

# California Health Benefits Review Program

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## Analysis of Senate Bill 1053: Health Care Coverage: Contraceptives

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A Report to the 2013-2014 California Legislature

April 20, 2014

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## KEY FINDINGS

# Analysis of California Senate Bill (SB) 1053: Health Care Coverage: Contraceptives

SUMMARY TO THE 2013-14 CALIFORNIA LEGISLATURE • APRIL 20, 2014



## AT A GLANCE

SB 1053 (amended April 9, 2014) would require state-regulated health plans and insurers to cover all FDA approved contraceptive drugs, devices, products, and voluntary sterilization procedures in each contraceptive category outlined by the FDA, as well as contraceptive education and counseling.

- **Enrollees covered.** CHBRP estimates that in 2015, 16.2 million of 23.4 million Californians have state-regulated coverage that would be subject to the requirements of SB 1053.
- **Impact on expenditures.** Expenditures are estimated to increase by \$31,201,000 or 0.024%, mainly due to the increased utilization of contraceptives as a result of SB 1053.
- **Cost savings.** Cost savings due to averted deliveries through increased use of contraceptives are estimated to be \$149,065,150 in the first year postmandate.
- **EHBs.** SB 1053's coverage mandate could exceed California's definition of essential health benefits (EHBs).
- **Medical effectiveness.** Based on a comparison of unintended pregnancy rates, it is reasonable to conclude that using any of the FDA approved contraceptive methods is more effective than not using any contraception in preventing unintended pregnancies. Furthermore, methods such as IUD and sterilization offer a much higher rate of protection against unwanted pregnancy than more commonly used methods such as condoms and oral contraceptives.
- **Benefit coverage.** CHBRP estimates that coverage for female contraceptives would increase from 97.5% to 100% among enrollees, while coverage for vasectomies would shift from 99.3% to 100% and coverage for male condoms would shift from 0% to 100%.
- **Utilization.** CHBRP estimates a 7.4% increase in contraceptive utilization overall due to SB 1053, resulting in an additional 183,332 individuals using contraceptives. The largest increase in utilization will occur for male condom use, due to a 100% increase in coverage.
- **Public health.** Due to increased contraceptive use, CHBRP estimates that SB 1053 will result in 51,298 averted unintended pregnancies; among those averted pregnancies, CHBRP estimates 20,006 averted abortions.
- **Long-term impacts.** CHBRP projects that SB 1053 would result in a decrease in the rate of unintended pregnancies and abortions over the long-term, resulting in a corresponding decrease in the risk of maternal mortality, adverse child health outcomes, behavioral problems in children, and negative psychological outcomes associated with unintended pregnancies for both mothers and children. Avoiding unintended pregnancies also helps women to delay childbearing and pursue additional education, spend additional time in their careers and have increased earning power over the long term.
- **Interaction with existing state mandates.** SB 1053 would modify California's existing contraceptive law, which currently requires health plans and insurers to cover a variety of prescription drug contraceptives.

## BILL SUMMARY

SB 1053 would require all DMHC-regulated plans and CDI-regulated policies issued, amended, renewed, or delivered on January 1, 2015, to provide coverage for all Food and Drug Administration (FDA) approved contraceptive drugs, devices, products, and voluntary sterilization procedures in each contraceptive category outlined by the FDA, as well as contraceptive education and counseling.

SB 1053 would prohibit nongrandfathered group or individual health plans and policies from imposing cost-sharing requirements in providing contraceptive coverage, consistent with existing requirements in the Affordable Care Act (ACA).

SB 1053 also preserves existing language in both state law and in the ACA that exempts certain religious employers from providing this coverage to their employees.

## BACKGROUND ON FDA APPROVED CONTRACEPTIVES

The language in SB 1053 explicitly requires coverage for all FDA approved contraceptive drugs, devices, products, and voluntary sterilization procedures. The list of contraceptives currently approved by the FDA includes 20 different contraceptive types in five different contraceptive method categories. The list includes the following:

- **Barrier contraceptive methods** such as male condoms, female condoms, diaphragms, sponges, cervical caps, and spermicide
- **Hormonal contraceptive methods** such as oral contraceptives, patches, contraceptive rings, and injections
- **Emergency contraceptives** such as Plan B® or Ella®
- **Implanted device contraceptives** such as IUDs and implantable rods
- **Permanent contraceptive methods** such as male and female sterilization surgery and female sterilization implants

## CHBRP KEY FINDINGS: INCREMENTAL IMPACT OF SB 1053

### Benefit Coverage, Utilization and Cost

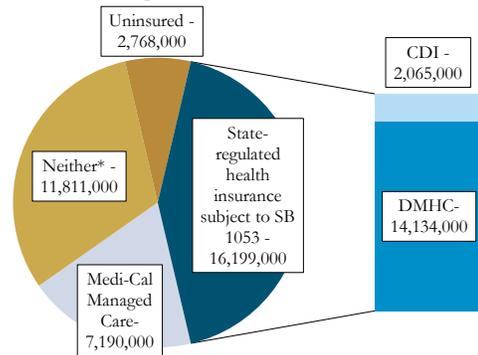
**Coverage Impacts:** Out of the 23.4 million enrollees in DMHC-regulated plans and CDI-regulated policies subject to state mandates, 16.2 million enrollees are subject to SB 1053. As illustrated below in Figure 1, this includes all DMHC-regulated plans and/or CDI-regulated policies, exempting managed care plans purchased by DHCS for Medi-Cal beneficiaries.

Currently, 97.5% of the 16.2 million enrollees have coverage for any female contraceptives without cost-sharing, including coverage through a family member. Among these 16.2 million enrollees, 99.3% have coverage for vasectomies with a certain level of cost-sharing. Zero percent of these enrollees have coverage for male condoms.

Because SB 1053 would expand coverage to all FDA approved contraceptives, CHBRP estimates that coverage for contraceptives would increase:

- From 97.5% to 100% among female enrollees utilizing female contraceptives.
- From 99.3% to 100% for vasectomies among male enrollees utilizing vasectomies.
- From 0% to 100% among male enrollees utilizing male condoms.

**Figure 1. SB 1053's Interaction with California Health Insurance Coverage**



Source: California Health Benefits Review Program, 2014

Notes: \*Neither = Federally regulated health insurance, such as Medicare, veterans, or self-insured plans

**Utilization Impacts:** CHBRP estimates a 7.4% increase in contraceptive utilization overall, resulting in an additional 183,332 individuals using contraceptives.

**Cost Impacts:** SB 1053 would shift some contraceptive costs from enrollees to health plans and insurers through reduced cost sharing. CHBRP estimates a reduction in out-of-pocket expenses of approximately \$50.2 million consisting of a reduction of \$46.5 million in enrollee expenditures for previously noncovered benefits and a reduction of nearly \$3.7 million in enrollee out-of-pocket expenditures for previously covered benefits.

Total annual expenditures are estimated to increase by \$31,201,000 or 0.024%, mainly due to the increased utilization of contraceptives.

The mandate is estimated to increase premiums by about \$81,397,000 or 0.083%. The distribution of the impact on premiums is as follows:

- Total premiums for private employers are estimated to increase by \$46,320,000 or 0.085%
- Enrollee contributions toward premiums for group insurance are estimated to increase by \$18,475,000 or 0.083%
- Total premiums for those with individually purchased insurance are estimated to increase by \$13,985,000 or 0.083%.
- Total premiums for CalPERS HMO employer expenditures are estimated to increase by \$2,617,000 or 0.061%.

The estimated premium increases would not have a measurable impact on the number of persons who are uninsured.

## Medical Effectiveness

Most of the effectiveness research related to contraceptive methods is not classified as high quality as defined by CHBRP methodology. This is due, in part, to the prevailing opinion that it is unethical to randomize women who do not want to get pregnant into groups using a placebo contraceptive. Therefore, the comparison between a selected contraceptive and no contraceptive has to be estimated indirectly using published data on pregnancy rates among women using no contraception.

Over the course of a year, sexually active women of reproductive age not using contraceptive methods have an 85% chance of becoming pregnant. Among sexually active women with previous contraceptive use, the unintended pregnancy rate is 46%. These are the baseline rates from which to compare effectiveness of each of the contraceptives required by SB 1053.

Unintended pregnancy rates based on typical use of most of the FDA approved contraceptives range from 0.05% to 24%. Based on the results of these comparisons, it is reasonable to conclude that using any of the FDA approved contraceptive methods is more effective than not using any contraception in preventing unintended pregnancies. However, the varying rates of effectiveness between different methods should be noted. A comparison of pregnancy rates for different FDA approved contraceptive methods revealed that implanted devices (such as IUDs or implantable rods) and sterilization methods (such as vasectomy and tubal ligation) were far more effective at preventing unwanted pregnancy than barrier methods (male and female condoms, cervical caps, and sponges) or hormonal methods (pills, patches, and rings).

## Public Health

Unintended Pregnancy Rates: Assuming typical use of each contraceptive method among the additional projected contraceptive users, CHBRP estimates that SB 1053 will result in 51,298 averted unintended pregnancies and among those averted pregnancies, 20,006 averted abortions.

The reduction in unintended pregnancies will also result in a reduction in negative health outcomes associated with unintended pregnancy, including delayed prenatal care, low-birthweight, and preterm birth.

Risks and Harms of Contraceptives: The use of contraceptives is not without harm, particularly among users of hormonal methods. The additional enrollees using hormonal contraceptive methods may be at higher risk of cardiovascular disease and side effects such as headache and weight gain. Additionally, some enrollees newly using barrier methods or some IUDs

may be at increased risk of allergic reaction (to latex, copper, etc.) and additional enrollees obtaining sterilization may be at increased risk of possible postoperative complications (however, these complications are rare).

No single contraceptive method is highly effective at preventing both unintended pregnancy and protecting against sexually transmitted infections (STIs). Male condoms remain the primary method protecting against STIs. While SB 1053 may increase utilization of more effective contraceptive methods, such as oral contraceptives and IUDs, research has found that individuals using more effective methods as their primary birth control are less likely to use male condoms consistently, which could theoretically increase the risk of acquiring an STI.

Financial Burden: The mandate would expand coverage and reduce cost-sharing, lowering financial burden among enrollees using contraceptives by \$50.2 million in the first year, post-mandate. The mandate would eliminate cost-sharing for male contraceptives, including vasectomy, which has been previously covered but with some level of cost-sharing.

Racial and Ethnic Disparities: Although there are racial/ethnic disparities in contraceptive utilization, and an increase in utilization is projected, CHBRP is unable to project utilization by race/ethnicity. To the extent that SB 1053 increases utilization of more effective contraceptive methods, such as IUDs, in African Americans and Asians and Native Hawaiians and other Pacific Islanders, CHBRP estimates a reduction in the racial/ethnic disparity in the first year, postmandate; however, the magnitude is unknown.

## Long-term Impacts

Unintended Pregnancy Rates & Abortion: Assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, CHBRP estimates that passage of SB 1053 may result in a decrease in the rate of unintended pregnancies and abortion in the long term, and thus substantial long-term cost reductions.

Maternal Mortality and Child Health Outcomes: Assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, a decrease in the rate of unintended pregnancies will decrease the risk of maternal mortality, adverse child health outcomes, behavioral problems in children, and negative psychological outcomes associated with unintended pregnancies for both mothers and children.

## CONTEXT FOR BILL CONSIDERATION: INTERACTION WITH THE AFFORDABLE CARE ACT

### SB 1053 and Preventive Services

The requirements of SB 1053 would interact with the ACA’s preventive services requirement, which requires that nongrandfathered group and individual health insurance plans and policies cover certain preventive services without cost sharing. One of the four sources that the ACA refers to in determining which preventive services are required is the Health Resources and Services Administration (HRSA)–supported health plan coverage guidelines for women’s preventive services.

The HRSA-supported health plan coverage guidelines for women’s preventive services includes language that would require plans to cover “all FDA approved contraceptive methods, as prescribed by a physician”. The language of SB 1053 explicitly requires coverage of all FDA approved drugs, devices, and products, as well as sterilization procedures, in each FDA approved contraceptive category. Depending on how the HRSA guidelines are interpreted, SB 1053’s coverage mandate could be broader than what is required by the ACA.

In addition, SB 1053 would require coverage for all FDA approved male contraceptives, such as vasectomies and male condoms. Federal guidance on the preventive services requirement in the ACA has explicitly excluded coverage for male contraceptives as part of the HRSA guidelines, so the language of SB 1053 would require plans to cover a broader range of male contraceptives than what is currently required in federal law.

### SB 1053 and Essential Health Benefits

The ACA requires nongrandfathered small-group and individual market health insurance — including, but not limited to, qualified health plans (QHPs) sold in Covered California — to cover 10 specified categories of EHBs. California has selected the Kaiser Foundation Health Plan Small Group Health Maintenance Organization (HMO) 30 plan as its benchmark plan defining which benefits are included in EHBs within California.

In addition to the benefits described in Kaiser HMO 30, EHBs also include all benefits mandated to be covered by statutes enacted before December 31, 2011. This includes the federal preventive services requirement described in the section above.

Since the requirements of SB 1053 are potentially broader than what is required in the HRSA-supported guidelines for women’s preventive services, CHBRP believes that the requirements of SB 1053 could exceed EHBs. Specifically, the language of SB 1053 would require all health plans and insurers to provide

coverage for all FDA approved contraceptive “drugs, devices, products, and sterilization procedures” within each FDA approved contraceptive method category. The HRSA preventive services guidelines requires coverage of “all FDA approved contraceptive methods.” To the extent that these guidelines are interpreted to mean that coverage must be provided for “at least one” contraceptive type within each method category, then the requirements of SB 1053 could exceed what is currently being required by EHBs.

Additionally, the HRSA preventive services guidelines do not require plans and insurers to provide coverage for male contraceptives, such as condoms and vasectomies. Both Basic Health Care Services and Kaiser HMO 30 include coverage for vasectomies with cost-sharing requirements, but do not include coverage for male condoms. Since SB 1053 would require all plans and insurers to provide coverage for all FDA approved male contraceptives, including male condoms, CHBRP believes that the bill’s mandate would likely exceed the current requirements of EHBs.

**Table 1.** SB 1053 and Essential Health Benefits

Bill Provision	EHB Interaction	Rationale
Coverage of all FDA approved drugs, devices, products, and sterilization procedures in each contraceptive method category	Could exceed EHBs	This provision could be interpreted as more explicit and broader than the ACA’s preventive services requirement.
Coverage of all FDA approved male contraceptives (male condoms and vasectomy)	Would likely exceed EHBs	SB 1053’s requirement to cover male condoms is not included in either California’s Basic Health Care Services or the California EHB benchmark plan, Kaiser Small Group 30 HMO.

*Source:* California Health Benefits Review Program, 2014.

**A Report to the 2013–2014 California State Legislature**

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**April 20, 2014**

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The California Health Benefits Review Program (CHBRP) was established in 2002 to provide the California Legislature independent analysis of the medical, financial, and public health impacts of proposed health insurance benefit mandates and repeals per its authorizing statute.<sup>1</sup> The program was reauthorized in 2006 and again in 2009. CHBRP's authorizing statute defines legislation proposing to mandate or proposing to repeal an existing health insurance benefit as a proposal that would mandate or repeal a requirement that a health care service plan or health insurer: (1) permit covered individuals to obtain health care treatment or services from a particular type of health care provider; (2) offer or provide coverage for the screening, diagnosis, or treatment of a particular disease or condition; (3) offer or provide coverage of a particular type of health care treatment or service, or of medical equipment, medical supplies, or drugs used in connection with a health care treatment or service; and/or (4) specify terms (limits, timeframes, copayments, deductibles, coinsurance, etc.) for any of the other categories.

An analytic staff in the University of California's Office of the President supports a task force of faculty and staff from several campuses of the University of California to complete each analysis within a 60-day period, usually before the Legislature begins formal consideration of a mandate or repeal bill. A certified, independent actuary helps estimate the financial impacts. A strict conflict-of-interest policy ensures that the analyses are undertaken without financial or other interests that could bias the results. A National Advisory Council, drawn from experts from outside the state of California provides balanced representation among groups with an interest in health insurance benefit mandates or repeals, reviews draft analyses to ensure their quality before they are submitted to the Legislature. Each report summarizes scientific evidence relevant to the proposed mandate, or proposed mandate repeal, but does not make recommendations, deferring policy decision making to the Legislature. The State funds this work through an annual assessment on health plans and insurers in California. All CHBRP reports and information about current requests from the California Legislature are available on the CHBRP website, [www.chbrp.org](http://www.chbrp.org).

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<sup>1</sup> Available at: [www.chbrp.org/documents/authorizing\\_statute.pdf](http://www.chbrp.org/documents/authorizing_statute.pdf).

## PREFACE

This report provides an analysis of the medical, financial, and public health impacts of Senate Bill 1053. In response to a request from the California Senate Committee on Health on February 19, 2014, the California Health Benefits Review Program (CHBRP) undertook this analysis pursuant to the program's authorizing statute, which established CHBRP to provide independent and impartial analysis of proposed health insurance benefit mandates and repeals. CHBRP subsequently received a request from the Senate Health Committee to analyze the April 9, 2014 amended version of the bill, and the analysis in this report reflects changes in the amended language.

Sara McMenamin, PhD, and Steven Tally, PhD, of the University of California, San Diego, prepared the medical effectiveness analysis. Penny Coppernoll-Blach, MLIS, of the University of California, San Diego, conducted the literature search. Joy Melnikow, MD, MPH, and Meghan Soulsby, MPH, of the University of California, Davis, prepared the public health impact analysis. Byung-Kwang (BK) Yoo, MD, MS, PhD, of the University of California, Davis, and Riti Shimkhada, PhD, of the University of California, Los Angeles, prepared the cost impact analysis. Susan Pantely, FSA, MAAA and Casey Word, ASA, MAAA of Milliman, provided actuarial analysis. Content experts Sheila K. Mody, MD, MPH, of the University of California, San Diego, and James Trussell, PhD, of Princeton University provided technical assistance with the literature review and expert input on the analytic approach. Nimit Ruparel, MPP, and Garen Corbett, MS, of CHBRP staff prepared the *Introduction* and synthesized the individual sections into a single report. A subcommittee of CHBRP's National Advisory Council (see final pages of this report) and a member of the CHBRP Faculty Task Force, Theodore Ganiats, MD, of the University of California, San Diego, reviewed the analysis for its accuracy, completeness, clarity, and responsiveness to the Legislature's request.

CHBRP gratefully acknowledges all of these contributions but assumes full responsibility for all of the report and its contents. Please direct any questions concerning this report to:

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All CHBRP bill analyses and other publications and resources are available on the CHBRP website, [www.chbrp.org](http://www.chbrp.org).

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# EXECUTIVE SUMMARY

## California Health Benefits Review Program Analysis of Senate Bill 1053

The California Senate Committee on Health requested on February 18, 2014, that the California Health Benefits Review Program (CHBRP) conduct an evidence-based assessment of the medical, financial, and public health impacts of Senate Bill (SB) 1053, Health Care Coverage: Contraceptives. In response to this request, CHBRP undertook an analysis pursuant to the provisions of the program's authorizing statute,<sup>2</sup> which allows for the review of benefit mandates affecting health insurance regulated by the state. CHBRP subsequently received a request from the Senate Health Committee to analyze the April 9, 2014, amended version of the bill, and the analysis in this report reflects changes in the amended language.<sup>3</sup>

State benefit mandates apply to a subset of health insurance in California, those regulated by one of California's two health insurance regulators<sup>4</sup>: the California Department of Managed Health Care (DMHC)<sup>5</sup> and the California Department of Insurance (CDI).<sup>6</sup> In 2015, CHBRP estimates that approximately 23.4 million Californians (60%) will have health insurance that may be subject to any state health benefit mandate law.<sup>7</sup> Of the rest of the state's population, a portion will be uninsured (and therefore will have no health insurance subject to any benefit mandate), and another portion will have health insurance subject to other state laws or only to federal laws.

The mandate in SB 1053 would affect the health insurance of approximately 16.2 million enrollees (41% of all Californians).<sup>8</sup> Both DMHC and the California Department of Health Care Services (DHCS) have confirmed that SB 1053's language referring to "group" plans would not require compliance from plans enrolling Medi-Cal beneficiaries into Medi-Cal Managed Care<sup>9,10</sup>. Therefore, all DMHC-regulated plans and/or CDI-regulated policies, except managed care plans purchased by the DHCS for Medi-Cal beneficiaries, would be subject to SB 1053.

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<sup>2</sup> Available at: [www.chbrp.org/docs/authorizing\\_statute.pdf](http://www.chbrp.org/docs/authorizing_statute.pdf).

<sup>3</sup> The amended version (4/9/14) of SB 1053 reduced CHBRP's estimates of the public health impacts found in the original bill. More details on these differences can be found in Appendix G.

<sup>4</sup> California has a bifurcated system of regulation for health insurance. The Department of Managed Health Care (DMHC) regulates health care service plans, which offer benefit coverage to their enrollees through health plan contracts. The California Department of Insurance (CDI) regulates health insurers, which offer benefit coverage to their enrollees through health insurance policies.

<sup>5</sup> DMHC was established in 2000 to enforce the Knox-Keene Health Care Service Plan of 1975; see Health and Safety Code (H&SC) Section 1340.

<sup>6</sup> CDI licenses "disability insurers." Disability insurers may offer forms of insurance that are not health insurance. This report considers only the impact of the benefit mandate on health insurance policies, as defined in Insurance Code (IC) Section 106(b) or subdivision (a) of Section 10198.6.

<sup>7</sup> CHBRP's estimates are available at: [www.chbrp.org/other\\_publications/index.php](http://www.chbrp.org/other_publications/index.php).

<sup>8</sup> CHBRP's analysis of SB 1053 assumed that grandfathered plans would be included in the coverage mandate required by SB 1053, based on internal interpretation of the bill language and consultation with DMHC. CDI provided a different interpretation, stating that grandfathered CDI-regulated policies would not fall under the bill's requirements.

<sup>9</sup> Personal communication, S. Lowenstein, DMHC, January 2014.

<sup>10</sup> Personal communication, C. Robinson, Department of Health Care Services, citing Sec. 2791 of the federal Public Health Service Act, January 2014.

## **Developing Estimates for 2015 and the Effects of the Affordable Care Act**

The Affordable Care Act (ACA)<sup>11</sup> is substantially affecting health insurance and its regulatory environment in California. As of January 2014, an expansion of the Medi-Cal program, California's Medicaid program,<sup>12</sup> and the availability of subsidized and unsubsidized health insurance purchased through Covered California,<sup>13</sup> the state's newly established state health insurance marketplace, are significantly increasing the number of people with health insurance in California, and across the United States.

State health insurance marketplaces, such as Covered California, are responsible for certifying and selling qualified health plans (QHPs) in the small-group and individual markets.<sup>14</sup> QHPs sold through Covered California are DMHC-regulated plans or CDI-regulated policies, and as such will be subject to California state benefit mandates.

It is important to note that CHBRP's analysis of proposed benefit mandate bills typically address the incremental effects of the proposed bills — specifically, how the proposed mandate would impact benefit coverage, utilization, costs, and public health, holding all other factors constant. CHBRP's estimates of these incremental effects are presented in this report. In order to accommodate continuing changes in health insurance enrollment, CHBRP is relying on projections from the California Simulation of Insurance Markets (CalSIM) model<sup>15</sup> to help estimate baseline enrollment for 2015. From this projected baseline, CHBRP estimates the incremental impact of proposed benefit mandates that could be in effect after January 2015. CHBRP's methods for estimating baseline 2015 enrollment from CalSIM projections are provided in further detail in Appendix D.

### **Bill-Specific Analysis of SB 1053**

A link to the full text of SB 1053 can be found in Appendix A.

SB 1053 would require all DMHC-regulated plans and CDI-regulated policies issued, amended, renewed, or delivered on or after January 1, 2015, to provide coverage for all Food and Drug Administration (FDA) approved contraceptive drugs, devices, products<sup>16</sup>, and voluntary

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<sup>11</sup> The federal "Patient Protection and Affordable Care Act" (P.L.111-148) and the "Health Care and Education Reconciliation Act" (P.L. 111-152) were enacted in March 2010. Together, these laws are referred to as the Affordable Care Act (ACA).

<sup>12</sup> The Medicaid expansion, which California will pursue, is to 133% of the federal poverty level (FPL) — 138% with a 5% income disregard.

<sup>13</sup> The California Health Benefits Exchange Authorizing Statute is available here:

[www.healthexchange.ca.gov/Documents/California%20Codes%20Governing%20the%20Health%20Benefit%20Exchange.pdf](http://www.healthexchange.ca.gov/Documents/California%20Codes%20Governing%20the%20Health%20Benefit%20Exchange.pdf).

<sup>14</sup> Effective 2017, states may allow large-group purchasing through health insurance marketplaces, which may make some large-group plans and policies subject to the requirement to provide essential health benefits [ACA Section 1312(f)(2)(B)].

<sup>15</sup> CalSIM was developed jointly and is operated by the University of California, Los Angeles Center for Health Policy Research and the University of California, Berkeley Center for Labor Research. The model estimates the impact of provisions in the ACA on employer decisions to offer, and individual decisions to obtain, health insurance.

<sup>16</sup> The amended version of SB 1053 preserves existing prescription requirements for over-the-counter (OTC) contraceptives.

sterilization procedures in each contraceptive category outlined by the FDA, as well as contraceptive education and counseling.<sup>17</sup>

SB 1053 would prohibit nongrandfathered<sup>18</sup> group or individual health plans and policies from imposing cost-sharing requirements in providing contraceptive coverage, consistent with existing requirements in the ACA.<sup>19</sup>

SB 1053 also preserves existing language in both state law and in the ACA that exempts certain religious employers from providing this coverage to their employees.

### Analytic Approach and Key Assumptions

#### *FDA approved contraceptives*

The language in SB 1053 is explicit about which particular contraceptives are included in the bill's mandate, specifically citing all FDA approved contraceptive drugs, devices, products, and sterilization procedures.<sup>20</sup> The list of contraceptives currently approved by the FDA includes 20 different contraceptive types in five different contraceptive method categories. More detail on each of the contraceptive types listed below can also be found in the *Medical Effectiveness* and *Public Health Impacts* sections of this report. The full list of FDA approved contraceptive types, broken out by method category, includes the following:

- **Barrier contraceptive methods:** male condoms, female condoms, diaphragms, sponges, cervical caps, and spermicide
- **Hormonal contraceptive methods:** oral contraceptives, patches, contraceptive rings, and injections
- **Emergency contraceptives:** levonorgestrel (known as Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup>, Next Choice, Next Choice One Step) and ulipristal acetate (Ella<sup>®</sup>)
- **Implanted device contraceptives:** copper IUD (ParaGard<sup>®</sup>), the levonorgestrel-releasing IUD (Mirena<sup>®</sup>, Skyla<sup>®</sup>) and the etonogestrel implantable rod (Implanon<sup>®</sup>, Nexplanon<sup>®</sup>)
- **Permanent contraceptive methods:** vasectomy, laparoscopic surgical sterilization and hysteroscopic surgical sterilization implant (Essure<sup>®</sup>).

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<sup>17</sup> A full list of FDA approved contraceptive drugs, devices, products, and sterilization procedures can be found here: [www.fda.gov/ForConsumers/ByAudience/ForWomen/FreePublications/ucm313215.htm](http://www.fda.gov/ForConsumers/ByAudience/ForWomen/FreePublications/ucm313215.htm).

<sup>18</sup> A grandfathered health plan is defined as: "A group health plan that was created — or an individual health insurance policy that was purchased — on or before March 23, 2010. Grandfathered plans are exempted from many changes required under the ACA. Plans or policies may lose their "grandfathered" status if they make certain significant changes that reduce benefits or increase costs to consumers". More information on this definition can be found here: [www.healthcare.gov/glossary/grandfathered-health-plan/](http://www.healthcare.gov/glossary/grandfathered-health-plan/).

<sup>19</sup> Centers for Medicare & Medicaid Services' FAQs issued after passage of the ACA provides guidelines for health plans in covering contraceptives, including around cost-sharing requirements. These guidelines can be found here: [www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca\\_implementation\\_faqs12.html](http://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca_implementation_faqs12.html).

<sup>20</sup> For this analysis, CHBRP assumed that the bill would not require coverage of each brand of all FDA approved contraceptive drugs, devices, or products.

## Interaction With Other California Requirements

SB 1053 would amend California's existing contraceptive coverage law.<sup>21</sup>

The existing law requires all health plans and policies that provide coverage for outpatient prescription drugs to include coverage for "a variety of FDA approved prescription contraceptive methods" in their drug formulary. Since the language in SB 1053 includes a requirement for plans and policies to cover the full spectrum of FDA approved contraceptive devices, products, and sterilization procedures and is not simply limited to requiring contraceptive drugs, the bill would impose a broader coverage mandate than existing California law.

## Requirements in Other States

CHBRP is currently aware of at least 26 states (including California) that have passed health insurance benefit mandates related to contraception coverage in the past. Two additional states have mandated coverage of contraceptives through either administrative ruling or Attorney General opinion (NCSL, 2012).<sup>22</sup> These coverage mandates generally require plans that are already providing coverage for prescription drug contraceptives to also cover a wider range of FDA approved contraceptive drugs, devices, and products. However, there is some unique variation in the coverage required in states that have contraceptive mandates. For example, of the 28 states that have a contraceptive coverage requirement, 17 also require coverage of outpatient services related to specific contraceptive types (such as the cost of inserting an IUD). In two states, emergency contraception is excluded from their contraceptive coverage requirement. Additionally, one state excludes dependent minors from their coverage requirement (Guttmacher Institute, 2014).

## Background on Contraceptives and Unintended Pregnancy

An unintended pregnancy is defined as one that is "mistimed, unplanned or unwanted at the time of conception" (CDC, 2014a). In California, 516,000 pregnancies each year are unintended, accounting for 53% of all pregnancies occurring in the state (Kost, 2013). Women are considered at risk of unintended pregnancy if they are of reproductive age and sexually active with male partners. Consistent use of effective contraception greatly reduces this risk of pregnancy. Although utilization of contraception is high (65% of the overall U.S. population), there is still a large proportion of sexually active heterosexual females aged 15 to 44 years who are at risk of an unintended pregnancy. In the United States, nearly two-thirds of women at risk of an unintended pregnancy consistently use contraception throughout any given year and account for only 5% of unintended pregnancies. In comparison, 19% of women at risk use contraception inconsistently or incorrectly throughout any given year and 16% do not use any contraception for a month or longer during the year; these women account for 43% and 52% of all unintended pregnancies

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<sup>21</sup> H&SC Section 1367.25 and IC Sections 10123.196, as enacted by AB 39 (1999).

<sup>22</sup> National Conference of State Legislatures (NCSL). Insurance Coverage for Contraception Laws. February 2012. Available at: <http://www.ncsl.org/research/health/insurance-coverage-for-contraception-state-laws.aspx>. Accessed on March 11, 2014.<sup>22</sup> States with contraceptive coverage requirements as of March 2014 include: AZ, AK, CA, CO, CT, DE, GA, HI, IA, IL, MA, MD, MN, MS, NC, NH, NJ, NM, NV, NY, OR, RI, VT, WA, WV, and WI. Additionally, Michigan has passed an administrative ruling, and Montana has issued an Attorney General opinion, both requiring insurers in their states to provide contraceptive coverage.

respectively (Guttmacher Institute, 2013b). Assuming national contraception utilization rates are similar to those in California, the 35% of women using contraception inconsistently, incorrectly, or not at all would most benefit from SB 1053 by expanding access to a wide range of contraceptive method options with no cost sharing, including long-acting reversible contraceptives such as IUDs, which do not rely on user compliance. This would affect current rates of both unintended pregnancy and abortion.

Contraceptive use also has broad benefits, beyond preventing unintended pregnancies. It allows women to plan for pregnancy and achieve desired birth spacing, which positively impacts maternal and fetal health outcomes and maternal socioeconomic status. Contraceptive use also has noncontraceptive health benefits, including reducing menstruation-related symptoms, reducing risk of some cancers, and protecting against sexually transmitted infections.

### **Medical Effectiveness**

Most of the effectiveness research related to contraceptive methods is not classified as high quality as defined by CHBRP methodology. This is due, in part, to the prevailing opinion that it is not ethical to randomize women who do not want to get pregnant into groups using a placebo contraceptive. Therefore, the comparison between a selected contraceptive and no contraceptive has to be estimated indirectly using published data on pregnancy rates among women using no contraception. Based on the results of these comparisons, it is reasonable to conclude that using any of the contraceptive methods listed below is more effective than not using any contraception in preventing unintended pregnancies. The specific rates of unintended pregnancies for each type of contraceptive are listed below.

### **Summary of findings**

- Over the course of a year, sexually active women of reproductive age not using contraceptive methods have an 85% chance of becoming pregnant. Among sexually active women with previous contraceptive use, the unintended pregnancy rate is 46% over the course of a year.
- **Contraceptive counseling** is recommended for all women of reproductive age so that they can be informed of the benefits and risks of all contraceptive methods to aid in selection of their optimal method.
- **Barrier contraceptive methods.** There are six FDA approved barrier methods: male condom, female condom, diaphragm, sponge, cervical cap, and spermicide. Unintended pregnancy rates over the course of a year for barrier methods range from 12% to 24%.
- **Hormonal contraceptive methods.** The FDA approved hormonal methods are oral contraceptives, contraceptive patch (Ortho Evra<sup>®</sup>), the vaginal contraceptive ring (NuvaRing<sup>®</sup>), and contraceptive injections (Depo-Provera<sup>®</sup>, Depo-Subq Provera<sup>®</sup>). Over the course of a year, unintended pregnancy rates for hormonal contraceptive methods range from 6% to 9%.
- **Emergency contraception.** There are two types of emergency contraceptive pills: levonorgestrel (Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup>, Next Choice, Next Choice One Step) and ulipristal acetate (Ella<sup>®</sup>). Among women taking emergency contraceptive pills, 1.8% to 2.6%

became pregnant. The copper intrauterine device (IUD) (ParaGard<sup>®</sup>) is also used for emergency contraception although it is not FDA approved for this purpose.

- **Implanted devices.** The FDA approved types are the copper IUD (ParaGard<sup>®</sup>), the levonorgestrel-releasing IUD (Mirena<sup>®</sup>) the low dose levonorgestrel-releasing IUD (Skyla<sup>®</sup>) and the etonogestrel implantable rod (Implanon<sup>®</sup>, Nexplanon<sup>®</sup>). Over the course of a year, unintended pregnancy rates for these contraceptives range from 0.05% to 0.8%.
- **Permanent contraceptive methods** include surgical sterilization for men (vasectomy), laparoscopic sterilization for women (tubal ligation), and hysteroscopic permanent sterilization implant for women (Essure<sup>®</sup>). Over the course of a year, unintended pregnancy rates for sterilization range from 0.1% to 0.5%.
- Comparative effectiveness of contraceptive methods:
  - Although very few direct comparison trials exist, large observational studies indicate that implanted long-acting reversible contraceptives such as IUDs and contraceptive implants and sterilization are more effective compared to hormonal contraception methods, and that barrier methods are the least effective form of contraception.
  - A meta-analysis of two randomized comparative effectiveness trials of ulipristal acetate and levonorgestrel found that ulipristal acetate users had lower rates of unintended pregnancy.
- There is a preponderance of evidence from studies with weak designs<sup>23</sup> that lowering or eliminating patient copayments for IUDs is associated with higher IUD utilization and is associated with a utilization shift from less to more effective contraception.

