AMONG YOUNG LOW-INCOME WOMEN**

### **TITLE**

Game Change in Colorado: Widespread Use of Long-Acting Reversible Contraceptives and Rapid Decline in Births Among Young, Low-Income Women

### **AUTHORS**

Sue Ricketts, Greta Klingler, Renee Schwalberg

### **CONTEXT**

Long-acting reversible contraceptive (LARC) methods are recommended for young women, but access is limited by cost and lack of knowledge among providers and consumers. The Colorado Family Planning Initiative (CFPI) sought to address these barriers by training providers, financing LARC method provision at Title X-funded clinics and increasing patient caseload.

### **METHODS**

Beginning in 2009, 28 Title X-funded agencies in Colorado received private funding to support CFPI. Caseloads and clients' LARC use were assessed over the following two years. Fertility rates among low-income women aged 15-24 were compared with expected trends. Abortion rates and births among high-risk women were tracked, and the numbers of infants receiving services through the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) were examined.

### **RESULTS**

By 2011, caseloads had increased by 23 percent, and LARC use among 15-24-year-olds had grown from 5 percent to 19 percent. Cumulatively, one in 15 young, low-income women had received a LARC method, up from one in 170 in 2008. Compared with expected fertility rates in 2011, observed rates were 29 percent lower among low-income 15-19-year-olds and 14 percent lower among similar 20-24-year-olds. In CFPI counties, the proportion of births that were high-risk declined by 24 percent between 2009 and 2011; abortion rates fell 34 percent and 18 percent, respectively, among women aged 15-19 and 20-24. Statewide, infant enrollment in WIC declined 23 percent between 2010 and 2013.

### **CONCLUSIONS**

Programs that increase LARC use among young, low-income women may contribute to declines in fertility rates, abortion rates and births among high-risk women.

### **SOURCE**

Perspectives on Sexual and Reproductive Health, 2014, 46(3):XX-XX, doi: 10.1363/46e1714

<https://www.guttmacher.org/about/journals/psrh/2014/06/game-change-colorado-widespread-use-long-acting-reversible>

## APPENDIX H: PRESS COVERAGE OF THE COLORADO FAMILY PLANNING INITIATIVE

The press attention was overwhelmingly positive and CFPI received widespread news coverage including these examples:

NBC News: Colorado Teen Pregnancy Rates Drop with Birth Control Initiative,

- <http://www.nbcnews.com/nightly-news/video/colorado-teen-pregnancy-rates-drop-with-birth-control-initiative-491563587572>

National Public Radio: Colorado's Long-Lasting Birth Control Program for Teens May Not Last Long,

- <http://www.npr.org/sections/itsallpolitics/2015/09/03/437268213/colorados-long-lasting-birth-control-program-for-teens-may-not-last-long>

MSNBC/Rachel Maddow Show: Colorado GOP Blocks Successful Birth-control Program,

- <http://www.msnbc.com/rachel-maddow-show/colorado-gop-blocks-successful-birth-control-program>

Washington Post: How Colorado's Teen Birthrate Dropped 40% in Four Years,

- <http://www.washingtonpost.com/news/morning-mix/wp/2014/08/12/how-colorados-teen-birthrate-dropped-40-in-four-years/>

British Broadcast Company (BBC): Colorado Birth Control Scheme Causes Drop in Teen Pregnancy,

- <http://www.bbc.com/news/magazine-28693239>

The Smithsonian: Give Teens Access to Birth Control and, Amazingly, the Teen Pregnancy Rate Drops,

- <http://www.smithsonianmag.com/smart-news/give-teens-access-birth-control-and-amazingly-teen-pregnancy-rate-drops-180952416/?no-ist>

The Denver Post: Birth-control, not Abstinence, Focus for Colorado Teens,

- <http://www.denverpost.com/2014/07/14/birth-control-not-abstinence-focus-for-colorado-teens/>

New York Times: Colorado's Effort Against Teenage Pregnancies is a Startling Success,

- [http://www.nytimes.com/2015/07/06/science/colorados-push-against-teenage-pregnancies-is-a-startling-success.html?\\_r=0](http://www.nytimes.com/2015/07/06/science/colorados-push-against-teenage-pregnancies-is-a-startling-success.html?_r=0)

