



Abbreviated Analysis

California Senate Bill 729: Treatment for Infertility and Fertility Services

Report to the 2023–2024
California State Legislature
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SUMMARY

The California Senate Committee on Health has requested that the California Health Benefits Review Program (CHBRP)¹ conduct an evidence-based assessment of the medical, financial, and public health impacts of SB 729, Infertility and Fertility Services. Because CHBRP analyzed language similar to SB 729 in 2022, the Senate Committee on Health requested CHBRP summarize information from previous analyses and provide four fiscal scenarios based on previous iterations of bills that would require coverage of infertility treatments.

Context

Infertility is the inability to have a child and is a complex condition that can take many forms.² Infertility can have many causes including medical conditions, as the result of medical treatments (such as for cancer), or because it is not possible for the individual or couple to become pregnant without intervention (such as for single/unpartnered persons or same-sex couples).

In 2019, 2.1% of all births in the United States resulted from using assisted reproductive technology. Advances in infertility treatments and in vitro fertilization (IVF) have made single-embryo transfers the preferred method for the majority of women seeking pregnancy through IVF, especially for women under 38 years of age.

Bill Summary

Current law requires most group plans and policies to *offer* coverage for treatment of infertility, excluding IVF.

SB 729 would require commercial and CalPERS health plans and policies to provide “coverage for the diagnosis and treatment of infertility and fertility services.” Health plans and policies must include the notice of coverage in the plan’s evidence of coverage (EOC) materials. DMHC-regulated Medi-Cal managed care plans are not subject to SB 729.

SB 729 also:

- Specifies that coverage would include up to four completed oocyte retrievals and unlimited embryo transfers;
- Expands the definition of infertility to include persons unable to reproduce either as an individual or with their partner without medical intervention;
- Limits cost sharing (deductible, copayment, coinsurance) to the same structure as for other benefits; and
- Prohibits other coverage limitations that are different from those of other benefits.

For this analysis, CHBRP assumes:

- All nonexperimental infertility treatments would need to be covered for a plan to be in compliance with SB 729. These services include diagnosis, medications, surgery, artificial insemination (such as intrauterine insemination [IUI]), IVF, and IVF with intracytoplasmic sperm injection (ICSI).

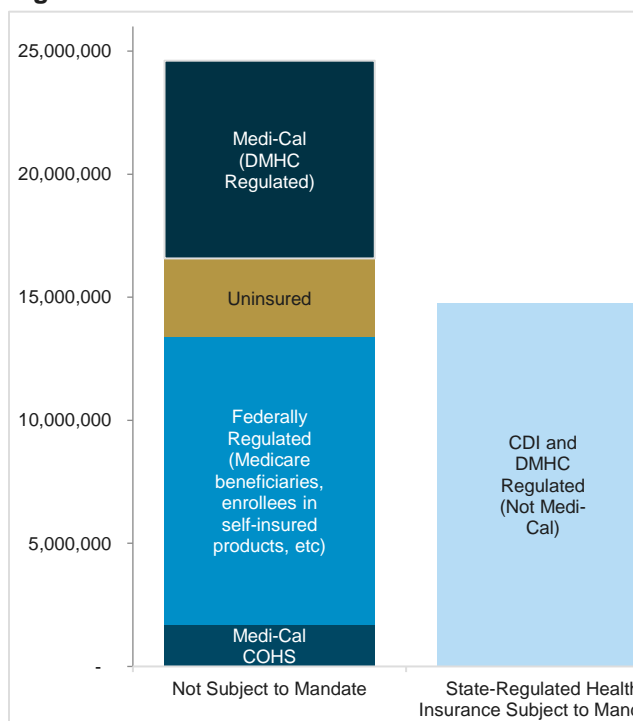
Additionally, it is unclear whether SB 729 would require coverage for biologic donor materials, gestational carriers or surrogacy services, or medical costs for the utilization of gestational carriers or surrogates. Should regulators interpret SB 729 to require coverage for these services, additional expenditures would be expected.

Figure A notes how many Californians have health insurance that would be subject to SB 729.

¹ CHBRP’s authorizing statute is available at www.chbrp.org/about_chbrp/faqs/index.php.

² Refer to CHBRP’s full report for full citations and references.

Figure A. Health Insurance in CA and SB 729



Source: California Health Benefits Review Program, 2023.

Medical Effectiveness

The medical effectiveness review summarizes the following findings from evidence: (1) the medical effectiveness and harms of IVF (i.e., the treatment newly mandated); and (2) the impact of health insurance mandates requiring coverage for fertility treatments on health outcomes. CHBRP finds there is:

- *Clear and convincing*³ evidence that IVF is an effective treatment for infertility, resulting in increased pregnancy rates and birth rates.
- A *preponderance of evidence*⁴ that certain harms are increased among children conceived via IVF, including preterm birth, low birthweight, certain congenital malformations, and infant death. However, it is important to note that risk for some harms is higher for multiple gestation pregnancies; these

³ *Clear and convincing evidence* indicates that there are multiple studies of a treatment and that the large majority of studies are of high quality and consistently find that the treatment is either effective or not effective.

outcomes can be mitigated by single-embryo transfers.

- *Clear and convincing evidence* that infertility treatment health insurance mandates are associated with an increase in utilization of infertility treatments.
- *Clear and convincing evidence* that IVF insurance mandates are associated with a decrease in the number of embryos transferred per IVF cycle and a decrease in the proportion of cycles transferring two or more embryos, and that these decreases are more pronounced among younger women.
- *Clear and convincing evidence* that IVF mandates are associated with lower pregnancy rates resulting from IVF postmandate compared to premandate time periods (due to a decrease in embryos transferred), and a lower likelihood of other adverse birth outcomes, including rates of multiple births.

Benefit Coverage, Utilization, and Cost

At the request of the Senate Committee on Health, CHBRP has produced estimates of impacts for four scenarios, based on current and previous iterations of introduced or amended versions of bills that included infertility mandates in California.

- **Scenario 1** – SB 729, as introduced. It would require coverage of infertility treatments with cost sharing the same as major medical, for all commercial and CalPERS enrollees with state-regulated health insurance.
- **Scenario 2** – Would require coverage of infertility treatments with cost sharing the same as major medical, for commercial and CalPERS enrollees with state-regulated health insurance in the large-group market (excludes enrollees

⁴ *Preponderance of evidence* indicates that the majority of the studies reviewed are consistent in their findings that treatment is either effective or not effective.

in individual and small group market plans and policies).

- **Scenario 3** – Would require coverage of infertility treatments with cost sharing the same as major medical, for all commercial and CalPERS enrollees with state-regulated health insurance; lifetime limit of \$75,000 is applied.
- **Scenario 4** – Would require coverage of infertility treatments with 50% cost sharing, for all commercial and CalPERS enrollees with state-regulated health insurance.

Scenario 1 is discussed in full, followed by notable differences between scenario 1 and scenarios 2, 3, and 4.

Full details of all four scenarios are included in Appendices C-F.

Scenario 1 – SB 729 as Introduced

Benefit Coverage

At baseline, 23% of enrollees with health insurance that would be subject to SB 729 have fertility coverage that includes IVF. CHBRP found 0% enrollees have health insurance that includes fertility coverage and cost sharing for covered fertility services (i.e., deductible, copayment, or coinsurance) that is not different from those imposed on other benefits. Approximately 14 million enrollees have health insurance subject to SB 729.

Coverage by type of procedure varies substantially. Although the majority of enrollees (79%) have coverage for female and male diagnostic tests, about 43% have coverage for medication prescriptions for infertility, 46% have coverage for IUI and male treatments, and 23% have coverage for IVF and ICSI.

Utilization of Fertility Services

Utilization of services would increase most for IVF and ICSI. In the first year postmandate, utilization of IVF and ICSI would increase by 80%, while use of female diagnostic tests, IUI, and female prescriptions increase by 2%, 6%, and 19%, respectively. In the second year postmandate, utilization of all fertility services

remain similar, with adjustments made due to population and utilization trend. This increase in services would result in an additional 6,000 pregnancies and an additional 5,000 live births postmandate.

The share of fertility services received at baseline that are covered versus not covered varies by type of service. For example, 60% of services received at baseline for IVF and ICSI are not covered at baseline, which is in contrast to 21% of diagnostic tests for females and males used at baseline without coverage. All services not covered at baseline would become covered postmandate.

In addition to the shift of fertility benefits from not covered to covered, additional utilization will occur among enrollees who were previously not using fertility services.

Unit Cost of Fertility Services

Average costs of infertility treatments range from a low of \$78 (male diagnostic tests, treatments, medications) for males and \$110 (female diagnostic tests) to \$14,660 (IVF) for females. ICSI procures (\$1,400) are an add-on cost to the IVF procedure. Unit cost would not be expected to change postmandate.

Enrollee Expenses

Enrollee expenses change in a few ways: (1) a decrease in enrollee expenses for noncovered benefits due to these services becoming covered; (2) a potential reduction in cost sharing (excluding scenario 4) for enrollees whose cost sharing at baseline exceeded cost sharing for major medical; and (3) an increase in cost sharing for enrollees who newly utilize fertility services due to new benefit coverage.

Average cost sharing per service for covered benefits would mostly decrease postmandate, because cost sharing is limited to the same structure as for other benefits. The majority of enrollees with coverage for infertility treatments at baseline have cost sharing that is higher than that for other benefits, such as a 50% coinsurance. As a result, average cost sharing in scenario 1 for IVF, ICSI, and IUI procedures would decrease by more than 70% postmandate, from \$7,330 to \$1,790 for IVF, \$700 to \$170 for ICSI, and \$300 to \$80 for IUI.

Large-group plans and policies tend to have lower cost sharing responsibilities, including deductibles, as compared with plans and policies offered through small-group or individual markets.

At the per member per month (PMPM) level, cost sharing for covered benefits in the form of deductibles and copayments would increase for some, given greater utilization of fertility services and due to the change in noncovered services becoming covered postmandate. The enrollee expenses for noncovered benefits decreases, offsetting all increases in cost sharing for covered benefits.

Expenditures

Total annual expenditures in the first year postmandate increase due to the change in benefit coverage and the corresponding increase in utilization of infertility treatments. Total annual expenditure increases in the second year due to continued increases in use of infertility treatments, as well as due to the increase in pregnancies as a result of infertility treatments received in year 1. Scenario 1 (SB 729 as introduced) would increase total net annual expenditures by \$351,574,000, or 0.24%, in year 1 for enrollees with California Department of Managed Health Care (DMHC)-regulated plans and California Department of Insurance (CDI)-regulated policies. In year 2 postmandate, total expenditures would increase by \$638,370,000 (0.41%). At baseline, 61% of total expenditures of non-covered services are due to IVF procedures, while 26% of total expenditures of non-covered services are from female medications

It is important to note that the increase in premiums in Year 2 stems from both increases in (1) utilization of fertility services and (2) pregnancies and births. About 72% (of the increase in premiums is attributable to the increase in fertility services and the remainder is attributable to increases in pregnancy-related services and about 28% is attributable to increases in pregnancy-related services.

Scenario 2 – Large Group and CalPERS

The major differences between scenario 1 and scenario 2 are largely driven by the different populations with coverage subject to the

scenarios. Because scenario 2 only requires coverage of fertility services for enrollees in the large group market and CalPERS, the 9 million enrollees in this group are approximately two-thirds the size of the population with coverage subject to scenario 1.

Benefit coverage is higher at baseline: approximately 33% of enrollees have coverage that includes IVF, although no enrollees have coverage compliant with the cost-sharing component. Large-group employers are more likely to offer health insurance that includes coverage for infertility treatments. Additionally, because of the high coverage of services at baseline for this population, the reduction in cost sharing from 50% to the same as for other services outweighs the added cost sharing from new utilization. This, in combination with the smaller population, contributes to the overall lower expenditure impact from scenario 2 as compared with scenario 1.

Scenario 2 would increase total net annual expenditures by \$182,747,000, or 0.12%, in year 1 for enrollees with large-group or CalPERS DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$329,941,000 (0.21%).

Scenario 3 – Lifetime Limit

Scenario 3 would place a lifetime limit on insurance coverage of fertility services of \$75,000. Enrollee cost sharing would not count towards the \$75,000 limit and enrollees would be responsible for the full cost of fertility services after they reach the limit.

Scenario 3 is nearly identical to scenario 1, although approximately 3% of the cost of fertility services in year 1 and 4% of the cost of fertility services in year 2 would be shifted from the insurer to the enrollee as noncovered benefits.

Total net annual expenditures would increase by \$348,394,000 or 0.24% in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$633,345,000 (0.41%). The vast majority of enrollees utilizing infertility treatments have claims that do not exceed the \$75,000 lifetime limit. It is also

unlikely that an enrollee would reach this limit within 1 or 2 years.