### **Benefit Coverage, Utilization, and Cost Impacts**

To perform the cost analysis for SB 1053, CHBRP measured current cost sharing (as a percentage of the total cost) for contraceptives. CHBRP modeled compliance with the mandate as resulting in the expansion of benefit coverage, and the prohibition of any cost sharing for covered contraceptives.

Table 1 summarizes the estimated benefit coverage, utilization, and cost impacts of SB 1053.

#### *Coverage impacts*

- Out of the 23.4 million enrollees in DMHC-regulated plans and CDI-regulated policies subject to state mandates, 16.2 million enrollees are subject to SB 1053.
- Currently, 97.5% of 16.2 million enrollees have coverage for *any* female contraceptives without cost sharing, including coverage through a family member. Among these 16.2 million enrollees, 99.3% have coverage for vasectomies with a certain level of cost sharing. Zero percent of these enrollees have coverage for male condoms.

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<sup>23</sup> CHBRP classifies nonrandomized/observational studies that do not have a concurrent comparison group (e.g., studies with before-after designs, studies with historical comparison groups) as studies of weak design.

- Because SB 1053 would expand contraceptive coverage, CHBRP estimates that 100% of these 16.2 million enrollees will have coverage for *all* contraceptive methods without any cost sharing after the mandate.
- CHBRP estimates that coverage for contraceptives would increase:
  - From 97.7% to 100% among female enrollees utilizing female contraceptives.
  - From 99.3% to 100% for vasectomies among male enrollees utilizing vasectomies.
  - From 0% to 100% among male enrollees utilizing male condoms.

### *Utilization impacts*

- CHBRP estimates that 183,332 enrollees would newly use contraceptives following the implementation of SB 1053 - this would be an increase of 7.4% compared to the 2,480,122 enrollees using contraceptives in 2014 regardless of coverage.
- CHBRP estimates that 1,209,662 covered female enrollees would use contraceptives following the implementation of SB 1053 - this would be an increase of 80,190 or 7.1% compared to the 1,129,472 covered females who used contraceptives in 2014.
- CHBRP projects that 53,785 or 4.65% additional female enrollees will newly use contraceptives in 2015 following the implementation of SB 1053, compared to the 1,155,877 female enrollees using contraceptives in 2014 regardless of coverage.
- CHBRP estimates that 1,453,972 covered male enrollees would use contraceptives following the implementation of SB 1053. This is an increase of 1,425,110 or 4,969% compared to the 28,862 covered males using contraceptives in 2014, when male condoms were not a covered benefit.
- Although the number of covered users is expected to increase substantially (as described above) CHBRP projects that 129,547 or 9.78% additional male enrollees will newly use contraceptives in 2015 following the implementation of SB 1053, compared to the 1,324,245 male enrollees using contraceptives in 2014 regardless of coverage. These utilization impacts are estimated based on the two sets of assumptions below:
  - For all contraceptive types except male condoms, CHBRP applied premandate utilization rates among enrollees with coverage for all enrollees after the mandate regardless of coverage status in the premandate period.<sup>24</sup> These premandate utilization rates among enrollees with coverage are based on Milliman's analysis of 2012 California claims data, as explained above.
  - CHBRP estimates a 10% increase in male condom utilization based on increased awareness and marketing of the mandate in SB 1053.<sup>25</sup>

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<sup>24</sup> It should be noted that the mandate allows females with coverage to obtain a prescription for male condoms and that coverage estimates include those with coverage through a family member.

<sup>25</sup> CHBRP analyses in the past have utilized a 10% estimated increase in utilization due to awareness and marketing of a particular benefit mandate.

### *Cost impacts*

- CHBRP assumes that the mandate will have no impact on the per-unit costs for any specific contraceptive type.
- Total net annual expenditures are estimated to increase by \$31,201,000 or 0.024% for enrollees with DMHC-regulated plans and CDI-regulated policies.
  - This estimate is based on a \$81,397,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, partially offset by a decrease in enrollee expenditures for previously noncovered benefits (\$46,546,000) and a decrease in enrollee out-of-pocket expenditures for previously covered benefits in the forms of deductibles and copayments (\$3,650,000)
  - CHBRP estimates the reduced medical expenditures of averted deliveries during the first year to be \$149,065,150 due to the projected increase in utilization of contraceptives.
- The mandate is estimated to increase premiums by about \$81,397,000 (0.083%). The distribution of the impact on premiums is as follows:
  - Total premiums for private employers are estimated to increase by \$46,320,000 (0.085%).
  - Enrollee contributions toward premiums for group insurance are estimated to increase by \$18,475,000 or 0.083%.
  - Total premiums for those with individually purchased insurance are estimated to increase by \$13,985,000 or 0.083%.
  - Total premiums for CalPERS HMO employer expenditures are estimated to increase by \$2,617,000 or 0.061%.
- The expected average increase in premiums across the commercial market segments is between 0.073% and .111% (or \$0.35 and \$0.71) per member per month (PMPM).
- The expected average increase in insurance premiums is 0.061% for CalPERS HMOs plans. For these publicly funded plans, the increase is estimated at \$0.32 per member per month (PMPM).
- The estimated premium increases would not have a measurable impact on the number of persons who are uninsured.

### **Public Health Impacts**

#### *Short-term impacts*

- Based on established contraceptive effectiveness rates, estimates of unintended pregnancy outcomes from the literature, and projected increases in utilization, CHBRP calculated the estimated number of unintended pregnancies and abortions averted by the mandate. Assuming typical use of each contraceptive method among the projected additional contraceptive users, CHBRP estimates that SB 1053 will result in 51,298 averted unintended pregnancies and 20,006 averted abortions.

- The reduction in unintended pregnancies will also result in a reduction in negative health outcomes associated with unintended pregnancy, including delayed prenatal care, low birthweight, and preterm birth.
- There are broad contraceptive and noncontraceptive benefits beyond preventing unintended pregnancies. Contraceptive use allows for delayed childbearing and achieving desired birth spacing, which is associated with improved maternal and fetal health outcomes, as well as noncontraceptive health benefits, including treating menstruation-related symptoms, reducing risk of some cancers, and protecting against sexually transmitted infections.
- The use of contraceptives is not without harm, particularly among users of hormonal methods. The additional enrollees using hormonal contraceptive methods may be at higher risk of cardiovascular disease and side effects such as headache and weight gain. Additionally, some enrollees newly using barrier methods or some IUDs may be at increased risk of allergic reaction (to latex, copper, etc.) and additional enrollees obtaining sterilization may be at increased risk of possible postoperative complications (however, these complications are rare). Any contraceptive-related harm must be weighed against the broad contraceptive and noncontraceptive benefits of use.
- No single contraceptive method is highly effective at preventing both unintended pregnancy and protecting against sexually transmitted infections. While newer contraceptive methods such as IUDs are highly effective at preventing unintended pregnancy, male condoms remain the primary method protecting against sexually transmitted infections. While this mandate may increase utilization of more effective contraceptive methods, such as oral contraceptives and IUDs, research has found that individuals using an effective method as their primary birth control method are less likely to use male condoms consistently, which could theoretically increase the risk of acquiring a sexually transmitted infection.
- The mandate would shift some contraceptive costs from enrollees to health plans and insurers through reduced cost sharing. CHBRP estimates a reduction in out-of-pocket expenses of approximately \$50.2 million consisting of a reduction of \$46.5 million in enrollee expenditures for previously noncovered benefits and a reduction of nearly \$3.7 million in enrollee out-of-pocket expenditures for previously covered benefits.
- While there are gender disparities in the utilization of sterilization and this mandate would eliminate cost sharing for male sterilization, CHBRP does not estimate a significant increase in male sterilization due to this mandate; therefore, SB 1053 would not impact gender disparities.
- Although there are racial/ethnic disparities in contraceptive utilization and unintended pregnancy rates, and an increase in utilization is projected, CHBRP is unable to project utilization by race/ethnicity due to an unknown baseline racial/ethnic distribution of the insured population affected by the mandate. To the extent that SB 1053 reduces disparities that are due to coverage differences (but not due to preferences about specific contraceptive coverage) and increases utilization of more effective contraceptive methods such as IUDs, CHBRP estimates a reduction in the racial/ethnic disparity in contraceptive use and unintended pregnancy in the first year, postmandate; however, the magnitude is unknown.

### *Long-term impacts*

- In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, CHBRP projects a decrease in the rate of unintended pregnancies and abortions.
- In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, a decrease in the rate of unintended pregnancies will decrease the risk of maternal mortality, adverse child health outcomes, behavioral problems in children, and negative psychological outcomes associated with unintended pregnancies for both the mothers and children. An increase in contraceptive utilization would also allow women to delay childbearing and pursue additional education, spend additional time in their careers and have increased earning power. Additionally, the increased contraceptive utilization is likely to produce substantial long-term cost reduction due to averted deliveries.
- The use of contraceptives is not without harm; however, any harm must be weighed against the broad health benefits of contraceptive use. In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, individuals using contraceptives may be at higher risk of cardiovascular disease associated with the use of specific contraceptives. While increased condom use is associated with decreased risk of acquiring a sexually transmitted infection (STI) and some research indicates that increased utilization of effective contraceptive methods decreases condom use, CHBRP cannot estimate the increased utilization of specific contraceptive methods beyond the first year postmandate and therefore cannot estimate the directionality of any impact on STIs.

### **Interaction With the Federal Affordable Care Act**

SB 1053 may interact with requirements in the ACA, including the federal requirement for health plans and insurers to provide coverage of specified preventive services without cost sharing, and the requirement for certain health insurance to cover “essential health benefits” (EHBs).<sup>26</sup>

### **SB 1053 and Preventive Services**

The ACA requires that nongrandfathered group and individual health insurance plans and policies cover certain preventive services without cost sharing when delivered by in-network providers and as soon as 12 months after a recommendation appears in one of four specified sources. One of the sources that the ACA refers to in determining which preventive services are required is the Health Resources and Services Administration (HRSA)-supported health plan coverage guidelines for women’s preventive services.<sup>27</sup>

The HRSA-supported health plan coverage guidelines for women’s preventive services includes language that would require plans and insurers to cover “all FDA approved contraceptive methods, as prescribed by a physician.” Depending on how this language is interpreted, these guidelines could require all FDA approved contraceptive types to be covered, or they could be

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<sup>26</sup> Resources on EHBs and other ACA impacts are available on the CHBRP website: [www.chbrp.org/other\\_publications/index.php](http://www.chbrp.org/other_publications/index.php).

<sup>27</sup> Available at: [www.hrsa.gov/womensguidelines/](http://www.hrsa.gov/womensguidelines/).

interpreted to require a broad spectrum of FDA approved contraceptives, including at least one contraceptive type in each FDA approved contraceptive method category. The language of SB 1053 explicitly requires coverage of *all* FDA approved drugs, devices, and products, as well as voluntary sterilization procedures, in each FDA approved contraceptive category. Depending on how the HRSA guidelines are interpreted, SB 1053's coverage mandate could be broader than what is required by the ACA.

In addition, SB 1053 would require coverage for all FDA approved male contraceptives, such as vasectomies and male condoms. Federal guidance on the preventive services requirement in the ACA has explicitly excluded coverage for male contraceptives as part of the HRSA guidelines, so the language of SB 1053 would require plans to cover a broader range of male contraceptives than what is currently required in federal law.<sup>28</sup>

### SB 1053 and Essential Health Benefits

The ACA requires nongrandfathered small-group and individual market health insurance — including, but not limited to, QHPs sold in Covered California — to cover 10 specified categories of EHBs.<sup>29</sup> California has selected the Kaiser Foundation Health Plan Small Group Health Maintenance Organization (HMO) 30 plan as its benchmark plan.<sup>30,31</sup>

In addition to the benefits described in California's benchmark plan, Kaiser HMO 30, EHBs also include all benefits mandated to be covered by statutes enacted before December 31, 2011. This includes the federal preventive services requirement described in the section above.

Since the requirements of SB 1053 are potentially broader than what is required in the HRSA-supported health plan coverage guidelines for women's preventive services, CHBRP believes that the requirements of SB 1053 could exceed EHBs. Specifically, the language of SB 1053 would require all health plans and insurers to provide coverage for all FDA approved contraceptive "drugs, devices, products, and voluntary sterilization procedures" within each FDA approved contraceptive method category. The HRSA preventive services guidelines requires coverage of "all FDA approved contraceptive methods." To the extent that these guidelines are interpreted to mean that coverage must be provided for "at least one" contraceptive type within each method category, then the requirements of SB 1053 could exceed what is currently being required by EHBs.

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<sup>28</sup> Department of Health and Human Services, Coverage of Certain Preventive Services Under the Affordable Care Act; Final Rules. Federal Register, Vol. 78, No. 127. Tuesday, July 2, 2013. Available at: [www.gpo.gov/fdsys/pkg/FR-2013-07-02/pdf/2013-15866.pdf](http://www.gpo.gov/fdsys/pkg/FR-2013-07-02/pdf/2013-15866.pdf). Accessed March 11, 2014.

<sup>29</sup> The 10 specified categories of essential health benefits (EHBs) are: ambulatory patient services; emergency services; hospitalization; maternity and newborn care; mental health and substance use disorder services, including behavioral health treatment; prescription drugs; rehabilitative and habilitative services and devices; laboratory services; preventive and wellness services and chronic disease management; and pediatric services, including oral and vision care. [ACA Section 1302(b)].

<sup>30</sup> The U.S. Department of Health and Human Services (HHS) has allowed each state to define its own EHBs for 2014 and 2015 by selecting one of a set of specified benchmark plan options. CCIIO, Essential Health Benefits Bulletin. Available at: [http://cciio.cms.gov/resources/files/Files2/12162011/essential\\_health\\_benefits\\_bulletin.pdf](http://cciio.cms.gov/resources/files/Files2/12162011/essential_health_benefits_bulletin.pdf). Accessed December 16, 2011.

<sup>31</sup> H&SC Section 1367.005; IC Section 10112.27.

Additionally, the HRSA preventive services guidelines do not require plans and insurers to provide coverage for male contraceptives, such as condoms and vasectomies. Both Basic Health Care Services and Kaiser HMO 30 include coverage for vasectomies with cost-sharing requirements, but do not include coverage for male condoms. Since SB 1053 would require all plans and insurers to provide coverage for all FDA approved male contraceptives, including male condoms, CHBRP believes that the bill's mandate would likely exceed the current requirements of EHBs.

Since the requirements of SB 1053 could be interpreted as broader than what is currently required in the EHB benefit package in California, the bill could exceed EHBs due to its requirement to cover all FDA approved contraceptive drugs, devices, products, and voluntary sterilization procedures.

SB 1053 would likely exceed EHBs due to its requirement for plans and insurers to provide coverage for male condoms, which are not currently required by EHBs as defined by California law.

**Table 1. SB 1053 Impacts on Benefit Coverage, Utilization, and Cost, 2015**

	Premandate	Postmandate	Increase/ Decrease	Change Postmandate
<b>Benefit coverage</b>				
Total enrollees with health insurance subject to state-level benefit mandates (a)	23,389,000	23,389,000	0.0%	0.000%
Total enrollees with health insurance subject to SB 1053	16,199,000	16,199,000	0.0%	0.000%
Number of enrollees with coverage for female contraceptives	15,798,200	16,199,000	400,800	2.537%
Number of enrollees with coverage for male contraceptives: condoms	-	16,199,000	16,199,000	0.000%
Number of enrollees with coverage for male contraceptives: vasectomies	16,086,758	16,199,000	112,242	0.698%
Percentage of enrollees with coverage for female contraceptives	97.5%	100.0%	2.5%	2.537%
Percentage of enrollees with coverage for male contraceptives: condoms	0.0%	100.0%	100.0%	0.000%
Percentage of enrollees with coverage for male contraceptives: vasectomies	99.3%	100.0%	0.7%	0.698%
<b>Utilization and cost</b>				
Number of Female Enrollees using benefit				
With Coverage	1,129,472	1,209,662	80,190	7.100%
Without Coverage	26,405	-	(26,405)	-100.000%
Average Annual Cost per Female Enrollee using Contraceptive Benefit				
With Coverage	\$624	\$628	\$4	0.605%
Without Coverage	\$600	\$0	-\$600	-100.000%
Number of Male Enrollees using Benefit				
With Coverage	28,682	1,453,792	1,425,110	4968.611%
Without Coverage	1,295,562	-	(1,295,562)	-100.000%

**Table 1. SB 1053 Impacts on Benefit Coverage, Utilization, and Cost, 2015 (Cont'd)**

	Premandate	Postmandate	Increase/ Decrease	Change Postmandate
<b>Benefit coverage</b>				
Average Annual Cost for Male Enrollees using Contraceptive Benefit				
With Coverage	\$948	\$42	-\$906	-95.577%
Without Coverage	\$24	\$0	-\$24	-100.000%
<b>Expenditures</b>				
<i>Premium expenditures by payer</i>				
Private employers for group insurance	\$54,590,722,000	\$54,637,042,000	\$46,320,000	0.085%
CalPERS HMO employer expenditures (c)	\$4,297,494,000	\$4,300,111,000	\$2,617,000	0.061%
Medi-Cal Managed Care Plan expenditures	\$17,504,711,000	\$17,504,711,000	\$0	0.000%
Enrollees for individually purchased insurance	\$16,930,080,000	\$16,944,065,000	\$13,985,000	0.083%
Enrollees with group insurance, CalPERS HMOs, Covered California, and Medi-Cal Managed Care (a) (b)	\$22,232,708,000	\$22,251,183,000	\$18,475,000	0.083%
<i>Enrollee expenses</i>				
Enrollee out-of-pocket expenses for covered benefits (deductibles, copayments, etc.)	\$12,867,143,000	\$12,863,493,000	-\$3,650,000	-0.028%
Enrollee expenses for noncovered benefits (d)	\$46,546,000	\$0	-\$46,546,000	-100.000%
<b>Total expenditures</b>	\$128,469,404,000	\$128,500,605,500	\$31,201,000	0.024%

Source: California Health Benefits Review Program, 2014.

Notes: (a) This population includes persons with privately funded and publicly funded (e.g., CalPERS HMOs, Medi-Cal Managed care Plans, Healthy Families Program) health insurance products regulated by DMHC or CDI. Population includes enrollees aged 0 to 64 years and enrollees 65 years or older covered by employer-sponsored insurance.

(b) Premium expenditures by enrollees include employee contributions to employer-sponsored health insurance and enrollee contributions for publicly purchased insurance.

(c) Of the increase in CalPERS employer expenditures, about 57% or \$1,492,000 would be state expenditures for CalPERS members who are state employees, state retirees, or their dependents. This percentage reflects the share of enrollees in CalPERS HMOs as of September 30, 2013. CHBRP assumes the same ratio in 2015.

(d) Includes only those expenses that are paid directly by enrollees to providers for services related to the mandated benefit that are not currently covered by insurance. In addition, this only includes those expenses that will be newly covered postmandate. Other components of expenditures in this table include all health care services covered by insurance

Key: CalPERS HMOs=California Public Employees' Retirement System Health Maintenance Organizations; CDI=California Department of Insurance; DMHC=Department of Managed Health.

# INTRODUCTION

The California Senate Committee on Health requested on February 18, 2014, that the California Health Benefits Review Program (CHBRP) conduct an evidence-based assessment of the medical, financial, and public health impacts of Senate Bill (SB) 1053, Health Care Coverage: Contraceptives. In response to this request, CHBRP undertook an analysis pursuant to the provisions of the program's authorizing statute,<sup>32</sup> which allows for the review of benefit mandates affecting health insurance regulated by the state. CHBRP subsequently received a request from the Senate Health Committee to analyze the April 9, 2014, amended version of the bill, and the analysis in this report reflects changes in the amended language.<sup>33</sup>

State benefit mandates apply to a subset of health insurance in California, those regulated by one of California's two health insurance regulators<sup>34</sup>: the California Department of Managed Health Care (DMHC)<sup>35</sup> and the California Department of Insurance (CDI).<sup>36</sup> In 2015, CHBRP estimates that approximately 23.4 million Californians (60%) will have health insurance that may be subject to any state health benefit mandate law.<sup>37</sup> Of the rest of the state's population, a portion will be uninsured (and therefore will have no health insurance subject to any benefit mandate), and another portion will have health insurance subject to other state laws or only to federal laws.

The mandate in SB 1053 would affect the health insurance of approximately 16.2 million enrollees (41% of all Californians).<sup>38</sup> Both DMHC and the California Department of Health Care Services (DHCS) have confirmed that SB 1053's language referring to "group plans" would not require compliance from plans enrolling Medi-Cal beneficiaries into Medi-Cal Managed Care.<sup>39,40</sup> Therefore, all DMHC-regulated plans and/or CDI-regulated policies, except managed care plans purchased by the DHCS for Medi-Cal beneficiaries, would be subject to SB 1053.

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<sup>32</sup> Available at: [www.chbrp.org/docs/authorizing\\_statute.pdf](http://www.chbrp.org/docs/authorizing_statute.pdf).

<sup>33</sup> The amended version (4/9/14) of SB 1053 reduced CHBRP's estimates of the public health impacts found in the original bill. More details on these differences can be found in Appendix G.

<sup>34</sup> California has a bifurcated system of regulation for health insurance. The Department of Managed Health Care (DMHC) regulates health care service plans, which offer benefit coverage to their enrollees through health plan contracts. The California Department of Insurance (CDI) regulates health insurers, which offer benefit coverage to their enrollees through health insurance policies.

<sup>35</sup> DMHC was established in 2000 to enforce the Knox-Keene Health Care Service Plan of 1975; see Health and Safety Code (H&SC) Section 1340.

<sup>36</sup> CDI licenses "disability insurers." Disability insurers may offer forms of insurance that are not health insurance. This report considers only the impact of the benefit mandate on health insurance policies, as defined in Insurance Code (IC) Section 106(b) or subdivision (a) of Section 10198.6.

<sup>37</sup> CHBRP's estimates are available at: [www.chbrp.org/other\\_publications/index.php](http://www.chbrp.org/other_publications/index.php).

<sup>38</sup> CHBRP's analysis of SB 1053 assumed that grandfathered plans would be included in the coverage mandate required by SB 1053, based on internal interpretation of the bill language and consultation with DMHC. CDI provided a different interpretation, stating that grandfathered CDI-regulated policies would not fall under this bill's requirements.

<sup>39</sup> Personal communication, S. Lowenstein, DMHC, January 2014.

<sup>40</sup> Personal communication, C. Robinson, Department of Health Care Services, citing Sec. 2791 of the federal Public Health Service Act, January 2014.

## Developing Estimates for 2015 and the Effects of the Affordable Care Act

The Affordable Care Act (ACA)<sup>41</sup> is substantially affecting health insurance and its regulatory environment in California. As of January 2014, an expansion of the Medi-Cal program, California's Medicaid program,<sup>42</sup> and the availability of subsidized and nonsubsidized health insurance purchased through Covered California,<sup>43</sup> the state's newly established state health insurance marketplace, are significantly increasing the number of people with health insurance in California, and across the United States.

State health insurance marketplaces, such as Covered California, are responsible for certifying and selling qualified health plans (QHPs) in the small-group and individual markets.<sup>44</sup> QHPs sold through Covered California are DMHC-regulated plans or CDI-regulated policies, and as such will be subject to California state benefit mandates.

It is important to note that CHBRP's analysis of proposed benefit mandate bills typically address the incremental effects of the proposed bills — specifically, how the proposed mandate would impact benefit coverage, utilization, costs, and public health, holding all other factors constant. CHBRP's estimates of these incremental effects are presented in this report. In order to accommodate continuing changes in health insurance enrollment, CHBRP is relying on projections from the California Simulation of Insurance Markets (CalSIM) model<sup>45</sup> to help estimate baseline enrollment for 2015. From this projected baseline, CHBRP estimates the incremental impact of proposed benefit mandates that could be in effect after January 2015. CHBRP's methods for estimating baseline 2015 enrollment from CalSIM projections are provided in further detail in Appendix D.

## Bill-Specific Analysis of SB 1053

### Bill Language and Analysis

A link to the full text of SB 1053 can be found in Appendix A.

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<sup>41</sup> The federal "Patient Protection and Affordable Care Act" (P.L.111-148) and the "Health Care and Education Reconciliation Act" (P.L. 111-152) were enacted in March 2010. Together, these laws are referred to as the Affordable Care Act (ACA).

<sup>42</sup> The Medicaid expansion, which California will pursue, is to 133% of the federal poverty level (FPL) — 138% with a 5% income disregard.

<sup>43</sup> The California Health Benefits Exchange Authorizing Statute is available here: [www.healthexchange.ca.gov/Documents/California%20Codes%20Governing%20the%20Health%20Benefit%20Exchange.pdf](http://www.healthexchange.ca.gov/Documents/California%20Codes%20Governing%20the%20Health%20Benefit%20Exchange.pdf).

<sup>44</sup> Effective 2017, states may allow large-group purchasing through health insurance marketplaces, which may make some large-group plans and policies subject to the requirement to provide essential health benefits [ACA Section 1312(f)(2)(B)].

<sup>45</sup> CalSIM was developed jointly and is operated by the University of California, Los Angeles, Center for Health Policy Research and the University of California, Berkeley, Center for Labor Research. The model estimates the impact of provisions in the ACA on employer decisions to offer, and individual decisions to obtain, health insurance.

SB 1053 would require all DMHC-regulated plans and CDI-regulated policies issued, amended, renewed, or delivered on or after January 1, 2015, to provide coverage for all Food and Drug Administration (FDA) approved contraceptive drugs, devices, products<sup>46</sup>, and voluntary sterilization procedures in each contraceptive category outlined by the FDA, as well as contraceptive education and counseling.<sup>47</sup>

SB 1053 would prohibit nongrandfathered<sup>48</sup> group or individual health plans and policies from imposing cost-sharing requirements in providing contraceptive coverage, consistent with existing requirements in the ACA.<sup>49</sup>

SB 1053 also preserves existing language in both state law and in the ACA that exempts certain religious employers from having to provide this coverage to their employees.

### **Analytic Approach and Key Assumptions**

#### *FDA approved contraceptives*

The language in SB 1053 is explicit about which particular contraceptives are included in the bill's mandate, specifically citing all FDA approved contraceptive drugs, devices, products, and voluntary sterilization procedures.<sup>50</sup> The list of contraceptives currently approved by the FDA includes 20 different contraceptive types in five different contraceptive method categories. More detail on each of the contraceptive types listed below can also be found in the *Medical Effectiveness* and *Public Health Impacts* sections of this report. The full list of FDA approved contraceptive types, broken out by method category, includes the following:

- **Barrier contraceptive methods:** male condoms, female condoms, diaphragms, sponges, cervical caps, and spermicide
- **Hormonal contraceptive methods:** oral contraceptives, patches, contraceptive rings, and injections
- **Emergency contraceptives:** levonorgestrel (known as Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup>, Next Choice, Next Choice One Step) and ulipristal acetate (Ella<sup>®</sup>)

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<sup>46</sup> The amended version of SB 1053 preserves existing prescription requirements for over-the-counter (OTC) contraceptives.

<sup>47</sup> A full list of FDA approved contraceptive drugs, devices, products, and sterilization procedures can be found here: [www.fda.gov/ForConsumers/ByAudience/ForWomen/FreePublications/ucm313215.htm](http://www.fda.gov/ForConsumers/ByAudience/ForWomen/FreePublications/ucm313215.htm).

<sup>48</sup> A grandfathered health plan is defined as: "A group health plan that was created — or an individual health insurance policy that was purchased — on or before March 23, 2010. Grandfathered plans are exempted from many changes required under the ACA. Plans or policies may lose their "grandfathered" status if they make certain significant changes that reduce benefits or increase costs to consumers" More information on this definition can be found here: [www.healthcare.gov/glossary/grandfathered-health-plan/](http://www.healthcare.gov/glossary/grandfathered-health-plan/).

<sup>49</sup> CMS FAQs issued after passage of the ACA provides guidelines for health plans in covering contraceptives, including around cost-sharing requirements. These guidelines can be found here: [www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca\\_implementation\\_faqs12.html](http://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca_implementation_faqs12.html).

<sup>50</sup> For this analysis, CHBRP assumed that SB 1053 would not require coverage of each brand of all FDA approved contraceptive drugs, devices, or products.

- **Implanted device contraceptives:** copper IUD (ParaGard<sup>®</sup>), the levonorgestrel-releasing IUD (Mirena<sup>®</sup>), the low dose levonorgestrel-releasing IUD (Skyla<sup>®</sup>), and the etonogestrel contraceptive implant (Implanon<sup>®</sup>, Nexplanon<sup>®</sup>)
- **Permanent contraceptive methods:** vasectomy, laparoscopic surgical sterilization and hysteroscopic surgical sterilization implant (Essure<sup>®</sup>)

### *Contraceptive education and counseling*

The requirements of SB 1053 include a provision for health plans and insurers to provide coverage for contraceptive education and counseling. For its analysis of SB 1053, CHBRP assumes that this would include a preventive care office visit as well as general education about contraceptive choice (choosing the most effective method), benefits and risks of each contraceptive, correct and consistent use of a particular contraceptive method, and counseling on issues surrounding method switching and which contraceptives protect against sexually transmitted infections (STI).

## **Interaction With Other California Requirements**

### *Existing California law*

SB 1053 would amend California's existing contraceptive coverage law.<sup>51</sup>

The existing law requires all health plans and policies that provide coverage for outpatient prescription drugs to include coverage for "a variety of FDA approved prescription contraceptive methods" in their drug formulary. Since the language in SB 1053 includes a requirement for plans and policies to cover the full spectrum of FDA approved contraceptive devices, products, and sterilization procedures and is not simply limited to requiring contraceptive drugs, the bill would impose a broader coverage mandate than existing California law.

## **Requirements in Other States**

CHBRP is currently aware of at least 26 states (including California) that have passed health insurance benefit mandates related to contraception coverage in the past. Two additional states have mandated coverage of contraceptives through either administrative ruling or Attorney General opinion (NCSL, 2012).<sup>52</sup> These coverage mandates generally require plans that are already providing coverage for prescription drug contraceptives to also cover a wider range of FDA approved contraceptive drugs, devices, and products. However, there is some unique variation in the coverage required in states that have contraceptive mandates. For example, of the 28 states that have a contraceptive coverage requirement, 17 also require coverage of outpatient services related to specific contraceptive types (such as the cost of implanting an IUD). In two

<sup>51</sup> H&SC Section 1367.25 and IC Sections 10123.196, as enacted by AB 39 (1999).

<sup>52</sup> National Conference of State Legislatures (NCSL). Insurance Coverage for Contraception Laws. February 2012. Available at: <http://www.ncsl.org/research/health/insurance-coverage-for-contraception-state-laws.aspx>. Accessed on March 11, 2014.<sup>52</sup> States with contraceptive coverage requirements as of March 2014 include: AZ, AK, CA, CO, CT, DE, GA, HI, IA, IL, MA, MD, MN, MS, NC, NH, NJ, NM, NV, NY, OR, RI, VT, WA, WV, and WI. Additionally, Michigan has passed an administrative ruling, and Montana has issued an Attorney General opinion, both requiring insurers in their states to provide contraceptive coverage.

states, emergency contraception is excluded from their contraceptive coverage requirement. Additionally, one state excludes dependent minors from their coverage requirement (Guttmacher Institute, 2014).

## Interaction with the Affordable Care Act

A number of ACA provisions have the potential to or do interact with state benefit mandates. Below is an analysis of how SB 1053 may interact with requirements in the ACA, including the federal requirement for health plans and insurers to provide coverage of specified preventive services without cost sharing, and the requirement for certain health insurance to cover “essential health benefits” (EHBs).<sup>53</sup>

### Preventive Services

The ACA requires that nongrandfathered group and individual health insurance plans and policies cover certain preventive services without cost sharing when delivered by in-network providers and as soon as 12 months after a recommendation appears in any of the following:<sup>54</sup>

- The United States Preventive Services Task Force (USPSTF) A and B recommendations.<sup>55</sup>
- The Health Resources and Services Administration (HRSA) supported health plan coverage guidelines for women’s preventive services.<sup>56</sup>
- The HRSA-supported comprehensive guidelines for infants, children, and adolescents, which include:
  - The Bright Futures Recommendations for Pediatric Preventive Health Care;<sup>57</sup> and
  - The recommendations of the Secretary’s Advisory Committee on Heritable Disorders in Newborns and Children.<sup>58</sup>
- The Advisory Committee on Immunization Practices (ACIP) recommendations that have been adopted by the Director of the Centers for Disease Control and Prevention (CDC).<sup>59</sup>

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<sup>53</sup> Resources on EHBs and other ACA impacts are available on the CHBRP website:

[www.chbrp.org/other\\_publications/index.php](http://www.chbrp.org/other_publications/index.php).

<sup>54</sup> A resource on this ACA requirement is available on the CHBRP website:

[www.chbrp.org/other\\_publications/index.php](http://www.chbrp.org/other_publications/index.php).

<sup>55</sup> USPSTF created a concise document summarizing its A and B recommendations (last updated in August 2010), available at: [www.uspreventiveservicestaskforce.org/uspstf/uspabrecs.htm](http://www.uspreventiveservicestaskforce.org/uspstf/uspabrecs.htm). However, for this resource CHBRP consulted USPSTF’s A-Z Topic Guide because up-to-date summaries of recommendations are available through links on that webpage: [www.uspreventiveservicestaskforce.org/uspsttopics.htm](http://www.uspreventiveservicestaskforce.org/uspsttopics.htm).

<sup>56</sup> Available at: [www.hrsa.gov/womensguidelines/](http://www.hrsa.gov/womensguidelines/).

<sup>57</sup> Available at: [brightfutures.aap.org/pdfs/AAP%20Bright%20Futures%20Periodicity%20Sched%20101107.pdf](http://brightfutures.aap.org/pdfs/AAP%20Bright%20Futures%20Periodicity%20Sched%20101107.pdf).

<sup>58</sup> Available at:

[www.hrsa.gov/advisorycommittees/mchbadvisory/heritabledisorders/recommendedpanel/uniformscreeningpanel.pdf](http://www.hrsa.gov/advisorycommittees/mchbadvisory/heritabledisorders/recommendedpanel/uniformscreeningpanel.pdf)

<sup>59</sup> “Recommended immunization schedules for persons aged 0 through 18 years — United States, 2013.” Available at: [www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-schedule.pdf](http://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-schedule.pdf).

“Catch-up immunization schedule for persons aged 4 months through 18 years who start late or are more than 1 month behind — United States, 2013.” Available at: [www.cdc.gov/vaccines/schedules/downloads/child/catchup-schedulepr.pdf](http://www.cdc.gov/vaccines/schedules/downloads/child/catchup-schedulepr.pdf).