National Partnership for Women and Children: Colorado LARC Program Receives \$2M in Temporary Funding,

- [http://go.nationalpartnership.org/site/News2?page=NewsArticle&id=48618&news\\_iv\\_ctrl=0&abbr=daily2](http://go.nationalpartnership.org/site/News2?page=NewsArticle&id=48618&news_iv_ctrl=0&abbr=daily2)

Kaiser Health News: Private Money Saves Colorado IUD Program as Fight Continues for Public Funding,

- <http://khn.org/news/private-money-saves-colorado-iud-program-as-fight-continues-for-public-funding/>

The Durango Herald: Health Officials Seek New Route for Birth Control Funds,

- <http://www.durangoherald.com/apps/pbcs.dll/article?aid=/20151207/OPINION01/151209655&template=mobileart>

**APPENDIX I: COLORADO HOUSE BILL 15-1194, AUTHORIZE GENERAL FUND DOLLARS FOR LARC SERVICES**

[http://www.leg.state.co.us/clics/clics2015a/csl.nsf/fsbillcont3/1FE10B17E0A10A3987257D94006A7721?open&file=1194\\_ren.pdf](http://www.leg.state.co.us/clics/clics2015a/csl.nsf/fsbillcont3/1FE10B17E0A10A3987257D94006A7721?open&file=1194_ren.pdf)

**First Regular Session  
Seventieth General Assembly  
STATE OF COLORADO**

**REENGROSSED**

*This Version Includes All Amendments  
Adopted in the House of Introduction*

LLS NO. 15-0267.01 Christy Chase x2008

**HOUSE BILL 15-1194**

**HOUSE SPONSORSHIP**

**Becker K. and Coram,**

**SENATE SPONSORSHIP**

**Hodge,**

**House Committees**

Public Health Care & Human Services  
Appropriations

**Senate Committees**

**A BILL FOR AN ACT**

101 **CONCERNING STATE GENERAL FUND DOLLARS FOR THE DEPARTMENT**  
102 **OF PUBLIC HEALTH AND ENVIRONMENT TO CONTINUE**  
103 **PROVIDING SPECIFIED FAMILY PLANNING SERVICES**  
104 **THROUGHOUT THE STATE, AND, IN CONNECTION THEREWITH,**  
105 **MAKING AN APPROPRIATION.**

**Bill Summary**

*(Note: This summary applies to this bill as introduced and does not reflect any amendments that may be subsequently adopted. If this bill passes third reading in the house of introduction, a bill summary that applies to the reengrossed version of this bill will be available at <http://www.leg.state.co.us/billsummaries>.)*

The Colorado department of public health and environment currently administers the family planning program. Starting in 2008, the

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.  
Capital letters indicate new material to be added to existing statute.  
Dashes through the words indicate deletions from existing statute.

HOUSE  
3rd Reading Unamended  
April 20, 2015

HOUSE  
2nd Reading Unamended  
April 17, 2015

department received a multi-year grant to conduct an expanded family planning program, the primary focus of which was to expand access to long-acting reversible contraception (LARC) and related services, particularly to low-income women statewide, in order to reduce unintended pregnancies. Grant funding for the expanded program ends June 30, 2015.

The bill requires the department to continue the expanded program and appropriates \$5 million from the state general fund to the department to provide LARC services in the 2015-16 fiscal year.

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*Be it enacted by the General Assembly of the State of Colorado:*

**SECTION 1.** In Colorado Revised Statutes, **add** 25-6-104 as follows:

**25-6-104. Long-acting reversible contraception services - department powers - funding - legislative declaration.** (1) THE GENERAL ASSEMBLY HEREBY FINDS:

(a) THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT IS AUTHORIZED TO ADMINISTER FAMILY PLANNING PROGRAMS AND RECEIVE AND DISBURSE FUNDS FOR THE PROGRAMS;

(b) WHILE THE DEPARTMENT RECEIVES SOME FUNDING FROM THE STATE FOR FAMILY PLANNING PROGRAMS, STARTING IN 2009 THE DEPARTMENT RECEIVED A MULTI-YEAR GRANT TO FUND AN EXPANDED FAMILY PLANNING PROGRAM TO PROVIDE LONG-ACTING, EFFECTIVE CONTRACEPTIVE METHODS AT LITTLE TO NO COST THROUGH SIXTY FAMILY PLANNING CLINICS IN THIRTY-SEVEN COUNTIES THROUGHOUT THE STATE;