Scenario 4 – 50% Cost Sharing

In scenario 4, cost sharing for fertility services would remain at 50% coinsurance. As a result, the total expenditure impact is nearly 25% less than scenario 1 year 1. Additionally, the impact on employer and enrollee premiums is more than 50% less than scenario 1 because of the differences in cost sharing. While all enrollee expenses for noncovered benefits at baseline would become covered postmandate, the increase in enrollee cost sharing for covered benefits is \$213 million more than in scenario 1.

As a result of the 50% coinsurance for fertility services, total utilization of IVF and ICSI would be approximately 9% lower as compared with scenario 1.

Total net annual expenditures would increase by \$269,614,000, or 0.18%, in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$506,128,000 (0.33%).

Public Health

Mental Health and Quality of Life

CHBRP found evidence that mental health and quality of life would improve for the additional 3,000 to 5,000 persons and couples who would have live birth deliveries resulting from infertility treatments postmandate. The range in expected live births is due to differences in scenarios. CHBRP also found evidence that engaging in infertility treatments may result in short-term psychosocial harms; evidence-based literature also indicates that the inability to have wanted children is associated with stress, anxiety, depression, and quality-of-life deficits that decreases upon the achievement of a successful pregnancy through treatment.

Potential Harms From Multiple Births

CHBRP estimates that infertility mandates would decrease the rate of multiple gestation pregnancies such that for enrollees without coverage for IVF, 6.7% are twin births and 0.3%

are multiple births (i.e., more than twins) versus for enrollees with IVF coverage, 4.5% are twin births and 0.2% are multiple births. By limiting IVF to single-embryo transfers and by decreasing the financial barrier to IVF that has previously encouraged multiple embryos transferred in a single IVF cycle, there would be a decrease in harms associated with multiple gestation pregnancies for enrollees accessing IVF treatments.

For enrollees who experience multiple gestation pregnancies, the risks associated with IVF and infertility treatments remain unchanged. However, the benefits of IVF may outweigh the risks for persons who desire a child.

Impact on Disparities

There is evidence that state health insurance mandates for fertility services increase utilization of infertility treatments for Black and Hispanic women; however, the disparity between White women and Black and Hispanic women persist despite increased access to IVF through health insurance coverage for infertility treatments. Therefore, CHBRP projects that by covering infertility treatments for all commercially insured enrollees, SB 729 would result in increased IVF utilization by persons of all races/ethnicities but would have no impact on the disparity in IVF utilization between White persons and persons of other racial backgrounds among persons with commercial insurance. However, SB 729 excludes Medi-Cal beneficiaries enrolled in DMHC-regulated plans for mandated coverage for infertility treatments, including IVF. In excluding Medi-Cal, a significant portion of Black and Hispanic persons and low-income persons in California would continue to face high out-of-pocket and uncovered costs for infertility treatment, which could potentially exacerbate racial/ethnic and income-related disparities in infertility treatment use and infertility outcomes.

Additionally, CHBRP projects that SB 729's more inclusive definition of infertility would increase access to infertility care for single persons and same-sex couples, and would reduce disparities in infertility treatment by gender identity and sexual orientation. It should be noted that the implementation of SB 729 would not eliminate all financial disparities in infertility treatment between same-sex couples/single persons and opposite-sex

couples, as there could still be a disparity between male and female same-sex couples or single persons compared to couples who do not need donor materials, surrogates, or gestational carriers.

To the extent that the mandated coverage would reduce cost-related barriers to infertility treatment access and use, disparities by income level would be reduced.

Long-Term Impacts

In the short term, the aggregate pregnancy and birth rate is expected to increase postmandate due to increased utilization of fertility services. In the longer term, it is possible that coverage for fertility services results in encouraging couples to undergo infertility treatment earlier than they would otherwise and where pregnancy might be achieved naturally given more time.

Insurance coverage for IVF is associated with fewer medically unnecessary multiple-embryo transfers and ongoing insurance coverage would be associated with a sustained reduction in multiple-embryo transfer. Therefore, in future years as in the first year postmandate, fewer multiple-embryo transfers would be associated with fewer multiple gestation pregnancies, fewer multiple births, and fewer maternal and offspring harms that are associated with multiple gestation pregnancies and multiple deliveries. Some of these maternal and offspring harms could have long-term health impacts, and these would then be avoided.

For couples who experience infertility, infertility mandates could prevent long-term negative mental health outcomes associated with infertility and not being able to have a desired child to the extent that infertility mandates allow

access to IVF that was previously inaccessible due to financial barriers and that assisted reproductive technology treatments are successful and result in live birth.

Essential Health Benefits and the Affordable Care Act

The state is required to defray the additional cost incurred by enrollees in qualified health plans (QHPs) for any state benefit mandate that exceeds the state's definition of essential health benefits (EHBs). Coverage for infertility treatments required by mandate (not resulting pregnancies and births), as would be required if SB 729 or a similar mandate were enacted, could trigger this requirement and so require the state to defray related costs.

CHBRP has considered means of projecting the potential cost to the state of enacting a benefit mandate that would exceed EHBs. As federal regulations are not yet final, CHBRP presents in two estimates of the cost to the state. The first estimate looks at the estimated premium cost of mandated benefits not considering baseline coverage. The second estimate is of when the marginal premium impact considers baseline coverage.

Estimates of potential costs for scenarios 1 (SB 729 as introduced) and 3 (\$75,000 limit) average between \$3.17 PMPM (\$179,196,000 total annually) and \$3.38 PMPM (\$191,332,000 total annually), depending on which estimate approach is taken. For scenario 4 (50% cost sharing), estimates average between \$1.95 PMPM (\$110,029,000 total annually) and \$2.16 PMPM (\$122,165,000 total annually). Scenario 2 (large group and CalPERS) would not exceed EHBs because these market segments are not subject to EHBs.

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POLICY CONTEXT

The California Senate Committee on Health has requested that the California Health Benefits Review Program (CHBRP)⁵ conduct an evidence-based assessment of the medical, financial, and public health impacts of SB 729, Infertility and Fertility Services. Because CHBRP analyzed language similar to SB 729 in 2022, the Senate Committee on Health requested CHBRP summarize information from previous analyses and provide four fiscal scenarios based on previous iterations of bills that would require coverage of infertility treatments.

Bill-Specific Analysis of SB 729, Treatment for Infertility and Fertility Treatments

Bill Language

SB 729 would require commercial and CalPERS health plans and policies to *provide* “coverage for the diagnosis and treatment of infertility and fertility services.” Health plans and policies must include the notice of coverage in the plan’s evidence of coverage (EOC) materials. Medi-Cal Managed Care plans are not subject to SB 729. The full text of SB 729 can be found in Appendix A.

Current law requires most group health plans and policies to *offer*⁶ coverage for the treatment of infertility, excluding in vitro fertilization (IVF).

Definition of infertility

Current law⁷ defines infertility as:

- (1) “the presence of a demonstrated condition recognized by a licensed physician and surgeon as a cause of infertility, or
- (2) “the inability to conceive a pregnancy or to carry a pregnancy to a live birth after a year or more of regular sexual relations without contraception.”

SB 729 amends the definition of infertility to state infertility means “a disease or condition characterized by any of the following:

- (1) “A licensed physician’s findings, based on a patient’s medical, sexual, and reproductive history, age, physical findings, diagnostic testing, or any combination of those factors. This definition shall not prevent testing and diagnosis of infertility prior to the 12-month or 6-month period to establish infertility in paragraph (3);
- (2) “A person’s inability to reproduce either as an individual or with their partner without medical intervention; or
- (3) “The failure to establish a pregnancy or carry a pregnancy to live birth after regular, unprotected sexual intercourse. For the purposes of this section, ‘regular, unprotected sexual intercourse’ means no more than 12 months of unprotected sexual intercourse for a person under 35 years of

⁵ CHBRP’s authorizing statute is available at www.chbrp.org/about_chbrp/faqs/index.php.

⁶ “Mandate to offer” means all health care service plans and health insurers selling health insurance subject to the mandate are required to offer coverage for the benefit for purchase. The health plan or insurer may comply with the mandate either (1) by including the benefit as standard in its health insurance products, or (2) by offering coverage for the benefit separately at an additional cost (e.g., a rider). “Mandate to cover” means that all health insurance subject to the law must cover the benefit.

⁷ H&SC Section 1374.55 and IC Section 10119.6.

age or no more than 6 months of unprotected sexual intercourse for a person 35 years of age or older. Pregnancy resulting in miscarriage does not restart the 12-month or 6-month time period to qualify as having infertility.”

Treatment for infertility

Current law defines “treatment for infertility” as procedures “consistent with established medical practices in the treatment of infertility by licensed physicians and surgeons, including, but not limited to, diagnosis, diagnostic tests, medication, surgery, and gamete intrafallopian transfer.”

SB 729 does not include a definition of “treatment for infertility.”

However, SB 729 does specify that coverage for the diagnosis and treatment of infertility and fertility services includes completed oocyte retrievals with unlimited embryo transfers in accordance with the guidelines of the American Society for Reproductive Medicine (ASRM), using single-embryo transfer when recommended and medically appropriate.

Terms and conditions

SB 729 would state plans and policies may not include:

- Any exclusion, limitation, or other restriction on coverage for fertility medications that are different from those imposed on other prescription medications.
- Any exclusion or denial of coverage of any fertility services based on a covered individual’s participation in fertility services provided by or to a third party. Third party is defined as “an oocyte, sperm or embryo donor, a gestational carrier or surrogate that enables intended recipient(s) to become a parent(s).”
- Any deductible, copayment, or coinsurance for fertility services that is different from those imposed on other benefits.
- A benefit maximum, waiting period, or any other limitation for fertility services that is different from those imposed on other benefits.

Discrimination clause

The current mandate includes a nondiscrimination clause that states coverage for the treatment of infertility and fertility services shall be “provided without discrimination on the basis of age, ancestry, color, disability, domestic partner status, gender, gender expression, gender identity, genetic information, marital status, national origin, race, religion, sex, or sexual orientation. This subdivision shall not be construed to interfere with the clinical judgment of a physician and surgeon.” This clause remains generally unchanged in SB 729.

Religious exemption

Current California law states that any employer that is a religious organization is not required to offer coverage for forms of infertility treatment in a manner inconsistent with the religious organization’s religious and ethical principles. SB 729 *does not* include an exemption for religious employers, as defined by current law.

Analytic Approach and Key Assumptions

CHBRP previously analyzed similar bill language: AB 767 Infertility in 2019, AB 2781 Treatment of Infertility in 2020, and AB 2029 Treatment of Infertility in 2022. Where applicable, this analysis builds off of those previous analyses.

CHBRP has summarized information from previous reports within this analysis of SB 729. For further details, please refer to CHBRP’s analysis of AB 2029 in 2022.

Definition of Infertility for Analysis of SB 729

When using “infertility” throughout this report, CHBRP refers to SB 729’s definition of infertility, unless otherwise specified.⁸

By broadening the definition of infertility, SB 729 encompasses a wider population eligible to be diagnosed with infertility. This definition recognizes infertility in enrollees regardless of their conception-related intentions and for whom timeframe restrictions are not meaningful, such as single persons, same-sex couples, transgender persons, and persons who are medically or surgically sterile for noncontraceptive reasons. This may result in more enrollees receiving a diagnosis of “infertility” earlier than they would have previously or when they would not have received a diagnosis at all, and enrollees would potentially use higher-intensity treatments sooner than they would have previously, as well. CHBRP assumes SB 729’s definition of infertility would encompass single women, single men, same-sex couples, and transgender persons, enabling them to receive coverage for infertility treatments.

Treatment for Infertility

CHBRP assumes all nonexperimental infertility treatments would need to be covered for a plan to be in compliance with SB 729. These services include diagnosis, medications, surgery, artificial insemination (such as intrauterine insemination [IUI]), IVF, and IVF with intracytoplasmic sperm injection (ICSI). Genetic testing of embryos would only be covered if necessary for the diagnosis and treatment of infertility per ASRM guidance. More information about nonexperimental infertility treatments is included in the *Background on Infertility* within CHBRP’s analysis of AB 2029 from 2022.

CHBRP assumes SB 729 does not require storage of frozen materials unless included as part of the infertility treatment (such as between the oocyte retrieval/fertilization and the first successful embryo transfer).

Gamete intrafallopian transfer (GIFT) and zygote intrafallopian transfer (ZIFT) have mostly been replaced by IVF. Therefore, CHBRP does not incorporate utilization of GIFT and ZIFT into the cost impact projections.

Changes to Terms and Conditions

Fertility medications

CHBRP assumes that should a health plan or policy place limitations on other prescription medications, such as limits on quantity distributed at one time, the number of yearly prescriptions, lifetime limits, or other such restrictions, plans and policies could place similar limits on fertility medications.

⁸ This CHBRP analysis draws on many informational sources regarding infertility and related treatments that rely on differing definitions of infertility; therefore, the term “infertility” is used broadly throughout this report to refer to the inability to conceive or carry a pregnancy. Distinctions due to data sources are described and cited when necessary.