“Recommended adult immunization schedule — United States, 2013.” Available at:

The HRSA-supported health plan coverage guidelines for women’s preventive services includes language that would require plans to cover “all FDA approved contraceptive methods, as prescribed by a physician.” Depending on how this language is interpreted, these guidelines could require all FDA approved contraceptive types to be covered, or they could be interpreted to require a broad spectrum of FDA approved contraceptives, including at least one contraceptive type in each FDA approved contraceptive method category. The language of SB 1053 explicitly requires coverage of all FDA approved drugs, devices, and products, as well as sterilization procedures, in each FDA approved contraceptive category. Depending on how the HRSA guidelines are interpreted, SB 1053’s coverage mandate could be broader than what is required by the ACA.

In addition, SB 1053 would require coverage for all approved male contraceptives, such as vasectomies and male condoms. Federal guidance on the preventive services requirement in the ACA has explicitly *excluded* coverage for male contraceptives as part of the HRSA guidelines, so the language of SB 1053 would require plans to cover a broader range of male contraceptives than is currently required in federal law.<sup>60</sup>

### **Essential Health Benefits**

The ACA requires nongrandfathered small-group and individual market health insurance — including but not limited to QHPs sold in Covered California — to cover 10 specified categories of EHBs.<sup>61</sup> California has selected the Kaiser Foundation Health Plan Small Group Health Maintenance Organization (HMO) 30 plan as its benchmark plan.<sup>62,63</sup>

The ACA allows a state to require that a QHP offered in a health insurance marketplace, such as Covered California, offer benefits that exceed EHBs.<sup>64</sup> A state that chooses to do so must make payments to defray the cost of those additionally mandated benefits, either by paying the purchaser directly or by paying the QHP.<sup>65</sup> However, as laid out in the Final Rule on EHBs HHS

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[www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule.pdf](http://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule.pdf).

<sup>60</sup> Department of Health and Human Services, Coverage of Certain Preventive Services Under the Affordable Care Act; Final Rules. Federal Register, Vol. 78, No. 127. Tuesday, July 2, 2013. Available at: [www.gpo.gov/fdsys/pkg/FR-2013-07-02/pdf/2013-15866.pdf](http://www.gpo.gov/fdsys/pkg/FR-2013-07-02/pdf/2013-15866.pdf). Accessed March 11, 2014.

<sup>61</sup> The 10 specified categories of essential health benefits (EHBs) are ambulatory patient services; emergency services; hospitalization; maternity and newborn care; mental health and substance use disorder services, including behavioral health treatment; prescription drugs; rehabilitative and habilitative services and devices; laboratory services; preventive and wellness services and chronic disease management; and pediatric services, including oral and vision care. [ACA Section 1302(b)].

<sup>62</sup> The U.S. Department of Health and Human Services (HHS) has allowed each state to define its own EHBs for 2014 and 2015 by selecting one of a set of specified benchmark plan options. CCIIO, Essential Health Benefits Bulletin. Available at: [http://cciio.cms.gov/resources/files/Files2/12162011/essential\\_health\\_benefits\\_bulletin.pdf](http://cciio.cms.gov/resources/files/Files2/12162011/essential_health_benefits_bulletin.pdf). Accessed December 16, 2011.

<sup>63</sup> H&SC Section 1367.005; IC Section 10112.27.

<sup>64</sup> ACA Section 1311(d)(3).

<sup>65</sup> State benefit mandates enacted on or before December 31, 2011, may be included in a state’s EHBs for 2014 and 2015, according to the U.S. Department of Health and Human Services (HHS). Patient Protection and Affordable Care Act: Standards Related to Essential Health Benefits, Actuarial Value, and Accreditation. Final Rule. Federal Register, Vol. 78, No. 37. February 25, 2013. Available at: [www.gpo.gov/fdsys/pkg/FR-2013-02-25/pdf/2013-04084.pdf](http://www.gpo.gov/fdsys/pkg/FR-2013-02-25/pdf/2013-04084.pdf).

released in February 2013,<sup>66</sup> state benefit mandates enacted on or before December 31, 2011, would be included in the state's EHBs for 2014 and 2015 and there would be no requirement that the state defray the costs of those state mandated benefits. For state benefit mandates enacted after December 31, 2011, that are identified as exceeding EHBs, the state would be required to defray the cost. State benefit mandates that could exceed EHBs would "be specific to the care, treatment, and services that a state requires issuers to offer to its enrollees," whereas "state rules related to provider types, cost sharing, or reimbursement methods" would not meet the definition of state benefit mandates that could exceed EHBs. A state's health insurance marketplace would be responsible for determining when a state benefit mandate exceeds EHBs, and QHP issuers would be responsible for calculating the cost that must be defrayed.<sup>67</sup>

### *SB 1053 and essential health benefits*

In addition to the benefits described in California's benchmark plan, Kaiser HMO 30, EHBs also include all benefits mandated to be covered by statutes enacted before December 31, 2011. This includes the federal preventive services requirement described in the section above.

Since the requirements of SB 1053 are potentially broader than what is required in the HRSA-supported health plan coverage guidelines for women's preventive services, CHBRP believes that the requirements of SB 1053 could exceed EHBs. Specifically, the language of SB 1053 would require all health plans and insurers to provide coverage for all FDA approved contraceptive "drugs, devices, products, and voluntary sterilization procedures" within each FDA approved contraceptive method category. The HRSA preventive services guidelines requires coverage of "all FDA approved contraceptive methods." To the extent that these guidelines are interpreted to mean that coverage must be provided for "at least one" contraceptive type within each method category, then the requirements of SB 1053 could exceed what is currently being required by EHBs.

Additionally, the HRSA preventive services guidelines do not require plans and insurers to provide coverage for male contraceptives, such as condoms and vasectomies. Both Basic Health Care Services and Kaiser HMO 30 include coverage for vasectomies with cost-sharing requirements, but do not include coverage for male condoms. Since SB 1053 would require all plans and insurers to provide coverage for all FDA approved male contraceptives, including male condoms, CHBRP believes that this part of the bill's mandate would likely exceed the current requirements of EHBs.

A summary of SB 1053's interactions with EHBs is included in Table 2 below.

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<sup>66</sup> Department of Health and Human Services. Patient Protection and Affordable Care Act: Standards Related to Essential Health Benefits, Actuarial Value, and Accreditation. Final Rule. Federal Register, Vol. 78, No. 37. February 25, 2013. 12843. Available at: [www.gpo.gov/fdsys/pkg/FR-2013-02-25/pdf/2013-04084.pdf](http://www.gpo.gov/fdsys/pkg/FR-2013-02-25/pdf/2013-04084.pdf).

<sup>67</sup> Essential Health Benefits. Final Rule.

**Table 2. SB 1053 Interaction with Essential Health Benefits**

Bill Provision	EHB Interaction	Rationale
Coverage of all FDA approved drugs, devices, products, and sterilization procedures in each contraceptive method category	Could exceed EHBs	This provision could be interpreted as more explicit and broader than the ACA's preventive services requirement
Coverage of all FDA approved male contraceptives (male condoms and vasectomy)	Would likely exceed EHBs	SB 1053's requirement to cover male condoms is not included in either California's Basic Health Care Services or the California EHB benchmark plan, Kaiser Small Group 30 HMO

*Source:* California Health Benefits Review Program, 2014.

*Notes:* As mentioned earlier, according to federal guidelines, “state rules related to provider types, cost-sharing, or reimbursement methods” would not meet the definition of state benefit mandates that could exceed EHBs.

Therefore, even though vasectomy is required to be covered by SB 1053 without cost sharing, CHBRP assumes it would not qualify as a requirement that would exceed EHBs.

## BACKGROUND ON CONTRACEPTIVES

In the United States, about one half (51%) of the over six million pregnancies per year are unintended (3.4 million) and in California, 53% of the over 973,500 pregnancies per year are unintended (516,000) (Finer and Zolna, 2014; Kost, 2013). Although utilization of contraception is high (62% of the overall U.S. population), there is still a large proportion of sexually active heterosexual females aged 15 to 44 years at risk of an unintended pregnancy, defined as a pregnancy that is “mistimed, unplanned or unwanted at the time of conception” (CDC, 2014a). Females are considered at risk of unintended pregnancy if they are of reproductive age and sexually active with male partners. Consistent use of effective contraceptive greatly reduces this risk. In the United States, nearly two-thirds of females at risk of an unintended pregnancy consistently use contraception throughout any given year and account for only 5% of unintended pregnancies. In comparison, 19% of females at risk used contraception inconsistently or incorrectly throughout any given year and 16% do not use any contraception for a month or longer during the year. These females account for 43% and 52% of all unintended pregnancies (Gutmacher Institute, 2013b).

### Unintended Pregnancy

In the United States, the unintended pregnancy rate is 54 unintended pregnancies per 1,000 females per year aged 15 to 44 years, and in California the rate is 66 per 1,000 females per year (Finer and Zolna, 2014; Kost, 2013). Nationally, researchers estimated that 40% of unintended pregnancies ended in abortion (excluding miscarriages) and 60% ended in birth in 2008 (Finer and Zolna, 2014). In California during the same year, researchers estimated that 39% of unintended pregnancies ended in abortion, 48% ended in a birth, and 13% ended in fetal loss (Kost, 2013). Biggs et al. (2012) surveyed nearly 1,400 females obtaining services at U.S. family planning clinics and found that nearly half (49%) cited barriers in accessing birth control services, and 9% cited birth control cost or insurance coverage as the specific access barrier. Assuming national contraception utilization rates are similar to those in California, the 35% of females using contraception inconsistently, incorrectly, or not at all would most benefit from SB 1053 by expanding access to a wide range of contraceptive method options with no cost sharing, including long-acting reversible contraceptives such as IUDs, which do not rely on user compliance. This would affect current rates of both unintended pregnancy and abortion.

### **Burden of Unintended Pregnancy**

According to Trussell et al. (2013), the 3.1 million unintended pregnancies occurring annually in the United States result in approximately \$4.6 billion in annual medical costs. Based on national and state-level data, Sonfield and Kost (2013) estimated that in 2008, there were 1.1 million publicly funded, unintended births in the United States and 152,600 in California, paid for by public programs such as Medicaid, the Children’s Health Insurance Program, and the Indian Health Service. Nationally, these births accounted for slightly more than half (53%) of all publicly funded births and nearly two-thirds (65%) of all births resulting from unintended pregnancies. In California, these births accounted for nearly 56% of all publicly funded births and 62% of all births resulting from unintended pregnancies. Sonfield and Kost (2013) also estimated the total government expenditures for publically funded births based on prior

methodology (Frost et al., 2010); these costs include the costs of prenatal care, delivery, postpartum care, and medical care for the infant for one year. In 2008, total government expenditures (both federal and state) for births resulting from unintended pregnancies totaled \$12.5 billion, at a cost of \$12,613 per publicly funded birth. During that same year in California, government expenditures for births resulting from unintended pregnancies totaled nearly \$1.48 billion (in 2008 dollars), with the federal and state government each paying \$74.0 million, at a cost of \$9,679 per publicly funded birth. In 2008, costs paid by public programs related to births from unintended pregnancies in California (1.48 billion) were higher than in any other state, followed by Texas and New York with costs totaling \$1.34 billion and \$77.7 million (in 2008 dollars), respectively. Based on previous research estimating that public investment in family planning services, such as contraceptives, results in \$12.7 billion (in 2010 dollars) in annual gross savings (by reducing unintended pregnancies and ensuing births), Sonfield and Krost (2013) estimated that in the absence of family planning services, annual public costs of births from unintended pregnancies would exceed \$25 billion.

Unintended pregnancy is also associated with a number of negative health outcomes for the mother and child, such as delays in initiating prenatal care, decreased likelihood of breastfeeding, negative maternal mental health outcomes, adolescent behavioral issues, and reduced educational attainment and economic stability (Gipson et al., 2008; Logan et al., 2007; Sonfield et al., 2013).

## **Contraception Utilization**

As mentioned earlier, females are considered at “risk of unintended pregnancy” if they are of reproductive age and sexually active with male partners. Consistent use of effective contraceptive greatly reduces this risk. The National Survey of Family Growth (NSFG) estimates that 99% of sexually experienced heterosexual females in the United States aged 15 to 44 years have ever used some form of contraception (Mosher and Jones, 2010) and that in 2010, 62% (38.4 million females) used some form during the last year (Jones et al., 2012). The Food and Drug Administration (FDA) categorizes contraceptives into five methods — barrier, hormonal, emergency, implanted, and permanent — with each method containing a number of specific contraceptive types (Table 3). Additionally, some individuals utilize alternate methods of contraception, such as periodic abstinence or withdrawal.

**Table 3. FDA Approved Contraception Methods and Types of Contraceptives**

Contraceptive Method	Mechanism	Types of Contraceptives
<b>Barrier</b>	Block sperm from reaching the egg	Male Condom Female condom Diaphragm Sponge Cervical cap Spermicide
<b>Hormonal</b>	Interfere with ovulation	Oral contraceptives (pill; mini-pill; extended/continuous use pill) Contraceptive patch (Ortho Evra®) Vaginal contraceptive ring (NuvaRing®) Contraceptive injection (Depo-Provera®; Depo-SubQ Provera®)
<b>Emergency</b>	May be used if regular birth control fails or after unprotected sex; should not be used as a regular form of birth control	Levonorgestrel (Plan B®, Plan B One Step®, Next Choice, Next Choice One Step) Ulipristal acetate (Ella®)
<b>Implanted Devices</b>	Interferes with ovulation, fertilization and implantation of the egg	Copper intrauterine device (IUD) (ParaGard®) Levonorgestrel-releasing IUD (Mirena®) Low dose levonorgestrel-releasing IUD (Skyla®) Etonogestrel contraceptive implant (Implanon®, Nexplanon®)
<b>Permanent</b>	Surgery to block sperm from reaching the egg	Sterilization surgery for men (vasectomy) Sterilization surgery for women (laparoscopic surgical sterilization, or tubal ligation) Sterilization implant for women (hysteroscopic sterilization implant) (Essure®)

Source: FDA, 2014.

### **Contraceptive Utilization**

In 2010, 62% of sexually active heterosexual females in the United States aged 15 to 44 years (38.4 million females) used some form of contraception during the past year (Jones et al., 2012). Among those 38.4 million females, the most common methods were female sterilization (27%) and oral contraceptives (27%); followed by male condoms by partners (16%); male sterilization by partners (10%); other hormonal methods such as the implant, patch, injectable, or ring (7%); and IUDs (6%) (Jones et al., 2012). In California, nearly 40% of females aged 18 to 49 years

used contraceptives in 2008. Among contraceptive users, the most common methods are oral contraceptives (26.2%), use of male condoms by partners (24.5%) and male sterilization of partners (14.2%) (Chabot et al., 2012).

Nationally, one in nine sexually experienced heterosexual females aged 15 to 44 years have ever used emergency contraception (EC). The majority of females used EC once (59%) or twice (24%), whereas 17% used it three or more times. Nearly one-quarter of all sexually experienced females aged 20 to 24 years have ever used EC, compared to 16% of females aged 25 to 29 years, 14% of those aged 15 to 19 years, and 5% of those aged 30 to 44 years (Daniels et al., 2013). Based on data from the 2003 California Health Interview Survey (CHIS; most recent published data on emergency contraceptive use in California available), 4% of females aged 15 to 44 years used EC in the past year (Baldwin et al., 2008).

As displayed in Table 4, the use of contraceptives increase with age; nearly three-quarters of sexually active heterosexual females aged 40 to 44 years in the U.S. are using contraceptives compared to 31% of those aged 15 to 19 years (Jones et al., 2012). In 2008, oral contraceptives were most commonly utilized by California females younger than 30 years (38.4%), followed by male condoms (25.7%) and the IUD (14.2%). In contrast, females aged 40 to 49 years most commonly cited male sterilization (32.4%), male condoms (19.4%), and oral contraceptives (16.7%) as the most common contraceptive methods (Chabot et al., 2012). Nationally, nearly one in four (23%) females aged 20 to 24 years had ever used emergency contraception, whereas those aged 15 to 19 years and 25 to 29 years had similar usage (14% and 16%) and older females aged 30 to 44 years used emergency contraception less (5%). (Daniels et al., 2013a) According to 2003 CHIS data, 3.6% of females aged 18 to 44 years used EC during the past year compared to 14.1% of girls aged 15 to 17 years (Baldwin et al., 2008).

**Table 4.** Percent Distribution of Contraception Use Among Sexually Active Heterosexual Females Aged 15 to 44 Years, by Age, United States, 2006-2010

Contraceptive Method	15-44	15-19	20-24	25-29	30-34	35-39	40-44
<b>Total using any contraception</b>	62.2	30.5	58.3	65.3	69.7	74.6	75.3
<b>Male condom</b>	10.2	6.1	14.9	13.6	10.8	9.0	6.8
<b>Oral contraceptives</b>	17.1	16.2	27.4	21.5	17.7	12.7	7.4
<b>Vaginal ring</b>	1.3	0.7	2.7	2.4	1.4	0.5	0.4
<b>Implant/injectable/patch</b>	3.2	4.2	4.4	4.9	2.6	1.5	0.6
<b>Intrauterine device</b>	3.5	0.8	3.3	4.7	4.9	4.8	2.4
<b>Female sterilization</b>	16.5	*	1.5	10.7	20.9	27.9	38.1
<b>Male sterilization</b>	6.2	*	0.5	2.7	6.6	12.4	15.1
<b>Other hormonal/ barrier<sup>a</sup></b>	0.3	0.2	*	0.3	0.5	0.6	0.4
<b>Other<sup>b</sup></b>	3.9	2.1	3.5	4.6	3.4	5.1	3.7

Source: Jones et al., 2012.

Notes: \*Figure does not meet authors' standards of reliability or precision.

(a) Other barrier/hormonal methods include diaphragm, emergency contraception, female condom/vaginal pouch, foam, cervical cap, sponge, suppository, insert, jelly, or cream (with or without a diaphragm).

(b) Other methods include periodic abstinence (calendar rhythm or natural family planning) and withdrawal.

Over the past fifteen years, the NSFG has documented an increase in utilization of hormonal birth control methods and IUDs compared to condoms. For example, the NSFG found that 7.2% sexually active heterosexual females in the United States aged 15 to 44 years used an IUD in 2006 to 2010, compared to 0.8% in 1995 (Mosher and Daniels, 2012). In 2006 to 2010, 16% of females reported using condoms compared to 21% in 1995; this utilization decrease was most pronounced among teenagers, dropping from 36% in 1995 to 20% in 2006-2010 (Jones et al., 2012).

#### *Dual-method utilization*

No one contraceptive method is highly effective at preventing both unintended pregnancy and protecting against sexually transmitted infections (STI). Male condoms are the only method that protect against STIs, yet condoms are less effective than other methods at preventing pregnancy. Dual-method utilization can effectively prevent both unintended pregnancy and STIs by combining consistent use of both male condoms and a method effective at preventing pregnancy, such as implanted devices, hormonal methods, or sterilization.

In the United States, dual-method use among females aged 15 to 44 years is about 7%, and is more common (23%) among teens and young females aged 15 to 20 years (Eisenberg et al., 2012). One study found that condom use was lower among females using injections, IUDs, and

implants compared to oral contraceptives. The same study estimates that dual method utilization among half of all females using effective methods, such as IUDs, injections, and oral contraceptives would prevent approximately 40% of unintended pregnancies and abortions (Pazol, 2010). However, protection against unintended pregnancy and STIs requires that dual-method utilization be consistent and sustained. Qualitative research with participants in a randomized controlled trial to increase dual-method use found that while one-third of participants initiated dual-method use over a two-year period, more than three-quarters of those participants initiating did not maintain consistent and sustained dual-method use (Peipert et al., 2011).

### **Benefits of Contraceptive Use**

Research supports broad benefits of contraceptive use, beyond preventing unintended pregnancies. Contraceptive use allows females to plan for pregnancy and achieve desired birth spacing, which is associated with improved maternal and fetal health outcomes, such as prematurity and low birthweight. This ability to avert an unintended pregnancy by delaying and spacing childbearing positively impacts a woman's income and economic stability, societal advancement, family stability, mental health, and happiness (Guttmacher Institute, 2013a). Frost and Lindberg (2013) surveyed over 2,000 females receiving services at U.S. family planning clinics and found that females strongly believed that using birth control allowed them to take better care of themselves or their family. More than half of females surveyed strongly believed that using birth control allowed them to support themselves financially, stay in school or finish their education, and get or keep their job or have a career. In addition, some hormonal methods have other health benefits, such as treating severe or excessive menstrual bleeding, menstrual pain, acne, and reducing the risk of ovarian and endometrial cancers. As mentioned earlier, condoms are the only method that protects against STIs, including HIV (Trussell and Guthrie, 2011). An analysis of data from the NSFG found that over half of all oral contraceptive users endorsed noncontraceptive benefits as a reason for choosing that method (Jones, 2011).

### **Disparities in Unintended Pregnancy and Contraceptive Use**

Several competing definitions of “health disparities” exist. CHBRP relies on the following definition:

“Health disparities are potentially avoidable differences in health (or health risks that policy can influence) between groups of people who are more or less advantaged socially; these differences systematically place socially disadvantaged groups” at risk for worse health outcomes (Braveman, 2006).

### **Disparities in Unintended Pregnancy**

As displayed in Table 5, across the United States, the proportions and rates of unintended pregnancies vary by age, race, and socioeconomic characteristics. While the percentage of pregnancies that were unintended is inversely related to age, the unintended pregnancy rate is lowest among the youngest and oldest age groups (35 per 1,000 females aged 15 to 17 years and 19 per 1,000 females aged 35 to 44) and peaks among females aged 20 to 24 years (104 per

1,000 females). The rate of unintended pregnancy is inversely related to improved socioeconomic status. Poorer females (with incomes less than 199% of the federal poverty level [FPL]) have significantly higher rates of unintended pregnancy compared to females with incomes 200% and above. Females who did not graduate high school have much higher unintended pregnancy rates than females who graduated college (Finer and Zolna, 2014).

**Table 5.** Unintended Pregnancies and Pregnancy Rates Among Sexually Active Heterosexual Females Aged 15 to 44 Years, United States, 2008

Characteristic	No. of Total Pregnancies (in thousands)	Unintended Pregnancies (%)	Pregnancy Rates (per 1,000 females)		
			Total	Intended	Unintended
<b>All Females</b>	3,367	51%	106	51	54
<b>Age Group</b>					
15-17	227	91%	39	4	35
18-19	385	77%	114	26	88
20-24	1,075	64%	163	59	104
25-29	788	45%	168	92	76
30-34	479	35%	141	92	50
35-44	397	39%	48	30	19
<b>Race Ethnicity</b>					
White, non-Hispanic	1,426	42%	89	51	38
Black, non-Hispanic	815	69%	132	40	92
Hispanic	882	56%	140	61	79
<b>Income Level</b>					
<100% FPL	1,347	65%	209	72	137
100-199% FPL	981	55%	152	67	85
≥200% FPL	1,039	38%	67	41	26
<b>Educational Attainment<sup>a</sup></b>					
Not HS graduate	532	54%	188	86	101
HS graduate or GED	796	52%	116	56	60

**Table 5.** Unintended Pregnancies and Pregnancy Rates Among Sexually Active Heterosexual Females Aged 15 to 44 Years, United States, 2008 (Cont'd)

Characteristic	No. of Total Pregnancies (in thousands)	Unintended Pregnancies (%)	Pregnancy Rates (per 1,000 females)		
Some college or associate's degree	935	53%	105	50	55
College graduate	476	31%	94	64	29

Source: Finer and Zolna, 2014.

Notes: (a) Restricted to females aged 20 years and older

Key: FPL=federal poverty level

### **Race/Ethnicity-Related Contraception Utilization Disparities**

In the United States, there is significant variation in contraceptive method utilization across racial/ethnic groups. Compared to all Hispanics and U.S.-born Hispanics, foreign-born Hispanic females are much more likely to use female sterilization than other racial/ethnic groups. Compared to other racial/ethnic groups, non-Hispanic white females use oral contraceptives more often, whereas non-Hispanic black females primarily use female sterilization and Asians primarily use condoms (Table 6). In 2008, there were also differences in methods utilized by foreign-born versus U.S.-born California females. According to the California Women's Health Survey (CWHS), foreign-born females primarily used condoms (32.7%), followed by oral contraceptives (23.6%) and IUDs (14.1%), whereas U.S.-born California females primarily used oral contraceptives (27.3%) followed by condoms (21%) and vasectomy (19%) (Chabot et al., 2012). Among U.S. females, use of EC is highest among non-Hispanic white and Hispanic females (11%, respectively) compared to non-Hispanic black females (8%) (Daniels et al, 2013). According to 2003 CHIS data, use of EC is highest among African American females (5.6%), followed by Latinas, Asians, and American Indian/Alaska Natives with similar utilization (4.9%, 4.4%, 4.5%, respectively), whereas non-Latina white and Pacific Islander females had the lowest utilization of EC (3.2% and 1.1%, respectively) (Baldwin et al., 2008).

**Table 6.** Percent Distribution of Contraceptive Use Among Sexually Active Heterosexual Females Aged 15 to 44 Years, by Race/Ethnicity and Hispanic Origin, United States, 2006-2010

Contraceptive Method	All Females (%)	Hispanic		Non-Hispanic			
		Total (%)	U.S. Born (%)	Foreign Born (%)	White (%)	Black (%)	Asian (%)
<b>Total using any contraception</b>	62.2	59.7	57.2	63.3	65.6	54.2	58.5
<b>Male condom</b>	10.2	10.8	11.6	9.9	9.2	10.5	23.6
<b>Oral contraceptives</b>	17.1	11.8	13.1	10.5	21.0	9.9	4.0
<b>Vaginal ring</b>	1.3	1.0	1.6	0.4	1.4	1.6	*
<b>Impant//injectable/patch</b>	3.2	4.4	4.2	4.8	1.2	5.6	*
<b>Intrauterine device</b>	3.5	4.0	3.4	4.7	3.6	2.6	2.7
<b>Female sterilization</b>	16.5	18.9	15.3	22.7	15.5	20.2	6.6
<b>Male sterilization</b>	6.2	3.3	2.9	3.7	8.7	0.9	4.0
<b>Other hormonal/barrier<sup>a</sup></b>	0.3	0.7	1.3	*	0.3	0.1	*
<b>Other<sup>b</sup></b>	3.9	4.2	3.8	4.7	3.5	2.6	6.7

Source: Jones et al., 2012.

Notes: \*Figure does not meet authors' standards of reliability or precision.

(a) Other barrier/hormonal methods include diaphragm, emergency contraception, female condom/vaginal pouch, foam, cervical cap, sponge, suppository, inert, jelly, or cream (with or without a diaphragm).

(b) Other methods include periodic abstinence (calendar rhythm or natural family planning) and withdrawal.

### **Socioeconomic-Related Contraception Utilization Disparities**

For the majority of contraceptive methods, utilization increases with educational attainment. This trend is also seen among U.S. females using EC. The NSFG found that 12% of females with a Bachelor's degree or higher have used EC compared to 6% of females with less than a high school education. (Daniels et al., 2013b) The primary exception is female sterilization, which decreases from nearly 55% among U.S. females without a high school diploma or GED to 13% among females with a Bachelor's degree or higher. Disparities also exist by type of insurance coverage and poverty level. Female sterilization and IUD use is similar among females with public insurance or no insurance but higher compared to females with private insurance, whereas females with private insurance are more likely to use oral contraceptives or male sterilization. Female sterilization has an inverse relationship with poverty level (use of sterilization decreases as income increases), whereas male sterilization increases with income but peaks at 300% to 399% federal poverty level (FPL). Use of oral contraceptives also increases with income.

## Contraceptive Method Choice

Differences exist in the reasons men and women choose a particular contraceptive method. According to Jones et al. (2012), “a woman’s choice of contraceptive is influenced by her past fertility, her future fertility intentions, her previous experience with various methods, and the availability of methods.” Method choice is influenced by factors such as knowledge, worry over potential side effects of contraception, and social norms. For example, Frost et al. (2012) found that greater importance placed on contraception use by an individuals’ social network increases the likelihood of hormonal or long-acting (such as an IUD) method utilization. Compared with users of hormonal methods or condoms, Xu et al. (2011) found that IUD users were more likely to cite lower cost as an important factor in their decision, as well as personal privacy, importance of provider recommendation, and concern for not interrupting sex. Among females using EC, the reason for use was nearly evenly divided between fear of birth control method failure (45%) and unprotected sex (Daniels et al., 2013a). Older (aged 30-34 years) females and non-Hispanic whites were more likely to cite fear of method failure whereas younger (aged 20-29 years) females, Hispanics, and non-Hispanic blacks were more likely to use EC due to unprotected sex. (Daniels et al, 2013a)

In a qualitative study exploring attitudes around male sterilization, Shih et al. (2012) found that males and females from all racial/ethnic groups with positive views of sterilization cited desires to care for their existing family and sharing contraceptive responsibilities. Males and females from all racial/ethnic groups cited negative connotations about sterilization and concern for loss of manhood as reasons for not choosing male sterilization. White males and females identified positive social support for male sterilization, whereas black and Latino males and females cited lack of social support and social acceptance around male sterilization. In addition, males and females from all racial/ethnic groups cited misconceptions about the sterilization procedure and long-term impact on sexual function, and black and Latinos had misconceptions about the reversibility of male sterilization, such as the belief that female sterilization was something that could be “reversed or undone” because “it’s easy to just untie them” (in regards to tubal ligation) whereas vasectomy was an irreversible procedure.

## MEDICAL EFFECTIVENESS

As discussed in the *Introduction*, SB 1053 would mandate coverage of all Food and Drug Administration (FDA) approved contraceptive drugs, devices, products, and voluntary sterilization procedures, as well as contraceptive education and counseling. The medical effectiveness review summarizes findings from the literature on the effectiveness of each of the contraceptive methods specified in SB 1053 using a systematic review of literature published through 2010 and individual studies published after 2010.

There are five generally recognized categories of contraceptive methods, with each method category containing a number of FDA approved contraceptive types. The method categories and contraceptive education and counseling are briefly described below. Further details on each contraceptive method, as well as the different types within each method, are provided in the *Study Findings* section below. The five major categories of contraceptive methods are barrier methods, hormonal methods, emergency contraception, implanted devices, and permanent contraception.

- **Barrier methods** are contraceptive methods that prevent pregnancy through the use of a barrier to prevent the sperm from reaching the egg. There are six FDA approved barrier contraceptives: male condom, female condom, diaphragm, sponge, cervical cap, and spermicide.
- **Hormonal contraceptive methods** prevent pregnancy by interfering with ovulation. The FDA approved contraceptives in this method category are, oral contraceptives (pill, mini-pill, and extended/continuous use pill), contraceptive patch (Ortho Evra<sup>®</sup>), vaginal contraceptive ring (NuvaRing<sup>®</sup>), and contraceptive injections (Depo-Provera<sup>®</sup>; Depo-SubQ Provera<sup>®</sup>).
- **Emergency contraceptives** are used to prevent pregnancy after sexual intercourse has occurred. There are two types of emergency contraceptive pills, levonorgestrel (Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup> Next Choice, Next Choice One Step) and ulipristal acetate (Ella<sup>®</sup>), that prevent pregnancy by either providing the hormone progestin or blocking the hormone progesterone. The copper intrauterine device (IUD) (ParaGard<sup>®</sup>) is also used for emergency contraception although is not FDA approved for this purpose.
- **Implanted devices** are inserted/implanted into the body and can be kept in place for several years. The FDA approved types are the copper IUD (ParaGard<sup>®</sup>), the levonorgestrel-releasing IUD (Mirena<sup>®</sup>), the low dose levonorgestrel-releasing IUD (Skyla<sup>®</sup>), and the etonogestrel contraceptive implant (Implanon<sup>®</sup>, Nexplanon<sup>®</sup>).
- **Permanent contraceptive methods** include surgical sterilization for men (vasectomy), laparoscopic surgical sterilization for women (tubal ligation), and hysteroscopic surgical sterilization implant (Essure<sup>®</sup>).
- **Contraceptive education and counseling** is recommended for all women of reproductive age so that they can be informed of the benefits and risks of all contraceptive methods to aid in selection of their optimal type of contraception.

## Research Approach and Methods

Studies of contraceptive effectiveness were identified through searches of relevant databases of peer-reviewed literature listed in Appendix B. The search was limited to abstracts of studies published in English. The medical effectiveness search was limited to studies published from 2010 to the present while the cost and public health searches encompassed studies from 2004 to 2014. For medical efficacy for individual types of contraception, CHBRP relied on a systematic review published in 2011 (Trussell, 2011). It is not feasible for CHBRP to review the literature on effectiveness of the more than 20 types of contraceptives to which SB 1053 applies within the 60-day time frame allotted for this analysis. Therefore, the medical effectiveness review for this report summarizes the findings from a systematic review and meta-analysis published in 2011 (Trussell, 2011), and presents information regarding updated studies found in the literature from 2011 to 2014. This approach is consistent with the approach CHBRP has taken to its analysis of previous topics with many different mandated benefits. Of the 1,174 articles identified in the literature review, 74 were reviewed for potential inclusion in this report on SB 1053, and a total of 19 studies were included in the medical effectiveness review for this report. A more thorough description of the methods used to conduct the medical effectiveness review and the process used to grade the evidence for each outcome measure is presented in Appendix B: Literature Review Methods. Appendix C includes a table describing the studies that CHBRP reviewed (Table C-1) and two tables summarizing evidence of effectiveness (Table C-2, Table C-3).

## Outcomes Assessed

In most studies reviewed, unintended pregnancy is the primary outcome measured to evaluate the effectiveness of contraceptives. The unintended pregnancy rate is based on a combination of factors such as type of contraceptive used, the efficacy of the contraceptive used, and the difficulty of using the contraceptive correctly and consistently. The literature reports on both the effectiveness (typical use of a contraceptive) and efficacy (theoretical perfect use of contraceptives). A comparison of the effectiveness and efficacy for each contraceptive reviewed is presented in Table 7. For the purposes of this review, CHBRP limited the outcome measure to represent the unintended pregnancy rate for typical use of each contraceptive. In addition, any data on the risks of each contraceptive are reported.

For studies of the impact of insurance coverage of contraceptives, CHBRP assessed effects on two outcomes: (1) use of contraception, and (2) unintended pregnancy rates. CHBRP's decision to analyze both of these outcomes reflects the causal pathway by which coverage for contraceptive services could affect unintended pregnancy rates. As discussed below, CHBRP found a large body of evidence indicating that use of contraceptives decreases the likelihood of unintended pregnancy. Coverage for contraceptives with limited insurance restrictions could increase the likelihood that sexually active persons will use contraceptives and, thus, increase the likelihood that they will avoid unintended pregnancies.

## Study Findings

A systematic review found nine studies that examined pregnancy rates among women of reproductive age neither breastfeeding nor using contraception (Trussell, 2011). This review found that over the course of a year, these women had between a 78.1% and 94.0% — or a weighted average of 85% — chance of becoming pregnant. Other research suggests that the rate of unintended pregnancy among women discontinuing contraceptive use is closer to 46% (Vaughan et al., 2008). These are the baseline rates from which to compare effectiveness of each of the contraceptives discussed below.