(c) THE GRANT FUNDING SUPPORTS THE FOLLOWING CLINIC ACTIVITIES:

(I) THE PROVISION OF LONG-ACTING REVERSIBLE CONTRACEPTION (LARC), WHICH INCLUDES INTRAUTERINE DEVICES (IUDs) AND IMPLANTS, TO WOMEN VISITING THE CLINICS;

1 (II) TRAINING FOR PROVIDERS AND STAFF REGARDING THE  
2 PROVISION OF LARC METHODS, COUNSELING STRATEGIES, AND MANAGING  
3 SIDE EFFECTS;

4 (III) TECHNICAL ASSISTANCE REGARDING ISSUES SUCH AS CODING,  
5 BILLING, PHARMACY RULES, AND CLINIC MANAGEMENT NECESSITATED BY  
6 THE INCREASING UTILIZATION OF LARC METHODS; AND

7 (IV) GENERAL SUPPORT TO EXPAND THE CAPACITY OF THE FAMILY  
8 PLANNING CLINICS;

9 (d) THE GRANT FUNDING HAS ENABLED FAMILY PLANNING CLINICS  
10 TO OFFER LARC METHODS TO CLIENTS AT LITTLE TO NO COST;

11 (e) ADDITIONALLY, THE GRANT FUNDING RESULTED IN SEVEN NEW  
12 CLINICS OPENING, BUSINESS HOUR INCREASES AT THIRTEEN CONTRACTORS,  
13 AND STAFFING AND OUTREACH INCREASES AT TWENTY CONTRACTORS;

14 (f) THE EXPANDED PROGRAM HAS MADE FAMILY PLANNING  
15 SERVICES MORE WIDELY AVAILABLE ACROSS THE STATE, RESULTING IN A  
16 SIGNIFICANT DECREASE IN THE BIRTH RATES OF YOUNG WOMEN WITH  
17 INCOMES AT OR BELOW ONE HUNDRED FIFTY PERCENT OF THE FEDERAL  
18 POVERTY LEVEL;

19 (g) AFTER JUST THREE YEARS OF GRANT FUNDING, FAMILY  
20 PLANNING CASELOADS INCREASED BY TWENTY-THREE PERCENT, AND  
21 LARC USE AMONG WOMEN BETWEEN THE AGES OF FIFTEEN AND  
22 TWENTY-FOUR YEARS HAD GROWN FROM FIVE PERCENT TO NINETEEN  
23 PERCENT;

24 (h) IN COUNTIES THAT RECEIVED GRANT FUNDING:

25 (I) OBSERVED BIRTH RATES IN 2011 WERE TWENTY-NINE PERCENT  
26 LOWER THAN EXPECTED AMONG LOW-INCOME WOMEN BETWEEN THE AGES  
27 OF FIFTEEN AND NINETEEN YEARS AND FOURTEEN PERCENT LOWER THAN

1 EXPECTED AMONG LOW-INCOME WOMEN BETWEEN THE AGES OF TWENTY  
2 AND TWENTY-FOUR YEARS; AND

3 (II) THE PROPORTION OF BIRTHS THAT WERE HIGH-RISK, MEANING  
4 BIRTHS TO SINGLE WOMEN UNDER TWENTY-FIVE YEARS OF AGE WHO DO  
5 NOT HAVE A HIGH SCHOOL EDUCATION, DECLINED BY TWENTY-FOUR  
6 PERCENT BETWEEN 2009 AND 2011;

7 (i) THE GRANT FUNDING HAS RESULTED IN SIGNIFICANT GAINS  
8 THROUGHOUT THE STATE, INCLUDING A REDUCTION IN THE TEEN BIRTH  
9 RATE, INCREASED ACCESS TO EFFECTIVE MEANS OF BIRTH CONTROL, AND  
10 DECREASED HIGH-RISK BIRTHS AND UNINTENDED PREGNANCIES, ALL OF  
11 WHICH RESULT IN COSTS AVOIDED BY THE STATE AND LOCAL  
12 GOVERNMENTS;

13 (j) ALTHOUGH THE GRANT FUNDING ENDS ON JUNE 30, 2015, IT IS  
14 IMPORTANT THAT THE STATE CONTINUE TO PROVIDE AND EXPAND LARC  
15 SERVICES THROUGHOUT THE STATE; AND

16 (k) NOTWITHSTANDING SECTION 24-75-1305, C.R.S., THE  
17 EXPANDED PROGRAM TO PROVIDE LARC SERVICES SHALL BE FUNDED  
18 FROM THE STATE GENERAL FUND.