Fertility services provided by or to a third party

SB 729 specifies that coverage for fertility services cannot be restricted based on a covered individual's participation in fertility services provided by or to a third party, as defined.

It is unclear whether SB 729 would require coverage for biologic donor materials, gestational carriers or surrogacy services, or medical costs for the utilization of gestational carriers or surrogates. Should regulators interpret SB 729 to require coverage for these services, significant additional expenditures would be expected.

- One interpretation is that, should an enrollee use “third party assisted reproduction” and engage a gestational carrier or surrogate to carry the pregnancy, fertility services provided to the enrollee (such as oocyte retrieval and fertilization of the oocyte) would be covered, while the services provided to the surrogate would not be covered (embryo transfer). Additionally, if an enrollee uses biologic material from a donor, any services performed for the enrollee (such as an embryo transfer) would be covered.
- Another interpretation is that SB 729 would require coverage for medical services provided to a third party if the enrollee's fertility treatment requires either biological donor materials or the use of a gestational carrier or surrogate. In this interpretation, CHBRP assumes only medical services related to third-party services would be covered (e.g., procuring a donated oocyte, embryo transfer to the gestational carrier); additional service fees paid to surrogates or gestational carriers, or for biologic donor materials would not be covered.

Due to the lack of clarity in the SB 729 language for this section, CHBRP has modeled the first interpretation of bill language, and discusses the second qualitatively throughout.

Enrollees who are single, in same-sex relationships, or are transgender, may need to use these options, in addition to some enrollees who are in opposite-sex relationships. It is unclear whether not covering donor materials, surrogacy/gestational carrier services, or storage of biologic materials would be discriminatory based on SB 729's definition of infertility and the discrimination clause.

Cost sharing

SB 729 specifies the cost sharing (deductibles, coinsurance, copayments) cannot be different from those of other benefits. Currently, many fertility benefits are provided through an insurance rider, a separate policy purchased by employers for their employees. These riders often include different cost-sharing policies, including a 50% coinsurance. Additionally, because these fertility benefits are purchased in addition to “major medical” benefits,⁹ they do not count towards the deductible and annual out-of-pocket maximums.

SB 729 would require that cost sharing is the same as major medical. This means that fertility services would apply to the deductible and annual out-of-pocket maximums, thereby not only limiting enrollee costs at the time of service, but enrollee expenses would also be subject to an overall out-of-pocket maximum. This would cap an enrollee's total annual out-of-pocket costs for fertility services and other health care services obtained within the same plan year.

Benefit maximums, waiting periods, or other limitations

SB 729 additionally specifies that the benefit maximums, waiting periods, or other limitations cannot be different from other benefits. The Affordable Care Act (ACA; see more below) prohibits lifetime or annual benefit maximums for services that are considered essential health benefits (EHBs) for most health plans and policies.¹⁰ Infertility riders may include a benefit maximum of a certain number of oocyte retrievals or

⁹ “Major medical” benefits are typically classified as hospital, surgical, and ambulatory medical services.

¹⁰ ACA. Lifetime & Annual Limits. www.hhs.gov/healthcare/about-the-aca/benefit-limits/index.html.

embryo transfers, or will cap expenses at a certain dollar amount. These limits would be prohibited except as specified by the bill language (limit of four oocyte retrievals).

Other Key Assumptions

SB 729 does not include an upper age bound for the coverage for fertility services. CHBRP assumes if medically appropriate, services for enrollees older than 44 years would be covered (reproductive age range is typically defined as ages 15 to 44 years for women with no upper age limit for men).

Interaction With Existing State and Federal Requirements

Health benefit mandates may interact and align with the following state and federal mandates or provisions.

California Policy Landscape

California law and regulations

Current California law requires most group California Department of Insurance (CDI)-regulated policies and most California Department of Managed Health Care (DMHC)-regulated plans to *offer* coverage for infertility treatments, except IVF. “Mandate to offer” means all health care service plans and health insurers selling health insurance subject to the mandate are required to offer coverage for the benefit for purchase. The health plan or insurer may comply with the mandate either (1) by including the benefit as standard in its health insurance products, or (2) by offering coverage for the benefit separately at an additional cost (e.g., a rider). “Mandate to cover” means that all health insurance subject to the law must cover the benefit.

SB 600¹¹ was enacted in 2019, which states standard fertility preservation services for persons at risk of experiencing iatrogenic infertility (infertility caused by medical treatments, such as chemotherapy) are a basic health care service, such as semen and oocyte retrieval and potentially storage for the materials. SB 600 does not require coverage for services to treat infertility, should an enrollee experience iatrogenic infertility, and decide to use the preserved reproductive materials. Coverage for the treatment for iatrogenic infertility would fall under SB 729.

¹¹ H&SC 1374.551.

Similar requirements in other states

Currently, 18 states have laws that require insurance companies to *cover* infertility treatments and two states – California and Texas – have laws that require insurance companies to *offer* coverage for infertility treatments (Figure 1) (KFF, 2020; RESOLVE, 2022).

Among the 20 states with infertility treatment mandates, 8 states have fertility mandates that do not include coverage for IVF (California, Louisiana, Montana, New Hampshire, Ohio, Texas, Utah, and West Virginia). Twelve states include requirements for complete IVF coverage; 10 of these states have comprehensive IVF coverage (Colorado, Connecticut,¹² Delaware,¹³ Illinois,¹⁴ Maine, Maryland,¹⁵ Massachusetts, New Jersey,¹⁶ New York,¹⁷ and Rhode Island¹⁸), and 2 states include specific limits on the coverage for IVF (Arkansas caps benefits at \$15,000 per lifetime; Hawaii covers one cycle of IVF).

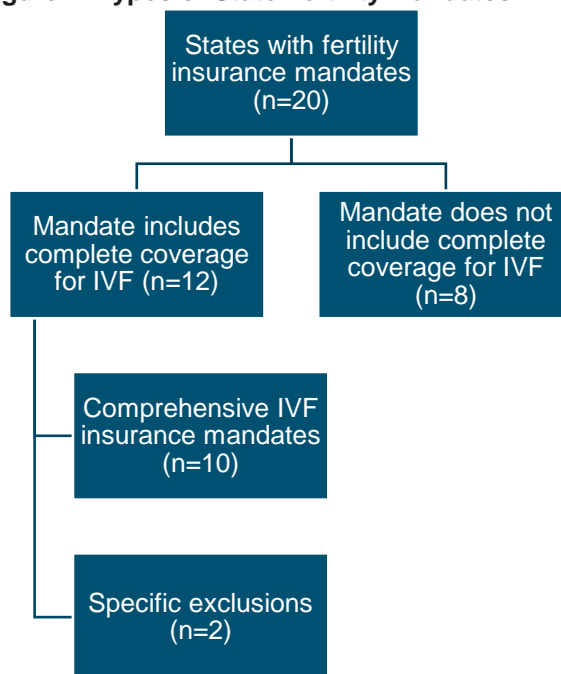
Maine passed an infertility mandate in April 2022 that is similar to SB 729.¹⁹ This law will be effective in early 2024.

Additionally, New Hampshire’s 2020 law includes coverage for medical expenses for third-party services, including medical costs related to procuring biologic donor materials (semen or oocyte) and some medical costs related to surrogacy (costs associated with fertilization).²⁰ The law does not include coverage for the embryo transfer into the surrogate or any nonmedical expenses.

Other examples of unique state laws are Louisiana, which prohibits the exclusion of coverage for a medical condition otherwise covered solely because the condition results in infertility; Minnesota, which specifies that “medical assistance” will not provide coverage for fertility drugs when specifically used to enhance fertility; and Utah, which requires insurers providing coverage for maternity benefits to also provide an indemnity benefit for adoption or infertility treatments.

California previously introduced similar legislation to SB 729: AB 767 in 2019, AB 2781 in 2020, AB 797 in 2021, and AB 2029 in 2022.

Figure 1. Types of State Fertility Mandates



Source: California Health Benefits Review Program, 2023. Adapted from Peipert et al., 2022.

¹² Limit of four cycles of ovulation induction.

¹³ Limit of fewer than six oocyte retrievals.

¹⁴ Limit to six oocyte retrievals.

¹⁵ Limit to three cycles of IVF and lifetime maximum of \$100,000.

¹⁶ Limit of four oocyte retrievals per lifetime.

¹⁷ Limit of three cycles of IVF.

¹⁸ Lifetime limit of \$100,000.

¹⁹ Maine law: www.billtrack50.com/BillDetail/1366335.

²⁰ New Hampshire Surrogacy Law, <http://nhsurrogacy.com/new-hampshire-health-insurance-surrogacy/>.

Federal Policy Landscape

Affordable Care Act

A number of Affordable Care Act (ACA) provisions have the potential to or do interact with state benefit mandates. Below is an analysis of how SB 729 may interact with requirements of the ACA as presently exist in federal law, including the requirement for certain health insurance to cover essential health benefits (EHBs).^{21,22}

Prohibition on Annual and Lifetime Limits

The ACA prohibits annual and lifetime dollar limits on most covered benefits for most plans and policies.²³ Grandfathered individual health plans and policies are exempt from the annual benefit limits requirement. Benefits that are not considered EHBs are not subject to the prohibition of annual and lifetime limits.

Essential Health Benefits

In California, nongrandfathered²⁴ individual and small-group health insurance is generally required to cover EHBs.²⁵ In 2024, approximately 12.1% of all Californians will be enrolled in a plan or policy that must cover EHBs.²⁶

States may require state-regulated health insurance to offer benefits that exceed EHBs.^{27,28,29} Should California do so, the state could be required to defray the cost of additionally mandated benefits for enrollees in health plans or policies purchased through Covered California, the state's health insurance marketplace. However, state benefit mandates specifying provider types, cost sharing, or other details of existing benefit coverage would not meet the definition of state benefit mandates that could exceed EHBs.³⁰

²¹ 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. Policy and issue briefs on EHBs and other ACA impacts are available on the CHBRP website: www.chbrp.org/other_publications/index.php.

²² Although many provisions of the ACA have been codified in California law, the ACA was established by the federal government, and therefore, CHBRP generally discusses the ACA as a federal law.

²³ ACA. Lifetime & Annual Limits. www.hhs.gov/healthcare/about-the-aca/benefit-limits/index.html.

²⁴ A grandfathered health plan is “a group health plan that was created – or an individual health insurance policy that was purchased – on or before March 23, 2010. Plans or policies may lose their ‘grandfathered’ status if they make certain significant changes that reduce benefits or increase costs to consumers.” Available at: www.healthcare.gov/glossary/grandfathered-health-plan.

²⁵ For more detail, see CHBRP's issue brief, *California State Benefit Mandates and the Affordable Care Act's Essential Health Benefits*, available at: https://chbrp.org/other_publications/index.php.

²⁶ See CHBRP's resource, *Estimates of Sources of Health Insurance in California* and CHBRP's issue brief *California State Benefit Mandates and the Affordable Care Act's Essential Health Benefits: An Update and Overview of New Federal Regulations*, both available at: https://chbrp.org/other_publications/index.php.

²⁷ ACA Section 1311(d)(3).

²⁸ State benefit mandates enacted on or before December 31, 2011, may be included in a state's EHBs, 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.

²⁹ However, as laid out in the Final Rule on EHBs HHS released in February 2013, state benefit mandates enacted on or before December 31, 2011, would be included in the state's EHBs, 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.

³⁰ Essential Health Benefits. Final Rule. 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.

SB 729 could be interpreted to exceed the EHBs for the following reasons:

- SB 729 would apply to small-group and individual market qualified health plans (QHPs) in Covered California.
- The state's benchmark plan (Kaiser Foundation Health Plan Small Group HMO 30) excludes coverage for infertility treatments. Thus, this service would not appear to be considered an essential health benefit for the state of California.
- The federal definition of a state benefit mandate that can exceed EHBs is "specific to the care, treatment, and services that a state requires issuers to offer to its enrollees." SB 729 would appear to meet this federal definition.

As outlined above, SB 729 would require coverage for a new state benefit mandate that appears to exceed the definition of EHBs in California. Additional information about the potential costs of exceeding EHBs is included in the *Benefit Coverage, Utilization, and Cost Impacts, Scenario 1* section. For other scenarios that may exceed EHBs, additional information is provided.

As mentioned above, Colorado recently passed a fertility mandate that would apply to QHPs. The legislature passed a bill in 2022 that would only implement the provisions of the bill that impact QHPs if the federal government determines the fertility mandate does not exceed EHBs.³¹ Maine's recent fertility services mandates instructs the State to work with the Centers for Medicare & Medicaid Services (CMS) to evaluate whether fertility services can be incorporated as part of the EHB package or whether CMS would determine that the transfer of costs defrayed by the State to CMS would be required. A report was issued in 2023 confirming that the State discussed with CMS and CMS determined the benefit would likely exceed EHBs (Maine Bureau of Insurance, 2023).

³¹ Colorado General Assembly. <https://leg.colorado.gov/bills/hb22-1008>.