Most of the research related to contraceptive methods is not classified as high quality as defined by CHBRP methodology (see Appendix B for description). This is due, in part, to the prevailing opinion that it is not ethical to randomize women who do not want to get pregnant into groups using a placebo contraceptive. Therefore, the comparison between a selected contraceptive and no contraceptive has to be estimated indirectly using published data on pregnancy rates among women using no contraception. Given that the unintended pregnancy rates range from 0.05% to 28% depending on the specific type of contraceptive (see Table 7), it is reasonable to conclude that using any of the contraceptives listed below are more effective than not using any contraception in preventing unintended pregnancies.

Table 7 provides the unintended pregnancy rates for both the “typical” use of a contraceptive and the “perfect” use. Typical use provides rates adjusted for such factors as non-adherence, improper dosage, not following device or medication instructions properly, improper implantation or administration, and sporadic or non-usage during all cases of intercourse. Perfect usage assumes a theoretically perfect use, with failure only due to the device or medication itself.

As shown in Table 7, the most heavily utilized contraceptives, male condoms and oral contraceptives, are not the most effective in preventing unintended pregnancies. In contrast, those contraceptives with the highest effectiveness rates such as IUDs and the contraceptive implant, had only been utilized by less than 10% of the women of reproductive age.

**Table 7.** FDA Approval Date, Utilization, and Percentage of Women Experiencing an Unintended Pregnancy During the First Year of Use of Contraception, United States

Contraceptive Method	% of women aged 15-44 years who have ever used (2006-2010) (a)	% of women with unintended pregnancy Typical Use	% of women with unintended pregnancy Perfect Use
<b>Barrier method</b>			
Male condom	93.4%	18%	2%
Female condom (plastic/latex)	1.7%	21%	5%
Diaphragm with spermicide	3.1%	12%	6%
Sponge	4.3%	Parous women (b): 24% Nulliparous women: 12%	Parous women: 20% Nulliparous women: 9%
Cervical cap with spermicide	<0.8%(c)	18%	10-13%
Spermicide alone	3.4-6.8%	28%	18%
<b>Hormonal methods</b>			
Oral contraceptives	81.9%	9%	0.3%
Contraceptive patch	10.4%	9%	0.3%
Vaginal contraceptive ring	6.3%	9%	0.3%
Injection	23.2%	6%	0.2%
<b>Emergency contraception</b>	10.8%		
Levonorgestrel (Plan B <sup>®</sup> ; Plan B One-Step <sup>®</sup> , Next Choice, Next Choice One Step)	(d)	2.6%	Not Reported
Ulipristal acetate (Ella <sup>®</sup> )	(d)	1.8%	Not Reported
<b>Implanted devices</b>			
Copper IUD (ParaGard <sup>®</sup> )	(e)	0.8%	0.6%
Hormonal IUD (Mirena <sup>®</sup> )	(e)	0.2%	0.2%
Contraceptive Implant (Implanon <sup>®</sup> ) (f)	1.9%	0.05%	0.05%

**Table 7.** FDA Approval Date, Utilization, and Percentage of Women Experiencing an Unintended Pregnancy During the First Year of Use of Contraception, United States (Cont'd)

Contraceptive Method	% of women aged 15-44 years who have ever used (2006-2010) (a)	% of women with unintended pregnancy Typical Use	% of women with unintended pregnancy Perfect Use
<b>Permanent methods</b>			
Male sterilization (vasectomy)	13.3%	0.15%	0.10%
Female sterilization surgery	19.5%	0.5%	0.5%
Hysteroscopic sterilization (Essure)	(g)	0.1%	Not Reported

*Source:* Utilization rates were taken from Daniels et al., 2013b. Medical effectiveness was taken from Trussell, 2011, except for emergency contraception (Glasier et al., 2010), cervical cap (Trussell et al., 1993), and Essure (Smith, 2010).

*Notes:* (a) Asked of women who had ever had sexual intercourse.

(b) Parous: women who have previously given birth; Nulliparous: women who have never given birth.

(c) Utilization figure includes cervical cap and other methods.

(d) Use of emergency contraception was not broken out by type. Overall ever-use rate for emergency contraception was 10.8%.

(e) Use of IUD was not broken out by copper and hormonal types. Overall ever-use rate for IUDs was 7.7%.

(f) Norplant<sup>®</sup> was the first FDA approved implantable contraceptive device in 1990, but was later removed from the market. Implanon<sup>®</sup> was the first FDA approved implantable contraceptive device that is still in use today. The utilization rate is for Norplant<sup>®</sup> or Implanon<sup>®</sup> while the effectiveness data is for Implanon<sup>®</sup>.

(g) This type of contraception was not asked about on the National Family Growth Survey because it is a newer type of contraception.

*Key:* IUD=Intrauterine Device

## **Barrier Methods**

Barrier methods block sperm from reaching the egg. There are six FDA approved barrier contraceptives: male condom, female condom, diaphragm, sponge, cervical cap, and spermicide.

### *Male condom*

The male condom is a thin film sheath of latex or polyurethane placed over the penis. It is available without a prescription.<sup>68</sup> As calculated by Trussell (2011), typical use of the male condom has an unintended pregnancy rate of 18%. This is much higher than the rate of unintended pregnancy for perfect use of male condom (2%) due to (a) not always using the condom during intercourse, or (b) not using the condom properly.

### *Female condom*

The female condom is a thin, lubricated pouch that is put into the vagina. It is available without a prescription. As calculated by Trussell (2011), “typical” use of the female condom resulted in an

<sup>68</sup>SB 1053 (amended 4/9/14) would preserve existing health plan and insurer prescription requirements for *coverage* of over-the-counter (OTC) contraceptives. However, some OTC contraceptives (such as male and female condoms and sponges) are available without a prescription if paid for out of pocket.

unintended pregnancy rate of 21%. This is much higher than the rate of unintended pregnancy for “perfect” use of the female condom (5%). Imperfect use is generally due to not always using the female condom during intercourse or not properly following the instructions.

### *Diaphragm with spermicide*

The diaphragm with spermicide is a dome-shaped flexible disk with a flexible rim. It is inserted into the vagina and covers the cervix. It must be in place at least six hours before having sex and should be left in place up to 24 hours. Spermicide is applied to the diaphragm before insertion. A prescription is required, and a consultation and exam with a medical health professional is required in order to find the right size device. A different size may be needed after childbirth or a weight change of more than 15 pounds. As calculated by Trussell (2011), “typical” use of the diaphragm with spermicide resulted in an unintended pregnancy rate of 12%. This is higher than the rate of unintended pregnancy for “perfect” use of the diaphragm with spermicide (6%). Imperfect use is generally due to improper placement, not reapplying spermicide between acts of intercourse, not always using the diaphragm during intercourse, or not properly following the instructions.

More recent literature on diaphragm effectiveness has focused on the potential role that diaphragms with spermicide could play in reducing the transmission of sexually transmitted infections. The literature identified did not find that diaphragm and spermicide use was associated with a decrease in sexually transmitted infections (de Bruyn et al., 2011).

### *Sponge with spermicide*

The sponge with spermicide is a disk-shaped polyurethane device containing spermicide. It is inserted into the vagina before sex and protects against pregnancy for up to 24 hours. The sponge must be left in place for at least six hours after having sex. It must be removed and disposed of within 30 hours after insertion. The sponge with spermicide is available without a prescription. The effectiveness of the sponge with spermicide differs for women who have previously given birth (parous women) and those who have never given birth (nulliparous). As calculated by Trussell et al. (2011), for parous women “typical” use of the sponge with spermicide as contraception resulted in an unintended pregnancy rate of 24%. This is slightly higher than the rate of unintended pregnancy for “perfect” use of the sponge with spermicide for parous women (20%). However the rates of difference between parous and nulliparous women differ widely for both typical and perfect usage. For typical usage, parous women have 24% chance of experiencing an unintended pregnancy within the first year of use, and nulliparous women experience half of that rate at 12%. For perfect usage, a similar relative difference is also observed, at 20% for parous women and 9% for nulliparous women. Imperfect use is generally due to not always using the sponge with spermicide, and not following the instructions with regard to placement, insertion, and removal time windows.

### *Cervical cap with spermicide*

The cervical cap is a soft latex or silicone cup with a round rim, which fits snugly around the cervix. It is inserted into the vagina at least six hours before intercourse and can be left in place up to 48 hours. Spermicidal jelly is applied to the cervical cap before insertion. Reapplication of spermicidal jelly is not required each time before having sex. A prescription is required.

Utilization of the cervical cap has decreased since its introduction with less than 1% of women reporting ever having used this contraceptive in 2006-2010 (Daniels et al., 2013b). As calculated by Trussell et al. (1993), “typical” use of the cervical cap with spermicide as contraception resulted in an unintended pregnancy rate of 18%. This is higher than the rate of unintended pregnancy for “perfect” use of the cervical cap with spermicide (10%–13%). Imperfect use is generally due to (a) not always using the cervical cap with spermicide, or (b) not properly following the instructions.

### *Spermicide alone*

As calculated in Trussell (2011), the unintended pregnancy rate for typical use of spermicide alone is 28% compared to 18% under perfect use. A Cochrane systematic review of 14 clinical trials analyzing the effectiveness of spermicide used alone as the primary method of birth control revealed that dosage was related to effectiveness, with the probability of pregnancy at six months 22% for a lower dose gel, and 14% for a higher dose gel (Grimes et al., 2013). However, behavior of the user was found to be more important than the characteristics of the spermicide products in determining the probability of pregnancy (Grimes et al., 2013).

## **Hormonal Methods**

Hormonal methods prevent pregnancy by interfering with ovulation and possibly fertilization of the egg. The FDA approved contraceptives in this method category are oral contraceptives (the pill, mini-pill, and extended/continuous use pill), contraceptive patches, the vaginal contraceptive ring, and shot/injections.

### *Oral contraceptives*

Oral contraceptives include the “pill,” mini-pill, and extended/continuous use pill. The pill and the extended/continuous use pill are known as “combined pills” and both contain the hormones estrogen and progestin, which stop the ovaries from releasing eggs. They also thicken the cervical mucus, which keeps sperm from getting to the egg.

The mini-pill is also known as the progestin-only pill, and uses a single hormone, progestin. Progestin keeps the sperm from getting to the egg as the main prevention effect, and a secondary and less frequent effect of stopping the ovaries from releasing eggs.

All pill types require a prescription that specifies the daily ingestion of a pill at the same time of day every day, whether or not an individual is having sex. Effectiveness of oral contraceptives is compromised if pills are delayed or missed or if there is simultaneous use with some other medications such as certain anti-epilepsy drugs.

As calculated by Trussell (2011), “typical” use of a combined pill or progestin-only pill as contraception resulted in an unintended pregnancy rate of 9%. This is much higher than the rate of unintended pregnancy for “perfect” use of the combined pill or progestin only pill (0.3%). Imperfect use is generally due to not faithfully taking the pill every day at the same time.

### *Contraceptive patch*

The contraceptive patch is a prescription-only skin patch that can be worn on the lower abdomen, buttocks, upper arm, or back. It contains two hormones (estrogen and progestin) that stop the ovaries from releasing eggs. It also thickens the cervical mucus, which keeps sperm from getting to the egg. The patch is worn for a three-week period. During the fourth week no patch is worn, thus triggering a menstrual period. As calculated by Trussell (2011), “typical” use of the contraceptive patch as contraception resulted in an unintended pregnancy rate of 9%. This is much higher than the rate of unintended pregnancy for “perfect” use of the contraceptive patch (0.3%). Imperfect use is generally due to nonadherence to the dosing schedule.

### *Vaginal contraceptive ring*

The vaginal contraceptive ring is a flexible ring that is about 2 inches in diameter. It releases two hormones (estrogen and progestin) that stop the ovaries from releasing eggs. It also thickens the cervical mucus, which keeps sperm from getting to the egg. The ring is inserted into the vagina for 3 weeks and then taken out for 1 week. The menstrual period should start during the ring-free week. A prescription is required. As calculated by Trussell (2011), “typical” use of the vaginal contraceptive ring as contraception resulted in an unintended pregnancy rate of 9%. This is much higher than the rate of unintended pregnancy for “perfect” use of the vaginal contraceptive ring (0.3%). Imperfect use is generally due to (a) nonadherence to the dosing schedule, or (b) improper placement or the ring slipping out. If the ring slips out, another form of birth control is recommended until the ring has been in place for 7 consecutive days.

### *Injection*

An injection of the hormone progestin is administered either in the muscle or under the skin. This stops the ovaries from releasing eggs and thickens the cervical mucus, which keeps sperm from getting to the egg. An injection is needed every 3 months from a health care provider. As calculated by Trussell (2011), “typical” use of hormonal injections as contraception resulted in an unintended pregnancy rate of 6%. This is much higher than the rate of unintended pregnancy for “perfect” use of hormonal injections (0.2%). Imperfect use is generally due to nonadherence to the dosing schedule (e.g., missing a shot).

## **Emergency Contraceptive Methods**

Emergency contraceptive methods are used to prevent pregnancy after sexual intercourse has occurred. There are two types of emergency contraceptive pills, levonorgestrel (Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup>, Next Choice, Next Choice One Step) and ulipristal acetate (Ella<sup>®</sup>) that prevent pregnancy by either providing the hormone progestin or blocking the hormone progesterone. The copper IUD (ParaGard<sup>®</sup>) is also available for use as an emergency contraceptive.<sup>69</sup>

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<sup>69</sup> It is not clear if the copper IUD would be mandated per SB 1053 for use as an emergency contraceptive as it is not specifically FDA approved for such usage. Therefore, its effectiveness as an emergency contraceptive has not been reviewed for this report.

### *Levonorgestrel*

Levonorgestrel (LNG) is a second-generation synthetic progestogen used in emergency contraceptives such as Plan B<sup>®</sup> and Plan B One-Step<sup>®</sup>, Next Choice, and Next Choice One Step. Some forms of LNG require a prescription or have age restrictions while others do not. The pill(s) should be taken as soon as possible, but at least within 3 days (72 hours) after having unprotected sex. Although FDA approved use is only up to 72 hours, clinically it is used up to 120 hours after unprotected intercourse. According to Glasier et al. (2010) the results of an analysis comparing emergency contraceptives showed that among women taking LNG within 72 hours of unprotected sex 2.6% of women became pregnant. Comparing this to the 5.4% of women expected to get pregnant in absence of emergency contraception, the use of LNG within 72 hours reduces expected pregnancy rates by 52% ( $p=0.001$ ) (Glasier et al., 2010).

### *Ulipristal Acetate (Ella<sup>®</sup>)*

Ulipristal acetate known as Ella<sup>®</sup> is a pill that blocks the hormone progesterone. The pill(s) should be taken as soon as possible, but at least within 5 days (120 hours) after having unprotected sex. Ulipristal acetate requires a prescription. Glasier et al. (2010) found an observed pregnancy rate of 1.8% among women taking ulipristal acetate within 72 hours. Comparing this to an expected pregnancy rate of approximately 5.5%, the use of ulipristal acetate within 72 hours reduces expected pregnancy rates by 67% ( $p=0.001$ ) (Glasier et al., 2010.).

## **Implanted Devices (Long-Acting Reversible Contraceptives)**

Implanted devices are inserted/implanted into the body and can be kept in place for several years. The types are the copper and noncopper (hormonal) intrauterine device (IUD) and the contraceptive implantable rod.

### *Copper IUD*

The copper IUD is a T-shaped device containing copper that is put into the uterus by a healthcare provider. It works by preventing sperm from reaching the egg, from fertilizing the egg, and may prevent the egg from attaching (implanting) in the womb (uterus). It can be used for up to 10 years. After the IUD is taken out it is again possible to get pregnant. As calculated by Trussell (2011), “typical” use of the copper IUD as contraception resulted in an unintended pregnancy rate of 0.8%. This is similar to the rate of unintended pregnancy for “perfect” use of the copper IUD (0.6%) as imperfect usage is largely related to improper placement by the health care professional.

### *Levonorgestrel-releasing IUD (Mirena<sup>®</sup>, Skyla<sup>®</sup>)*

The hormonal IUD is a T-shaped device containing progestin that is put into the uterus by a healthcare provider. It works by thickening the mucus of the cervix, which makes it harder for sperm to enter the uterus, and also thins the lining of the uterus. It can be used for up to 3 to 5 years. After the IUD is taken out it is again possible to get pregnant. A doctor or healthcare professional needs to place the IUD. As calculated by Trussell (2011), “typical” use of the hormonal IUD as contraception resulted in an unintended pregnancy rate of 0.2%. This is the same rate of unintended pregnancy for “perfect” use of the hormonal IUD. There are two types of levonorgestrel-releasing IUDs: Mirena<sup>®</sup> and Skyla<sup>®</sup>. There are slight differences, mostly

related to different dosing. Mirena<sup>®</sup> has been in use longer than Skyla<sup>®</sup>, and is approved for up to five years of use, although the actual period of effectiveness may be longer. The probability of pregnancy is 0.1%. Skyla<sup>®</sup> releases a comparatively lower dose levonorgestrel, is smaller in size than Mirena<sup>®</sup> (so potentially involves a less painful placement), and due to the lower dose, is approved for 3 as opposed to 5 years. The probability of pregnancy is slightly higher than Mirena at 0.41%.

### *Contraceptive implant*

The contraceptive implant is a thin, matchstick-sized rod that contains the hormone progestin. It is put under the skin on the inside of the patient's upper arm by a health care professional using a special applicator. It works by stopping the ovaries from releasing eggs. It also thickens the cervical mucus, which keeps sperm from entering the uterus. It can be used for up to 3 years. As calculated by Trussell (2011), "typical" use of the contraceptive implant as contraception resulted in an unintended pregnancy rate of 0.05%. This is the same rate of unintended pregnancy for "perfect" use of the contraceptive implant.

## **Permanent Methods**

Permanent contraceptive methods include surgical sterilization for both men and women, and the sterilization implant for women. Perfect usage assumes a theoretically perfect use, with failure only due to the device or medication itself. Failure for permanent methods generally stems from two issues: (1) improper surgical techniques or performing the procedure on patients who do not meet criteria specified by the relevant device and/or procedure, and (2) patient behavior and compliance including not using an alternative means of birth control during a specified waiting period.

### *Vasectomy (sterilization surgery for men)*

Vasectomy is a permanent sterilization surgery for men usually done under local anesthesia. Sometimes it is possible to reverse the operation, but not always, and the reversal surgery is generally more complex than the sterilization surgery. The surgery blocks the vas deferens (the tubes that carry sperm from the testes to other glands) so that semen no longer contains any sperm. It usually takes about three months to clear sperm out of the system. Until testing confirms the semen is sperm free, the possibility of pregnancy remains and another form of birth control is recommended in the interim. Typical- and perfect-use rates provided by Trussell (2011) were 0.15% and 0.10% respectively, and are described as "arbitrary" estimates that reflect the lack of quality research and underreporting of surgical failure in the literature for these procedures. In this case, the difference between typical and perfect use rates reflects an estimate of the effect of unprotected intercourse during the period before the individual is certified as sperm free. Additionally, sometimes the vas deferens is not completely blocked by the procedure, or it may grow back together.

### *Tubal ligation (sterilization surgery for women)*

Tubal ligation, also called trans-abdominal surgical sterilization, is a permanent sterilization surgery for women performed under general anesthesia. Tubal ligation involves tying and cutting the fallopian tubes. Alternatively, the fallopian tubes also can be sealed using an instrument with

an electrical current, or can be closed with clips, clamps, or rings. Sometimes a small piece of the tube is removed. In all cases, the fallopian tubes are blocked so the egg and sperm are prevented from meeting in the fallopian tube. As calculated by Trussell (2011), the unintended pregnancy rates for “typical” and “perfect” female sterilization procedures are the same at 0.5%. Tubal ligation can be performed immediately after pregnancy (postpartum sterilization) or at any remote time after the pregnancy (interval sterilization).

#### *Hysteroscopic sterilization (Essure)*

The hysteroscopic surgical sterilization implant for women (Essure<sup>®</sup>) is a small flexible, metal coil that is put into the fallopian tubes through the vagina. The device works by causing scar tissue to form around the coil, which blocks the fallopian tubes and prevents pregnancy. The device is placed in the fallopian tube with a special catheter, and is effective after 3 months (after sufficient scar tissue has formed). The device is placed using a camera inserted into the vagina, so no incision is required, although local anesthesia is sometimes used. An X-ray is required to make sure the device is in the right place. A review study (Smith, 2010) reported a 5-year efficacy rate of 99.74%. Estimated failure rates were extrapolated using the number of devices shipped and number of reported pregnancies yielded a rate of 0.1% (1.06 per 1,000). No data is available specifying rates for typical or perfect usage, although the extrapolation calculations used gross numbers of pregnancies with no qualifying information, and so could be assumed to be a typical use rate. A potential contributor to failure is not using alternative methods of birth control during the 3 months following the surgery while scar tissue is forming in the fallopian tube.

### **Contraceptive Education and Counseling**

Contraceptive education and counseling encompasses a broad spectrum of methods and settings, including programs targeting youth through schools and community organizations, general education through the media, and contraceptive and postnatal counseling provided by health care providers and contraception service centers. In the clinical practice guideline for contraceptive use developed by the World Health Organization (WHO) and adapted and distributed to providers in the United States by the Centers for Disease Control and Prevention (CDC), all women of reproductive age are recommended contraceptive counseling that includes information regarding contraceptive efficacy, risks, and benefits to allow for optimal decision making (CDC, 2013). However, although contraceptive education and counseling is widely practiced, research evaluating its effectiveness is limited.

One study found that knowledge about usage and effectiveness of different types of oral contraceptives was related to decreased discontinuation rates (Hall et al., 2014). The contraceptive CHOICE study (Bitzer et al., 2012) demonstrated that education about different types of hormonal contraceptives (pill, patch, ring) can influence choice of contraceptive, with 47% selecting a different type than the one originally planned after receiving counseling.

Another review of education regarding contraception for women after childbirth (Lopez et al., 2012) found limited evidence that women who received an immediate postpartum counseling session about contraception were more likely to use contraception than those with only a later session. Another reviewed study showed that adolescents in a home visiting education program

were less likely to have a second birth in two years compared to adolescents who did not receive similar education.

## **Health Risks, Side Effects, and Noncontraceptive Benefits of Contraception**

### *Major health risks of contraception use*

The two major health risks associated with contraceptive use are cardiovascular disease and cancer. The use of hormonal contraceptives is associated with increased risk of cardiovascular disease such as myocardial infarction and stroke (Trussell and Guthrie, 2011). The risk is highest in women with specific risk factors such as being over the age of 35 and tobacco use. The combined vaginal contraceptive ring has also been associated with an increased risk of blood clots (venous thromboembolism) in otherwise healthy women (Kolacki and Rocco, 2012). However, this is comparatively low compared to the risk of venous thromboembolism during pregnancy, which has been found to be as high as 5 times as high as nonpregnant women during pregnancy (odds ratio=4.6; 95% CI, 2.7-7.8) and 60 times as high as nonpregnant women during the first 3 months after giving birth (odds ratio=60.1; 95% CI, 26.5-135.9) (Pomp et al., 2008).

Research on the health risks of hormonal contraceptives has been conducted exclusively among women using oral contraceptives, but presumably these risks would apply to users of other forms of hormonal contraception as well (Trussell and Guthrie, 2011). Although early studies had found a possible link between vasectomy and prostate cancer, more recent and larger studies have found that men undergoing vasectomy did not have higher rates of prostate cancer than men who had not undergone the procedure. (Holt et al., 2008).

To put these risks in perspective, the average risk of dying from an automobile accident in a year is 1 in 5,000, and the risk of death from pregnancy is 1 in 6,900. In contrast, the risk of death from oral contraceptive use among smokers aged 35 to 44 years is 1 in 5,200, and the risk of death from undergoing tubal sterilization is 1 in 66,700 (Trussell and Guthrie, 2011).

### *Side effects of contraception use*

As presented in Trussell and Guthrie (2011), there are many side effects of contraceptive use that patients need to take into consideration when selecting a type of contraceptive. Side effects of hormonal contraceptives include headaches, nausea, dizziness, breast tenderness, and weight gain. Both hormonal methods and IUDs can lead to changes in the menstrual cycle such as spotting or an increase or decrease in menstrual flow. Side effects of barrier methods include decreased sensitivity, uterine cramping, or uncomfortable pressure on vaginal walls. Allergic reactions to latex and copper also need to be considered for barrier methods and IUD use. Risks of surgical contraceptive methods include pain or infection at surgical site. Postoperative complications for sterilization procedures, such as vasectomy and tubal ligation, are rare in minor in nature (Adams and Wald, 2009). In the case of vasectomy, perioperative bleeding occurs in about 2.4% of no-scalpel vasectomies and 4% of incisional vasectomies (Cook et al., 2007). As with any surgical procedure, infection is also a risk with 0.7% (non-scalpel) to 4% (incisional) of cases resulting in a postoperative infection (Cook et al., 2007).

### *Oral contraceptives and weight gain*

A Cochrane review of 16 studies examined the relationship between progestin-only contraceptives and weight gain/body composition. For 12 of the 16 studies, no difference was found between the progestin and comparison groups. However, three studies showed weight differences for progestin users compared to women not using a hormonal birth control method. In one study, weight gain was greater for the progestin group than groups using a nonhormonal IUD in the first three years of the study [(mean difference=2.28; 95% CI, 1.79–2.77), (mean difference=2.71; 95% CI, 2.12–3.30), and (mean difference= 3.17; 95% CI, 2.51–3.83), respectively].

The two remaining studies examining progestin implants also showed differences in weight change, with the implant groups having greater weight gain compared to a group using a nonhormonal IUD [(mean difference= 0.47; 95% CI, 0.29–0.65); (mean difference=1.10; 95% CI, 0.36–1.84)] (Lopez et al., 2013a). A separate Cochrane review was conducted on the use of combined oral contraceptives and weight gain. For the four studies identified that included a placebo group, no significant weight gain was reported (Gallo et al., 2014).

### *Noncontraceptive benefits of contraception use*

Some contraceptive methods have benefits beyond contraception (Trussell and Guthrie, 2011). Hormonal methods such as oral contraceptives, the ring, and the patch protect against pelvic inflammatory disease, prevent bone loss, prevent ovarian cysts, reduce acne, and can reduce painful or heavy periods. Women using oral contraceptives have a decreased risk of colorectal, uterine, and ovarian cancers (Trussell and Guthrie, 2011). The Mirena<sup>®</sup> IUD has been FDA approved for use in reducing menstrual blood loss, thus reducing anemia and cramping. Condoms can protect against sexually transmitted infections including HIV. Hormone injections may reduce seizure frequency and protect against ovarian and endometrial cancers. Tubal sterilization reduces the risk of ovarian cancer and may protect against pelvic inflammatory disease (Trussell and Guthrie, 2011).

## **Comparative Effectiveness of Contraceptive Methods**

As discussed in more detail in the *Benefit Coverage, Utilization, and Cost Impacts* section, it is possible that the passage of SB 1053 could shift utilization patterns in contraceptive use from one method to another. Therefore, the medical effectiveness review also included a search for comparative effectiveness studies looking at the effectiveness of a two specific contraceptives compared to each other. Many of the studies found were not included in this literature review because they included comparisons between one or more contraceptives that are no longer in use or are not FDA approved for use in the United States.

Since few comparative effectiveness trials exist, indirect comparisons of effectiveness rates are consulted to determine a hierarchy of effectiveness for contraceptives. These comparisons suggest that implanted devices (IUDs and contraceptive implant) and sterilization are the most effective forms of contraception followed by hormonal methods. Barrier methods are considered the least effective form of contraception. Comparative effectiveness trials generally compare types of contraceptives from within the same method category with similar effectiveness rates. It would not be ethical to randomize patients looking for effective contraception to a contraceptive

with a known lower effectiveness rate. Similarly there are no direct comparisons between permanent contraceptive methods and reversible contraceptive methods because it would not be ethical to randomize patients who wanted reversible contraception into a permanent contraception treatment arm. The literature that was found comparing contraceptives is summarized below.

#### *A comparison of barrier methods*

A Cochrane review of two randomized controlled trials comparing cervical cap devices to diaphragms found inconsistent results (Gallo et al., 2002). The Prentif cap prevented pregnancy as well as the comparison diaphragm, while the FemCap did not. However, women using the Prentif cap had more abnormal changes in the cervix than diaphragm users while those using the FemCap did not (Gallo et al., 2002).

A Cochrane review of trials comparing the effectiveness of the diaphragm with and without spermicide only identified one study that was underpowered and concluded that there was insufficient evidence to distinguish contraceptive effectiveness of the two types (Cook et al., 2011).

A review of two trials comparing the effectiveness of the diaphragm and the sponge determined that the sponge was less effective at preventing overall pregnancy than was the diaphragm (Kuyoh et al., 2002). Women using the sponge had higher odds of becoming pregnant compared to women using the diaphragm (odds ratio=1.65; 95% CI, 1.21–2.24). Overall, discontinuation rates 12 months were higher for the sponge than the diaphragm (odds ratio=1.31; 95% CI, 1.07–1.59) (Kuyoh et al., 2002).

#### *A comparison of hormonal methods*

A Cochrane review of 18 studies of the comparative effectiveness of the contraceptive patch or vaginal ring with second and third generation combination oral contraceptives found no significant difference in unintended pregnancy rates (Lopez et al., 2013b).

One study examined the relative effectiveness of second generation oral contraceptives (contraceptives introduced in the 1970s) compared to the EVRA<sup>®</sup> contraceptive patch and progestin-only oral contraceptives (Jick et al., 2009). Adjusting for age, women on the EVRA<sup>®</sup> patch had a higher risk of unintended pregnancy (hazard ratio=2.6; 95% CI, 1.6–4.1) compared to those on oral contraceptives. Adjusting for age, women on progestin-only oral contraceptives also had a higher risk of unintended pregnancy (hazard ratio=1.8; 95% CI, 1.6–2.1) compared to those on oral contraceptives.

#### *A comparison of implanted long-acting reversible contraceptive devices*

The Cochrane review examining the unintended pregnancy rates of hormone-releasing LNG-IUD (progestin IUD) compared to a contraceptive implant found no difference between the two types of contraceptives (rate ratio=3.01; 95% CI, 0.13–75.56) (French, 2010). The Cochrane review examining the unintended pregnancy rates of hormone-releasing LNG-IUD compared to a copper IUD found mixed results depending on the type of copper IUD. The studies reviewed comparing the LNG-IUD with the copper IUD >250 mm<sup>2</sup> found no significant difference between the two types of contraceptives in preventing pregnancy (rate ratio=1.01; 95% CI, 0.71–

5.82) (French, 2010). This review did find that users of the LND-IUD had significantly fewer unintended pregnancies compared to users of the copper IUD  $\leq 250 \text{ mm}^2$  (rate ratio=0.12; 95% CI, 0.03–0.49).

One study investigated the comparative effectiveness of implanted devices (IUD and contraceptive implant) to injection and to oral contraceptive pills, patch, and vaginal contraceptive ring (PPR) (Winner et al., 2012). There was a significant difference found in unintended pregnancy rates between those in the implanted device and PPR groups, with a hazard ratio of 21.84 with those in the PPR group having a higher hazard of unintended pregnancy in comparison to those in the implanted device group.

Two studies found no difference in unintended pregnancy rates between a group that used LARC and a group that used contraceptive injections (Hofmeyr et al., 2010; Winner et al., 2012). Alternatively, one review identified a study among women with HIV that found the copper IUD was more effective than injections or hormonal contraception at preventing pregnancy (rate ratio=0.45; 95% CI, 0.23–0.87) (Hofmeyr et al., 2010).

#### *A comparison of emergency contraception methods*

There are two types of emergency contraception: ulipristal acetate also known as Ella<sup>®</sup> and levonorgestrel (LNG) (Plan-B<sup>®</sup>, Plan B One-Step<sup>®</sup>). A meta analysis of two studies comparing the effectiveness of ulipristal acetate and LNG found that ulipristal acetate users had lower rates of unintended pregnancy (rate ratio=0.59; 95% CI, 0.35–0.99) (Cheng et al., 2012). Glasier et al. (2011) found being obese was associated with risk of unintended pregnancy for those taking LNG (odds ratio=4.41, 95% CI, 2.05–9.44) but not among those taking ulipristal acetate (odds ratio=2.62; 95% CI, 0.89–7.00). Women with body mass index thresholds greater than 25 are recommended to take ulipristal acetate (Moreau and Trussell, 2012).

#### **Summary of findings regarding marginal impact of comparative effectiveness of specific contraceptives:**

Although very few direct comparison trials exist, large observational studies indicate that implanted devices (IUDs and contraceptive implants) and sterilization are the most effective method of contraception followed by hormonal contraception methods, and that barrier methods are the least effective form of contraception.

Evidence from two trials found that the diaphragm is more effective than the sponge at preventing unintended pregnancy, but there is conflicting evidence regarding the comparative effectiveness of the diaphragm and the cervical cap.

A meta-analysis of two randomized comparative effectiveness trials of emergency contraceptives ulipristal acetate and LNG found that ulipristal acetate users had lower rates of unintended pregnancy.

#### **Special Populations**

The U.S. Medical Eligibility Criteria for Contraceptive Use (2010) contains U.S. specific adaptations of guidance first researched and published by the WHO in 1996 (CDC, 2010). The

document provides evidence-based guidance on the safety of contraceptive use by men and women who have specific characteristics and medical conditions. For each type of contraceptive listed below, the specified contraceptives are not recommended (condition 3 or 4 in the guidance) for women who fall into the listed categories. Detailed recommendations are located in Table C-4 in Appendix C. A sampling of some of the more common conditions for which certain methods are not recommended includes:

- Women over 35 years old who smoke (especially those who smoke more than 15 cigarettes per day) are not recommended to use combined hormonal contraceptives (pill, patch, ring).
- Women with multiple risk factors for cardiovascular disease (e.g., older age, smoking, diabetes, hypertension) are not recommended to use combined hormonal contraceptives (pill, patch, ring).
- Women with past or current breast cancer are not recommended to use combined hormonal contraceptives (pill, patch, ring), progestin-only injections (DMPA), progestin-only implants, or hormonal intrauterine devices (LNG-IUDs).
- Women with migraine headaches with aura are not recommended to use combined hormonal contraceptives (pill, patch, ring), progestin-only implants.
- Women with hypertension, especially with elevated blood pressure levels, are not recommended to use combined hormonal contraceptives (pill, patch, ring). Impact of Health Insurance Characteristics on Utilization of Contraception

The literature review included search terms to address the impact of health insurance characteristics on the utilization of contraception. The health insurance characteristics examined included health insurance coverage for contraception and copayments or out-of-pocket expenses for covered contraceptive benefits.

#### *Insurance coverage for contraceptive benefits*

One study used a simulation model to look at the impact of expanding contraceptive coverage on unintended pregnancies and found that over the course of 5 years, 72 unintended pregnancies could be prevented for every 1,000 women newly eligible for coverage (Burlone et al., 2013). This was among women who previously were uninsured. Another study found that insurance status was associated with use of prescription contraceptives, with uninsured less likely to use prescription contraceptives compared to those women with insurance (rate ratio=0.7; 95% CI, 0.6–0.8) (Culwell and Feinglass, 2007). No studies were identified that examined the impact of expansion from some coverage to coverage for all forms of contraceptives on unintended pregnancy rates.