19 (2) THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
20 SHALL CONTRACT WITH ELIGIBLE FAMILY PLANNING PROVIDERS  
21 THROUGHOUT THE STATE TO PROVIDE LARC SERVICES, WHICH SERVICES  
22 INCLUDE:

23 (a) THE PROVISION OF LARC, INCLUDING IUDS AND IMPLANTS;

24 (b) TRAINING FOR PROVIDERS AND STAFF REGARDING THE  
25 PROVISION OF LARC METHODS, COUNSELING STRATEGIES, AND MANAGING  
26 SIDE EFFECTS;

27 (c) TECHNICAL ASSISTANCE REGARDING ISSUES SUCH AS CODING,

1 BILLING, PHARMACY RULES, AND CLINIC MANAGEMENT NECESSITATED BY  
2 THE INCREASING UTILIZATION OF LARC METHODS;

3 (d) GENERAL SUPPORT TO EXPAND THE CAPACITY OF THE FAMILY  
4 PLANNING CLINICS;

5 (e) MARKETING AND OUTREACH REGARDING THE AVAILABILITY OF  
6 LARC SERVICES; AND

7 (f) OTHER SERVICES THE DEPARTMENT DEEMS NECESSARY TO THE  
8 PROVISION OF LARC METHODS TO FAMILY PLANNING CLIENTS IN THE  
9 STATE.

10 (3) (a) NOTWITHSTANDING SECTION 24-75-1305, C.R.S., THE  
11 GENERAL ASSEMBLY SHALL ANNUALLY APPROPRIATE GENERAL FUND  
12 MONEYS TO THE DEPARTMENT TO PROVIDE EXPANDED LARC SERVICES.

13 (b) MONEYS APPROPRIATED TO THE DEPARTMENT PURSUANT TO  
14 THIS SECTION MUST NOT SUPPLANT OR REDUCE ANY OTHER  
15 APPROPRIATION OF STATE FUNDS THE DEPARTMENT OF PUBLIC HEALTH  
16 AND ENVIRONMENT RECEIVES FOR THE FAMILY PLANNING PROGRAM  
17 ADMINISTERED PURSUANT TO THIS PART 1 AND PART 2 OF THIS ARTICLE.

18 **SECTION 2. Appropriation.** For the 2015-16 state fiscal year,  
19 \$5,000,000 is appropriated to the department of public health and  
20 environment for use by the prevention services division. This  
21 appropriation is from the general fund. To implement this act, the  
22 department shall use this appropriation for the provision of expanded  
23 LARC services pursuant to section 25-6-104, C.R.S.

24 **SECTION 3. Safety clause.** The general assembly hereby finds,  
25 determines, and declares that this act is necessary for the immediate  
26 preservation of the public peace, health, and safety.

## APPENDIX J: PRACTICE GUIDELINES AND RESOURCES FOR LARC

US Selected Practice Recommendations for Contraceptive Use, 2013

- <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/usspr.htm>

Providing Quality Family Planning Services:  
Recommendations of the CDC and the US Office of Population Affairs

- <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/qfp.htm>

United States Medical Eligibility Criteria (US MEC) for Contraceptive Use, 2010

- <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/usmec.htm>

ACOG Practice Guidelines, Long-Acting Reversible Contraception:  
Implants and Intrauterine Devices

- <http://www.acog.org/Resources-And-Publications/Practice-Bulletins/Committee-on-Practice-Bulletins-Gynecology/Long-Acting-Reversible-Contraception-Implants-and-Intrauterine-Devices>