BACKGROUND ON INFERTILITY

Infertility is the inability to have a child and is a complex condition that can take many forms. For a live baby to be born without medical intervention, several conditions must be met:

- An egg (oocyte) must be released from an ovary;
- Sperm must join with (fertilize) the egg;
- A fertilized egg must be able to move through the fallopian tube toward the uterus;
- The fertilized egg must attach (implant) to the lining of the uterus to begin pregnancy; and
- The fertilized egg must develop to an embryo and then fetus in the uterus and be gestated (carried) until live birth occurs.

Infertility may result from a problem with any one of these steps, or a combination of several steps.

Causes and Risk Factors of Infertility

Medical Causes

There are numerous medical causes of infertility, and an individual can have more than one cause of infertility. Within a couple, one or both partners can have a cause of infertility. In the United States, results from a prospective cohort study of almost 400 women presenting at eight infertility practices showed that 58% of infertility cases were attributable to female factors, 7% were attributable to male factors, 31% were attributable to both male and female factors, and 4% were not directly attributable to either partner (Smith et al., 2011). Infertility can be congenital or arise during a person's lifetime including due to cancer treatment or gender-affirming care.

Treatments for infertility can target the cause of infertility, and many treatments, including IVF, are options for a number of different causes of infertility.

Relationship Status

Persons in same-sex relationships or who are not in a relationship also are unable to achieve pregnancy without additional intervention as they lack either the male or female components necessary for fertilization and pregnancy. These persons could have the above medical causes of infertility as well.

Evaluation and Treatment of Infertility

Diagnostic Evaluation

Diagnostic evaluation for infertility is clinically recommended for heterosexual couples that have not become pregnant after a year of unprotected intercourse, 6 months of unprotected intercourse for women over 35 years of age, and for any women 40 years of age and older (ASRM, 2021). Single women or women who are in same-sex relationships who are planning on attempting insemination might also benefit from a diagnostic evaluation.

Diagnostic evaluation typically starts with a thorough medical examination as well as a discussion of sexual, reproductive, and family history. Depending on the results of this preliminary evaluation, females are assessed for ovulatory function, ovarian reserve, uterine abnormalities, tubal patency (fallopian tube functioning), or peritoneal factors (endometriosis or pelvic adhesions) (ASRM, 2021). After semen analysis, males may be additionally evaluated using endocrine evaluation, post-ejaculation urinalysis, or ultrasonography of the scrotum or genital tract to identify structural abnormalities (Schlegel et al., 2020).

Treatments for Infertility

There are a number of treatment options consistent with established medical practice for women and men seeking medical help to achieve a pregnancy (ASRM, 2020; CDC, 2019a).

Common treatments for infertility:

- **Medical advice:** Includes information about how to measure biological readiness (such as ovulation) and time sexual intercourse to optimize the chances of conception in a given month.
- **Medications:** In general, medications are used to time or stimulate the release of oocytes (ovulation) or stimulate greater egg production in instances of abnormal ovarian function where ovulation is reduced. They can also be used in some cases of male factor infertility. Medications are often used in combination with intrauterine insemination (IUI). There are also medications that are used as part of IVF (described below).
- **Artificial insemination:** IUI is the most common form of artificial insemination and the deliberate introduction of semen into the uterus. IUI is another method for treating infertility in the case of male factor or unexplained infertility. IUI is also a potential option for single women or female same-sex couples wishing to conceive. Intracervical insemination (ICI) is another lesser-used approach to artificial insemination that is an option in certain situations in which sperm is placed inside the vagina against the cervix.
- **Assisted reproductive technology (ART):** ART is defined as any procedure in which both the oocyte (egg) and sperm are handled.
 - *In vitro fertilization (IVF):* This is the most common form of ART. IVF is a multicomponent process in which a woman is given medication injection to induce oocyte maturation; mature eggs (oocytes) are retrieved from the ovaries and then combined (fertilized) with sperm in a culture dish in a laboratory. The resulting embryo or embryos are then transferred into the uterus while fresh or can be frozen for later use (cryopreservation). The uterus can be prepared for embryo transfer with medications or the woman's natural hormones, as medically needed. One cycle of IVF consists of oocyte retrieval, oocyte fertilization, and embryo implantation. If viable oocytes or embryos are available from previous cycles and were frozen for later use (cryopreservation), implantation (or fertilization and then implantation) alone may be used.
 - Optional genetic testing can occur with IVF (preimplantation genetic testing [PGT³²]) and is often not covered by insurance. However, IVF can be used without genetic testing.
 - *Intracytoplasmic sperm injection (ICSI) as part of IVF:* An assistive IVF procedure wherein a single sperm is injected into a mature egg (as compared with allowing sperm to fertilize eggs on their own in a culture dish) as part of IVF. ICSI is often used for couples with male factor infertility.
 - Optional genetic testing (PGT) can occur with ICSI and is often not covered by insurance. However, ICSI can be used without genetic testing.

Common Infertility Treatment Acronyms

ART: assisted reproductive technology
 ASRM: American Society for Reproductive Medicine
 ICI: intracervical insemination
 ICSI: intracytoplasmic sperm injection
 IUI: intrauterine insemination
 IVF: in vitro fertilization
 PGT: preimplantation genetic testing

³² If genetic testing is not done preimplantation, genetic screening or testing can be done on the pregnancy once pregnancy is established and then is often covered under pregnancy health benefits.

Single-embryo transfer

The ASRM guidelines indicate that infertility treatment plans should be individualized to each patient's unique circumstances, but single-embryo transfer is recommended especially for women aged 37 years or younger, when the use of an euploid³³ embryo is available, and for gestational carriers to reduce the risks associated with multiple gestation pregnancies. Circumstances where more than one embryo may be transferred in a single transfer procedure include older females (patients aged 38 to 40 years: up to two blastocytes or three untested cleavage-stage embryos; patients aged 41 to 42 years: up to three blastocytes or four untested cleavage-stage embryos), patients who don't meet favorable prognosis criteria,³⁴ and favorable patients who fail to conceive after multiple cycles with high-quality embryos (ASRM Ethics Committee, 2021b).

Utilization of treatments

In 2019, 2.1% of all births in the United States resulted from using ART (CDC, 2022). In the 2015 to 2019 cycle of the NSFG, 12% of women aged 15 to 49 years reported that they had received any type of service to diagnose or treat infertility (NSFG, 2021). Among the same cohort of women, 8.9% used medical help to achieve pregnancy, 6.7% received advice, 5.6% reported infertility tests on woman or man, 4% reported using ovulation drugs, 0.7% had surgery for treatment of blocked fallopian tubes, 1.7% had artificial insemination, 0.5% had ever used any form of ART, and 5.2% had any medical help to prevent miscarriage (NSFG, 2021).

Effectiveness of ART treatments

IVF has become the most effective treatment for all causes of infertility, but it is the most invasive and expensive compared to other infertility treatments (ASRM, 2020). The effectiveness of ART varies by age of the woman. Women over the age of 40 years on average require more oocyte retrievals per live-birth and have lower birth rates after embryo transfer compared to younger women (Table 1).

Table 1. Cumulative Success Rates for ART Intended and Actual Egg (Oocyte) Retrievals Among Patients Using Their Own Eggs in the United States, 2019

All patients (with or without prior ART cycles)	Age of Patient, Years			
	<35	35-37	38-40	>40
Average number of intended retrievals per live-birth delivery (a) (c)	1.9	2.6	4.1	12.6
Percentage of intended retrievals results in live-birth deliveries (a) (c)	52.7%	38.0%	24.4%	7.9%
Percentage of actual retrievals resulting in live-birth deliveries (b) (c)	55.7%	41.5%	27.6%	9.5%
Percentage of embryo transfers resulting in live-birth deliveries (c)	49.7%	44.8%	39.6%	22.6%

Source: CDC, 2019b.

Notes: CDC data are from fertility clinics in the United States that report and verify data on the ART cycles started, carried out, and the outcomes of the cycles in their clinics.

(a) "Intended retrievals" is when an ART cycle begins with an attempt to retrieve oocytes.

(b) "Actual retrievals" is when one or more oocytes is successfully retrieved.

(c) Live-birth deliveries include singleton and multiple gestation pregnancies; however, the vast majority are singleton deliveries.

Key: ART = assisted reproductive technology.

³³ Euploid is the normal number of chromosomes for a species.

³⁴ Favorable prognosis as described by ASRM is "young age, expectation of one or more high-quality embryos available for cryopreservation, euploid embryos, and previous live birth after an IVF cycle" (ASRM Ethics Committee, 2021b).

Third-Party Reproduction: Donor Materials, Surrogacy, and Gestational Carriers

Egg (oocyte) or sperm donation are necessary when an individual or couple cannot produce their own viable egg or sperm, or cannot conceive after attempted infertility treatments using their own egg and sperm. There are additional costs associated when using egg or sperm donation, including the payment to the donor for the donation service and medical procedures, costs for the oocyte retrieval procedure (for egg donation), testing/screening of the eggs or sperm, storage of the egg or sperm, and procedures to produce pregnancy such as with IUI and IVF.

In some cases, gestational carriers or surrogacy may be needed to carry a pregnancy to term, for example due to medical conditions that make pregnancy unsafe or for a male–male couple; either donated eggs, sperm, or embryos can be used or the egg and sperm of the couple desiring the child, if viable (Dunne, 2020). Costs associated with gestational carriers or surrogacy include any costs associated with donated materials (eggs, sperm, or embryos), IVF to create an embryo to implant (if needed), the implantation or insemination procedure, and the gestational carrier's or surrogate's fee and travel fees.

Prevalence and effectiveness of third-party donation for IVF

In the United States from 2004 to 2013, 16.1% of all IVF cycles used any kind of third-party donation (oocyte donation, sperm donation, embryo donation, or gestational carrier) with oocyte donation (10.4%) the most common third-party donation method followed by sperm donation (2.7%), gestational carrier (0.9%), and embryo donation (0.6%). Approximately 1.5% of third-party IVF donations utilized multiple third-party methods (Kushnir et al., 2017). Third-party donation is most common among women over age 40 years and White women (Kushnir et al., 2017). In the United States from 2004 to 2013, third-party IVF accounted for 20.4% of all live IVF births, and the live birth rate for third-party IVF increased from 37.7% in 2004 to 40.5% in 2013 compared to autologous³⁵ IVF (27% in 2004 to 32% in 2013) (Kushnir et al., 2017).

Treatment-Associated Financial Burden

The cost associated with infertility treatments, especially IVF, is the most significant barrier for couples or persons accessing fertility services (ASRM Ethics Committee, 2021a; Duffy et al., 2021), regardless of race/ethnicity or insurance status (Insogna et al., 2020).

Out-of-pocket costs are significant and may impact overall utilization of infertility treatments. Based on cost diaries, Wu et al. (2014) estimated that the median out-of-pocket cost of infertility treatments ranges from \$912 for medications alone, up to \$19,234 for one cycle of IVF, with each additional cycle of IVF costing \$6,995 with the use of frozen embryo transfers. On average, couples undergo 3.7 cycles of IVF, which means that an average couple utilizing IVF might accrue up to \$40,219 in out-of-pocket treatment costs for infertility treatment. Costs were even higher for couples utilizing donor eggs (Katz et al., 2011). Treatments for infertility are also complex and time-consuming, with one study estimating that a single cycle of IVF could account for 15.6 work-day equivalents, mostly in administrative time (Wu et al., 2013). A recent study in the United States showed that patients and families requested \$52 million in fertility-related funds via crowdfunding over the last 8 years, which suggests an unmet financial burden associated with fertility expenses (Lai et al., 2021).

³⁵ Autologous IVF is when the oocyte is obtained from the women who will carry the pregnancy and fertilized with partner sperm.

MEDICAL EFFECTIVENESS

CHBRP's medical effectiveness review from AB 2029 summarizes the following findings from evidence: (1) the medical effectiveness of IVF (i.e., the treatment newly mandated) and (2) the impact of health insurance mandates to cover infertility treatments on health outcomes. A similar literature review was performed for CHBRP's analysis of AB 767 Infertility in 2019 and summarized again for AB 2781 in 2020.

Key Questions

1. What is the effectiveness of IVF as treatment for infertility?
2. What are the harms associated with IVF?
3. What is the impact of health insurance coverage for infertility treatments on the use of these treatments and associated health outcomes?

Outcomes Assessed

To assess the effectiveness of IVF, CHBRP summarized findings from studies that assessed the impact on health outcomes including the number of embryos transferred, use of intracytoplasmic sperm injection (ICSI), pregnancy rates, live births, and rates of multiple births. ICSI is an IVF procedure in which a single sperm cell is injected directly into the cytoplasm of an egg to fertilize the egg, compared to conventional IVF in which multiple sperm are placed in proximity to an egg to fertilize it. ICSI is medically indicated in cases of male factor infertility when sperm are limited in number or motility and is also used to increase the likelihood of IVF success for unexplained infertility. In studies on IVF use, ICSI rates can be a marker of an unnecessary, higher-level intervention due to pressures for IVF to be successful.