#### *Copayments*

Three studies found that lower or eliminated patient copayments for contraception were associated with increased utilization of effective contraceptive methods among insured women (Gariepy et al., 2011; Pace et al., 2013; Postlethwaite et al., 2007). In Postlethwaite et al. (2007),

the impact of eliminating cost sharing for contraceptives among HMO enrollees shifted contraception use from oral contraceptives toward IUDs resulting in a decrease in the overall unintended pregnancy rate by 8.6% (from 7.0% to 6.4%). In two papers looking specifically at IUD use, higher cost-sharing requirements were associated with lower utilization rates of IUDs (Garipey et al., 2011; Pace et al., 2013). In Garipey et al. (2011), the authors report that among privately insured women seeking IUDs from their health care provider, those with out-of-pocket costs less than \$50 were 11 times more likely to have an IUD inserted compared to women with out-of-pocket costs of \$50 or greater. The study reported in Pace et al. (2013) examines out-of-pocket costs and the association with IUD use among women in mid to large employer-based health insurance. They found that those with moderate or high cost sharing were less likely to have an IUD inserted than those with low cost sharing for IUDs.

**Summary of findings regarding the impact of health insurance characteristics on utilization of contraceptives.**

There is a preponderance of evidence from studies with weak designs<sup>70</sup> that lowering or eliminating patient copayments for contraception is associated with higher IUD utilization and is associated with a utilization shift from less to more effective contraception.

## Summary of Findings

- Over the course of a year, sexually active women not using contraceptives have an 85% chance of becoming pregnant, with a 46% unintended pregnancy rate among women discontinuing previous contraceptive use. It is reasonable to conclude that using any of the contraceptives listed in this report is more effective than not using any contraception in preventing unintended pregnancies.
- The CDC recommends contraceptive counseling for all women of reproductive age so that they can be informed of the benefits and risks of all contraceptive methods to aid in selection of their optimal method.
- Unintended pregnancy rates over the course of a year for barrier methods range from 15%-24%.
- Over the course of a year, unintended pregnancy rates for hormonal contraceptive methods range from 6%-9%.
- The pregnancy rate among women taking emergency contraception ranges from 1.8%-2.6%.
- Over the course of a year, unintended pregnancy rates for implanted contraceptive methods (IUD and contraceptive implant) range from 0.05%-0.8%.
- Over the course of a year, unintended pregnancy rates for permanent contraceptive methods range from 0.1%-0.5%.
- Comparative effectiveness of contraceptive methods:

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<sup>70</sup> CHBRP classifies nonrandomized/observational studies that do not have a concurrent comparison group (e.g., studies with before-after designs, studies with historical comparison groups) as studies of weak design.

- Although very few direct comparison trials exist, it stands to reason based on individual effectiveness data that implanted long-acting reversible contraceptive devices (IUDs and contraceptive implants) and sterilization are more effective compared to hormonal contraception methods and that barrier methods are the least effective form of contraception.
- A meta-analysis of two randomized comparative effectiveness trials of ulipristal acetate and levonorgestrel found that UPA users had lower rates of unintended pregnancy.
- There is a preponderance of evidence from studies with weak designs that lowering or eliminating patient copayments for contraception is associated with increased utilization of effective contraceptive methods and specifically that eliminating copayments for IUDs is associated with higher IUD utilization.

# BENEFIT COVERAGE, UTILIZATION, AND COST IMPACTS

SB 1053 would require all DMHC-regulated health plans and all CDI-regulated policies to expand benefit coverage of contraceptives. SB 1053 would also prohibit nongrandfathered group or individual health plans and policies from imposing cost-sharing requirements in providing contraceptive coverage, consistent with existing requirements in the Affordable Care Act (ACA). The critical caveats underlying the cost analysis are the assumptions (due to the lack of literature) regarding the change in utilization of male condoms as a result of mandating coverage for male condoms with a prescription.

This section will first present the premandate (baseline) benefit coverage, utilization, and costs related to contraceptives and then provide estimates of the impacts on coverage, utilization, and cost if SB 1053 is enacted. For further details on the underlying data sources and methods, please see Appendix D at the end of this report.

## Premandate (Baseline) Benefit Coverage, Utilization, and Cost

### Premandate (Baseline) Benefit Coverage

Currently, of the approximately 23.4 million enrollees subject to state benefit mandates, 69% (16.2 million enrollees) are subject to SB 1053 and have coverage for “some” contraceptives (Table 1).

Current coverage of contraceptives was determined by a survey of the seven largest providers of health insurance in California. Responses to this survey represent:

- 95.8% of enrollees in the privately funded, DMHC-regulated market;
- 70.7% of enrollees in the CDI-regulated market; and
- 90.7% of enrollees in the privately funded market subject to state mandates.

According to this survey, the highest current coverage rate (99.5%) is estimated for contraceptive education and counseling services. The coverage rates for permanent contraceptive methods are also very high, 99.2% for females (without cost sharing) and 99.3% for males (with cost sharing). The coverage rates for implantable device contraceptives and emergency contraceptives are 96.8% and 96.9%, respectively. The coverage rates for hormonal method range from 92.9% (vaginal rings and hormonal patches) to 98.1% (injection). Barrier methods are estimated to have the lowest coverage rates: 85.2% for female barrier contraceptives and 0% for male condoms. The full list of premandate contraceptive coverage rates from the survey can also be found in Table 8.

### Premandate (Baseline) Utilization and Per-Unit Cost

CHBRP estimates premandate (baseline) utilization based on Milliman’s analysis of 2012 California claims data (i.e., the MarketScan databases reflecting the healthcare claims experience

of employees and dependents covered by the health benefit programs of large employers, as detailed in Appendix D) and the literature. It should be noted that the MarketScan databases contain claims data collected from insurance companies, Blue Cross-Blue Shield plans, and third-party administrators, but not from Medi-Cal or Workers Compensation.

Of note, when CHBRP estimates the utilization and cost impacts of this bill, reproductive ages for females and males are assumed to be aged 15 to 54 and aged 15 to 64, respectively. This is because Milliman's database found a relatively large amount of utilization up to age 54 — i.e., the utilization of female permanent contraception was greater among women aged 45 to 54 years than among women aged 39 to 44 years. This was also partly because there is limited literature on contraceptive usage among women aged 45 or older. Additionally, CHBRP assumed that males aged 15 to 64 years might use contraceptives, because Milliman's database indicated usage of permanent contraception among men aged 60 to 64 years.

The user distribution data are multiplied by the annual utilization frequency. Assumptions about the annual utilization of each method were derived from the summary data extracted from both Milliman's insurance claims database and the literature. The database, consisting of 2012 data, does not currently show the full impact of the ACA's contraceptive coverage mandate. To measure the change from 2014 to 2015, CHBRP increased baseline utilization to reflect the impact of the current contraceptive coverage mandate under the ACA. For instance, IUD utilization was increased at a rate of 0.25% for every \$1 reduction in cost sharing from the 2012 data based on the literature (Pace et al., 2013). No utilization change was assumed for coverage of all other female contraceptives due to the ACA.

For every contraceptive method except male condoms, premandate users without coverage were assumed to utilize services at a rate of 95% of those with coverage. Utilization data on male condoms was not available in the baseline data, because they are not a typically covered service. Therefore, CHBRP assumed male condom usage for the total noncovered population to be 20% (Jones et al., 2012; Frost et al., 2010).

Each male was assumed to utilize 52 condoms per year. This was because some individuals do not necessarily use the same contraceptive type within one year, even though individuals (using barrier methods) are reported to have an average of 83 acts of intercourse per year.

The assumptions of CHBRP's cost model are not based on the results of the California Health Interview Survey<sup>71</sup> (CHIS) due to its limited information on contraceptive use. Instead, CHBRP used the CHIS data to discuss the qualitative long-term change in contraceptive use among California's population later in the *Long-Term Impact of the Mandate* section.

CHBRP estimates that currently there are 5,610,244 females of reproductive age (aged 15–54 years), consisting of 5,471,434 females with coverage and 138,810 females without coverage. Out of these females of reproductive age, 1,155,877 females are estimated to currently use female contraceptives in 2014, including 1,129,472 and 26,405 females with coverage and without coverage, respectively.

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<sup>71</sup> CHIS is the state health survey conducted in all 58 counties in California, covering more than 50,000 people, including adults, teenagers, and children. It is the largest state health survey in the nation.

Similarly, CHBRP estimates that presently there are 6,476,861 males of reproductive age (aged 15–64 years), comprising 6,431,984 males with coverage for vasectomies and 44,878 males without coverage for vasectomies. No male was estimated to currently have coverage for condoms. Out of these males of reproductive age, 1,324,245 males are estimated to currently use male contraceptives in 2014, including 28,682 males with coverage for vasectomies, 190 males without coverage for vasectomies, and 1,295,372 males without coverage for condoms.

### **Premandate (Baseline) Per-Unit Cost**

CHBRP estimates premandate (baseline) per-unit cost based on Milliman’s analysis of 2012 California claims data, including OTC methods utilized with a prescription. The per-unit cost was trended forward to 2015 dollar value using a 7% trend. Because the number of claims for male condoms was too small, CHBRP obtained its per unit price (\$0.44 in 2015 dollars) from the literature, adjusting based on the medical consumer price index up to 2014 and a 3% increase from 2014 to 2015. CHBRP’s estimates for the per-unit cost are also summarized in Table 8.

### **Premandate (Baseline) Coverage, Utilization and Cost for Each Contraceptive**

CHBRP estimates the baseline coverage, utilization and cost for each contraceptive as summarized in Table 8.<sup>72</sup> Cost here represents the total of amounts paid by the health plan/insurer and amounts paid by the patient, either out of pocket, or due to cost-sharing<sup>73</sup> provisions of his/her plan contract or policy.

The three contraceptives with the highest utilization rates, measured by the number of individuals that utilized them per year, except education/counseling (6.3%), during 2014 are:

- Male condom — 52.2% of all individuals with contraceptive use;
- Oral contraceptives (pill) — 31.3% of all individuals with contraceptive use; and
- Vaginal rings and hormonal patches — 3.0% of all individuals with contraceptive use.

The three most expensive contraceptives on an average cost per recipient in the year of the surgery or implantation are:

- Permanent female sterilization — \$3,173.82;
- Permanent male sterilization (vasectomy) — \$947.89; and
- IUD — \$927.68.

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<sup>72</sup> Caution is needed to interpret the utilization columns in Table 8, because only a small proportion of individuals utilize services for long-term contraceptive methods/types (for example, IUD users receive care once every 3 to 10 years to implant the device and permanent method users usually receive the procedure only once in their lifetime).

<sup>73</sup> Cost sharing may take the form of copays or coinsurance and may have either applicable deductibles or annual/lifetime caps.

## **Premandate (Baseline) Premiums and Expenditures**

Tables 9.1 and 9.2 (at the end of this section) present per member per month (PMPM) premandate estimates for premiums and expenditures by market segment for DMHC-regulated plans and CDI-regulated policies.

PMPM by market segment is as follows for privately funded DMHC-regulated plans and CDI-regulated policies, respectively:

- Large group: \$524.86 and \$639.07.
- Small group: \$474.63 and \$576.55.
- Individual market: \$454.56 and \$329.35.

PMPM by market segment is as follows for publicly funded DMHC-regulated plans:

- CalPERS HMOs: \$529.77.
- Medi-Cal Managed (Under 65): \$177.15
- Medi-Cal Managed (65+): \$408.00.

Total current annual expenditure for all DMHC-regulated plans and CDI-regulated policies is \$128,465,204,000.

## **Public Demand for Benefit Coverage**

Considering the criteria specified by CHBRP's authorizing statute, CHBRP reviews public demand for benefits relevant to a proposed mandate by comparing the benefits provided by self-insured health plans or policies (which are not regulated by DMHC or CDI and therefore not subject to state-level mandates) with the benefits that are provided by plans or policies that would be subject to the mandate.

Among publicly funded self-insured health insurance policies, the Preferred Provider Organization (PPO) plans offered by CalPERS currently have the largest number of enrollees. The CalPERS PPOs *currently* provide benefit coverage similar to what is available through group health insurance plans and policies that would be subject to the requirements of SB 1053.

To further investigate public demand, CHBRP used the bill-specific coverage survey to ask carriers who act as third-party administrators for (non-CalPERS) self-insured group health insurance programs whether the relevant benefit coverage differed from what is offered in group market plans or policies that would be subject to the mandate. The responses indicated that there were no substantive differences.

Given the general match between health insurance that would be subject to the mandate and self-insured health insurance (not subject to state-level mandates), CHBRP concludes that public demand for coverage is essentially satisfied by the current state of the market.

## **How Lack of Coverage Results in Cost Shifts to Other Payers**

CHBRP's survey from major carriers showed that most of the major female contraceptives are currently covered without any cost sharing and that male sterilization (vasectomy) is covered by most plans with specific levels of cost sharing. Therefore, it appears unlikely that current benefit coverage prompts enrollees to seek care from public programs or other payers, including charities, and other state departments, although CHBRP is unable to provide a quantifiable estimate of such shifts to other payers.

## **Impacts of the Mandated Benefit Coverage**

### **Postmandate Benefit Coverage**

Benefit coverage under SB 1053 would be expanded to include male contraceptives (male condoms and male sterilization) and each of the FDA approved female contraceptives without any cost-sharing requirements.

### **Postmandate Utilization**

CHBRP estimates postmandate utilization based on Milliman's analysis of 2012 California claims data (i.e., the MarketScan databases reflecting the healthcare claims experience of employees and dependents covered by the health benefit programs of large employers, as detailed in Appendix D) and the literature.

All enrollees are assumed covered postmandate. For all contraceptive types except male condoms, CHBRP applies the premandate utilization rates among enrollees with coverage for all enrollees after the mandate regardless of coverage status in the premandate period. These premandate utilization rates among enrollees with coverage are based on Milliman's analysis of 2012 California claims data.

CHBRP estimates a 10% increase in male condom utilization based on increased awareness and marketing of the mandate in SB 1053.<sup>74</sup> CHBRP also estimates that of the newly projected 10% of male condom users, 33% will use their insurance, due to the expected prescription requirement by insurers. The rationale for this 33% is explained in Appendix D.

#### *Postmandate Utilization Estimates*

CHBRP estimates that 183,332 enrollees would newly use contraceptives following the implementation of SB 1053 - this would be an increase of 7.4% compared to the 2,480,122 enrollees using contraceptives in 2014 regardless of coverage.

CHBRP estimates that 1,209,662 covered female enrollees would use contraceptives following the implementation of SB 1053 - this would be an increase of 80,190 or 7.1% compared to the 1,129,472 covered females who used contraceptives in 2014.

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<sup>74</sup> CHBRP analyses in the past have utilized a 10% increase in utilization due to awareness and marketing of a particular benefit mandate.

CHBRP projects that 53,785 or 4.65% additional female enrollees will newly use contraceptives in 2015 following the implementation of SB 1053, compared to the 1,155,877 female enrollees using contraceptives in 2014 regardless of coverage.

CHBRP estimates that 1,453,972 covered male enrollees would use contraceptives following the implementation of SB 1053. This is an increase of 1,425,110 or 4,969% compared to the 28,862 covered males using contraceptives in 2014, when male condoms were not a covered benefit.

Although the number of covered users is expected to increase substantially (as described above) CHBRP projects that 129,547 or 9.78% additional male enrollees will newly use contraceptives in 2015 following the implementation of SB 1053, compared to the 1,324,245 male enrollees using contraceptives in 2014 regardless of coverage.

#### *Impact on access and health treatment/service availability*

- **Supply constraints:** CHBRP does not assume potential supply constraints to affect access (and, in turn, utilization) of the mandated contraceptives. As shown in Table 1, the utilization increase (except the newly covered male condoms that do not need a healthcare provider) will be moderate in magnitude and hence less likely to cause supply constraints in terms of healthcare providers and OTC contraceptives.

#### **Postmandate Per-Unit Cost**

CHBRP assumes that the mandate will have no impact on the per-unit costs for any specific contraceptive type. This assumption is also explained in Appendix D.

#### **Postmandate Administrative Expenses and Other Expenses**

CHBRP estimates that the increase in administrative costs of DMHC-regulated plans and/or CDI-regulated policies will remain proportional to the increase in premiums. CHBRP assumes that if health care costs increase as a result of increased utilization or changes in unit costs, there will be a corresponding proportional increase in administrative costs. CHBRP assumes that the administrative cost portion of premiums will remain unchanged. All health plans and insurers include a component for administration and profit in their premiums.

#### **Postmandate Coverage, Utilization, and Cost for Each Contraceptive**

CHBRP estimates the postmandate coverage, utilization, and cost for each contraceptive as summarized in Table 8, including a part of information from Table 8 for comparison with premandate values.

The three contraceptives with the highest utilization increase, measured by the number of “total” enrollees (regardless of coverage) that utilized them per year, between 2014 (premandate) and 2015 (postmandate) are:

- Male condom — 129,537 individuals;
- Oral contraceptives (pill) — 34,275 individuals; and

- Vaginal ring and hormonal patches — 75,185 individuals.

The three contraceptives with the highest increase rates in total cost for total enrollees, between 2014 and 2015 are:

- Female barrier methods — increased by 19.4%;
- Male condom — increased by 10.0%; and
- Hormonal (injection, vaginal rings, and hormonal patches) — increased by 9.5%.

## **Postmandate Expenditures**

### *Changes in total expenditures*

SB 1053 would increase total net annual expenditures by \$31,201,000 or 0.024% for enrollees with DMHC-regulated plans and CDI-regulated policies. This is due to an \$81,397,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, partially offset by a decrease in enrollee expenditures for previously noncovered benefits (\$46,546,000) and a decrease in enrollee out-of-pocket expenditures for previously covered benefits in the forms of deductibles and copayments (\$3,650,000) as shown in Table 1.

### *Postmandate premium expenditures and PMPM amounts per category of payer*

Increases in insurance premiums as a result of SB 1053 would vary by market segment. Note that the total population in Tables 10.1 and 10.2 reflect the full 16.2 million enrollees in DMHC-regulated plans and CDI-regulated policies subject to SB 1053.

**Across all markets:** Increases in per member per month premiums (PMPM) for the newly mandated benefit coverage in all markets, as measured by:

- **Percentage changes in PMPM** ranging from a low of 0.073% (for CDI-regulated small-group policies) to a high of 0.111% (for CDI-regulated large group policies).
- **Dollar changes in PMPM** ranging from a low of \$0.35 (for DMHC-regulated individual plans and CDI-regulated individual policies) to a high of \$0.71 (for CDI-regulated large-group policies).

**In the privately funded market:** Increases in per member per month premiums for the newly mandated benefit coverage by market segment would be as follows:

- **Large group**
  - DMHC-regulated plans: \$0.41 PMPM
  - CDI-regulated policies: \$0.71 PMPM
- **Small group**
  - DMHC-regulated plans: \$0.51 PMPM
  - CDI-regulated policies: \$0.42 PMPM

- **Individual market**
  - DMHC-regulated plans: \$0.35 PMPM
  - CDI-regulated policies: \$0.35 PMPM

Among publicly funded DMHC-regulated health plans:

- CalPERS HMOs plans: \$0.32 PMPM

*Potential cost offsets or savings in the first 12 months after enactment*

CHBRP estimates that the reduced medical expenditures for averted deliveries during the first year postmandate will be \$149,065,150, due to the increased utilization of contraceptives. The detailed calculation method for this estimate is explained in Appendix D.

**SB 1053 and Essential Health Benefits**

As outlined in Table 2 in the *Introduction*, SB 1053 could require coverage for a new state benefit mandate that appears to exceed the definition of EHBs in California, triggering the ACA requirement that the state defray the costs of coverage for enrollees in qualified health plans (QHPs)<sup>75</sup> in Covered California.

*Cost of exceeding essential health benefits*

As explained earlier in the report, male condoms are not included in California’s EHB package for 2014 and 2015. The state is required to defray the additional cost incurred by enrollees in QHPs in Covered California for any state benefit mandate that exceeds EHBs. Coverage for contraceptives, as would be required if SB 1053 were enacted, would likely trigger this requirement and the state would need to defray the associated costs.

Final rules released by the U.S. Department of Health and Human Services (HHS) clarify that QHP issuers are responsible for calculating the marginal cost that must be defrayed. However, this rule left some flexibility in how this would be calculated; it could be based on “either a statewide average or each issuer’s actual cost.”<sup>76</sup> California has not yet identified which option it will use.

Table 10.2 below shows the impact of SB 1053 on the PMPM premiums in the small-group and individual markets, which are the market segments affected by the EHB coverage requirement. CHBRP is not able to estimate the total number of enrollees in QHPs in 2015, but this table provides the marginal change in premium that would result from requiring the contraceptive coverage included in SB 1053. These estimates reflect a statewide average and not an issuer’s actual cost. The marginal change in the PMPM premium that CHBRP estimates would result from SB 1053 and that the state would be responsible for defraying for each enrollee in a QHP in Covered California is:

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<sup>75</sup> In California, QHPs are non-grandfathered small-group and individual market DMHC-regulated plans and CDI-regulated policies sold in Covered California, the state’s online marketplace.

<sup>76</sup> Essential Health Benefits. Final Rule. 12843.

- \$0.43 and \$0.33 in nongrandfathered small-group and individual market DMHC-regulated plans, respectively; and
- \$0.33 in nongrandfathered small-group and individual market CDI-regulated policies (see Table 10.2).

### **Postmandate Changes in Uninsured and Public Program Enrollment**

#### *Changes in the number of uninsured persons*

CHBRP estimates premium increases of approximately 0.073%-0.111% for each market segment; this premium increase would not have a measurable impact on the number of persons who are uninsured. CHBRP does not anticipate loss of health insurance, changes in availability of the benefits beyond those subject to the mandate, changes in offer rates of health insurance, changes in employer contribution rates, changes in take-up of health insurance by employees, or purchase of individual market policies, due to the small size of the increase in premiums after the mandate.

#### *Changes in public program enrollment*

CHBRP estimates that the mandate would produce no measurable impact on enrollment in publicly funded insurance programs or on utilization of covered benefits in the publicly funded insurance market.

**Table 8.** Changes in Coverage, Utilization, and Cost of Contraceptives Between 2014 (Premandate) and 2015 (Postmandate)

Category	Contraceptive Detail	Coverage		Utilization (individuals)				% Change	Cost Per Utilizing Member Per Year 2015
		2014 (a)	2015 (a)	2014 (with coverage)	2014 (total)	2015 (total)	Change from 2014 to 2015 (total)		
<b>Barrier method contraceptives</b>	<b>Barrier - Female</b>	85.2%	100%	1,868	1,913	2,285	371	19.4%	\$89.31
	<b>Barrier - Male</b>	0.0%	100%	0	1,295,372	1,424,910	129,537	10.0%	\$23.57
<b>Hormonal method contraceptives</b>	<b>Hormonal - Oral</b>	97.4%	100%	756,937	775,180	809,456	34,275	4.4%	\$327.93
	<b>Hormonal - Injection</b>	98.1%	100%	23,259	23,819	26,090	2,271	9.5%	\$170.86
	<b>Vaginal rings and hormonal patches</b>	92.9%	100%	73,416	75,185	82,353	7,168	9.5%	\$554.62
<b>Emergency contraceptives</b>	<b>Ella<sup>®</sup></b>	96.9%	100%	108	111	116	5	4.9%	\$121.64
	<b>Plan B<sup>®</sup></b>	96.9%	100%	8,086	8,281	8,691	410	4.9%	\$29.47
	<b>Other (c)</b>	96.9%	100%	2,261	2,316	2,430	115	4.9%	\$51.32
<b>Implanted device contraceptives</b>	<b>IUD</b>	96.8%	100%	71,554	72,461	77,031	4,570	6.3%	\$927.68
	<b>Contraceptive Implants</b>	96.8%	100%	1,994	2,042	2,147	105	5.1%	\$753.15
<b>Permanent contraceptives</b>	<b>Permanent - Female</b>	99.2%	100%	36,829	37,716	38,679	963	2.6%	\$3,173.82
	<b>Permanent - Male</b>	99.3%	100%	28,682	28,872	28,882	10	0.03%	\$947.89
<b>Education and counseling services</b>	<b>Contraceptive education and counseling</b>	99.5%	100%	153,161	156,853	160,385	3,532	2.3%	\$204.56
<b>Total/average (b)</b>	<b>n/a</b>	n/a	100%	1,158,154	2,480,122	2,663,454	183,332	7.4%	n/a

Source: California Health Benefits Review Program, 2014, except male condoms (Trussell et al., 2013).

*Notes:* “Cost” here represents the total of amounts paid by the health plan/insurer and amounts paid by the patient, out-of-pocket, due to cost-sharing provisions of his/her plan contract or policy (cost sharing may take the form of copays or coinsurance and either may have applicable deductibles or annual/lifetime caps). (a) The coverage definition changed from 2014 to 2015, from “FDA approved methods” to “all FDA approved methods.” Thus, caution is needed to compare the coverage change. (b) The total/average values account for other types of emergency contraceptives: 2014 (with coverage) = 2,261 females; 2014 (total) = 2,316 females; 2015 (total) = 2,430 females; Change from 2014 to 2015 (total) = 115 females. (c) This category includes other emergency contraceptives from Milliman’s claims database, including Next Choice, Levonorgestrel (generic), Falessa Kit, My Way, and Preven.

**Table 9.1. Baseline (Premandate) Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2015**

	DMHC-Regulated				CDI-Regulated			Total
	Privately Funded Plans (by Market) (a)			Publicly Funded Plans  CalPERS HMOs (b)	Privately Funded Plans (by Market) (a)			
	Large Group	Small Group	Individual		Large Group	Small Group	Individual	
<b>Enrollee counts</b>								
Total enrollees in plans/policies subject to state mandates (c)	8,779,000	2,012,000	2,498,000	854,000	567,000	662,000	836,000	23,389,000
Total enrollees in plans/policies subject to SB 1053	8,779,000	2,012,000	2,498,000	854,000	567,000	662,000	836,000	16,199,000
<b>Premium costs</b>								
Average portion of premium paid by employer	\$384.24	\$339.01	\$0.00	\$423.82	\$478.73	\$336.01	\$0.00	\$76,392,927,000
Average portion of premium paid by employee	\$140.62	\$135.62	\$454.56	\$105.95	\$160.34	\$240.54	\$329.35	\$39,162,788,000
<b>Total premium</b>	<b>\$524.86</b>	<b>\$474.63</b>	<b>\$454.56</b>	<b>\$529.77</b>	<b>\$639.07</b>	<b>\$576.55</b>	<b>\$329.35</b>	<b>\$115,555,715,000</b>
<b>Enrollee expenses</b>								
Enrollee expenses for covered benefits (deductibles, copays, etc.)	\$28.53	\$95.87	\$121.22	\$28.10	\$90.13	\$153.75	\$175.65	\$12,867,143,000
Enrollee expenses for benefits not covered (c)	\$0.25	\$0.30	\$0.17	\$0.16	\$0.47	\$0.22	\$0.17	\$46,546,000
<b>Total expenditures</b>	<b>\$553.64</b>	<b>\$570.80</b>	<b>\$575.95</b>	<b>\$558.03</b>	<b>\$729.67</b>	<b>\$730.52</b>	<b>\$505.18</b>	<b>\$128,469,405,000</b>

Source: California Health Benefits Review Program, 2014.

Notes: (a) Includes enrollees with grandfathered and nongrandfathered health insurance, inside and outside the exchange.

(b) As of January 2014, 57%, of CalPERS HMO members were state retirees, state employees or their dependents. CHBRP assumes the same ratio for 2015.

(c) This population includes both persons who obtain health insurance using private funds (group and individual) and through public funds (e.g., CalPERS HMOs). Only those enrolled in health plans or policies regulated by the DMHC or CDI are included. Population includes all enrollees in state-regulated plans or policies aged 0 to 64 years, and enrollees 65 years or older covered by employer-sponsored health insurance.

*Key: CalPERS HMOs=California Public Employees' Retirement System Health Maintenance Organizations; CDI=California Department of Insurance; DMHC=Department of Managed Health Care*

**Table 9.2. Premandate Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2015**

	Privately Funded DMHC-Regulated					Privately Funded CDI-Regulated				
	Small Group		Individual			Small Group		Individual		
	Grand-fathered	Nongrand-fathered	Grand-fathered	Nongrand-fathered	Nongrand-fathered Exchange	Grand-fathered	Nongrand-fathered	Grand-fathered	Nongrand-fathered	Nongrand-fathered Exchange
<b>Enrollee Counts</b>										
Total enrollees in plans/policies subject to state Mandates (a)	437,000	1,575,000	221,000	1,210,000	1,067,000	8,000	654,000	306,000	506,000	24,000
Total enrollees in plans/policies subject to SB 1053	437,000	1,575,000	221,000	1,210,000	1,067,000	8,000	654,000	306,000	506,000	24,000
<b>Premium Costs</b>										
Average portion of premium paid by employer	\$320.88	\$344.05	\$0.00	\$0.00	\$0.00	\$310.97	\$336.31	\$0.00	\$0.00	\$0.00
Average portion of premium paid by employee	\$128.37	\$137.63	\$565.98	\$443.75	\$443.75	\$222.62	\$240.76	\$312.91	\$338.84	\$338.84
<b>Total premium</b>	<b>\$449.24</b>	<b>\$481.68</b>	<b>\$565.98</b>	<b>\$443.75</b>	<b>\$443.75</b>	<b>\$533.59</b>	<b>\$577.08</b>	<b>\$312.91</b>	<b>\$338.84</b>	<b>\$338.84</b>
<b>Enrollee Expenses</b>										
Enrollee expenses for covered benefits (deductibles, copays, etc.)	\$89.85	\$97.54	\$150.93	\$118.33	\$118.33	\$142.29	\$153.89	\$166.89	\$180.71	\$180.71
Enrollee expenses for benefits not covered (b)	\$0.53	\$0.23	\$0.32	\$0.16	\$0.16	\$2.30	\$0.20	\$0.21	\$0.16	\$0.16
<b>Total expenditures</b>	<b>\$539.61</b>	<b>\$579.45</b>	<b>\$717.23</b>	<b>\$562.24</b>	<b>\$562.24</b>	<b>\$678.18</b>	<b>\$731.16</b>	<b>\$480.01</b>	<b>\$519.71</b>	<b>\$519.71</b>

Source: California Health Benefits Review Program, 2014.

Notes: (a) This population includes both persons who obtain health insurance using private funds (group and individual) and through public funds (e.g., CalPERS HMOs). Only those enrolled in health plans or policies regulated by the DMHC or CDI are included. Population includes all enrollees in state-regulated plans or policies aged 0 to 64 years, and enrollees 65 years or older covered by employer-sponsored health insurance. (b) Includes only those expenses that are paid directly by enrollees or other sources to providers for services related to the mandated benefit that are not currently covered by insurance.

**Table 10.1.** Postmandate Impacts of the Mandate on Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2015

	DMHC-Regulated				CDI-Regulated			Total
	Privately Funded Plans (by Market) (a)			Publicly Funded Plans	Privately Funded Plans (by Market) (a)			
	Large Group	Small Group	Individual		CalPERS HMOs (b)	Large Group	Small Group	
<b>Enrollee counts</b>								
Total enrollees in plans/policies subject to state mandates (c)	8,779,000	2,012,000	2,498,000	854,000	567,000	662,000	836,000	23,389,000
Total enrollees in plans/policies subject to SB 1053	8,779,000	2,012,000	2,498,000	854,000	567,000	662,000	836,000	16,199,000
<b>Premium costs</b>								
Average portion of premium paid by employer	\$0.30	\$0.37	\$0.00	\$0.26	\$0.53	\$0.24	\$0.00	\$48,937,000
Average portion of premium paid by employee	\$0.11	\$0.15	\$0.35	\$0.06	\$0.18	\$0.18	\$0.35	\$32,460,000
<b>Total premium</b>	<b>\$0.41</b>	<b>\$0.51</b>	<b>\$0.35</b>	<b>\$0.32</b>	<b>\$0.71</b>	<b>\$0.42</b>	<b>\$0.35</b>	<b>\$81,397,000</b>
<b>Enrollee expenses</b>								
Enrollee expenses for covered benefits (deductibles, copays, etc.)	-\$0.01	-\$0.03	-\$0.04	-\$0.01	-\$0.02	-\$0.03	-\$0.06	-\$3,650,000
Enrollee expenses for benefits not covered (d)	-\$0.25	-\$0.30	-\$0.17	-\$0.16	-\$0.47	-\$0.22	-\$0.17	-\$46,546,000
<b>Total expenditures</b>	<b>\$0.16</b>	<b>\$0.19</b>	<b>\$0.14</b>	<b>\$0.16</b>	<b>\$0.22</b>	<b>\$0.16</b>	<b>\$0.12</b>	<b>\$31,200,000</b>
<b>Postmandate percentage change</b>								
Percent change insured premiums	0.0788%	0.1081%	0.0766%	0.0609%	0.1114%	0.0728%	0.1072%	0.0704%
<b>Percent change total expenditures</b>	<b>0.0288%</b>	<b>0.0331%</b>	<b>0.0246%</b>	<b>0.0282%</b>	<b>0.0301%</b>	<b>0.0220%</b>	<b>0.0241%</b>	<b>0.0243%</b>

*Source:* California Health Benefits Review Program, 2014.

*Note:* (a) Includes enrollees with grandfathered and nongrandfathered health insurance, inside and outside the exchange.

(b) As of January 2014, 57%, of CalPERS HMO members were state retirees, state employees or their dependents. CHBRP assumes the same ratio for 2015.

(c) This population includes both persons who obtain health insurance using private funds (group and individual) and through public funds (e.g., CalPERS HMOs). Only those enrolled in health plans or policies regulated by the DMHC or CDI are included. Population includes all enrollees in state-regulated plans or policies aged 0 to 64 years, and enrollees 65 years or older covered by employer-sponsored health insurance. (d) Includes only those expenses that are paid directly by enrollees or other sources to providers for services related to the mandated benefit that are not currently covered by insurance.