LARC and Teens, February 2014

- <http://pediatrics.aappublications.org/content/133/2/181.full.pdf+html>

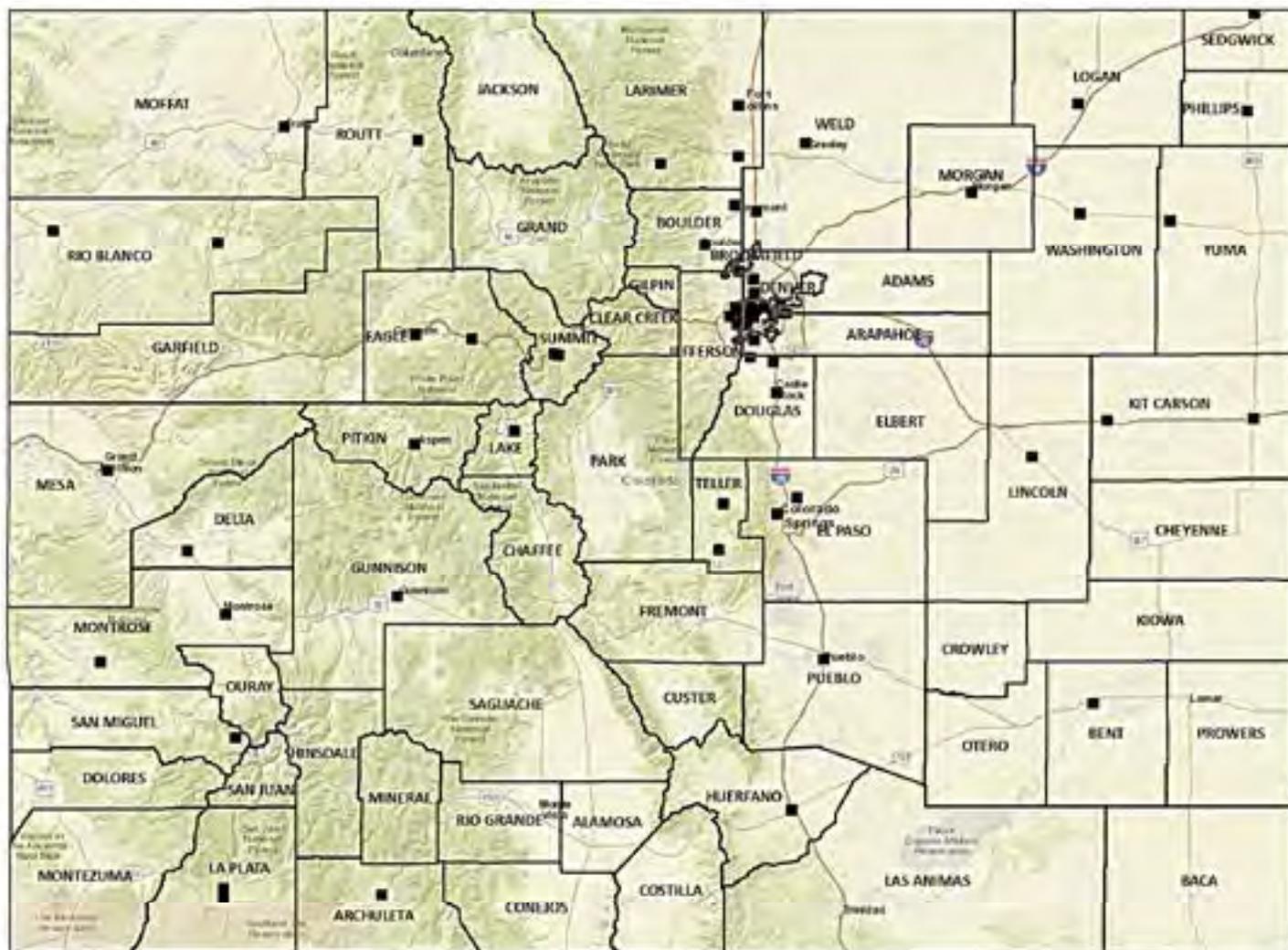
ARHP Health Fact Sheet, Birth Control:  
Dispelling Common Myths About Intrauterine Contraception

- <http://www.arhp.org/Publications-and-Resources/Patient-Resources/fact-sheets/IUC-Myths>

ARHP Patient Resources

- <http://www.arhp.org/publications-and-resources/patient-resources/interactive-tools>

APPENDIX K: MAP OF FAMILY PLANNING CLINICS, COLORADO, 2016







**CO L O R A D O**

Department of Public  
Health & Environment