To assess the harms of IVF, CHBRP summarized findings from studies that assessed the effects on maternal health outcomes, including ovarian hyperstimulation syndrome, ectopic pregnancies, cardiovascular complications, and multiple gestation pregnancies. CHBRP also assessed the effects on neonatal health outcomes, such as the rate of preterm or low-birthweight births and the incidence of major/minor malformations, cerebral palsy, and infant death.

For studies of the impact of insurance coverage for infertility treatments, CHBRP assessed effects on two types of outcomes: (1) use of infertility treatments, such as number of completed oocyte retrievals or the number of embryos transferred; and (2) health outcomes of infertility treatments such as pregnancy rates, live birth rates, rates of multiple births, and adverse health outcomes. Please refer to the *Public Health Impacts* section for a discussion of the impact of IVF on quality of life.

Pregnancy Rates, Birth Rates, and Embryo Transfers

The goal health outcome of IVF is pregnancy and then live birth. Lower pregnancy and birth rates per IVF cycle can occur when a single-embryo is transferred per cycle such that these lower rates can be markers of fewer embryos transferred. The number of embryos transferred per cycle is an important measure because transferring more than one embryo per IVF cycle – done to increase the likelihood of pregnancy – increases the risks of multiple gestation pregnancies (twins, triplets, or more). Multiple-embryo transfers should only be done for specific medical purposes (SART, 2017). Multiple births are considered an adverse outcome of IVF, leading to more complications and worse health outcomes, such as preterm birth or low birthweight.

Summary of Medical Effectiveness Findings

Previous CHBRP medical effectiveness reviews have found:

- There is *clear and convincing evidence* that IVF is an effective treatment for infertility, resulting in increased pregnancy rates and birth rates.
- There is a *preponderance of evidence* that IVF is associated with certain maternal harms, including thromboembolism. There is also a *preponderance of evidence* that IVF is related to multiple gestation pregnancies and preterm delivery, and associated harms. However, it is important to note that multiple gestation pregnancy is associated with higher numbers of embryos transferred per cycle, and that preterm delivery is associated with multiple gestation pregnancy. These outcomes can be mitigated by increases in single-embryo transfers.
- There is a *preponderance of evidence* that certain harms are increased among children conceived via IVF, including preterm birth, low birthweight, certain congenital malformations, cerebral palsy, and infant death. However, it is important to note that risk for some harms is higher for multiple gestation pregnancies; these outcomes can be mitigated by single-embryo transfers.
- There is *clear and convincing evidence* that infertility treatment health insurance mandates are associated with an increase in utilization of infertility treatments.
- There is *clear and convincing evidence* that IVF insurance mandates are associated with a decrease in the number of embryos transferred per IVF cycle and a decrease in the proportion of cycles transferring two or more embryos, and that these decreases are more pronounced among younger women.
- There is *clear and convincing evidence* that IVF mandates are associated with lower pregnancy rates resulting from IVF (due to a decrease in embryos transferred), and a lower likelihood of other adverse birth outcomes, including rates of multiple births.

BENEFIT COVERAGE, UTILIZATION, AND COST IMPACTS

At the request of the Senate Committee on Health, CHBRP has produced estimates of impacts for four scenarios, based on current and previous iterations of introduced or amended versions of bills that included infertility mandates in California.

- **Scenario 1** – SB 729, as introduced. It would require coverage of infertility treatments with cost sharing the same as major medical, for all commercial and CalPERS enrollees with state-regulated health insurance.
- **Scenario 2** – Would require coverage of infertility treatments with cost sharing the same as major medical, for commercial and CalPERS enrollees with state-regulated health insurance in the large group market (excludes enrollees in individual and small-group market plans and policies).
- **Scenario 3** – Would require coverage of infertility treatments with cost sharing the same as major medical, for all commercial and CalPERS enrollees with state-regulated health insurance; lifetime limit of \$75,000 is applied.
- **Scenario 4** – Would require coverage of infertility treatments with 50% cost sharing, for all commercial and CalPERS enrollees with state-regulated health insurance.

Analytic Approach and Key Assumptions

The analysis of cost impact were developed using following **key considerations, assumptions, and methods**. For more details on the underlying data sources, methods, and a list of all assumptions used in this analysis, please see Appendix B.

Fertility services utilization

- CHBRP's IVF utilization data are defined by number of services, rather than by users, thus CHBRP is unable to identify users of multiple oocyte retrievals or embryo transfers. However, literature suggests that most users of IVF complete fewer than four cycles of IVF and thus would complete fewer than four oocyte retrieval procedures.
- The increases in utilization postmandate for all other services are lower than the increases estimated for IVF, which is expected not only because coverage for these services at baseline is greater but also because with the availability of IVF coverage postmandate utilization likely shifts towards IVF given greater clinical effectiveness.

Pregnancy and live births

- CHBRP assumed the cost of pregnancies and births resulting from fertility services in year 1 are incurred in year 2.

Enrollee expenses and cost sharing

For three scenarios (scenarios 1, 2, and 3), cost sharing (deductibles, coinsurance, copayments) is the same as major medical. Baseline benefit coverage for fertility services is mostly provided as an insurance rider, which may have a 50% coinsurance, and wherein fertility service expenses do not count towards the deductible and annual out-of-pocket maximums. As these scenarios would require cost sharing to be the same as major medical, fertility services would apply to the deductible and annual out-of-pocket maximums postmandate.

Year 2 estimates

- The population of California and with health insurance subject to SB 729 as introduced and the three other scenarios was trended forward to represent the population in 2025, the second year postmandate.
- Medical trend and claims utilization trends were also applied to the second year postmandate.

Summary of Benefit Coverage, Utilization, and Cost Impacts

This section provides a high-level summary of scenario 1, followed by notable differences between scenario 1 and scenarios 2, 3, and 4. Full details of all four scenarios are included in Appendices C, D, E, and F.

Scenario 1 – SB 729 as Introduced

Benefit Coverage

At baseline, 23% of enrollees with health insurance that would be subject to SB 729 have fertility coverage that includes IVF. CHBRP found 0% enrollees have health insurance that includes fertility coverage and cost sharing for covered fertility services (i.e., deductible, copayment, or coinsurance) that is not different from those imposed on other benefits. Approximately 14 million enrollees have health insurance subject to SB 729.

Coverage by type of procedure varies substantially. Although the majority of enrollees (79%) have coverage for female and male diagnostic tests, about 43% have coverage for medication prescriptions for infertility, 46% have coverage for IUI and male treatments, and 23% have coverage for IVF and ICSI.

Utilization of Fertility Services

Utilization of services would increase most for IVF and ICSI. In the first year postmandate, utilization of IVF and ICSI would increase by 80%, while use of female diagnostic tests, IUI, and female prescriptions increase by 2%, 6%, and 19%, respectively. In the second year postmandate, utilization of all fertility services remain similar, with adjustments made due to population and utilization trend. This increase in services would result in an additional 6,000 pregnancies and an additional 5,000 live births postmandate.

The share of fertility services received at baseline that are covered versus not covered varies by type of service. For example, 60% of services received at baseline for IVF and ICSI are not covered at baseline, which is in contrast to 21% of diagnostic tests for females and males used at baseline without coverage. All services not covered at baseline would become covered postmandate.

In addition to the shift of fertility benefits from not covered to covered, additional utilization will occur among enrollees who were previously not using fertility services.

Unit Cost of Fertility Services

Average costs of infertility treatments range from a low of \$78 (male diagnostic tests, treatments, medications) for males and \$110 (female diagnostic tests) to \$14,660 (IVF) for females. ICSI procures (\$1,400) are an add-on cost to the IVF procedure. Unit cost would not be expected to change postmandate.

Enrollee Expenses

Impacts for enrollees using fertility services on enrollee expenses can be classified in the following way:

- For the enrollees who do not have fertility coverage at baseline and are using fertility services paid for entirely out of their own pocket, out-of-pocket expenses for these noncovered benefits decrease postmandate given these enrollees would be covered when using fertility services postmandate.
- For enrollees who have coverage for fertility services at baseline but have cost sharing that is more than major medical (e.g., 50% coinsurance and no annual out-of-pocket maximum), postmandate these enrollees would experience reduced out-of-pocket expenses.
- For enrollees who do not have coverage for fertility services at baseline and are not using these services due to cost barriers, postmandate out-of-pocket expenses would increase given their new utilization.

Average cost sharing per service for covered benefits would mostly decrease postmandate, because cost sharing is limited to the same structure as for other benefits. The majority of enrollees with coverage for infertility treatments at baseline have cost sharing that is higher than that for other benefits, such as a 50% coinsurance. As a result, average cost sharing in scenario 1 for IVF, ICSI, and IUI procedures would decrease by more than 70% postmandate, from \$7,330 to \$1,790 for IVF, \$700 to \$170 for ICSI, and \$300 to \$80 for IUI. Large-group plans and policies tend to have lower cost sharing responsibilities, including deductibles, as compared with plans and policies offered through small-group or individual markets.

At the per member per month (PMPM) level, cost sharing for covered benefits in the form of deductibles and copayments would increase for some, given greater utilization of fertility services and due to the change in noncovered services becoming covered postmandate. The enrollee expenses for noncovered benefits decreases, offsetting all increases in cost sharing for covered benefits.

Expenditures

Total annual expenditures in the first year postmandate would increase due to the change in benefit coverage and the corresponding increase in utilization of infertility treatments (Table 2). Total annual expenditure increases in the second year due to continued increases in use of infertility treatments, as well as due to the increase in pregnancies as a result of infertility treatments received in year 1.

Scenario 1 (SB 729 as introduced) would increase total net annual expenditures by \$351,574,000 or 0.24% in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$638,370,000 (0.41%). At baseline, 61% of total expenditures of non-covered services are due to IVF procedures, while 26% of total expenditures of non-covered services are from female medications.

It is important to note that the increase in premiums in Year 2 stems from both increases in (1) utilization of fertility services and (2) pregnancies and births. About 72% of the increase in premiums is attributable to the increase in fertility services and the remainder is attributable to increases in pregnancy-related services and about 28% is attributable to increases in pregnancy-related services.

Scenario 2 – Large Group and CalPERS Only

The major differences between scenario 1 and scenario 2 are largely driven by the different populations with coverage subject to the scenarios. Because scenario 2 only requires coverage of fertility services for enrollees in the large group market and CalPERS, the 9 million enrollees in this group are approximately two-thirds the size of the population with coverage subject to scenario 1.

Benefit coverage is higher at baseline: approximately 33% of enrollees have coverage that includes IVF, although no enrollees have coverage compliant with the cost-sharing component. Large-group employers are more likely to offer health insurance that includes coverage for infertility treatments. Additionally, because of the high coverage of services at baseline for this population, the reduction in cost sharing from 50% to the same as for other services outweighs the added cost sharing from new utilization. This, in combination with the smaller population, contributes to the overall lower expenditure impact from scenario 2 as compared with scenario 1.

Scenario 2 would increase total net annual expenditures by \$182,747,000, or 0.12%, in year 1 for enrollees with large-group or CalPERS DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$329,941,000 (0.21%).

Scenario 3 – Lifetime Limit of \$75,000

Scenario 3 would place a lifetime limit on insurance coverage of fertility services of \$75,000. Enrollee cost sharing would not count towards the \$75,000 limit and enrollees would be responsible for the full cost of fertility services after they reach the limit.

Scenario 3 is nearly identical to scenario 1, although approximately 3% of the cost of fertility services in year 1 and 4% of the cost of fertility services in year 2 would be shifted from the insurer to the enrollee as noncovered benefits.

Total net annual expenditures would increase by \$348,394,000 or 0.24% in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$633,345,000 (0.41%). The vast majority of enrollees utilizing infertility treatments have claims that do not exceed the \$75,000 lifetime limit. It is also unlikely that an enrollee would reach this limit within 1 or 2 years.

Scenario 4 – 50% Cost Sharing

In scenario 4, cost sharing for fertility services would remain at 50% coinsurance. As a result, the total expenditure impact is nearly 25% less than scenario 1 year 1. Additionally, the impact on employer and enrollee premiums is more than 50% less than scenario 1 because of the differences in cost sharing. While all enrollee expenses for noncovered benefits at baseline would become covered postmandate, the increase in enrollee cost sharing for covered benefits is \$213 million more than in scenario 1.

As a result of the 50% coinsurance for fertility services, total utilization of IVF and ICSI would be approximately 9% lower as compared with scenario 1.

Total net annual expenditures would increase by \$269,614,000, or 0.18%, in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. In year 2 postmandate, total expenditures would increase by \$506,128,000 (0.33%).