*Key:* CalPERS HMOs=California Public Employees' Retirement System Health Maintenance Organizations; CDI=California Department of Insurance; DMHC=Department of Managed Health Care

**Table 10.2.** Impacts of the Mandate on Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2015

	Privately Funded DMHC-Regulated					Privately Funded CDI-Regulated				
	Small Group		Individual			Small Group		Individual		
	Grand-fathered	Nongrand-fathered	Grand-fathered	Nongrand-fathered	Nongrand-fathered Exchange	Grand-fathered	Nongrand-fathered	Grand-fathered	Nongrand-fathered	Nongrand-fathered Exchange
<b>Enrollee counts</b>										
Total enrollees in plans/policies subject to state Mandates (a)	437,000	1,575,000	221,000	1,210,000	1,067,000	8,000	654,000	306,000	506,000	24,000
Total enrollees in plans/policies subject to SB 1053	437,000	1,575,000	221,000	1,210,000	1,067,000	8,000	654,000	306,000	506,000	24,000
<b>Premium costs</b>										
Average portion of premium paid by employer	\$0.59	\$0.30	\$0.00	\$0.00	\$0.00	\$1.89	\$0.22	\$0.00	\$0.00	\$0.00
Average portion of premium paid by employee	\$0.24	\$0.12	\$0.55	\$0.33	\$0.33	\$1.35	\$0.16	\$0.39	\$0.33	\$0.33
<b>Total premium</b>	<b>\$0.83</b>	<b>\$0.43</b>	<b>\$0.55</b>	<b>\$0.33</b>	<b>\$0.33</b>	<b>\$3.24</b>	<b>\$0.39</b>	<b>\$0.39</b>	<b>\$0.33</b>	<b>\$0.33</b>
<b>Enrollee expenses</b>										
Enrollee expenses for covered benefits (deductibles, copays, etc.)	-\$0.03	-\$0.03	-\$0.03	-\$0.04	-\$0.04	-\$0.04	-\$0.03	-\$0.06	-\$0.06	-\$0.06
Enrollee expenses for benefits not covered (b)	-\$0.53	-\$0.23	-\$0.32	-\$0.16	-\$0.16	-\$2.30	-\$0.20	-\$0.21	-\$0.16	-\$0.16
<b>Total expenditures</b>	<b>\$0.28</b>	<b>\$0.17</b>	<b>\$0.19</b>	<b>\$0.14</b>	<b>\$0.14</b>	<b>\$0.90</b>	<b>\$0.15</b>	<b>\$0.13</b>	<b>\$0.12</b>	<b>\$0.12</b>
<b>Postmandate percentage change</b>										
Percent change insured premiums	0.18%	0.09%	0.10%	0.07%	0.07%	0.61%	0.07%	0.13%	0.10%	0.10%
<b>Percent change total expenditures</b>	<b>0.05%</b>	<b>0.03%</b>	<b>0.03%</b>	<b>0.02%</b>	<b>0.02%</b>	<b>0.13%</b>	<b>0.02%</b>	<b>0.03%</b>	<b>0.02%</b>	<b>0.02%</b>

Source: California Health Benefits Review Program, 2014.

*Note:* (a) This population includes both persons who obtain health insurance using private funds (group and individual) and through public funds (e.g., CalPERS HMOs). Only those enrolled in health plans or policies regulated by the DMHC or CDI are included. Population includes all enrollees in state-regulated plans or policies aged 0 to 64 years, and enrollees 65 years or older covered by employer-sponsored health insurance.

(b) Includes only those expenses that are paid directly by enrollees or other sources to providers for services related to the mandated benefit that are not currently covered by insurance. This only includes those expenses that will be newly covered, postmandate. Other components of expenditures in this table include all health care services covered by insurance.

## PUBLIC HEALTH IMPACTS

As discussed in the *Introduction*, SB 1053<sup>77</sup> would mandate coverage for all FDA approved contraceptive drugs, devices, products, and voluntary sterilization procedures, as well as contraceptive education and counseling. The *Public Health Impacts* analyses include, when possible, estimates on mandate-relevant health outcomes, potential treatment harms, financial burden, gender and racial disparities, premature death, quality of life, and economic loss in the short and long term. This section estimates the short term impact<sup>78</sup> of SB 1053 on health outcomes (unintended pregnancies, abortions, and prenatal and perinatal outcomes) harms, financial burden, and disparities. See the *Long-Term Impacts* section for discussion of the impact of SB 1053 on outcomes related to unintended pregnancy beyond the first 12 months of the bill implementation.

### Estimated Public Health Outcomes

As presented in the *Medical Effectiveness* section, over the course of one year, sexually active heterosexual females who are not using contraceptives have an 85% chance of becoming pregnant, with a 46% unintended pregnancy rate among women discontinuing previous contraceptive use. Unintended pregnancy rates range from 0.05% to 28% depending on the specific contraceptive method, with barrier methods being the least effective and implantable devices (IUDs and contraceptive implants; also referred to as long-acting reversible contraceptives, or LARCs) and permanent methods being the most effective. Therefore, it stands to reason that there is clear and convincing evidence that using contraception is more effective than not using contraception in preventing unintended pregnancies. The *Medical Effectiveness* section notes that based on large, observational studies, implanted devices (IUDs and contraceptive implant) and sterilization are the most effective methods of contraception, whereas hormonal methods (also referred to as short-acting reversible contraceptives) are less effective, and barrier methods are the least effective form.

The *Medical Effectiveness* section also reviewed literature on the marginal impact of coverage on utilization of contraception. While studies suggest that expanding contraception coverage to uninsured females can result in fewer unintended pregnancies, *Medical Effectiveness* identified no studies that examined the impact of expansion from some coverage for contraceptives to coverage for all forms of contraceptives. *Medical Effectiveness* found a preponderance of evidence from studies with weak designs that lowering or eliminating patient copayments for contraception is associated with higher IUD utilization and is associated with a shift in utilization from less to more effective contraception methods.

As presented in the *Benefit Coverage, Utilization, and Cost Impacts* section, CHBRP estimates an additional 16.2 million enrollees will have coverage for male condoms, an additional 400,800 enrollees will have coverage for female contraceptives, and an additional 112,242 enrollees will

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<sup>77</sup> This CHBRP analysis reflects changes in the amended version of SB 1053 (4/9/14). The amended version reduced CHBRP's estimates of the public health impacts found in the original bill. More details on these differences can be found in Appendix G.

<sup>78</sup> CHBRP defines short term impacts as changes occurring within 12 months of bill implementation.

have coverage for vasectomies due to SB 1053. As presented in Table 8 in the *Benefit Coverage, Utilization, and Cost Impacts* section, CHBRP estimates a 7.4% increase in contraceptive utilization overall, resulting in an additional 183,332 individuals using contraceptives. The largest increase in utilization will occur for male condom use due to a projected 100% increase in coverage as a result of SB 1053. Of the estimated 183,332 additional enrollees using contraceptives, the majority will be using condoms (71%) or oral contraceptives (19%).

### **Impact on Unintended Pregnancy**

As discussed in the *Background on Contraceptives* section, although approximately two-thirds of sexually active heterosexual females aged 15 to 44 years in the United States use contraception, they may still be at risk of an unintended pregnancy due to method failure, inconsistent use, or incorrect use. Of all females at risk of an unintended pregnancy, the majority (65%) use contraception consistently and only account for 5% of all unintended pregnancies, whereas 19% of females use contraception inconsistently or incorrectly and 16% do not use contraception at all and account for the remaining 95% of unintended pregnancies (with inconsistent use accounting for 43% and nonuse accounting for 52%) (Guttmacher Institute, 2013b). In California, 48% of unintended pregnancies result in a birth, 39% end in an abortion, and 13% end in fetal loss (Kost, 2013).

Based on contraceptive effectiveness rates discussed in the *Medical Effectiveness* section and projected increases in utilization discussed in the *Benefit Coverage, Utilization, and Cost* section, CHBRP calculated the estimated number of unintended pregnancies and abortions averted by the projected increases in utilization (Table 11). CHBRP assumed the additional 183,332 were not using contraceptives before coverage expansions due to SB 1053 and assumed a 46% unintended pregnancy rate among this population (based on *Medical Effectiveness*). Among the 179,800 enrollees using a contraceptive method other than education/counseling (excluded due to lack of effectiveness data), CHBRP estimates that SB 1053 will result in 51,298 averted unintended pregnancies. Based on estimates by Kost (2013) that 39% of unintended pregnancies in California ended in abortion, CHBRP estimates that of the averted unintended pregnancies, 20,006 abortions would be averted. For detailed methodology, please refer to Appendix F.

**Table 11.** Estimated Rates of Unintended Pregnancies and Averted Pregnancies Based on Typical Use of Contraceptives, 2015

Method	Type	% of Females With Unintended Pregnancies	Estimated Number of Additional Users	Estimated Pregnancies Occurring Premandate*	Estimated Pregnancies Postmandate**	Pregnancies Averted
<b>Barrier</b>	<b>Barrier - Male</b>	18%	129,537	59,587	23,317	36,270
	<b>Barrier – Female (a)</b>	19.2%	371	171	72	99
<b>Hormonal</b>	<b>Hormonal - Oral</b>	9%	34,275	15,767	3,085	12,682
	<b>Hormonal - Injection</b>	6%	2,271	1,045	136	908
	<b>Hormonal – Other (b)</b>	9%	7,168	3,297	645	2,652
<b>Emergency</b>	<b>Emergency Contraceptives (c)</b>	2.2%	530	244	0	0
<b>Implanted</b>	<b>IUDs</b>	0.5%	4,570	2,102	23	2,079
	<b>Contraceptive Implant</b>	0.05%	105	48	0	48
<b>Permanent</b>	<b>Permanent – Female (d)</b>	0.3%	963	443	0	443
	<b>Permanent - Male</b>	0.15%	10	5	0	5
<b>Total</b>			179,800	76,320	24,779	51,298

Source: Medical effectiveness was taken from Trussell, 2011; number of additional users is based on CHBRP 2014 cost model.

Notes: \*Estimated pregnancies occurring premandate assumes enrollees who would have expanded coverage postmandate were not using contraception before their coverage expanded. The number of pregnancies occurring in the absence of contraceptive use is based on research from Vaughan et al. (2008) which found that over the course of one year, a woman who has discontinued previous contraceptive use has a 46% chance of becoming pregnant.

\*\*Estimated pregnancies occurring with contraceptive use assumes typical use of each method (see *Medical Effectiveness* section)

(a) Female barrier method efficacy is averaged efficacy of female condom, diaphragm, sponge (nulliparous and parous females), and spermicide

(b) Hormonal – Other efficacy is averaged efficacy of the vaginal contraceptive ring and contraceptive patch

(c) Emergency contraceptives efficacy is averaged efficacy of Plan B<sup>®</sup> and Ella<sup>®</sup>

(d) Permanent – Female efficacy is averaged efficacy of female sterilization surgery and hysteroscopic sterilization (Essure)

Unintended pregnancies and births (which can be categorized as either “mistimed” or “unwanted”) are associated with a range of adverse prenatal and postpartum outcomes. A review by Gipson et al. (2008) found that research consistently shows that compared to females with intended pregnancies, females with unintended pregnancies are more likely to delay initiating prenatal care and have fewer prenatal care visits. A systematic review by Shah et al. (2010) found that the odds of low birth weight and preterm birth were higher among unintended pregnancies compared to intended pregnancies (adjusted odds ratio [OR] =1.60 and 1.33, respectively). In postpartum, Gipson et al. (2008) found that research consistently shows that compared to children born from intended pregnancies, children born from unintended pregnancies are less likely to be breastfed or are more likely to be breastfed for a shorter duration. One study analyzing Pregnancy Risk Assessment Monitoring System (PRAMS) data in Maryland found that after controlling for sociodemographic factors, unhealthy behaviors such as cigarette and alcohol use during pregnancy were more likely to be associated with an unwanted pregnancy than with intended or mistimed pregnancies (Cheng et al., 2009).

Unintended pregnancies can also lead to adverse maternal health outcomes, including maternal mortality. There are inherent risks of pregnancy, including maternal mortality, and unintended pregnancies expose females to these inherent risks more often. Based on estimated maternal mortality ratios from the World Health Organization (WHO), Ahmed et al (2012) estimated the effect of contraceptive use on maternal mortality. Ahmed et al. estimated that nearly 61% of maternal deaths in the United States were averted by contraceptive use and that if unmet demand for contraception was satisfied, an estimated 76% of maternal deaths could be averted by contraceptive use.

As described in the *Medical Effectiveness* section, there is clear and convincing evidence that using contraception is more effective than not using contraception in preventing unintended pregnancies and the *Benefit Coverage, Utilization, and Cost Impacts* section projects that SB 1053 would increase utilization of contraceptives by 183,332 enrollees. As a result of this increase in utilization, it is expected that, in the first year postmandate, there will be a reduction in the number of unintended pregnancies overall (51,298 averted) and those ending in abortion (20,006 averted), as well as a reduction in negative health outcomes associated with unintended pregnancy.

### **Impact on Noncontraceptive Health Benefits**

As discussed in the *Medical Effectiveness* sections, there are broad benefits of contraceptive use, beyond preventing unintended pregnancies. Contraceptive use allows females to plan for pregnancy and achieve desired birth spacing, which is associated with improved maternal and fetal health outcomes, such as reduced risk of prematurity and low birth weight. Some hormonal methods have other health benefits, such as treating severe or excessive menstrual bleeding, menstrual pain, acne, and reducing the risk of ovarian and endometrial cancers. An analysis of data from the NSFG found that over half of all oral contraceptive users endorsed noncontraceptive benefits as a reason for choosing that method (Jones, 2011).

As described in the *Medical Effectiveness* section, there are broad benefits of contraceptive use and the estimated additional 274,036 enrollees using contraceptives would benefit from these noncontraceptive health and family planning benefits.

## Potential Harms from Contraceptives

When data are available, CHBRP estimates the marginal change in relevant harms associated with interventions affected by the proposed mandate. As discussed in the *Medical Effectiveness* section, cardiovascular disease, including heart attack, blood clots, and stroke, is associated with contraceptive use, particularly among hormonal contraceptive users and females with specific risk factors, such as being over 35 years old and tobacco use. For example, the average risk of dying from oral contraceptive use among female smokers aged 35-44 years (1 in 5,200) is similar to the risk of dying in a car accident in a year (1 in 5,000) and slightly higher than the risk of death from pregnancy (1 in 6,900) and far higher than risk of death from undergoing tubal sterilization (1 in 66,700) (Trussell and Guthrie, 2011). In addition to these major health risks, contraceptive use also has many side effects. As discussed in the *Medical Effectiveness* section, side effects of hormonal methods can vary from headaches to weight gain to changes in menstrual cycle (also a side effect of IUDs). Some barrier methods may cause allergic reactions, such as reactions to latex (in condoms) or copper (in some IUDs). Postoperative complications can include pain and bleeding or infection at the surgical site or death; however, complications are rare. For example, risk of death from undergoing tubal sterilization is 1 in 66,700 (Trussell and Guthrie, 2011).

In the case of SB 1053, there is evidence to suggest that an increase in the use of contraceptives could result in harm; however, any harm must be weighed against the health benefits of contraceptive use. CHBRP projects that SB 1053 would increase utilization of contraceptives by 183,332 enrollees, of which approximately 48,000 will be using hormonal methods (see *Benefit Coverage, Utilization, and Cost Impacts* section). These enrollees using hormonal contraceptives may be at higher risk of cardiovascular disease and potential side effects from hormonal contraceptive use such as headaches and weight gain. Barrier method users (nearly 130,000 enrollees) and some IUD users (approximately 4,500 enrollees) may be at increased risk of allergic reactions. The approximately 970 enrollees obtaining sterilization may be at increased risk of possible postoperative complications; however, these risks are rare.

As discussed in the *Background* section, no single contraceptive method is highly effective at preventing both unintended pregnancy and protecting against sexually transmitted infections (STIs). Male condoms are the primary method that protect against STIs, yet condoms are less effective than other methods at preventing pregnancy (see *Medical Effectiveness* section). Female condoms are the only female barrier method that protects against STIs (ACOG, 2014), yet utilization of all female barrier methods is low – 0.3% of U.S. females aged 15 to 44 years (see *Background* section). The incidence of STIs, such as chlamydia and gonorrhea, is high in California (CDPH, 2014b; CDPH, 2014c), especially among teenagers and young adults, who also have lower contraceptive utilization rates and higher rates of unintended pregnancies. STIs such as chlamydia and gonorrhea can lead to adverse health outcomes, including pelvic inflammatory disease (PID), which can lead to pain and difficulty or inability to become pregnant among females, and in rare cases can lead to sterility in males (CDC, 2014b; CDC, 2014c).

CHBRP projects that SB 1053 would increase utilization of male condoms by approximately 129,500 enrollees and these enrollees may be at lower risk of acquiring a sexually transmitted infection and infection-related adverse health outcomes.

Dual-method utilization can effectively prevent against both unintended pregnancy and STIs by combining consistent use of both male condoms and a method effective at preventing pregnancy, such as implanted devices, hormonal methods, or sterilization. However, studies have found the rate of consistent, sustained dual method utilization is low (Eisenberg et al., 2012; Peipert et al., 2011) and studies have also found that females and their partners are less likely to use or intend to use male condoms consistently if their primary contraceptive method is effective, such as use of hormonal or implanted methods (IUDs and contraceptive implant) (Mantell et al., 2003). Any decrease in the utilization of male condoms alone or along with a more effective contraceptive method may theoretically increase an individual's risk of acquiring an STI.

CHBRP projects that SB 1053 would increase utilization of effective contraceptive methods, such as oral contraceptives, by over 49,000 enrollees, reducing their risk of an unintended pregnancy; however, if these enrollees are not also consistently using male condoms, they may theoretically be at an increased risk of acquiring an STI.

## Estimated Impact on Financial Burden

When possible, CHBRP estimates the incremental impact of mandates on financial burden, defined as uncovered medical expenses paid by the enrollee as well as out-of-pocket expenses (i.e., deductibles, copayments, and coinsurance). SB 1053 would shift some contraceptive costs from enrollees to health plans and insurers through reduced cost sharing. The *Benefit Coverage, Utilization, and Cost* section estimates a reduction in enrollee expenditures for previously noncovered benefits by \$46.5 million and a decrease in enrollee out-of-pocket expenditures for previously covered benefits by nearly \$3.7 million due to shifting some contraceptive costs from enrollees to health plans and insurers through reduced cost sharing, or \$1.69 per user (see the *Benefit Coverage, Utilization, and Cost* section for definition of reproductive age). Therefore, the additional enrollees with uncovered expenses premandate would receive a reduction in their financial burden associated with contraceptive use. CHBRP estimates are based on claims data and may underestimate the cost savings for enrollees due to carriers' ability to negotiate discounted rates that are unavailable to patients and their families.

CHBRP estimates that SB 1053 would modify coverage and reduce the financial burden by approximately \$50.2 million in the first year, postmandate, for enrollees who would be mandate-eligible for contraceptives.

## Impact on Gender and Racial Disparities

There are a variety of determinants of health that influence the health status of different groups. CHBRP estimates the mandate's impact on one of those determinants — access to care through insurance — on existing health disparities; the other determinants of health are generally outside the scope of health insurance mandates (e.g., biological, environmental, social, behavioral, language barriers, etc.).

CHBRP analyses are limited to the insured population (because the uninsured would not be affected by a health benefit mandate). Coverage disparities can exist within the insured population and may contribute to gaps in access and/or utilization among those covered (Kirby et al., 2006; Lille-Blanton and Hoffman, 2005; Rosenthal et al., 2008). To the extent that racial/ethnic groups are disproportionately distributed among policies with more or less coverage, a mandate bringing all policies to parity may impact an existing disparity. The baseline racial/ethnic distribution of the insured population affected by the mandate is unknown; therefore, CHBRP is unable to provide a quantitative estimate of a mandate's possible impact on racial/ethnic disparities.

### **Impact on Gender Disparities**

As documented in the *Background on Contraceptives* section, there are disparities in utilization of sterilization procedures between males and females. According to the 2010 NSFG, 6.2% of males had been sterilized compared to 16.5% of married females. Sterilization among both genders increases with age and is more common among married individuals. Female sterilization is most common among racial/ethnic minorities (particularly non-Hispanic black females), individuals with lower education and income levels, and individuals on public insurance or lacking insurance coverage. In contrast, male sterilization is more common among white males with higher education and income levels and those with private insurance. According to 2011–2012 data from the California Family Planning, Access, Care, and Treatment (PACT) program<sup>79</sup>, less than one percent of female (5,095) and male (1,901) clients received a sterilization procedure (UCSF, 2013).

The *Benefit Coverage, Utilization, and Cost* section found that premandate, 99.3% of enrollees subject to SB 1053 had coverage for male sterilization with some cost sharing; a similar percentage of females (97.5%) had premandate coverage, but without cost sharing. Despite SB 1053 eliminating cost sharing for male sterilization, CHBRP estimates an additional 10 males will obtain a vasectomy postmandate (less than a 0.0% increase from 2014) compared to 963 females obtaining sterilization (a 2.6% increase from 2014).

There are gender disparities in the utilization of sterilization in California (see section on *Background on Contraceptives*) and evidence indicates that sterilization for males and females is medically effective. Despite SB 1053 eliminating cost sharing for male sterilization, CHBRP does not estimate a significant increase in male sterilizations; therefore, CHBRP estimates that SB 1053 would not impact gender disparities in sterilization.

### **Impact on Racial/Ethnic Disparities**

As presented in the *Background* section, numerous racial/ethnic disparities exist in contraceptive utilization. White females use primarily oral contraceptives and female sterilization, black

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<sup>79</sup> Family PACT is a reproductive health program created by the California Legislature in 1996, designed to provide comprehensive family planning services based on medical necessity to low-income men and females. Services provided by the program include all FDA approved forms of contraception, emergency contraception, pregnancy testing with counseling, preconception counseling, male and female sterilization, limited infertility services, sexually transmitted infection testing and treatment, cancer screening, and HIV screening.

females use primarily female sterilization and condoms, and Hispanic females primarily use female sterilization and oral contraceptives. Asian females primarily use condoms more than any other contraceptive method. White females are slightly less likely to use the implant, injections, or the patch and black females are less likely to use IUDs. Compared to females born in the United States, foreign-born Hispanics are more likely to use female and male sterilization, implants, injectable, patches, and IUDs, whereas U.S.-born Hispanic females are more likely to use oral contraceptives, vaginal rings, and condoms (Jones et al., 2012). According to 2011 to 2012 data from the California Family PACT program, African Americans and Asians and Native Hawaiian/Pacific Islanders had lower utilization (3%) of the most effective contraceptive types (sterilization, IUDs, implants) compared to whites, Latinas, and other race/ethnicities (5%). Whites had the highest utilization (61%) of hormonal methods such as oral contraceptives, injections, the patch, and the ring whereas Latinas and African Americans had the lowest utilization (42%). All racial/ethnic minorities had higher utilization of barrier methods (ranging from 33% to 26%) compared to whites (20%) (UCSF, 2013).

Racial/ethnic disparities also exist in unintended pregnancies occurring in California. The 2011 California Maternal and Infant Health Assessment (MIHA) survey found that 32% of females ages 15 years and older who have had a live birth responded that their pregnancy was mistimed or unwanted. A mistimed or unwanted pregnancy was most common among black and Hispanic females (45.9% and 39.9%, respectively) and least common among white and Asians and Native Hawaiian/Pacific Islanders (20.0% and 23.0%, respectively) (CDPH, 2014a).

Racial/ethnic disparities in the utilization of contraceptives exist in the general population and in California, as do disparities in unintended pregnancy (see *Background on Contraceptives* section). While the *Benefit Coverage, Utilization, and Cost* section projects an overall increase in contraceptive utilization due to SB 1053, the baseline racial/ethnic distribution of the insured population affected by the mandate is unknown; therefore, CHBRP is unable to provide a quantitative estimate of SB 1053's possible impact on racial/ethnic disparities. To the extent that SB 1053 reduces disparities that are due to coverage differences (but not due to preferences about specific contraceptive coverage) and increases utilization of more effective contraceptive methods, such as IUDs, CHBRP estimates a reduction in the racial/ethnic disparity in contraceptive use and unintended pregnancy in the first year, postmandate; however, the magnitude is unknown

## LONG-TERM IMPACT OF THE MANDATE

In this section, CHBRP estimates the long-term impact of SB 1053, defined as impacts occurring beyond the first 12 months of implementation. These estimates are qualitative and based on the existing evidence available in the literature. CHBRP does not provide quantitative estimates of long-term impacts because of unknown improvements in clinical care, changes in prices, implementation of other complementary or conflicting policies, and other unexpected factors.

### Long-Term Utilization and Cost Impacts

#### Utilization Impacts

In the 12 months following enactment, CHBRP estimates the number of enrollees that use contraceptives will increase by 4.65% among females and 9.78% among males, respectively. On the other hand, to quantify the long-term utilization impacts is difficult due to factors that are hard to quantify, such as personal preferences for contraceptives and the future development of new contraceptive methods. Additionally, because the relevant literature is very limited, CHBRP decided not to quantify the long-term utilization impact for this analysis.

The recent historical trend in utilization change seems helpful to predict the qualitative long-term utilization change beyond 2015. For instance, Jones and colleagues measured the change of contraceptive use among women of childbearing age (15–44 years) between 1995 (N=10,847) and (the average use during the period) of 2006–2010 (N=12,279). Their major findings were as follows:

- No major change
  - Female sterilization (from 28% in 1995 to 27% in 2006–2010 among all women)
  - Pill (from 27% to 28%)
- Decreased utilization
  - Condom (from 20% to 16%)
- Increased utilization
  - Contraceptive vaginal ring and patch (from 4.3% to 7.2%)
  - IUD (from 0.8% to 5.6%).

The assumptions of CHBRP's cost model do not use the results of the California Health Interview Survey (CHIS) due to its limited information on the contraceptive use. However, CHIS results could provide a useful insight about a long-term utilization trend in California as follows:

- No major change
  - Condom use among teens (age 12 through 17): 12.1%, 11.4%, and 11.5%, in 2003, 2005, and 2007, respectively

- Increased utilization
  - Hormonal contraceptives (i.e., birth control pills, the patch, or birth control shots) among adults (age 18 and older): more than doubled from 2005 (2.1%) to 2009 (5.1%)

Another qualitative prediction for long-term utilization change assumes that healthcare providers and insurers would encourage enrollees to use more cost-effective or cost-saving contraceptive methods. A recent economic evaluation study, examining 16 contraceptive methods among a nationally representative population, concluded that there is no cost-saving contraceptive method from a payer’s perspective. This study indicated that the copper intrauterine device (IUD) is the most cost-effective and the next most cost-effective methods in order were vasectomy, levonorgestrel (LNG)-20 IUD, and implant. The latter three methods are more effective but more costly than the copper IUD. Other methods were estimated to be more costly and less effective than the copper IUD — i.e., clearly economically less efficient than IUD. Thus, these four methods, especially the copper IUD, appear more likely to increase in the long-term among the general population affected by this mandate.

Finally, among the low-income California Family PACT population, all contraceptive methods (covered by Family PACT) were estimated to be cost-saving. Their cost-benefit analysis estimated that IUDs and implants have the highest cost savings with approximately \$5.00 of savings for every dollar spent for users of these methods. The cost-saving amount (or BCR) for other methods were reported as: injectable contraceptives (\$4.00), surgical tubal ligations (\$3.59), oral contraceptives (\$3.37), emergency contraception (\$2.56), vaginal ring (\$2.20), the patch (\$2.12), and barrier methods and spermicides (less than \$2). Therefore, CHBRP could predict that contraceptive methods with a higher cost-saving amount (BCR) tend to increase at a relatively higher rate in the long-term.

Combining the literature above, the utilization of male condoms is likely to decline in the long term despite the short-term increase (10%) assumed by the CHBRP’s cost model.

### **Cost Impacts**

Because CHBRP did not quantify the long-term utilization impacts of SB 1053, the long-term cost impacts were not quantified, either. As presented earlier, CHBRP estimates a substantial amount of reduced medical expenditures due to averted deliveries during the first year (\$149,065,150). However, there is the possibility of per-unit cost increase in the long term (also discussed in Appendix D), which will make the long-term cost impacts more uncertain. Therefore, CHBRP estimates the long-term cost to decrease among the general population affected by this mandate unless per-unit cost increases considerably.

CHBRP estimates that SB 1053 is likely to produce substantial long-term cost reduction due to averted deliveries, unless possible future per-unit cost increases offset this cost reduction.

### **Long-Term Public Health Impacts**

As discussed in the *Public Health Impacts* section, SB 1053 would increase utilization of contraceptives by 183,332 enrollees (see *Benefit Coverage, Utilization, and Cost Impacts*

section) in the first year postmandate, leading to a reduction in the number of unintended pregnancies overall, those ending in abortion, and negative health outcomes associated with unintended pregnancy in the first year postmandate.

SB 1053 also has the potential to impact public health outcomes beyond the first 12 months of the bill implementation. This section will qualitatively discuss the potential long-term impacts of SB 1053 on the incidence of unintended pregnancy and abortion, maternal and child health and behavioral outcomes, socioeconomic outcomes, harms and gender and racial/ethnic disparities. The discussion on possible impacts on health, behavioral, and socioeconomic outcomes will be based primarily on reviews of the literature conducted by Logan et al. (2007), Gipson et al. (2008), and Sonfield et al. (2013). Studies assessing the relationship between pregnancy intention and outcomes are subject to methodological limitations if the analysis does not address the confounding influences of family background and individual characteristics. As explained in Logan et al. (2007), “In studies that do not adequately account for pre-existing characteristics of the mother, associations may be incorrectly attributed to pregnancy intentions when, in fact, they are actually due to characteristics of the mother (such as low socioeconomic status) that make the females more likely to have an unintended birth and more likely to have poorer outcomes for the children or themselves.” Relatively few studies reviewed for this section on long-term impacts used strong designs to account for confounding factors. Overall, studies of the long-term impacts of unintended pregnancy provide relatively weak evidence on the weight of the impacts due to unintendedness alone.

### **Incidence of Unintended Pregnancy and Abortion**

As discussed in the *Background on Contraceptives* section, although approximately two-thirds of sexually active heterosexual females aged 15 to 44 years in the United States use contraception, they may still be at risk of an unintended pregnancy due to method failure, inconsistent use, or incorrect use. Unintended pregnancies can be characterized as “mistimed” or “unwanted.” Of all females at risk of an unintended pregnancy, the majority (65%) use contraception consistently and only account for 5% of all unintended pregnancies, whereas 19% of females use contraception inconsistently or incorrectly and 16% do not use contraception and account for the remaining 95% of unintended pregnancies (43% and 52%, respectively) (Guttmacher Institute, 2013b). In California, 48% of unintended pregnancies result in a birth, 39% end in an abortion, and 13% end in fetal loss (Kost, 2013). Biggs et al. (2012) surveyed nearly 1,400 females obtaining services at U.S. family planning clinics and found that nearly half (49%) cited barriers in accessing birth control services and 9% specifically cited birth control cost or insurance coverage as the access barrier.

Based on estimates of contraceptive effectiveness rates discussed in *Medical Effectiveness* section and projected increases in utilization discussed in the *Benefit Coverage, Utilization, and Cost Impacts* section, in the first year postmandate, CHBRP estimates that SB 1053 will result in 51,298 averted unintended pregnancies; among those averted pregnancies, there would be 20,006 averted abortions. In the long-term, due to eliminated cost sharing, SB 1053 may encourage enrollees to move away from utilizing low or moderately effective methods, such as barrier methods or hormonal methods (oral contraceptives, vaginal ring, contraceptive patch), to more highly effective methods, such as IUDs and the contraceptive implant. An analysis of NSFG data has documented increases in utilization of these effective, long-acting reversible contraceptive

methods across all sociodemographic characteristics. In 2009, 8.5% of females aged 15 to 44 years used IUDs or the implant, compared to 3.7% in 2007 and 2.4% in 2002 (Finer et al., 2012). Assuming this shift towards long-acting, highly effective contraceptive methods continues, it could further impact unintended pregnancy and abortion rates, particularly among those at highest risk, such as younger females.

Assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, there may be a decrease in the rate of unintended pregnancies and abortions in the long-term.

## **Health and Behavioral Outcomes**

### *Physical and mental health (mother)*

As discussed in the *Public Health Impacts* section, research shows that compared to females with intended pregnancies, females with unintended pregnancies are more likely to delay initiating prenatal care, more likely to have a low-birthweight baby, and less likely to breast feed (Cheng et al., 2009; Gipson et al., 2008; Shah et al., 2010). Pregnancy always carries inherent risks, including maternal mortality, and unintended pregnancies expose females to these inherent risks more often. Based on estimated maternal mortality ratios from the World Health Organization (WHO), Ahmed et al. (2012) estimated the effect of contraceptive use on maternal mortality. Ahmed et al. estimated that nearly 61% of maternal deaths in the United States were averted by contraceptive use and that if unmet demand for contraception was satisfied, an estimated 76% of maternal deaths could be averted by contraceptive use.

Reviews of the literature by Logan et al. (2007), Gipson et al. (2008), and Sonfield et al. (2013) found that studies show an association between unintendedness and lower levels of psychological well-being during pregnancy and after birth, risk of depression and anxiety, and lower levels of happiness. Some qualitative research indicates that females with an unintended birth often receive support from their families, friends, and community, which may reduce the overall negative psychological impact of the unintended pregnancy.

In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, there may be a decrease in the rate of unintended pregnancies, thereby decreasing the risk of maternal mortality and averting negative psychological outcomes associated with unintended pregnancies.

### *Physical and mental health (child)*

Reviews of the literature by Logan et al. (2007) and Sonfield et al. (2013) found that studies show an association between unintendedness and physical and mental health of the child. Poor physical outcomes include reporting less than excellent health, being overweight, and being too active or not active enough. Additionally, compared to children who were wanted, children born from an unintended pregnancy are more likely to suffer from lower levels of psychological wellbeing in both childhood and adulthood, be less well adapted as children, have lower self-esteem as in early adulthood, and are more likely to be depressed or receive mental health services in adulthood.

In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, there may be a decrease in the rate of unintended pregnancies, thereby decreasing risk of poor child health outcomes and averting negative psychological outcomes associated with children born from unintended pregnancies.

### *Behavioral outcomes*

The reviews from Logan et al. (2007), Gipson et al. (2008) and Sonfield et al. (2013) found that studies show an association between unintendedness and some behavioral outcomes, such as attachment security and delinquency. For example, some studies have found that compared to children born from unintended pregnancies, children born from intended pregnancies were more likely to have strong attachment security with their mother and had mothers that spent more leisure time with them (such as reading or singing to them), whereas mothers who had an unintended pregnancy were more likely to spank or physically abuse their children and spend less leisure time with them. The review by Logan et al. (2007) found some evidence that suggests that adolescents born from unintended pregnancies report higher levels of delinquency, particularly among males and those born to mothers who were 20 years or older at the birth. Unintendedness does not seem to be associated with behavioral issues at younger or older ages (Logan et al., 2007). In addition, children born to teen mothers (among females aged 15-17 years, 91% of pregnancies are unintended) are more likely to lag behind their peers at age two in terms of behavioral and cognitive development and more prone to risky behaviors later in life, such as fighting and smoking (Sonfield et al., 2013).

In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, there may be a decrease in the rate of unintended pregnancies, and thereby decreasing the risk of poor mother-child relationships and behavioral problems.

### **Socioeconomic Outcomes**

The review by Sonfield et al. (2013) found that access to contraception, reduced unintended pregnancy, and ability to delay childbearing has positive impacts on socioeconomic outcomes such as educational attainment and workforce participation. The review concludes that teenagers who have an unintended pregnancy (among females aged 15–17 years, 91% of pregnancies are unintended) are less likely to obtain any college education or degree and have fewer years of formal education overall compared to their peers who delayed childbearing. The review also found strong evidence that access to contraceptives can positively impact female’s professional pursuits and time spent in the labor force by allowing females to delay and time childbearing to align with their professional opportunities. The evidence indicates that access to contraceptives and delayed childbearing may reduce the income gap between males and females. Thus, females with an average age of 30 and who were childless earned about 90% of the hourly wages earned by men in that age group, but younger females who were mothers earned 73% as much as similarly aged men.

In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, there may be a decrease in the rate of unintended pregnancies, thereby allowing females to delay childbearing and pursue additional education, spend additional time in their careers, and have increased earning power.