Table 2. Summary of Expenditure % Change Impacts Across Scenarios, Year 1 Postmandate

	Baseline (2024)	Scenario 1 (2024) (a)	Scenario 2 (2024) (a)	Scenario 3 (2024) (a)	Scenario 4 (2024) (a)
Expenditures	\$	%	%	%	%
Premiums					
Employer-sponsored (b)	\$57,647,993,000	(+0.53%)	(+0.40%)	(+0.51%)	(+0.23%)
CalPERS employer (c)	\$6,158,262,000	(+0.52%)	(+0.52%)	(+0.50%)	(+0.24%)
Medi-Cal (excludes COHS) (d)	\$29,618,383,000	(+0.0%)	(+0.0%)	(+0.0%)	(+0.0%)
Enrollee premiums (expenditures)					
Enrollees, individually purchased insurance	\$21,229,233,000	(+0.64%)	(+0.0%)	(+0.62%)	(+0.39%)
Outside Covered California	\$4,867,955,000	(+0.59%)	(+0.0%)	(+0.57%)	(+0.38%)
Through Covered California	\$16,361,278,000	(+0.65%)	(+0.0%)	(+0.63%)	(+0.40%)
Enrollees, group insurance (e)	\$18,263,775,000	(+0.54%)	(+0.37%)	(+0.52%)	(+0.25%)
Enrollee out-of-pocket expenses					
Cost-sharing for covered benefits (deductibles, copayments, etc.)	\$13,857,141,000	(+0.06%)	(-0.32%)	(+0.06%)	(+1.60%)
Expenses for noncovered benefits (f) (g) (h)	\$227,702,000	(-100.00%)	(-100.00%)	(-93.09%)	(-100.00%)
Total expenditures (h)	\$147,002,489,000	(+0.24%)	(+0.12%)	(+0.24%)	(+0.18%)

Source: California Health Benefits Review Program, 2023.

Notes:

(a) Change between baseline 2024 and postmandate 2024. Includes impact of infertility services received in 2024 only.

(b) In some cases, a union or other organization. Excludes CalPERS.

(c) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.1% are state retirees, state employees, or their dependents. About one in five (22.5%) of these enrollees has a pharmacy benefit not subject to DMHC. CHBRP has projected no impact for those enrollees. However, CalPERS could, postmandate, require equivalent coverage for all its members (which could increase the total impact on CalPERS).

(d) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, CHBRP is estimating it seems likely that there would also be a proportional increase of \$0 million for Medi-Cal beneficiaries enrolled in COHS managed care.

(e) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(f) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. 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.

(g) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).

(h) For scenario 2, baseline expenses for noncovered benefits and total expenditures are \$104,879,000 and \$146,879,666,000, respectively, due to the reduction in total enrollees subject to mandate.

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

Table 3. Summary of Expenditure % Change Impacts Across Scenarios, Year 2 Postmandate

	Baseline (2025)	Scenario 1 (2025) (a)	Scenario 2 (2025) (a)	Scenario 3 (2025) (a)	Scenario 4 (2025) (a)
Expenditures	\$	%	%	%	%
<u>Premiums</u>					
Employer-sponsored (b)	\$60,464,864,000	(+0.73%)	(+0.55%)	(+0.71%)	(+0.40%)
CalPERS employer (c)	\$6,427,894,000	(+0.77%)	(+0.77%)	(+0.74%)	(+0.44%)
Medi-Cal (excludes COHS) (d)	\$30,695,338,000	(+0.0%)	(+0.0%)	(+0.0%)	(+0.0%)
<u>Enrollee premiums (expenditures)</u>					
Enrollees, individually purchased insurance	\$22,369,982,000	(+0.92%)	(+0.0%)	(+0.89%)	(+0.62%)
Outside Covered California	\$5,010,675,000	(+0.85%)	(+0.0%)	(+0.83%)	(+0.60%)
Through Covered California	\$17,359,307,000	(+0.93%)	(+0.0%)	(+0.90%)	(+0.63%)
Enrollees, group insurance (e)	\$19,150,165,000	(+0.76%)	(+0.51%)	(+0.73%)	(+0.42%)
<u>Enrollee out-of-pocket expenses</u>					
Cost-sharing for covered benefits (deductibles, copayments, etc.)	\$14,553,460,000	(+0.26%)	(-0.27%)	(+0.26%)	(+1.79%)
Expenses for noncovered benefits (f) (g) (h)	\$242,756,000	(-100.00%)	(-100.00%)	(-89.76%)	(-100.00%)
Total expenditures (h)	\$153,904,459,000	(+0.41%)	(+0.21%)	(+0.41%)	(+0.33%)

Source: California Health Benefits Review Program, 2023.

Notes:

(a) Change between baseline 2025 and postmandate 2025. Includes fertility services received in 2025 and impact of babies born from fertility services received in 2024.

(b) In some cases, a union or other organization. Excludes CalPERS.

(c) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.1% are state retirees, state employees, or their dependents. About one in five (22.5%) of these enrollees has a pharmacy benefit not subject to DMHC. CHBRP has projected no impact for those enrollees. However, CalPERS could, postmandate, require equivalent coverage for all its members (which could increase the total impact on CalPERS).

(d) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, CHBRP is estimating it seems likely that there would also be a proportional increase of \$0 million for Medi-Cal beneficiaries enrolled in COHS managed care.

(e) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(f) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. 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.

(g) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).

(h) For scenario 2, baseline expenses for noncovered benefits and total expenditures are \$111,858,000 and \$153,773,561,000, respectively, due to the reduction in total enrollees subject to mandate.

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

Other Considerations for Policymakers

In addition to the impacts a bill may have on benefit coverage, utilization, and cost, related considerations for policymakers are discussed below.

How Lack of Benefit Coverage Results in Cost Shifts to Other Payers

IVF generally is self-funded when there is no coverage and there may be some opportunity for enrollees without coverage to seek help via grant or loan programs through private organizations. There are no state-funded programs providing direct financial assistance to enrollees in California. In California, unreimbursed medical expenses are income tax deductible, following the federal deductibility threshold. CHBRP is unable to provide a quantifiable estimate of shifts from private grant and loan funding to health plans and programs postmandate.

Some employers offer fertility service bundles or enrollees are able to purchase their own fertility service bundle through an external organization, wherein a select number of infertility treatments are covered for a predefined dollar amount. Use of these programs are not visible within claims data and it is unclear how a shift from these programs to health insurers (if any) would occur.

Potential Cost of Exceeding Essential Health Benefits

As explained in the *Policy Context* section, fertility treatments covered by SB 729 are not included in California's essential health benefit (EHB) package. The state is required to defray the additional cost incurred by enrollees in qualified health plans (QHPs) for any state benefit mandate that exceeds the state's definition of EHBs. Coverage for infertility treatment required by mandate (not resulting pregnancy and births), as would be required if SB 729 were enacted, could trigger this requirement and so require the state to defray related costs.

CHBRP has considered means of projecting the potential cost to the state of enacting a benefit mandate that would exceed EHBs. As federal regulations are not yet final, CHBRP presents in two estimates of the cost to the state. The first estimate looks at the estimated premium cost of mandated benefits not considering baseline coverage. The second estimate is of when the marginal premium impact considers baseline coverage.

Estimates of potential costs for scenarios 1 (SB 729 as introduced) and 3 (\$75,000 limit) average between \$3.17 PMPM (\$179,196,000 total annually) and \$3.38 PMPM (\$191,332,000 total annually), depending on which estimate approach is taken. For scenario 4 (50% cost sharing), estimates average between \$1.95 PMPM (\$110,029,000 total annually) and \$2.16 PMPM (\$122,165,000 total annually). Scenario 2 (large group and CalPERS) would not exceed EHBs because these market segments are not subject to EHBs.

Table 4. Scenarios 1, 3, and 4 – Estimated State Responsibility for Portion of Mandate That Is in Excess of EHB, California, 2024

	DMHC-Regulated		CDI-Regulated		TOTAL
	Small Group	Individual	Small Group	Individual	
Enrollee counts					
Total enrollees in plans/policies subject to state mandates	2,212,000	2,618,000	35,000	127,000	4,992,000
Number of enrollees in QHPs (a)	2,047,000	2,561,000	35,000	71,000	4,714,000
Scenarios 1 (SB 729 as introduced) and 3 (\$75,000 limit)					
Premium cost of mandated benefit					
Estimated premium cost of mandated benefit (b)	\$3.15	\$3.58	\$3.08	\$3.16	\$3.38
Marginal premium impact considering baseline coverage (c)	\$3.03	\$3.28	\$2.97	\$3.16	\$3.17
Estimated annual state-responsibility for portion of mandate that is in excess of EHB					
Estimate 1 – Full estimated cost (d) = (a) x (b) x 12	\$77,424,000	\$109,926,000	\$1,292,000	\$2,689,000	\$191,332,000
Estimate 2 – With baseline coverage offset (e) = (a) x (c) x 12	\$74,382,000	\$100,876,000	\$1,248,000	\$2,689,000	\$179,196,000
Scenario 4 – 50% cost sharing					
Premium Cost of Mandated Benefit					
Estimated premium cost of mandated benefit (b)	\$1.96	\$2.32	\$2.00	\$2.28	\$2.16
Marginal premium impact considering baseline coverage (c)	\$1.84	\$2.02	\$1.89	\$2.28	\$1.95
Estimated annual state-responsibility for portion of mandate that is in excess of EHB					
Scenario 1 – Full estimated cost (d) = (a) x (b) x 12	\$48,151,000	\$71,233,000	\$839,000	\$1,942,000	\$122,165,000
Scenario 2 – With baseline coverage offset (e) = (a) x (c) x 12	\$45,109,000	\$62,184,000	\$795,000	\$1,942,000	\$110,029,000

Source: California Health Benefits Review Program, 2023.

Notes: (a) States are required to defray the costs of state-mandated benefits that are in excess of the EHB for QHPs. QHPs are a subset of the plans offered in the individual and small-group markets.

(b) Estimated full cost of the mandated benefit without offsets for reduction in costs for related benefits that are EHBs.

(c) Estimated marginal premium impact of the proposed mandated benefit considering some QHPs may already cover the mandated benefit. It is yet to be determined whether the State is responsible for defraying the full cost of the mandated benefit in this circumstance.

Key: CDI = California Department of Insurance; DMHC = Department of Managed Health Care; EHB = essential health benefit; QHP = qualified health plan.

PUBLIC HEALTH IMPACTS

The public health impact analysis includes estimated impacts in the short term (within 24 months of implementation) and in the long term (beyond the first 24 months postmandate). This section estimates the short-term impact³⁶ of SB 729 and the other scenarios on infertility treatment-relevant public health impacts (i.e., fertility outcomes, mental health outcomes, and quality of life), potential harms of treatment use, and potential impacts on disparities with respect to treatment use and outcomes.

Estimated Public Health Outcomes

Measurable public health outcomes relevant to fertility services mandates include mental health and quality of life, multiple gestation pregnancy outcomes, and impact on barriers to infertility treatments.

As presented in the *Medical Effectiveness* summary and more fully in the earlier analysis of AB 2029 (2022), there is *clear and convincing evidence* that infertility treatment health insurance mandates are associated with an increase in utilization of infertility treatments and lower likelihood of adverse birth outcomes, including rates of multiple births; there is also *clear and convincing evidence* that IVF is an effective treatment for infertility, and state health insurance mandates for *infertility treatments* are associated with a decrease in the number of embryos transferred per IVF cycles.

As presented in the *Benefit Coverage, Utilization, and Cost Impacts* section, 23% (scenarios 1, 3, and 4) or 33% (scenario 2) of enrollees with health insurance subject to the four scenarios have coverage for infertility treatments, including IVF, at baseline. If enacted, CHBRP estimates that the proportion of enrollees with insurance coverage for infertility treatment, including IVF, would increase to 100% postmandate. In addition, utilization of IVF and intracytoplasmic sperm injection (ICSI) procedures would increase by more than two-thirds relative to baseline; utilization for other fertility services such as diagnostic tests and medications would also increase, albeit to a smaller degree. These increases in fertility services utilization translate into an increase of 3,000 to 6,000 pregnancies due to fertility services postmandate (a 43% to 54% increase in pregnancies) and an increase in of 3,000 to 5,000 live birth deliveries due to fertility services postmandate (a 44% to 56% increase in live birth deliveries), depending on the scenario.

Although infertility mandates would greatly reduce financial barriers to IVF utilization for covered enrollees, cost sharing could still represent a significant financial barrier for some enrollees.

Mental Health and Quality of Life Outcomes

CHBRP found evidence that mental health and quality of life would improve for the additional 3,000 to 5,000 persons and couples who would have live birth deliveries resulting from infertility treatments postmandate. CHBRP also found evidence that engaging in infertility treatments may result in short-term psychosocial harms. Evidence-based literature also indicates that the inability to have wanted children is associated with stress, anxiety, depression, and quality-of-life deficits that decrease upon the achievement of a successful pregnancy through treatment.

Although persons experiencing infertility and engaging in unsuccessful treatment may experience mental health and quality-of-life deficits, it is important to consider that the alternative to attempting treatment is having no children or pursuing adoption, which may not be acceptable or feasible for many enrollees with infertility.

³⁶ CHBRP defines short-term impacts as changes occurring within 12 months of bill implementation.

Potential Harms from Multiple Births with Fertility Treatment

CHBRP estimates that infertility mandates would decrease the rate of multiple gestation pregnancies from baseline levels for enrollees without IVF coverage for 6.7% twin births and 0.3% multiple births (i.e., more than twins) among all IVF births to postmandate estimates for enrollees with IVF coverage for 4.5% twin births and 0.2% multiple births postmandate among IVF births by limiting IVF to single-embryo transfers and by decreasing the financial barrier to IVF that has previously encouraged multiple embryos transferred in a single IVF cycle, and thus decrease the harms associated with multiple gestation pregnancies for enrollees accessing IVF treatments.

For enrollees who experience multiple gestation pregnancies, the risks associated with IVF and infertility treatments remain unchanged. However, the benefits of IVF may outweigh the risks for persons who desire a child.

Impact on Disparities for Commercial and CalPERS Enrollees³⁷

There is evidence that state health insurance mandates for fertility services increase utilization of infertility treatments for Black and Hispanic women; however, the disparity between White women and Black and Hispanic women persists despite increased access to IVF through health insurance coverage for infertility treatments.

Therefore, CHBRP projects that by covering infertility treatments for all commercially insured enrollees, infertility would result in increased IVF utilization by persons of all races/ethnicities; however, there would be no impact on the disparity in IVF utilization between White persons and persons of other racial backgrounds among persons with commercial insurance. Additionally, should the infertility mandate only apply to a subset of enrollees with state-regulated health insurance (e.g. scenario 2), impacts on reducing disparities would be dampened.

Impact on Disparities by Relationship Status, Sexual Orientation, or Gender Identity

SB 729 would remove language from current law that defines infertility between opposite-sex couples and expand the definition of infertility to include an individual or couple with an inability to reproduce, thereby potentially removing one barrier to care. CHBRP projects that this more inclusive definition of infertility would increase access to fertility care for single persons, same-sex couples, and transgender and nonbinary persons and would reduce disparities in infertility treatment by relationship status, sexual orientation, or gender identity.

It should be noted that, by allowing cost sharing (albeit greatly reducing out-of-pocket costs as compared with baseline), the implementation of SB 729 would not eliminate all financial disparities in fertility treatment between those who do not require third-party reproduction and those that do.

Impact on Socioeconomic Disparities

SB 729 and the other scenarios would increase utilization of infertility treatments among enrollees with mandated coverage and as a result would reduce out-of-pocket spending for fertility treatments for enrollees. To the extent that the mandated coverage would reduce cost-related barriers to infertility treatment access and use, disparities by income level would be reduced. **However, it is unknown how the increase in utilization would be distributed across income levels and how different cost-sharing requirements impact persons of varying income levels; therefore, the reduction in income-related disparities in access to fertility treatments is unknown.**

³⁷ For details about CHBRP's methodological approach to analyzing disparities, see the *Benefit Mandate Structure and Unequal Racial/Ethnic Health Impacts* document here: http://chbrp.com/analysis_methodology/public_health_impact_analysis.php.

Benefit Mandate Structure and Unequal Racial/Ethnic and Socioeconomic Impacts

SB 729 would require compliance from the health insurance of enrollees in CDI-regulated policies and other enrollees in DMHC-regulated plans but would not be applicable to the health insurance of Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In its previous analysis of AB 2029, CHBRP identified existing disparities in infertility treatments for Black and Hispanic persons compared to White persons and for low-income persons. In excluding Medi-Cal, a significant portion of Black and Hispanic persons and low-income persons in California would continue to face high out-of-pocket and uncovered costs for infertility treatment, which could potentially exacerbate racial/ethnic and income-related disparities in infertility treatment use and infertility outcomes.

LONG-TERM IMPACTS

In this section, CHBRP estimates the long-term impact of SB 729, which CHBRP defines as impacts occurring beyond the first 24 months after 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.

For SB 729, some of the health outcomes discussed in the *Medical Effectiveness* and the *Public Health* sections would occur after the first 24 months due to the time required for in vitro fertilization (IVF) treatment and pregnancy. Additionally, some persons undergoing IVF will repeat the process in the future for an additional child. The process from identifying infertility; undergoing infertility diagnostic testing; deciding to pursue IVF; beginning hormone treatment for IVF; oocyte retrieval or procuring donated oocytes, sperm preparation, or procuring donated sperm; creating the embryo; genetic testing if needed; and embryo transfer can take from several months to more than a year. If the process does not successfully lead to pregnancy and birth, it would need to be repeated. For IVF that results in successful pregnancy, the typical pregnancy duration is 10 months. Therefore, a substantial portion of the impact of SB 729 would occur after the first 24 months.

Long-Term Utilization and Cost Impacts

Utilization Impacts

As discussed above, in the short-term, the aggregate pregnancy and birth rate would be expected to increase postmandate due to increased utilization of fertility services. In the longer term, it is possible that the coverage for fertility services would result in encouraging couples to undergo infertility treatment earlier than they would normally and where pregnancy might be achieved naturally given more time (Machado and Sanz-de-Galdeano, 2015). It is also possible that in the longer term, coverage for fertility services might encourage delays in childbearing or encourage higher use among older enrollees, thus shifting utilization to females on the upper end of the age spectrum where fertility services are still clinically appropriate. In the study by Peipert et al. (2022), there was significantly higher utilization among the oldest age group (42 years and older; 4.38 cycles per 1,000) in states with comprehensive fertility mandates compared to the same age group in states without comprehensive fertility mandates (2.67 cycles per 1,000). This older age group in mandate states had significantly higher live birth rates per cycle (4%) compared to nonmandate states (2%) (Peipert et al, 2022).

Cost Impacts

A study using claims data from 2011 found per member per month expenditures for infertility treatment were three times higher for those living in states with a mandate compared with states without a mandate (Boulet et al., 2019). Per correspondence with the author of the study, it is unclear if any unit cost change in the services might have occurred postmandate, thus it is unclear if costs of fertility services change when mandates are introduced. Per CHBRP's content expert, it is possible that over time as fertility services are covered, there may be pressure on clinics to accept lower reimbursement for services. It is also possible that clinics decide to move out of network with carriers if contract rates are not high enough. There are no studies examining market changes when fertility mandates have been introduced in other states.

Long-Term Public Health Impacts

Some interventions in proposed mandates provide immediate measurable impacts (e.g., maternity service coverage or acute care treatments) while other interventions may take years to make a measurable impact (e.g., coverage for tobacco cessation or vaccinations). When possible, CHBRP estimates the long-

term effects (beyond 24 months postmandate) to the public's health that would be attributable to the mandate, including impacts on long-term health outcomes, disparities, the social determinants of health, premature death, and economic loss. In the case of SB 729, long-term health outcomes associated with insurance coverage for IVF include pregnancy outcomes over time and long-term mental health outcomes after IVF.

Reduced Harms Associated with Multiple Births

Insurance coverage for IVF is associated with fewer medically unnecessary multiple-embryo transfers and ongoing insurance coverage will be associated with a sustained reduction in multiple-embryo transfers. Therefore, in future years as in the first year postmandate, fewer multiple-embryo transfers would be associated with fewer multiple gestation pregnancies, fewer multiple births, and fewer maternal and offspring harms that are associated with multiple gestation pregnancies and multiple deliveries. Some of these maternal and offspring harms could have long-term health impacts and these would then be avoided.

Long Term Parental Mental Health

Research shows that successful assisted reproductive technology (ART) treatment is associated with improved mental health outcomes for women impacted by infertility. A study that looked at female mental health outcomes 20 to 23 years after IVF attempts found that fewer women who had biologic children reported depression symptoms compared to women who do not have children (Vikstrom et al., 2015). For couples who experience infertility, SB 729 could prevent long-term negative mental health outcomes associated with infertility and not being able to have a desired child to the extent that SB 729 allows access to IVF that was previously inaccessible due to financial barriers and that ART treatments are successful and result in live birth.

APPENDIX A TEXT OF BILL ANALYZED

On February 17, 2023, the California Senate Committee on Health requested that CHBRP analyze SB 729 as introduced on February 17, 2023.

SENATE BILL

NO. 729

**Introduced by Senator Menjivar
(Principal coauthor: Assembly Member Wicks)
(Coauthor: Senator Wiener)
(Coauthor: Assembly Member Low)**

February 17, 2023

An act to repeal and add Section 1374.55 of the Health and Safety Code, and to repeal and add Section 10119.6 of the Insurance Code, relating to health care coverage.

LEGISLATIVE COUNSEL'S DIGEST

SB 729, as introduced, Menjivar. Health care coverage: treatment for infertility and fertility services.

Existing law, the Knox-Keene Health Care Service Plan Act of 1975, provides for the licensure and regulation of health care service plans by the Department of Managed Health Care and makes a willful violation of the act a crime. Existing law provides for the regulation of health insurers by the Department of Insurance. Existing law imposes various requirements and restrictions on health care service plans and health insurers, including, among other things, a requirement that every group health care service plan contract or health insurance policy that is issued, amended, or renewed on or after January 1, 1990, offer coverage for the treatment of infertility, except in vitro fertilization.

This bill would require a health care service plan contract or health insurance policy that is issued, amended, or renewed on or after January 1, 2024, to provide coverage for the diagnosis and treatment of infertility and fertility services. The bill would revise the definition of infertility, and would remove the exclusion of in vitro fertilization from coverage. The bill would also delete a requirement that a health care service plan contract and health insurance policy provide infertility treatment under agreed-upon terms that are communicated to all group contractholders and policyholders. The bill would prohibit a health care service plan or health insurer from placing different conditions or coverage limitations on fertility medications or services, or the diagnosis and treatment of infertility and fertility services, than would apply to other conditions, as specified. With respect to a health care service plan, the bill would not apply to Medi-Cal managed care health care service plan contracts or any entity that enters into a contract with the State Department of Health Care Services for the delivery of health care services pursuant to specified provisions. Because the violation of these provisions by a health care service plan would be a crime, the bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: yes

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 1374.55 of the Health and Safety Code is repealed.

~~1374.55. (a) On and after January 1, 1990, every health care service plan contract that is issued, amended, or renewed that covers hospital, medical, or surgical expenses on a group basis, where the plan is not a health maintenance organization as defined in Section 1373.10, shall offer coverage for the treatment of infertility, except in vitro fertilization, under those terms and conditions as may be agreed upon between the group subscriber and the plan. Every plan shall communicate the availability of that coverage to all group contractholders and to all prospective group contractholders with whom they are negotiating.~~

~~(b) For purposes of this section, “infertility” means either (1) the presence of a demonstrated condition recognized by a licensed physician and surgeon as a cause of infertility, or (2) the inability to conceive a pregnancy or to carry a pregnancy to a live birth after a year or more of regular sexual relations without contraception. “Treatment for infertility” means procedures consistent with established medical practices in the treatment of infertility by licensed physicians and surgeons including, but not limited to, diagnosis, diagnostic tests, medication, surgery, and gamete intrafallopian transfer. “In vitro fertilization” means the laboratory medical procedures involving the actual in vitro fertilization process.~~

~~(c) On and after January 1, 1990, every health care service plan that is a health maintenance organization, as defined in Section 1373.10, and that issues, renews, or amends a health care service plan contract that provides group coverage for hospital, medical, or surgical expenses shall offer the coverage specified in subdivision (a), according to the terms and conditions that may be agreed upon between the group subscriber and the plan to group contractholders with at least 20 employees to whom the plan is offered. The plan shall communicate the availability of the coverage to those group contractholders and prospective group contractholders with whom the plan is negotiating.~~

~~(d) This section shall not be construed to deny or restrict in any way any existing right or benefit to coverage and treatment of infertility under an existing law, plan, or policy.~~

~~(e) This section shall not be construed to require any employer that is a religious organization to offer coverage for forms of treatment of infertility in a manner inconsistent with the religious organization’s religious and ethical principles.~~

~~(f) (1) This section shall not be construed to require any plan, which is a subsidiary of an entity whose owner or corporate member is a religious organization, to offer coverage for treatment of infertility in a manner inconsistent with that religious organization’s religious and ethical principles.~~

~~(2) For purposes of this subdivision, “subsidiary” of a specified corporation means a corporation more than 45 percent of the voting power of which is owned directly, or indirectly through one or more subsidiaries, by the specified corporation.~~

~~(g) Consistent with Section 1365.5, coverage for the treatment of infertility shall be offered and, if purchased, provided without discrimination on the basis of age, ancestry, color, disability, domestic partner status, gender, gender expression, gender identity, genetic information, marital status, national origin, race, religion, sex, or sexual orientation. Nothing in this subdivision shall be construed to interfere with the clinical judgment of a physician and surgeon.~~

SEC. 2. Section 1374.55 is added to the Health and Safety Code, to read:

1374.55. (a) A health care service plan contract that covers hospital, medical, or surgical expenses that is issued, amended, or renewed on or after January 1, 2024, shall provide coverage for the diagnosis and treatment of infertility and fertility services. The coverage required by this subdivision includes services, of completed oocyte retrievals with unlimited embryo transfers in accordance with the guidelines of the American Society for Reproductive Medicine

(ASRM), using single embryo transfer when recommended and medically appropriate. Every health care service plan shall include notice of the coverage specified in this section in the plan's evidence of coverage.