## **Potential Harms From Contraceptives**

When data are available, CHBRP estimates the marginal change in relevant harms associated with interventions affected by the proposed mandate. As discussed in the *Medical Effectiveness* section, cardiovascular disease is the major health risk associated with contraceptive use, and these risks are highest among females aged over 35 years who smoke. The use of hormonal contraceptives is associated with increased risk of myocardial infarction, stroke, and certain types of cancer (cervical, liver, and breast cancer in young females). The average risk of dying from oral contraceptive use among female smokers aged 35 to 44 years (1 in 5,200) is similar to the risk of dying in a car accident in a year (1 in 5,000) and slightly higher than the risk of death from pregnancy (1 in 6,900) and far higher risk of dying from undergoing tubal sterilization (1 in 66,700) (Trussell and Guthrie, 2011).

As discussed in the *Background on Contraceptives* section, no single contraceptive method is highly effective at preventing both unintended pregnancy and protecting against sexually transmitted infections (STIs). Male condoms are the primary method that protect against STIs, yet condoms are less effective than other methods at preventing pregnancy (see *Medical Effectiveness* section). The incidence of STIs, such as chlamydia and gonorrhea, is high in California (CDPH, 2104b; CDPH, 2014c), especially among teenagers and young adults, who also have lower contraceptive utilization rates and higher rates of unintended pregnancies and can lead to adverse health outcomes, including pelvic inflammatory disease (PID) in females and sterility in males (CDC, 2014b; CDC, 2014c). While dual-method utilization can effectively prevent against both unintended pregnancy and STIs by combining consistent use of both male condoms and a method effective at preventing pregnancy, such as implanted devices, hormonal methods, or sterilization, research has found that consistent, sustained dual-method utilization is low (Eisenberg et al., 2012; Peipert et al., 2011) and individuals are less likely to use condoms if their primary contraceptive method is effective (Mantell et al., 2003). Any decrease in the utilization of male condoms alone or along with a more effective contraceptive method may increase an individual's risk of acquiring an STI.

Despite the increased risk of harm, contraceptive use has broad benefits to consider, beyond preventing unintended pregnancies. As discussed in the *Medical Effectiveness* section, these include health benefits such as treating severe or excessive menstrual bleeding or acne and protecting against some forms of cancer. Additionally, male condoms are the only method that protects against sexually transmitted infections, including HIV. Other benefits include delaying childbearing and achieving desired birth spacing.

The use of contraceptives is not without small risk of harm; however, any harm must be weighed against the broad health benefits of contraceptive use. In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, individuals using hormonal contraceptives may be at higher risk of cardiovascular disease. While increased condom use is associated with decreased risk of acquiring a sexually transmitted infection (STI) and some research indicates that increased utilization of effective contraceptive methods decreases condom use, CHBRP cannot estimate the increased utilization of specific contraceptive methods beyond the first year postmandate and therefore cannot estimate the directionality of any impact on STIs due to SB 1053.

## **Racial/Ethnic Disparities**

As documented in the *Background on Contraceptives* section, there are numerous racial/ethnic disparities in contraceptive utilization in California. Among those participating in the Family PACT program, African Americans and Asian/Pacific Islanders had lower utilization (3%) of the most effective contraceptive types (sterilization, IUDs, implants) compared to whites, Latinas, and other race/ethnicities (5%). Whites had the highest utilization (61%) of hormonal methods such as oral contraceptives, injectables, the patch, and the ring whereas Latinas and African Americans had the lowest utilization (42%). All racial/ethnic minorities had higher utilization of barrier methods (ranging from 33% to 26%) compared to whites (20%) (UCSF, 2013). There are also racial/ethnic disparities in national unintended pregnancy rates. Among whites, the unintended pregnancy rate is 38 per 1,000 sexually active females aged 15 to 44, compared to 79 per 1,000 among Hispanic females and 92 per 1,000 among non-Hispanic black females (Finer and Zolna, 2014).

There are racial/ethnic disparities in the utilization of contraceptives in California and in national unintended pregnancy rates (see section on *Background on Contraceptives*). In the long term, assuming that SB 1053 increases utilization of contraceptives beyond the first year postmandate, there may be a reduction in racial/ethnic utilization disparities that are due to coverage differences (but not to preferences about specific contraceptive methods) and in disparities in unintended pregnancy rates; however, the magnitude is unknown.

# APPENDICES

## Appendix A: Text of Bill Analyzed

On February 19, 2014, the Senate Committee on Health requested that CHBRP analyze the version of SB 1053: Health Care Coverage: Contraceptives introduced on February 18, 2014. Subsequently, CHBRP received a request from the Committee to analyze an amended version of the bill, (dated April 9, 2014) which CHBRP has completed in this report.

The full text of bill language for the introduced version of SB 1053 can be found at:

[http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb\\_1051-1100/sb\\_1053\\_bill\\_20140218\\_introduced.pdf](http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1051-1100/sb_1053_bill_20140218_introduced.pdf).

The full text of bill language for the amended version of SB 1053 can be found at:

[http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb\\_1051-1100/sb\\_1053\\_bill\\_20140409\\_amended\\_sen\\_v98.pdf](http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1051-1100/sb_1053_bill_20140409_amended_sen_v98.pdf).

## Appendix B: Literature Review Methods

Appendix B describes methods used in the medical effectiveness literature review conducted for this report. A discussion of CHBRP's system for grading evidence, as well as lists of MeSH Terms, Publication Types, and Keywords, follows.

As previously detailed in the *Introduction*, contraceptive methods covered under SB 1053 can be divided up into five major categories: barrier methods, hormonal methods, emergency contraception, implanted devices, and permanent contraception. Barrier methods include male condoms, female condoms, diaphragms, sponges, cervical caps, and spermicide. Hormonal methods include oral contraceptives, patch, vaginal contraceptive ring, and injection. There are two different forms of emergency contraception known as levonorgestrel (Plan B®, Plan B One Step®, Next Choice, and Next Choice One Step) and ulipristal acetate (Ella®). Implanted devices include the copper IUD, the hormone IUD, and the contraceptive implant. The three permanent methods of sterilization include vasectomy, laparoscopic surgical sterilization, and hysteroscopic surgical sterilization implant (Essure®). In addition, SB 1053 requires coverage of contraceptive education and counseling services.

The literature search was limited to studies published in English from January 2011 to present for the Medical Effectiveness review and 2004 to present for the cost and public health review. Cost studies were limited to the United States whereas medical effectiveness and public health were not restricted. The following databases of peer-reviewed literature were searched: MEDLINE (PubMed), the Cochrane Database of Systematic Reviews, the Cochrane Register of Controlled Clinical Trials, the Cumulative Index of Nursing and Allied Health Literature, EconLit, and Web of Science. In addition, websites maintained by the following organizations that index or publish systematic reviews and evidence-based guidelines were searched: the Agency for Healthcare Research and Quality, International Network of Agencies for Health Technology Assessment, National Health Service Centre for Reviews and Dissemination, National Guidelines Clearinghouse, National Institute for Health and Clinical Excellence, and the Scottish Intercollegiate Guideline Network.

Two reviewers screened the title and abstract of each citation retrieved by the literature search to determine eligibility for inclusion. The reviewers acquired the full text of articles that were deemed eligible for inclusion in the review and reapplied the initial eligibility criteria.

Abstracts for 1,174 articles, meta-analyses, evidence-based guidelines, and systematic reviews were identified. Seventy-four articles were retrieved and reviewed and a total of 19 were included in this report.

### **Evidence Grading System**

In making a “call” for each outcome measure, the medical effectiveness lead and the content expert consider the number of studies as well the strength of the evidence. Further information about the criteria CHBRP uses to evaluate evidence of medical effectiveness can be found in

CHBRP's *Medical Effectiveness Analysis Research Approach*.<sup>80</sup> To grade the evidence for each outcome measured, the team uses a grading system that has the following categories:

- Research design;
- Consistency of findings;
- Generalizability of findings to the population whose coverage would be affected by a mandate; and
- Cumulative impact of evidence.

CHBRP uses a hierarchy to classify studies' research designs by the strength of the evidence they provide regarding a treatment's effects.

CHBRP classifies research by levels I–V. Level I research includes well-implemented randomized controlled trials (RCTs) and cluster RCTs. Level II research includes RCTs and cluster RCTs with major weaknesses. Level III research consists of nonrandomized studies that include an intervention group and one or more comparison groups, time series analyses, and cross-sectional surveys. Level IV research consists of case series and case reports. Level V represents clinical/ practical guidelines based on consensus or opinion

CHBRP evaluates consistency of findings across three dimensions: statistical significance, direction of effect, and size of effect.

The grading system also contains an overall conclusion that encompasses findings in these five domains. The conclusion is a statement that captures the strength, consistency, and generalizability of the evidence of an intervention's effect on an outcome. The following terms are used to characterize the body of evidence regarding an outcome:

- Clear and convincing evidence;
- Preponderance of evidence;
- Ambiguous/conflicting evidence; and
- Insufficient evidence.

A grade of *clear and convincing evidence* indicates that there are multiple studies of a treatment and that the large majority of studies have strong research designs, consistently find that the treatment is either effective or not effective, and have findings that are highly generalizable to the population whose coverage would be affected. This grade is assigned in cases in which it is unlikely that publication of additional studies would change CHBRP's conclusion about the effectiveness of a treatment.

A grade of *preponderance of evidence* indicates that the majority of the studies reviewed are consistent in their findings that treatment is either effective or not effective and that the findings

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<sup>80</sup> Available at: [www.chbrp.org/analysismethodology/docs/medeffectmethodsdetail.pdf](http://www.chbrp.org/analysismethodology/docs/medeffectmethodsdetail.pdf).

are generalizable to the population whose coverage would be affected. Bodies of evidence that are graded as *preponderance of evidence* are further subdivided into three categories based on the strength of their research designs: strong research designs, moderate research designs, and weak research designs. The categories and the types of research designs in each category are listed below:

- **Strong research designs:** RCTs and quasi-experimental studies (i.e., nonrandomized controlled trials for which data are collected prospectively, efforts are made to select a comparison group that is similar to the intervention group, and instrumental variables, propensity scores, or other statistical techniques are used to control for selection bias).
- **Moderate research designs:** Nonrandomized/observational studies with a concurrent comparison group (e.g., cohort studies, case-control studies) and interrupted time series studies.
- **Weak research designs:** Nonrandomized/observational studies that do not have a concurrent comparison group (e.g., studies with before-after designs, studies with historical comparison groups).

A grade of *ambiguous/conflicting evidence* indicates that although some studies included in the medical effectiveness review find that a treatment is effective, a similar number of studies with equally strong research designs suggest the treatment is not effective.

A grade of *insufficient* evidence indicates that there is not enough evidence available to know whether or not a treatment is effective, either because there are too few studies of the treatment or because the available studies have weak research designs. It does not indicate that a treatment is not effective.

## **Search Terms**

The search terms used to locate studies relevant to SB 1053 were as follows:

Medical Subject Headings (MeSH) Terms Used to Search PubMed:

Contraception+	Costs and Cost Analysis+
Contraceptive Agents+	Ethnic Groups+
Contraceptive Devices+	Gender Identity+
Intrauterine Devices+	Insurance Benefits
Sterilization, Reproductive+	Insurance Carriers
Abortion, Induced+	Insurance Coverage+
Continental Population Groups+	Insurance, Health+
Cost Sharing+	Pregnancy Rate+

Quality of Life

+ indicates the MeSH term was exploded to include the narrower terms

Sexually Transmitted Diseases+

Vital Statistics+

United States+

Utilization Review+

Keywords Used to Search PubMed, Business Source Complete, Cochrane, EconLit, and Relevant Websites:

Adverse Effects

Side Effects

Benefit Cost Ratio

STD

Birth Control

STDs

Condoms

Sterilization

Contraception

Unplanned Pregnancy

Contraceptive?

Utiliz?

Copayment

(? Indicates truncation of the word stem)

Costs

Economics

Ethnicity

Insurance

Morbidity

Mortality

Pregnancy

Prevalence

Race

Reimbursement

Sex Differences

Publication Types:

- Clinical Trial
- Comparative Study
- Controlled Clinical Trial
- Meta-Analysis
- Practice Guideline
- Randomized Control Trial
- Systematic Reviews

## Appendix C: Summary Findings on Medical Effectiveness

**Table C-1.** Characteristics of Studies Used in the Medical Effectiveness Review

Type of Intervention	Citation	Type of Trial	Intervention versus Comparison Group	Population Studied	Location <sup>81</sup>
IUD	Andersson et al., 1999	Level I	LNG-IUD vs. Copper IUD	Women aged 18–38 years visiting clinic for contraception	Europe
Health insurance expansion	Burlone et al., 2013	Level III	Insured vs. uninsured	Medi-Cal enrollees	United States
Emergency Contraception	Cheng et al., 2012	Level I	UPA vs. LNG	Women aged 18 years and older presenting to a clinic after unprotected sexual intercourse	China
Barrier methods	Cook et al., 2011	Level I	Diaphragm vs. diaphragm with spermicide	Women of reproductive age	London
Insurance coverage	Culwell and Feinglass, 2007	Level III	Insured vs. uninsured	Women aged 18–44 years at risk of unintended pregnancy	United States
Hormonal and Implant	French et al., 2010	Level I	Hormonal IUD vs, Copper IUD; Mirena <sup>®</sup> vs, Norplant <sup>®</sup> ; Mirena <sup>®</sup> vs. oral contraceptives	Women of reproductive age	Not reported
Barrier methods	Gallo et al., 2002	Level I	Cervical cap vs. diaphragm	Sexually active women aged 18–40 years	United States

<sup>81</sup> Location is not reported for meta-analyses because they synthesize results from multiple studies conducted in multiple locations.

**Table C-1. Characteristics of Studies Used in the Medical Effectiveness Review (Cont'd)**

Type of Intervention	Citation	Type of Trial	Intervention versus Comparison Group	Population Studied	Location
Insertion of IUD	Garipey et al., 2011	Level III	IUD copayment <\$50 vs. IUD copayment ≥ \$50	Privately insured women requesting an IUD from their provider	Philadelphia, PA
Emergency Contraception	Glasier et al., 2011	Level I	Use of UPA vs. LNG among obese women	Women aged 18 years and older presenting to a clinic after unprotected sexual intercourse	China
Emergency Contraception	Glasier et al., 2013	Level I	UPA vs. LNG	Women aged 18 years and older presenting to a clinic after unprotected sexual intercourse	China
Implant and hormonal methods	Hofmeyr et al., 2010	Level I/II	Copper IUD with progestogen vs. injection and combined oral contraceptives	Women of childbearing age. One study of HIV positive women.	Zambia, Brazil, Guatamala, Vietnam, Egypt
Hormonal methods	Jick et al, 2009	Level III	Evra <sup>®</sup> Patch vs. oral contraceptives	Women with a contraceptive prescription	United Kingdom
Emergency Contraception	Kavanaugh et al., 2011	Level III	Emergency contraceptive use pre and post change in prescription status	Women aged 15–44 years	United States
Barrier methods	Kuyoh et al., 2002	Level I	Sponge vs. diaphragm	Women of reproductive age seeking contraception through either method.	United States and United Kingdom

**Table C-1. Characteristics of Studies Used in the Medical Effectiveness Review (Cont'd)**

Type of Intervention	Citation	Type of Trial	Intervention versus Comparison Group	Population Studied	Location
Hormonal methods	Lopez et al., 2013b	Level I	Contraceptive patch, vaginal ring, and oral contraceptives	Not reported	Not reported
Emergency Contraception	Moreau and Trussell, 2012	Level II	UPA alone and UPA vs. LNG	Women aged 18 years and older presenting to a clinic 48 to 120 hours after intercourse.	United States, UK, Ireland
Insertion of IUD	Pace et al., 2013	Level III	IUD out of pocket costs: low, medium, high	Women aged 15-44 years with mid to large employer-based insurance coverage	United States
Use of contraceptives	Postle-thwaite et al., 2007	Level III	Contraceptive use per and post benefit change	Kaiser Permanente enrollees	Northern California
Long-acting reversible contraceptives (LARC)	Winner, 2012	Level III	Use of LARC (IUD and implants) vs. oral contraceptives, patch, and vaginal contraceptive ring	Sexually active women aged 14–45 years not using contraceptive or willing to switch to a new contraceptive.	St. Louis, MO, USA

Source: California Health Benefits Review Program, 2014.

**Table C-2. Summary of Findings From Studies That Examined the Comparative Effectiveness of Specific Contraceptives**

Comparison	Citation	Research Design	Statistical Significance and Direction	Size of Effect	Conclusion <sup>82</sup>
<b>Contraceptive Type</b>					
<i>Barrier methods</i>					
Diaphragm with and without spermicide	Cook et al., 2011	Level I — RCT	Not significant; no difference	No difference	Insufficient evidence
Cervical cap vs. diaphragm	Gallo et al., 2012	Level I — Review of two RCTs	Statistically significant in ½ RCTs; ½ RCTs favor diaphragm.	FemCap Peto Odds Ratio: (95% CI) 1.77 (1.02 -3.07). Prentif Peto Odds Ratio: (95% CI) 1.24 (0.89 - 1.74).	Inconsistent results: FemCap not as effective as diaphragm. Prentif cap no different than diaphragm.
Sponge vs. diaphragm	Kuyoh et al., 2002	Level I — Review of 2 RCTs	Statistically significant, favors diaphragm	Peto Odds ratio: (95% CI) 1.65 (1.21- 2.24)	Sponge significantly less effective in both trials at preventing pregnancy
<i>Hormonal methods</i>					
Patch, vaginal ring, and oral contraception	Lopez et al., 2013b	Meta-analysis of 18 trials	Not statistically significant; no difference	No difference	There is no difference in unintended pregnancy rates among users of the patch, vaginal ring, and oral contraceptives.

<sup>82</sup> Location is not reported for meta-analyses because they synthesize results from multiple studies conducted in multiple locations.

**Table C-2. Summary of Findings From Studies That Examined the Comparative Effectiveness of Specific Contraceptives (Cont'd)**

Comparison	Citation	Research Design	Statistical Significance and Direction	Size of Effect	Conclusion <sup>83</sup>
<b>Contraceptive Type</b>					
<i>Hormonal methods</i>					
Evra <sup>®</sup> patch and 2 <sup>nd</sup> generation oral contraceptives	Jick et al., 2012	Level III — cohort study	Statistically significant; Favors 2 <sup>nd</sup> generation oral contraceptives over progesterone only oral contraceptives or EVRA <sup>®</sup> patch	Compared to 2 <sup>nd</sup> generation OC Hazard ratio (95% CI) Progesterone only 1.8 (1.6-2.1) EVRA <sup>®</sup> patch 2.6 (1.6-4.1)	2 <sup>nd</sup> generation Oral contraceptives are more effective at preventing unintended pregnancy than progesterone only or EVRA <sup>®</sup> patch.
<i>Implanted devices</i>					
LNG-IUD vs. Copper IUD	Andersson et al., 1999	Level I — RCT	Statistically significant (p<0.001); Favors LNG-IUD	5-year Pregnancy rate: LNG-IUD: 0.5% Copper IUD 5.9%	LNG-IUD is more effective than Copper IUD
LNG-IUD vs. implant	French et al., 2010	Level I — Review of 4 RCTs	Not statistically significant; no difference	Rate ratio: 3.01; 95% CI: (0.13 - 75.56)	No significant difference between the two types of contraceptives in preventing pregnancy

<sup>83</sup> Location is not reported for meta-analyses because they synthesize results from multiple studies conducted in multiple locations.

**Table C-2. Summary of Findings From Studies That Examined the Comparative Effectiveness of Specific Contraceptives (Cont'd)**

Comparison	Citation	Research Design	Statistical Significance and Direction	Size of Effect	Conclusion
<b>Contraceptive Type</b>					
<i>Implanted devices</i>					
LNG-IUD vs. copper IUD $\leq 250$ mm <sup>2</sup>	French et al., 2010	Level I — Review of 4 RCTs	Statistically significant; favors LNG-IUD	Rate ratio: 0.12; 95% CI: (0.03 – 0.49).	Fewer unintended pregnancies with LNG-IUD compared to copper IUD $\leq 250$ mm <sup>2</sup>
LNG-IUD vs. copper IUD $> 250$ mm <sup>2</sup>	French et al., 2010	Level I — Review of 4 RCTs	Not statistically significant; no difference	Rate ratio: 1.01; 95% CI, 0.71 - 5.82	No significant difference between the two types of contraceptives in preventing pregnancy
Copper IUD vs. progestogen injection;	Hofmeyr et al., 2010	Level I — Review of two RCTs	Not statistically significant; no difference	Risk ratio: (95% CI) 0.50 (0.09-2.77)	No difference in copper IUD and progestogen injections
Copper IUD vs. injection/Combined oral contraceptives (COC)			Statistically significant; favors injection/COC	Risk ratio: (95% CI) 0.45 (0.23-0.87)	The copper IUD was more effective than depot progestogens/hormonal injections

**Table C-2. Summary of Findings From Studies That Examined the Comparative Effectiveness of Specific Contraceptives (Cont'd)**

Comparison	Citation	Research Design	Statistical Significance and Direction	Size of Effect	Conclusion
<b>Contraceptive Type</b>					
<i>Long-acting reversible contraceptives (LARC)</i>					
LARC (IUD, implants) vs. oral contraceptives, patch, and vaginal contraceptive ring.	Winner, 2012	Level III—nonrandomized study with comparison groups	Statistically Significant; Favors long-acting reversible contraceptives	Hazard ratio: (95% CI): 21.84 (13.67-34.88)	Long-acting reversible contraceptives are more effective than oral contraceptives, patch, or contraceptive ring
LARC (IUD, implants) vs. injections.	Winner, 2012	Level III — nonrandomized study with comparison groups	Not Statistically Significant; No Difference	Hazard ratio: (95% CI): 0.70 (0.16-3.03)	Long-acting reversible contraceptives are not more effective than injections
<i>Emergency contraception</i>					
UPA vs. LNG	Cheng et al., 2012 <sup>84</sup>	Level I — Meta analysis of 2 Randomized comparative trials	Statistically significant; Favors UPA	Risk ratio: (95% CI): 0.59 (0.35-0.99)	UPA is more effective than LNG at preventing pregnancy
UPA vs. LNG	Glasier et al., 2013	Level I — Meta analysis of 2 Randomized comparative trials	Statistically significant; Favors UPA	% of expected pregnancies prevented UPA: 67% LNG 50%	UPA is more effective than LNG at preventing pregnancy

<sup>84</sup> Cheng et al., 2012; Glasier et al, 2013; and Glasier et al., 2011 all report on the same two studies but present different statistics from the analysis.

**Table C-2. Summary of Findings From Studies That Examined the Comparative Effectiveness of Specific Contraceptives (Cont'd)**

Comparison	Citation	Research Design	Statistical Significance and Direction	Size of Effect	Conclusion
<b>Contraceptive Type</b>					
<i>Emergency contraception</i>					
UPA vs. LNG for Obese women	Glasier et al., 2011	Level I — Meta analysis of 2 Randomized comparative trials	Statistically significant for LNG; Not statistically significant for UPA	Risk of pregnancy for obese women using LNG odds ratio: 4.41; 95% CI 2.055-9.44)	Effectiveness rates for LNG are decreased for obese women; obese women should be offered UPA

Source: California Health Benefits Review Program, 2014.

**Table C-3. Summary of Findings From Studies That Examined the Insurance Coverage Characteristics of Specific Contraceptives**

Outcome	Citation	Research Design	Statistical Significance and Direction	Direction and Size of Effect	Conclusion
<b>Insurance Coverage Characteristic</b>					
<i>Insurance coverage</i>					
Unintended pregnancy	Burlone et al., 2013	Level III — modeling study	Not applicable	Over 5 years decrease in 72 unintended pregnancies per 1,000 newly covered	Expanding insurance coverage reduces unintended pregnancies
Utilization of prescription contraceptives	Culwell and Feinglass, 2007	Level III — Cross sectional	Statistically significant; Favors coverage	Uninsured vs. Insured Risk ratio: 0.7 (95% CI 0.6-0.8)	Insurance coverage is associated with increased utilization of prescription contraceptives
<i>Copayment</i>					
Insertion of IUD	Garipey et al., 2011	Level III — nonrandomized study with comparison groups	Statistically Significant; Favors copayments of <\$50 compared to copayments of >\$50 or more	Adjusted odds ratio: (95% CI) 11.4 (3.6-36.6)	Lower cost sharing is associated with higher rates of IUD utilization.
Insertion of IUD	Pace et al., 2013	Level III — nonrandomized study with comparison groups	Statistically Significant; Favors low cost sharing compared to moderate or high levels of cost sharing	Adjusted risk ratio: (95% CI) Moderate: 0.85 (0.83-0.87) High: 0.65 (0.64-0.67)	Lower cost sharing is associated with higher rates of IUD utilization.

**Table C-3.** Summary of Findings From Studies That Examined the Insurance Coverage Characteristics of Specific Contraceptives (Cont'd)

Outcome	Citation	Research Design	Statistical Significance and Direction	Direction and Size of Effect	Conclusion
<b>Insurance Coverage Characteristic</b>					
<i>Copayment</i>					
Utilization of effective contraceptives	Postle-thwaite et al., 2007	Level III — retrospective observational study	No statistics presented; Favors no cost sharing compared to previous cost sharing levels	Rate of unintended pregnancy dropped from 7.0% to 6.4% among contraceptive users	Lower cost sharing is associated with higher rates of effective contraception

*Source:* California Health Benefits Review Program, 2014.

*Note:* Level III—nonrandomized study with comparison groups

**Table C-4. Summary of U.S. Medical Eligibility Criteria for Contraceptive Use, 2010**

<b>Contraceptive</b>
<b>Combined Hormonal Contraceptives (pill, patch, ring)</b>
Breastfeeding <1 month postpartum
Postpartum <21 days (non-breastfeeding)
Smoke and are 35 years and older; especially those who smoke more than 15 cigarettes each day
Multiple risk factors for Cardiovascular disease (e.g., older age, smoking, diabetes, hypertension)
Hypertension, especially with elevated blood pressure levels (not adequately controlled) or vascular disease.
Deep venous thrombosis (DVT)/pulmonary embolism (PE)
Major surgery with prolonged immobilization
Current history of ischemic heart disease
Systemic lupus with positive (or unknown) antiphospholipid antibodies
History of stroke
Valvular heart disease (complicated)
Migraine headaches with aura
Past or current breast cancer
Diabetes (nephropathy/retinopathy/Neuropathy)
<b>Progestin-only pill (POP)</b>
Past or current breast cancer
Systemic lupus with positive (or unknown) antiphospholipid antibodies
Cirrhosis (severe)
Liver tumors (non-benign)
<b>Progestin-only injection (DMPA)</b>
Multiple risk factors for Cardiovascular disease (e.g., older age, smoking, diabetes, hypertension)

**Table C-4. Summary of U.S. Medical Eligibility Criteria for Contraceptive Use, 2010 (Cont'd)**

Hypertension, especially with elevated blood pressure levels (not adequately controlled) or vascular disease
Current history of ischemic heart disease.
History of stroke
Systemic lupus with positive (or unknown) antiphospholipid antibodies
Unexplained vaginal bleeding
Past or current breast cancer
Vascular disease or diabetes of > 20 years duration
Cirrhosis (severe)
Liver tumors (non-benign)
<b>Implants (progestin-only)</b>
Current history of ischemic heart disease (continuation only)
History of stroke (continuation only)
Systemic lupus with positive (or unknown) antiphospholipid antibodies
Migraine headaches with aura (continuation only)
Unexplained vaginal bleeding
Past or current breast cancer
Cirrhosis (severe)
Liver tumors (non-benign)
<b>Hormonal Intrauterine Devices (LNG-IUDs)</b>
Pregnant
Postpartum puerperal sepsis
Postabortion (immediate postseptic)

**Table C-4. Summary of U.S. Medical Eligibility Criteria for Contraceptive Use, 2010 (Cont'd)**

<b>Contraceptive</b>
<b>Hormonal Intrauterine Devices (LNG-IUDs)</b>
Current history of ischemic heart disease (continuation only)
Systemic lupus with positive (or unknown) antiphospholipid antibodies
Migraine headaches with aura (continuation only)
Unexplained vaginal bleeding (initiation only)
Cervical cancer (initiation only)
Past or current breast cancer
Endometrial cancer
Pelvic inflammatory disease
Current purulent cervicitis or chlamydial infection or gonorrhea (initiation only)
Acquired Immunodeficiency Syndrome (AIDS)
Pelvic tuberculosis
Cirrhosis (severe)
Liver tumors (non-benign)
<b>Copper Releasing Intrauterine Devices (Cu-IUDs)</b>
Pregnant
Postpartum puerperal sepsis
Postabortion (immediate postseptic)
Current history of ischemic heart disease (continuation only)
Unexplained vaginal bleeding (initiation only)
Cervical cancer (initiation only)
Endometrial cancer
Pelvic inflammatory disease
Current purulent cervicitis or chlamydial infection or gonorrhea (initiation only)

**Table C-4. Summary of U.S. Medical Eligibility Criteria for Contraceptive Use, 2010 (Cont'd)**

<b>Contraceptive</b>
<b>Copper Releasing Intrauterine Devices (Cu-IUDs)</b>
Acquired Immunodeficiency Syndrome (AIDS)
Pelvic tuberculosis
<b>Barrier methods (condoms, spermicides, diaphragms, caps)</b>
High risk of HIV infection or AIDS for spermicides, diaphragms, caps
History of toxic shock syndrome (diaphragm/cap)

Source: CDC, 2010.

Key: *DMPA*=Depot medroxyprogesterone acetate; *LNG*=levonorgestrel; *IUD*=intrauterine device; *HIV*=human immunodeficiency virus.

## Appendix D: Cost Impact Analysis: Data Sources, Caveats, and Assumptions

This appendix describes data sources, estimation methodology, as well as general and mandate-specific caveats and assumptions used in conducting the cost impact analysis. For additional information on the cost model and underlying methodology, please refer to the CHBRP website at: [www.chbrp.org/analysis\\_methodology/cost\\_impact\\_analysis.php](http://www.chbrp.org/analysis_methodology/cost_impact_analysis.php).

The cost analysis in this report was prepared by the members of the cost team, which consists of CHBRP task force members and contributors from the University of California, Los Angeles, and the University of California, Davis, as well as the contracted actuarial firm, Milliman, Inc. (Milliman).<sup>85</sup>

### **Data Sources**

In preparing cost estimates, the cost team relies on a variety of data sources as described below.

#### *Baseline model*

- The California Simulation of Insurance Markets (CalSIM) is used to project health insurance status of Californians aged 64 and under in 2015. CalSIM is a microsimulation model that projects the effects of the Affordable Care Act on firms and individuals.<sup>86</sup> CalSIM relies on national Medical Expenditure Panel Survey (MEPS) Household Component and Person Round Plan 2006-2010, California Health Interview Survey (CHIS) 2011/ 2012, and California Employer Health Benefits Survey data 2013.
- California Health Interview Survey (2011/2012) data is used to estimate the number of Californians aged 65 and older, and the number of Californians dually eligible for both Medi-Cal and Medicare coverage. CHIS 2011/2012 is also used to determine the number of Californians with incomes below 400% of the federal poverty level. CHIS is a continuous survey that provides detailed information on demographics, health insurance coverage, health status, and access to care. CHIS 2011/2012 surveyed approximately 44,600 households and is conducted in multiple languages by the UCLA Center for Health Policy Research. More information on CHIS is available at: [www.chis.ucla.edu](http://www.chis.ucla.edu).
- The latest (2013) California Employer Health Benefits Survey is used to estimate:
  - Size of firm;
  - Percentage of firms that are purchased/underwritten (versus self-insured);
  - Premiums for employment-based health care service plans regulated by the Department of Managed Health Care (DMHC) (primarily health maintenance organizations [HMOs] and point of service [POS] plans); and

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<sup>85</sup> CHBRP's authorizing legislation requires that CHBRP use a certified actuary or "other person with relevant knowledge and expertise" to determine financial impact ([www.chbrp.org/docs/authorizing\\_statute.pdf](http://www.chbrp.org/docs/authorizing_statute.pdf)).

<sup>86</sup> UC Berkeley Center for Labor Research and Education and UC Los Angeles Center for Health Policy Research. *Methodology & Assumptions, California Simulation of Insurance Markets (CalSIM) Version 1.8*, March 2013. Available at: [http://healthpolicy.ucla.edu/publications/Documents/PDF/calsim\\_methods.pdf](http://healthpolicy.ucla.edu/publications/Documents/PDF/calsim_methods.pdf). Accessed March 25, 2014.

- Premiums for employment-based health insurance policies regulated by the California Department of Insurance (CDI) (primarily preferred provider organizations [PPOs]. Premiums for fee-for-service [FFS] plans are no longer available due to scarcity of these policies in California).

This annual survey is currently released by the California Health Care Foundation/National Opinion Research Center (CHCF/NORC) and is similar to the national employer survey released annually by the Kaiser Family Foundation and the Health Research and Educational Trust. Information on the CHCF/NORC data is available at: [www.chcf.org/publications/2014/01/employer-health-benefits](http://www.chcf.org/publications/2014/01/employer-health-benefits).

- Milliman data sources are relied on to estimate the premium impact of mandates. Milliman's projections derive from the Milliman Health Cost Guidelines (HCGs). The HCGs are a health care pricing tool used by many of the major health plans in the United States; see: [www.milliman.com/expertise/healthcare/products-tools/milliman-care-guidelines/index.php](http://www.milliman.com/expertise/healthcare/products-tools/milliman-care-guidelines/index.php). Most of the data sources underlying the HCGs are claims databases from commercial health insurance plans. The data are supplied by health insurance companies, HMOs, self-funded employers, and private data vendors. The data are mostly from loosely managed health care plans, generally those characterized as PPO plans. The HCGs currently include claims drawn from plans covering 41.2 million members. In addition to the Milliman HCGs, CHBRP's utilization and cost estimates draw on other data, including the following:
  - The MarketScan databases, which reflects the health care claims experience of employees and dependents covered by the health benefit programs of large employers. These claims data are collected from approximately 100 different insurance companies, Blue Cross Blue Shield plans, and third party administrators. These data represent the medical experience of insured employees and their dependents for active employees, early retirees, individuals with COBRA continuation coverage, and Medicare-eligible retirees with employer-provided Medicare Supplemental plans. No Medicaid or Workers Compensation data are included.
  - Ingenix MDR Charge Payment System, which includes information about professional fees paid for health care services, based upon approximately 800 million claims from commercial insurance companies, HMOs, and self-insured health plans.
  - These data are reviewed for applicability by an extended group of experts within Milliman but are not audited internally.
- Premiums and enrollment in DMHC-regulated health plans and CDI-regulated policies by self-insured status and firm size are obtained annually from CalPERS for active state and local government public employees and their dependents who receive their benefits through CalPERS. Enrollment information is provided for DMHC-regulated health care service plans covering non-Medicare beneficiaries — about 74% of CalPERS total enrollment. CalPERS self-funded plans — approximately 26% of enrollment — are not subject to state mandates. In addition, CHBRP obtains information on current scope of benefits from evidence of coverage (EOC) documents publicly available at [www.calpers.ca.gov](http://www.calpers.ca.gov). For the 2014 model, CHBRP assumes CalPERS's enrollment in 2015 will not be affected by continuing shifts in the health insurance market as a result of the ACA.

- Enrollment in Medi-Cal Managed Care (beneficiaries enrolled in Two-Plan Model, Geographic Managed Care, and County Operated Health System plans) is estimated based on data maintained by the Department of Health Care Services (DHCS). CHBRP assesses enrollment information online at [www.dhcs.ca.gov/dataandstats/statistics/Pages/Monthly\\_Trend\\_Report.aspx](http://www.dhcs.ca.gov/dataandstats/statistics/Pages/Monthly_Trend_Report.aspx). The most recent Medi-Cal enrollment data from DHCS is projected to 2015 based on CalSIM's estimate of the continuing impact of the Medi-Cal expansion implemented in 2014.

#### *Estimate of Premium Impact of Mandates*

- CHBRP's Annual Enrollment and Premium Survey collects information from the seven largest providers of health insurance in California (Aetna, Anthem Blue Cross of California, Blue Shield of California, CIGNA, Health Net, Kaiser Foundation Health Plan, and United Healthcare/PacifiCare) to obtain estimates of baseline enrollment by purchaser (i.e., large and small group and individual), type of plan (i.e., DMHC-regulated or CDI-regulated), grandfathered and nongrandfathered status, and average premiums. Enrollment in plans or policies offered by these seven insurers represent an estimated 97.4% of the persons with health insurance subject to state mandates. This figure represents an estimated 97.8% of enrollees in full-service (nonspecialty) DMHC-regulated health plans and an estimated 95.9% of enrollees in full-service (nonspecialty) CDI-regulated policies. The Annual Enrollment and Premium Survey is representative of enrollment in September 2013; CalSIM and market trends were applied to the 2013 enrollment to project 2015 health insurance enrollment in state-regulated plans and policies.

For CHBRP reports analyzing specific benefit mandates, CHBRP surveys the seven major carriers on current coverage relevant to the benefit mandate. CHBRP reports the share of enrollees — statewide and by market segment — reflected in CHBRP's bill-specific coverage survey responses. The proportions are derived from data provided by CDI and DMHC. CDI provides data by market segment (large, small, and individual) based on "CDI Licenses With HMSR Covered Lives Greater Than 100,000" as part of the Accident and Health Covered Lives Data Call September 30, 2012, by the California Department of Insurance, Statistical Analysis Division. The Department of Managed Health Care's interactive website "Health Plan Financial Summary Report," July–September 2013, provides data on DMHC-regulated plans by segment.<sup>87</sup>

The following table describes the data sources mentioned above, and the data items that they inform.

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<sup>87</sup> CHBRP assumes DMHC-regulated PPO group enrollees and POS enrollees are in the large-group segment. <http://wpsso.dmhc.ca.gov/flash/>.

**Table D-1. Population and Cost Model Data Sources and Data Items**

Data Source	Items
California Simulation of Insurance Markets (CalSIM) 1.9 (projections for 2015)	Uninsured, age: 0–17; 18–64 Medi-Cal (non-Medicare) (a), age: 0–17; 18–64 Other public (b), age: 0–64 Individual market, age: 0–17; 18–64 Small group, age: 0–17; 18–64 Large group, age: 0–17; 18–64
California Health Interview Survey, 2011/2012 (CHIS 2011/2012)	Uninsured, age: 65+ Medi-Cal (non-Medicare), age: 65+ Other public, age: 65+ Employer-sponsored insurance, age: 65+
CalPERS data, annually, enrollment as of September 30	CalPERS HMO and PPO enrollment <ul style="list-style-type: none"> <li>• Age: 0–17; 18–64; 65+</li> </ul> HMO premiums
California Employer Survey, conducted annually by NORC and funded by CHCF	Enrollment by HMO/POS, PPO/indemnity self-insured, fully insured, Premiums (not self-insured) by: <ul style="list-style-type: none"> <li>• Size of firm (3–25 as small group and 25+ as large group)</li> <li>• Family vs. single</li> <li>• HMO/POS vs. PPO/indemnity vs. HDHP employer vs. employer premium share</li> </ul>
DHCS administrative data for the Medi-Cal program, annually, 11-month lag from the end of November	Distribution of enrollees by managed care or FFS distribution by age: 0–17; 18–64; 65+ Medi-Cal Managed Care premiums
CMS administrative data for the Medicare program, annually (if available) as of end of September	HMO vs. FFS distribution for those 65+ (noninstitutionalized)
CHBRP enrollment survey of the seven largest health plans in California, annually as of end of September	Enrollment by: <ul style="list-style-type: none"> <li>• Size of firm (2–50 as small group and 51+ as large group),</li> <li>• DHMC vs. CDI regulated</li> <li>• Grandfathered vs. nongrandfathered</li> </ul> Premiums for individual policies by: <ul style="list-style-type: none"> <li>• DMHC vs. CDI regulated</li> <li>• Grandfathered vs. nongrandfathered</li> </ul>
Department of Finance population projections, for intermediate CHIS years	Projected civilian, noninstitutionalized CA population by age: 0–17; 18–64; 65+
Medical trend influencing annual premium increases	Milliman estimate

Source: California Health Benefits Review Program, 2014.

*Notes:* (a) Includes children previously enrolled in Healthy Families, California’s Children’s Health Insurance Program (CHIP). As of January 1, 2014, children enrolled in Healthy Families were transitioned into Medi-Cal as required in the 2012–2013 state budget agreement.

(b) Includes individuals dually eligible for Medi-Cal and Medicare.

*Key:* CDI=California Department of Insurance; CHCF=California HealthCare Foundation; CHIS= California Health Interview Survey; CMS=Centers for Medicare & Medicaid Services; DHCS=Department of Health Care Services; DMHC=Department of Managed Health Care; FFS=fee-for-service; HMO=health maintenance organization; NORC=National Opinion Research Center; PPO=preferred provider organization.

## **Projecting the Effects of the Affordable Care Act in 2015**

This subsection discusses adjustments made to CHBRP’s Cost and Coverage Model to account for the continuing impacts of the ACA in January 2015. It is important to emphasize that CHBRP’s analysis of specific mandate bills typically addresses the incremental effects of the mandate bill – specifically, how the proposed mandate would impact benefit coverage, utilization, costs, and public health, *holding all other factors constant*. CHBRP’s estimates of these incremental effects are presented in the *Benefit Coverage, Utilization, and Cost Impacts* section of this report.

### *Baseline premium rate development methodology – 2015*

The key components of the baseline model for utilization and expenditures are estimates of the per member per month (PMPM) values for each of the following:

- Insurance premiums PMPM;
- Gross claims costs PMPM;
- Member cost sharing PMPM; and
- Health care costs paid by the health plan.

For each plan type, CHBRP first obtained an estimate of the insurance premium PMPM by taking the 2013 reported premium from the above-mentioned data sources and trending that value to 2015. CHBRP uses trend rates published in the Milliman Health Cost Guidelines to estimate the health care costs for each plan segment in 2015.

The individual segments (CDI-regulated and DMHC-regulated) are split into grandfathered non-exchange, nongrandfathered non-exchange, and exchange groups in order to separately calculate the impact of ACA and specific mandates that may apply differently to these three subgroups. The premium rate information received from NORC did not split the premiums based on grandfathered or exchange status. The 2013 CHBRP Annual Enrollment and Premium Survey asked the seven largest insurance carriers in California to provide their average premium rates separately for grandfathered and nongrandfathered plans. The ratios from the carrier survey data are then applied to the NORC aggregate premium rates for large and small group, to estimate premium rates for grandfathered and nongrandfathered plans that were consistent with the NORC results. For the individual market, the 2013 premium rates received from the 2013 CHBRP Annual Enrollment and Premium Survey were used directly.

The marginal impact of ACA on 2015 premiums was established as follows:

- For nongrandfathered small-group and individual market segments, a 3% increase in medical costs is applied to reflect the total cost of requiring each plan to cover the essential health benefits.
- For nongrandfathered small-group plans, a 5% increase in medical costs is applied to reflect the other additional costs of ACA (e.g., age rating, health status, increased premium taxes and fees, change in actuarial value, etc.).
- For DMHC-regulated individual plans and CDI-regulated individual policies, an increase of 20% and 31%, respectively, in medical costs is applied to reflect the other additional costs of ACA.

The remaining three values were then estimated by the following formulas:

- Health care costs paid by the health plan = insurance premiums PMPM  $\times$  (1 – profit/administration load).
- Gross claims costs PMPM = health care costs paid by the health plan  $\div$  percentage paid by health plan
- Member cost sharing PMPM = gross claims costs  $\times$  (1 – percentage paid by health plan)

In the above formulas, the quantity “profit/administration load” is the assumed percentage of a typical premium that is allocated to the health plan’s administration and profit. These values vary by insurance category, and under the ACA, are limited by the minimum medical loss ratio requirement. CHBRP estimated these values based on actuarial expertise at Milliman, and their associated expertise in health care.

In the above formulas, the quantity “percentage paid by health plan” is the assumed percentage of gross health care costs that are paid by the health plan, as opposed to the amount paid by member cost sharing (deductibles, copays, etc.). In ACA terminology, this quantity is known as the plan’s “actuarial value.” These values vary by insurance category. For each insurance category, Milliman estimated the member cost sharing for the average or typical plan in that category. Milliman then priced these plans using the Milliman Health Cost Guidelines to estimate the percentage of gross health care costs that are paid by the carrier.

### *Medi-Cal Managed Care*

CHBRP has estimated that the PMPM cost for Medi-Cal’s newly eligible population will equal the projected cost of Medi-Cal’s currently eligible family population, excluding maternity costs.

### **General Caveats and Assumptions**

The projected cost estimates are estimates of the costs that would result if a certain set of assumptions were exactly realized. Actual costs will differ from these estimates for a wide variety of reasons, including:

- Prevalence of mandated benefits before and after the mandate may be different from CHBRP assumptions.

- Utilization of mandated benefits (and, therefore, the services covered by the benefit) before and after the mandate may be different from CHBRP assumptions.
- Random fluctuations in the utilization and cost of health care services may occur.
- The impact of ACA on the mandated benefit cost may be different from CHBRP assumptions.

Additional assumptions that underlie the cost estimates presented in this report are:

- Cost impacts are shown only for plans and policies subject to state benefit mandate laws.
- Cost impacts are only for the first year after enactment of the proposed mandate.
- Employers and employees will share proportionately (on a percentage basis) in premium rate increases resulting from the mandate. In other words, the distribution of the premium paid by the subscriber (or employee) and the employer will be unaffected by the mandate.
- For state-sponsored programs for the uninsured, the state share will continue to be equal to the absolute dollar amount of funds dedicated to the program.
- When cost savings are estimated, they reflect savings realized for 1 year. Potential long-term cost savings or impacts are estimated if existing data and literature sources are available and provide adequate detail for estimating long-term impacts. For more information on CHBRP's criteria for estimating long-term impacts, please see: [www.chbrp.org/analysis\\_methodology/docs/longterm\\_impacts08.pdf](http://www.chbrp.org/analysis_methodology/docs/longterm_impacts08.pdf).
- Several studies have examined the effect of private insurance premium increases on the number of uninsured (Chernew et al., 2005; Glied and Jack, 2003; Hadley, 2006). Chernew et al. (2005) estimate that a 10% increase in private premiums results in a 0.74 to 0.92 percentage point decrease in the number of insured, whereas Hadley (2006) and Glied and Jack (2003) estimate that a 10% increase in private premiums produces a 0.88 and a 0.84 percentage point decrease in the number of insured, respectively. Because each of these studies reported results for the large-group, small-group, and individual insurance markets combined, CHBRP employs the simplifying assumption that the elasticity is the same across different types of markets. For more information on CHBRP's criteria for estimating impacts on the uninsured, please see: [www.chbrp.org/analysis\\_methodology/docs/Uninsured\\_paper\\_Final\\_01012009.pdf](http://www.chbrp.org/analysis_methodology/docs/Uninsured_paper_Final_01012009.pdf).

There are other variables that may affect costs, but which CHBRP did not consider in the cost projections presented in this report. Such variables include, but are not limited to:

- Population shifts by type of health insurance: If a mandate increases health insurance costs, some employer groups and individuals may elect to drop their health insurance. Employers may also switch to self-funding to avoid having to comply with the mandate.
- Changes in benefit plans: To help offset the premium increase resulting from a mandate, subscribers/policyholders may elect to increase their overall plan deductibles or copayments. Such changes would have a direct impact on the distribution of costs between the health plan and policies and enrollees, and may also result in utilization reductions (i.e., high levels of

patient cost sharing result in lower utilization of health care services). CHBRP did not include the effects of such potential benefit changes in its analysis.

- Adverse selection: Theoretically, individuals or employer groups who had previously foregone health insurance may now elect to enroll in a health plan or policy, postmandate, because they perceive that it is to their economic benefit to do so.
- Medical management: Health plans and insurers may react to the mandate by tightening medical management of the mandated benefit. This would tend to dampen the CHBRP cost estimates. The dampening would be more pronounced on the plan types that previously had the least effective medical management (i.e., PPO plans).
- Geographic and delivery systems variation: Variation in existing utilization and costs, and in the impact of the mandate, by geographic area and delivery system models: Even within the health insurance types CHBRP modeled (HMO, including HMO and POS plans, and non-HMO, including PPO and FFS policies), there are likely variations in utilization and costs by type. Utilization also differs within California due to differences in the health status of the local population, provider practice patterns, and the level of managed care available in each community. The average cost per service would also vary due to different underlying cost levels experienced by providers throughout California and the market dynamic in negotiations between providers and health plans or insurers. Both the baseline costs prior to the mandate and the estimated cost impact of the mandate could vary within the state due to geographic and delivery system differences. For purposes of this analysis, however, CHBRP has estimated the impact on a statewide level.
- Compliance with the mandate: For estimating the postmandate coverage levels, CHBRP typically assumes that plans and policies subject to the mandate will be in compliance with the coverage requirements of the bill. Therefore, the typical postmandate coverage rates for populations subject to the mandate are assumed to be 100%.

### **SB 1053 Specific Caveats and Assumptions**

Due to the lack of highly relevant literature, CHBRP's cost model arbitrarily made a set of assumptions regarding both utilization and cost impacts in its' analysis of SB 1053.

Concerning male condoms, CHBRP estimates a 10% increase in male condom utilization based on increased awareness and marketing of the mandate in SB 1053.<sup>88</sup> CHBRP also estimates that 33% of male condom users would be reimbursed by insurance after the mandate. The lower bound of the latter estimate is 21%, because the Milliman database showed that during the year, 21% of reproductive aged males obtain an annual physical, where they could conceivably request a prescription for male condoms. In addition to these clinic visits by males, a prescription for male condoms could be obtained by female enrollees during their clinic visits. A prescription for male condoms could also be obtained without making a clinic visit. Therefore, CHBRP's adjusted assumption of a 33% uptake/reimbursement rate appears less likely to overestimate the true rate. These are also acknowledged as the critical caveats at the beginning of the *Benefit Coverage, Cost, and Utilization Impacts* section.

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<sup>88</sup> CHBRP analyses in the past have utilized an estimated 10% increase in utilization due to awareness and marketing of a particular benefit mandate.

CHBRP assumes that the mandate will have no impact on per-unit costs for any specific contraceptive type. This assumption might not be valid, because the bill could potentially eliminate competition in the contraceptive medications and device markets. If that were to occur, the per-unit price will be likely to rise.

In estimating the reduced medical expenditures due to averted deliveries during the first year (\$149,065,150 = \$24,216 (the average cost of delivery based on Milliman's database) \* an estimated 6,156 cases), CHBRP makes the following assumptions:

- 48% of pregnancy cases would require maternity care and delivery [based on the *Public Health Impacts* section (Kost, 2013)].
- 7% of male condom users also utilize other contraceptive methods [based on the *Public Health Impacts* section (Eisenberg et al., 2012)], and have been removed to avoid double counting.
- 4% male condom users are homosexual males, and have not been counted in the number of estimated cases that could lead to pregnancy.<sup>89</sup>
- 25% of averted pregnancy cases lead to deliveries in 2015.<sup>90</sup>

CHBRP did not estimate the potential averted social costs to take care of children after birth in this analysis.

CHBRP did not quantify the potential medical expenditures due to averted STIs, because of the limited time to make reliable estimates for this analysis.

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<sup>89</sup> Gallup, State of the States. Available at: [www.gallup.com/poll/160517/lgbt-percentage-highest-lowest-north-dakota.aspx](http://www.gallup.com/poll/160517/lgbt-percentage-highest-lowest-north-dakota.aspx). Accessed on April 15, 2014.

<sup>90</sup> CHBRP only estimates the short-term impact recognized in 2015. CHBRP assumes a 9-month gestation period. This bill will be enacted on 1/1/15. The only averted deliveries resulting from this bill that would occur in 2015 are for the pregnancies that would have been conceived in January, February, or March because they would be delivered in October, November, or December. For instance, a pregnancy conceived in April 2015 would be delivered in 2016. CHBRP does not count this delivery in the 2015 estimates. This means CHBRP only counts 3 of the 12 months (25%) of averted deliveries in estimating 2015 medical expenditure savings.

## **Appendix E: Information Submitted by Outside Parties**

In accordance with CHBRP policy to analyze information submitted by outside parties during the first two weeks of the CHBRP review, the following parties chose to submit information.

No information was submitted by interested parties for this analysis.

For information on the processes for submitting information to CHBRP for review and consideration please visit: [www.chbrp.org/requests.html](http://www.chbrp.org/requests.html).

## Appendix F: Public Health Calculations

To calculate the impact of SB 1053 on unintended pregnancies, CHBRP combined effectiveness data from Trussell (2011) (discussed in the *Medical Effectiveness* section) and estimated changes in utilization of the various contraceptives methods from the *Benefit Coverage, Cost, and Utilization Impacts* section.

### Assumptions

- Women who would have expanded coverage postmandate were not using contraception before their coverage expanded.
- The number of new enrollees using education/counseling was not included in these calculations due to lack of effectiveness data on education/counseling
- Pregnancies averted due to increase in male condom use is calculated; however, CHBRP does not know the behavior of the female partner (i.e., whether they were already using an effective contraceptive method and the increase in condom use becomes dual-method use), which may represent an overestimate in averted pregnancies due to condom use.

### Impact on Unintended Pregnancy (Table 11)

#### *Percentage of women with unintended pregnancies*

These percentages represent the effectiveness of each contraceptive method or type. CHBRP applied “typical use” effectiveness to generate these estimates. For example, for every 100 women using only oral hormonal contraceptives with “typical use,” CHBRP estimated there would be 9 unintended pregnancies. As discussed in the *Medical Effectiveness* section, “typical use” provides rates adjusted for such factors as nonadherence, improper dosage, not following device or medication instructions properly, improper implantation or administration, and sporadic or nonusage during all cases of intercourse. These effectiveness estimates are based on data from Trussell (2011). To calculate efficacy of “female barrier,” CHBRP took the mean of the effectiveness of female condom, diaphragm with spermicide, sponge (nulliparous and parous), cervical cap with spermicide, and spermicide alone. To calculate efficacy of “hormonal–other,” CHBRP took the mean of the effectiveness of the vaginal contraceptive ring and the contraceptive patch. To calculate the effectiveness of “emergency contraceptives,” CHBRP took the mean of the effectiveness of levonorgestrel (Plan B<sup>®</sup>, Plan B One-Step<sup>®</sup>) and ulipristal acetate (Ella<sup>®</sup>). To calculate the effectiveness of “permanent–female,” CHBRP took the mean of the effectiveness of female sterilization surgery and hysteroscopic sterilization (Essure). The effectiveness of “implants–other” includes only of the contraceptive implant.

#### *Estimated number of additional users*

These values are based on estimates from the *Benefit Coverage, Cost, and Utilization Impacts* section and are displayed in Table 11. The methods for estimating the number of additional users are discussed in detail in the *Benefit Coverage, Cost, and Utilization Impacts* section.

### *Premandate pregnancies*

To calculate premandate pregnancies, CHBRP estimated pregnancies' occurring in the absence of contraceptive use is based on research from Vaughan et al. (2008), which found that the rate of unintended pregnancy among women (not pregnant, not breastfeeding) discontinuing contraceptive use is approximately 46%. The equation for determining the number of pregnancies in absence of contraceptive use is:

$$r \times 0.85$$

where “*r*” is the estimated number of women who would become new users of a particular method due to new coverage. CHBRP assumed that women who would have expanded coverage postmandate were not using contraception before their coverage expanded. For example, the cost analysis estimated that SB 1053 would result in an additional 34,275 oral contraceptive users. Assuming those 34,275 users were not using oral contraceptives (or any other method) and that in absence of contraceptive use they have an 46% chance of becoming pregnant, CHBRP estimated there would be 15,767 pregnancies occurring among the 34,275 individuals.

### *Postmandate pregnancies*

To calculate postmandate pregnancies, CHBRP estimated the number of pregnancies occurring based on the estimated number of new users from the *Benefit Coverage, Cost, and Utilization Impacts* section with the effectiveness data from Trussell (2011). The equation for determining the number of pregnancies occurring with contraceptive use is:

$$r \times s$$

where “*r*” is the estimated number of new users of a particular contraceptive method and “*s*” is the effectiveness of that method. For example, the *Benefit Coverage, Cost, and Utilization Impacts* section estimates that SB 1053 would result in an additional 34,275 oral contraceptive users and typical use of oral contraceptives result in pregnancies in 9% of users; therefore, CHBRP estimated there would be 3,085 pregnancies occurring despite oral contraceptive use among 34,275 individuals.

### *Pregnancies averted*

To calculate the number of pregnancies averted, CHBRP subtracted the estimated pregnancies occurring with contraceptive method use from the number estimated to occur in absence of method use. For example, CHBRP estimated that among the 34,275 new oral contraceptive users, there would be 15,767 pregnancies if those users did not use oral contraceptives (or any other method) and 3,085 pregnancies with oral contraceptive use, which means that the use of oral contraceptives averted 12,682 pregnancies that would have otherwise occurred without contraceptive use.

### **Impact on Abortion**

To calculate the impact of SB 1053 on abortion in California, CHBRP used the estimate by Kost (2013) that 39% of unintended pregnancies in California end in abortion. Based on estimates of the impact of SB 1053 on unintended pregnancy (discussed above), CHBRP estimated that there would be a total of 51,298 averted unintended pregnancies (see Table 12). Assuming that 39% of those unintended pregnancies would have ended in abortion, CHBRP estimated that there would be 20,006 averted abortions.

## Appendix G: Comparison of Analyzed Bills

CHBRP had originally analyzed SB 1053 bill language introduced on February 18, 2014, in response to a request by the California Senate Committee on Health. Subsequently, CHBRP received a request from the Committee to analyze an amended version of the bill, (dated April 9, 2014) which CHBRP has completed in this report. A brief comparison of CHBRP's findings from the two versions of SB 1053 is provided below for reference. A table at the end of this appendix summarizes the key comparisons in analysis outcomes.

### **SB 1053 Introduced vs. Amended Language**

#### *Language introduced on February 18, 2014*

The version of SB 1053 introduced on February 18, 2014, required all Department of Managed Health Care (DMHC)–regulated plans and California Department of Insurance (CDI)–regulated policies issued, amended, renewed, or delivered on or after January 1, 2015, to provide coverage for all Food and Drug Administration (FDA) approved contraceptive drugs, devices, products, and sterilization procedures in each contraceptive category outlined by the FDA, as well as contraceptive education and counseling.<sup>91</sup>

The bill stipulated that health plans and insurers were not allowed to engage in “unreasonable medical management” in providing this coverage. The bill also prohibited all health plans and insurers from requiring a prescription for coverage of over-the-counter (OTC) FDA approved contraceptive methods and supplies.

#### *Language amended on April 9, 2014*

The amended version of SB 1053 contains the same coverage mandate as the introduced version, requiring plans and insurers to provide coverage for all FDA approved contraceptive drugs, devices, and products, in each contraceptive category, along with coverage for *voluntary* sterilization procedures and contraceptive education and counseling. However, the amended version removed the provision from the original bill that prohibited plans and insurers from requiring a prescription for OTC contraceptive coverage. The amended version also removed the provision prohibiting the use of “unreasonable medical management” by health plans and insurers in providing contraceptive coverage from the introduced bill.

#### *Commonalities between both versions*

CHBRP interpreted both versions of SB 1053 to include grandfathered plans in its coverage mandate, based on internal interpretation of the bill language and regulatory guidance from DMHC.

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<sup>91</sup> A full list of FDA approved contraceptive drugs, devices, products, and sterilization procedures can be found here: [www.fda.gov/ForConsumers/ByAudience/ForWomen/FreePublications/ucm313215.htm](http://www.fda.gov/ForConsumers/ByAudience/ForWomen/FreePublications/ucm313215.htm).

Based on regulatory guidance from both DMHC and the Department of Health Care Services (DHCS) and CHBRP's own interpretation of the bill language, the mandate in both versions of SB 1053 was assumed to not include Medi-Cal Managed Care plans.<sup>92,93</sup>

Both versions of SB 1053 prohibit nongrandfathered group or individual health plans and policies from imposing cost-sharing requirements in providing contraceptive coverage, consistent with existing requirements in the ACA.

Both versions of SB 1053 also preserve existing language in both state law and in the ACA that exempts certain religious employers from providing this coverage to their employees.

### **Benefit Coverage, Utilization and Cost Impacts: Key Differences**

The amended bill language did not affect coverage impacts, but changed both the estimated utilization and cost impacts of SB 1053, as summarized in Table G-1. Specifically, after the amendment of SB 1053, CHBRP changed its assumptions regarding utilization of OTC contraceptives. OTC contraceptives include most female barrier method contraceptives as well as male condoms.

Prior to the amendment of SB 1053, CHBRP made three assumptions concerning OTC contraceptives, as described below:

- CHBRP assumed that the prohibition of the prescription requirement for OTC contraceptives would increase the utilization of female barrier methods by 5.5% based on the literature (Potter et al., 2011).
- In the introduced version of SB 1053, the demand for male condoms was assumed to increase by 31% because of the reduced price. This estimate was based on own-price elasticity of demand, which measures how the utilization of a certain good/service will change when the price of the certain good/service changes.<sup>94</sup>
- In the introduced version of SB 1053, CHBRP estimated the utilization of male condoms to increase by 18%. This estimate was based on cross-price elasticity, which measures a potential shift among various contraceptive methods, e.g., gaining full coverage leading to increased use of more effective contraceptive methods (e.g., IUDs) would lead to the reduced use of male condoms.<sup>95</sup>

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<sup>92</sup> Personal communication, S. Lowenstein, DMHC, January 2014.

<sup>93</sup> Personal communication, C. Robinson, Department of Health Care Services, citing Sec. 2791 of the federal Public Health Service Act, January 2014.

<sup>94</sup> The own-price elasticity of demand for male condoms is assumed to be the same as for general ambulatory care - (-0.31) (Manning et al., 1987) due to the lack of specific relevant literature.

<sup>95</sup> When a broader array of options for female contraceptives are covered, cross-price elasticity for male condoms derived from the study by Postlethwaite et al. (2007) indicated a 10% decrease in male condom utilization. The study by Postlethwaite et al. (2007) was the only study examining the cross-price elasticity among various contraceptive methods, analyzing a large California population (N=661,349~675,545 females aged 15–44 for years 2000, 2001, 2003, and 2004) enrolled in Kaiser Permanente Northern California — close to the population affected by SB 1053. Combining these offsetting impacts, CHBRP estimated the utilization of male condoms to increase by 18% (=131%\*90% - 100%).

After the amendment of SB 1053, CHBRP dropped all three of the assumptions above. Instead, CHBRP newly assumed a 10% increase in male condom utilization based on increased awareness and marketing of the mandate in SB 1053,<sup>96</sup> compared to the assumption of an 18% increase prior to amendment. Additionally, CHBRP assumed that 33% of individuals newly utilizing male condoms would use their insurance for reimbursement, due to the expected prescription requirement by health plans and insurers, and the relative convenience and cost of purchasing condoms out-of-pocket. This is a reduction from CHBRP's pre-amendment assumption of 100% reimbursement without the OTC prescription requirement in the introduced bill language.

Based on the assumption changes illustrated above, the expected prescription requirement for OTC contraceptives in the amended bill language reduced CHBRP's postmandate utilization-increase estimates as follows:

- **Female barrier method contraceptives:** From 485 individuals (in SB 1053, as introduced) to 371 individuals (in SB 1053, as amended).
- **Male condoms:** From 220,214 individuals (in SB 1053, as introduced) to 129,537 individuals (in SB 1053, as amended).

As a result, CHBRP's projected estimates of the total medical expenditure increase declined from \$46,653,000 or 0.036% (in SB 1053, as introduced) to \$31,201,000 or 0.024% (in SB 1053, as amended). CHBRP's estimates of the increases in insurance premiums (measured per member per month) also decreased in most market segments (as shown in Table G-1). Additionally, the reduced utilization of OTC contraceptives decreased CHBRP's estimates of reduced medical expenditures due to averted deliveries during the first year from \$686,404,852 (in SB 1053, as introduced) to \$149,065,150 (in SB 1053, as amended).

### **Public Health Impacts: Key Differences**

#### *Unintended pregnancy and abortion rates*

Based on methods and assumptions discussed in Appendix F, CHBRP estimated the number of unintended pregnancies and abortions averted due to increased contraceptive utilization due to SB 1053 (as introduced) and SB 1053 (as amended). As discussed at the beginning of this section, the introduced bill language prohibited prescription requirements for OTC contraceptive coverage and resulted in increased estimates around the number of enrollees expected to utilize OTC methods, such as male and female barrier methods. The amended language removed this prohibition and resulted in lower estimates around OTC method utilization. Based on SB 1053 (as introduced), the *Benefit Coverage, Utilization and Cost* section estimated an additional 270,515 enrollees would be using contraceptives postmandate and CHBRP estimated a resulting 80,807 averted unintended pregnancies. Among those unintended pregnancies, SB 1053 (as introduced) would result in 31,515 averted abortions. Based on SB 1053 (as amended), the *Benefit Coverage, Utilization and Cost* section estimated an additional 183,332 enrollees would be using contraceptives postmandate and CHBRP estimated a resulting 51,298 averted

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<sup>96</sup> CHBRP analyses in the past have utilized a 10% estimated increase in utilization due to awareness and marketing of a particular benefit mandate.

unintended pregnancies. Among those unintended pregnancies, SB 1053 (as amended) would result in 20,006 averted abortions.

#### *Sexually transmitted infection (STI) rates*

As discussed in the *Background* and *Public Health Impacts* sections, no single contraceptive method is highly effective at preventing both unintended pregnancy and protecting against sexually transmitted infections (STIs). Male condoms are the primary method that protect against STIs, yet condoms are less effective than other methods at preventing pregnancy (see *Medical Effectiveness* section). While teenagers and young adults have higher utilization rates of male condoms compared to older age groups, they also have the highest incidence of STIs, such as chlamydia and gonorrhea. Based on SB 1053 (as introduced), the *Benefit Coverage, Utilization and Cost* section projected an additional 220,213 condom users, and estimated an additional 129,537 users based on SB 1053 (as amended). Since SB 1053 (as amended) would result in decreased utilization of male condoms compared to SB 1053 (as introduced), the bill would have less of a projected impact on STI rates, particularly among teenagers and young adults.

#### *Maternal and child health and behavioral outcomes*

As discussed in the *Public Health Impacts* and *Long-Term Impacts* sections, there are numerous adverse health and behavioral outcomes associated with unintended pregnancies. These adverse outcomes include delayed prenatal care, increased odds of low birthweight and preterm birth, increased risk of maternal mortality, increased risk of postpartum depression and anxiety, lower child self-esteem, and poor mother-child relationships. Since SB 1053 (as amended) results in lower estimates around averted unintended pregnancies compared to SB 1053 (as introduced), the bill would have less of a projected impact on maternal and child risk of these adverse health and behavioral outcomes.

#### *Socioeconomic outcomes*

As discussed in the *Long-Term Impacts* sections, there are also socioeconomic outcomes associated with unintended pregnancies. Studies have found that access to contraceptives, reduced unintended pregnancies and the ability to delay childbearing has positive impacts on socioeconomic outcomes such as educational attainment and workforce participation. Since SB 1053 (as amended) results in lower estimates around contraceptive utilization and unintended pregnancies compared to SB 1053 (as introduced), the bill would have less of a projected impact on delayed childbearing and a woman's ability to and pursue additional education, spend additional time in their careers, and have increased earning power.

**Table G-1. Analysis Outcome Comparison for SB 1053 Versions**

Analysis Outcome	SB 1053, Introduced 2/14/14 <sup>97</sup>	SB 1053, Amended 4/10/14 <sup>98</sup>
<b>Benefit coverage, cost, and utilization impacts</b>		
Utilization change from 2014 to 2015	Female barrier method contraceptives : 485 individuals	Female barrier method contraceptives : 371 individuals
	Male condoms: 220,214 individuals	Male condoms: 129,537 individuals <sup>99</sup>
Total expenditure increase	\$46,653,000 or 0.036%	\$31,201,000 or 0.024%
Increases in insurance premiums measured by per member per month (PMPM)	Privately purchased market segment: \$0.33-\$0.76	Privately purchased market segment: \$0.35-\$0.71
	CalPERS HMO: \$0.47	CalPERS HMO: \$0.32
Reduced medical expenditures due to averted deliveries during the first year	-\$686,404,852	-\$149,065,150
<b>Public health impacts</b>		
Unintended pregnancy and abortion rates	80,807 unintended pregnancies averted. Among those unintended pregnancies, 31,515 abortions would be averted	51,298 unintended pregnancies averted. Among those unintended pregnancies, 20,006 abortions would be averted
Sexually transmitted infection (STI) rates	Since SB 1053 (as amended) would result in decreased utilization of male condoms compared to SB 1053 (as introduced), the bill would have less of a projected impact on STI rates, particularly among teenagers and young adults	
Maternal and child health and behavioral Outcomes	Since SB 1053 (as amended) results in lower estimates around averted unintended pregnancies compared to SB 1053 (as introduced), the bill would have less of a projected impact on maternal and child risk of these adverse health and behavioral outcomes	
Socioeconomic outcome	Since SB 1053 (as amended) results in lower estimates around contraceptive utilization and unintended pregnancies compared to SB 1053 (as introduced), the bill would have less of a projected impact on delayed childbearing and a woman's ability to and pursue additional education, spend additional time in their careers, and have increased earning power	

Source: California Health Benefits Review Program, 2014.

<sup>97</sup> SB 1053, Introduced 2/18/14. Available at: [http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb\\_1051-1100/sb\\_1053\\_bill\\_20140218\\_introduced.pdf](http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1051-1100/sb_1053_bill_20140218_introduced.pdf).

<sup>98</sup> SB 1053, Amended 4/9/14. Available at: [http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb\\_1051-1100/sb\\_1053\\_bill\\_20140409\\_amended\\_sen\\_v98.pdf](http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1051-1100/sb_1053_bill_20140409_amended_sen_v98.pdf).

<sup>99</sup> CHBRP's estimates of projected utilization declined due to the amended bill's removal of the provision that prohibited health plans and insurers from requiring a prescription for OTC contraceptive coverage.

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