(b) For purposes of this section, "infertility" means a condition or status characterized by any of the following:

(1) A licensed physician's findings, based on a patient's medical, sexual, and reproductive history, age, physical findings, diagnostic testing, or any combination of those factors. This definition shall not prevent testing and diagnosis of infertility prior to the 12-month or 6-month period to establish infertility in paragraph (3).

(2) A person's inability to reproduce either as an individual or with their partner without medical intervention.

(3) The failure to establish a pregnancy or to carry a pregnancy to live birth after regular, unprotected sexual intercourse. For purposes of this section, "regular, unprotected sexual intercourse" means no more than 12 months of unprotected sexual intercourse for a person under 35 years of age or no more than 6 months of unprotected sexual intercourse for a person 35 years of age or older. Pregnancy resulting in miscarriage does not restart the 12-month or 6-month time period to qualify as having infertility.

(c) The contract may not include any of the following:

(1) Any exclusion, limitation, or other restriction on coverage of fertility medications that are different from those imposed on other prescription medications.

(2) Any exclusion or denial of coverage of any fertility services based on a covered individual's participation in fertility services provided by or to a third party. For purposes of this section, "third party" includes an oocyte, sperm, or embryo donor, gestational carrier, or surrogate that enables an intended recipient to become a parent.

(3) Any deductible, copayment, coinsurance, benefit maximum, waiting period, or any other limitation on coverage for the diagnosis and treatment of infertility, except as provided in subdivision (a) that are different from those imposed upon benefits for services not related to infertility.

(d) This section does not in any way deny or restrict any existing right or benefit to coverage and treatment of infertility or fertility services under an existing law, plan, or policy.

(e) Consistent with Section 1365.5, coverage for the treatment of infertility and fertility services shall be provided without discrimination on the basis of age, ancestry, color, disability, domestic partner status, gender, gender expression, gender identity, genetic information, marital status, national origin, race, religion, sex, or sexual orientation. This subdivision shall not be construed to interfere with the clinical judgment of a physician and surgeon.

(f) This section does not apply to Medi-Cal managed care health care service plan contracts or any entity that enters into a contract with the State Department of Health Care Services for the delivery of health care services pursuant to Chapter 7 (commencing with Section 14000), Chapter 8 (commencing with Section 14200), Chapter 8.75 (commencing with Section 14591), or Chapter 8.9 (commencing with Section 14700) of Part 3 of Division 9 of the Welfare and Institutions Code.

SEC. 3. Section 10119.6 of the Insurance Code is repealed.

~~10119.6. (a) On and after January 1, 1990, every insurer issuing, renewing, or amending a policy of disability insurance that covers hospital, medical, or surgical expenses on a group basis shall offer coverage of infertility treatment, except in vitro fertilization, under those terms and conditions as may be agreed upon between the group policyholder and the insurer. Every insurer shall communicate the availability of that coverage to all group policyholders and to all prospective group policyholders with whom they are negotiating.~~

~~(b) For purposes of this section, "infertility" means either (1) the presence of a demonstrated condition recognized by a licensed physician and surgeon as a cause of infertility, or (2) the inability to conceive a pregnancy or to carry a~~

~~pregnancy to a live birth after a year or more of regular sexual relations without contraception. “Treatment for infertility” means procedures consistent with established medical practices in the treatment of infertility by licensed physicians and surgeons, including, but not limited to, diagnosis, diagnostic tests, medication, surgery, and gamete intrafallopian transfer. “In vitro fertilization” means the laboratory medical procedures involving the actual in vitro fertilization process.~~

~~(c) This section shall not be construed to deny or restrict in any way any existing right or benefit to coverage and treatment of infertility under an existing law, plan, or policy.~~

~~(d) This section shall not be construed to require any employer that is a religious organization to offer coverage for forms of treatment of infertility in a manner inconsistent with the religious organization’s religious and ethical principles.~~

~~(e)(1) This section shall not be construed to require any insurer, which is a subsidiary of an entity whose owner or corporate member is a religious organization, to offer coverage for treatment of infertility in a manner inconsistent with that religious organization’s religious and ethical principles.~~

~~(2) For purposes of this subdivision, “subsidiary” of a specified corporation means a corporation more than 45 percent of the voting power of which is owned directly, or indirectly through one or more subsidiaries, by the specified corporation.~~

~~(f) This section applies to every disability insurance policy that is issued, amended, or renewed to residents of this state regardless of the situs of the contract.~~

~~(g) Consistent with Section 10140, coverage for the treatment of infertility shall be offered and, if purchased, provided without discrimination on the basis of age, ancestry, color, disability, domestic partner status, gender, gender expression, gender identity, genetic information, marital status, national origin, race, religion, sex, or sexual orientation. Nothing in this subdivision shall be construed to interfere with the clinical judgment of a physician and surgeon.~~

SEC. 4. Section 10119.6 is added to the Insurance Code, to read:

10119.6. (a) A policy of disability insurance that covers hospital, medical, or surgical expenses that is issued, amended, or renewed on or after January 1, 2024, shall provide coverage for the diagnosis and treatment of infertility and fertility services. The coverage required by this subdivision includes services, including completed oocyte retrievals with unlimited embryo transfers in accordance with the guidelines of the American Society for Reproductive Medicine (ASRM), using single embryo transfer when recommended and medically appropriate. Every insurer shall include notice of the coverage specified in this section in the insurer’s evidence of coverage.

(b) For purposes of this section, “infertility” means condition or status characterized by any of the following:

(1) A licensed physician’s findings, based on a patient’s medical, sexual, and reproductive history, age, physical findings, diagnostic testing, or any combination of those factors. This definition shall not prevent testing and diagnosis prior to the 12-month or 6-month period to establish infertility in paragraph (3).

(2) A person’s inability to reproduce either as an individual or with their partner without medical intervention.

(3) The failure to establish a pregnancy or to carry a pregnancy to live birth after regular, unprotected sexual intercourse. For purposes of this section “regular, unprotected sexual intercourse” means no more than 12 months of unprotected sexual intercourse for a person under 35 years of age or no more than 6 months of unprotected sexual intercourse for a person 35 years of age or older. Pregnancy resulting in miscarriage does not restart the 12-month or 6-month time period to qualify as having infertility.

(c) The policy may not include any of the following:

(1) Any exclusion, limitation, or other restriction on coverage of fertility medications that are different from those imposed on other prescription medications.

(2) Any exclusion or denial of coverage of any fertility services based on a covered individual's participation in fertility services provided by or to a third party. For purposes of this section, "third party" includes an oocyte, sperm, or embryo donor, gestational carrier, or surrogate that enables an intended recipient to become a parent.

(3) Any deductible, copayment, coinsurance, benefit maximum, waiting period, or any other limitation on coverage for the diagnosis and treatment of infertility, except as provided in subdivision (a) that are different from those imposed upon benefits for services not related to infertility.

(d) This section does not in any way deny or restrict any existing right or benefit to coverage and treatment of infertility or fertility services under an existing law, plan, or policy.

(e) This section applies to every disability insurance policy that is issued, amended, or renewed to residents of this state regardless of the situs of the contract.

(f) Consistent with Section 10140, coverage for the treatment of infertility and fertility services shall be provided without discrimination on the basis of age, ancestry, color, disability, domestic partner status, gender, gender expression, gender identity, genetic information, marital status, national origin, race, religion, sex, or sexual orientation. This subdivision shall not be construed to interfere with the clinical judgment of a physician and surgeon.

SEC. 5. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

APPENDIX B COST IMPACT ANALYSIS: DATA SOURCES, CAVEATS, AND ASSUMPTIONS

With the assistance of CHBRP's contracted actuarial firm, Milliman, Inc, the cost analysis presented in this report was prepared by the faculty and researchers connected to CHBRP's Task Force with expertise in health economics.³⁸ Information on the generally used data sources and estimation methods, as well as caveats and assumptions generally applicable to CHBRP's cost impacts analyses are available at CHBRP's website.³⁹

This appendix describes analysis-specific data sources, estimation methods, caveats, and assumptions used in preparing this cost impact analysis.

Analysis-Specific Data Sources

Current coverage of infertility for commercial enrollees was determined by a survey of the largest (by enrollment) providers of health insurance in California. Responses to this survey represented 86% of commercial enrollees with health insurance that can be subject to state benefit mandates. In addition, CalPERS and DHCS were queried regarding related benefit coverage.

For this analysis, CHBRP relied on CPT codes to identify services related to SB 729. CPT copyright 2023 American Medical Association. All rights reserved. Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein. CPT is a registered trademark of the American Medical Association.

Detailed Cost Notes Regarding Analysis-Specific Caveats and Assumptions

CHBRP produced four scenarios for the analysis of SB 729:

- Scenario 1: The population subject to the mandated coverage includes individuals covered by DMHC-regulated commercial insurance plans, CDI-regulated policies, and CalPERS plans subject to the requirements of the Knox-Keene Health Care Service Plan Act. Infertility services must be covered at the same benefit level as comprehensive medical coverage.
- Scenario 2: Large group DMHC-regulated or CDI regulated policies are subject to the benefit mandate. The services and benefit level are the same as scenario 1.
- Scenario 3: The population is the same as scenario 1. Infertility services must be covered at the same benefit level as comprehensive medical coverage. However, the benefits are limited to a lifetime maximum of \$75,000 for infertility services, including a 3 cycle limit.
- Scenario 4: The population is the same as scenario 1. However, infertility services must be covered with 50% cost sharing instead of requiring coverage at the same benefit level as comprehensive medical coverage.

³⁸ CHBRP's authorizing statute, available at https://chbrp.org/about_chbrp/index.php, requires that CHBRP use a certified actuary or "other person with relevant knowledge and expertise" to determine financial impact.

³⁹ See method documents posted at <https://www.chbrp.org/about/analysis-methodology/cost-impact-analysis>; in particular, see *2023 Cost Analyses: Data Sources, Caveats, and Assumptions*.

Methodology and Assumptions for Baseline Benefit Coverage

- The population subject to the mandated coverage includes individuals covered by DMHC-regulated commercial insurance plans, CDI-regulated policies, and CalPERS plans subject to the requirements of the Knox-Keene Health Care Service Plan Act.
- CHBRP surveyed the carriers to determine the percentage of the population with coverage for infertility services. For carriers who did not respond to the 2023 survey, the response from the 2022 survey for AB 2029 was assumed. It is possible that the number of enrollees with coverage is underestimated as the survey only includes major medical carriers and some enrollees may have coverage through specialty insurance products focused on infertility services.

Methodology and Assumptions for Baseline Utilization

In-Vitro Fertilization (IVF) and Intracytoplasmic Sperm Injection (ICSI)

- CHBRP estimated the number of IVF procedures per 1,000 commercially insured enrollees that occurred in 2020 based on the total number of IVF procedures and transfers performed in California for California residents according to the State Specific Assisted Reproductive Technology Surveillance 2020 Data Brief published by the CDC assuming all IVF procedures were performed on CalPERS, self-insured, and fully-insured enrollees. The number of transfers and cycles were grossed up to account for only 98% of clinics reporting data (i.e., the reported data is assumed to account for 98% of IVF procedures). CHBRP assumes the transfers reported by the CDC were full cycles including retrievals and transfers and the difference between the total number of procedures performed and reported transfers are retrieval only cycles.
- The total rate of IVF procedures per 1,000 enrollees was then refined into estimated rates for enrollees with and without coverage for IVF. This allocation assumed 0% of CalPERS enrollees (2023 and 2022 CHBRP carrier surveys), 25% of fully insured enrollees (2023, 2022 and 2020 CHBRP carrier surveys), and 37% of self-funded employers enrollees (Mercer 2021 Survey on Fertility Benefits) had coverage for IVF.
- CHBRP assumed the population with coverage utilizes IVF at a rate per 1,000 equal to 2.3 times the IVF utilization rate per 1,000 for the population without coverage (Peipert et al 2022). The underlying analysis used to determine the utilization differential between enrollees with and without coverage compares utilization data from states with and without coverage mandates. Some enrollees in the states without coverage mandates may already have coverage for infertility services while enrollees in states with coverage mandates may not be state-regulated and are not required to have coverage. Using the utilization differential between data from states with and without coverage mandates as a proxy for the utilization differential between enrollees with and without coverage may underestimate the utilization increase as a result of SB 729.
- The IVF procedures per 1,000 rates for enrollees with and without coverage for IVF were then multiplied by the percentage of IVF cycles that include ICSI, 77.4%, (2020 CDC Assisted Reproductive Technology Fertility Clinic and National Summary Report) to determine the rate of ICSI for enrollees with and without coverage.
- The IVF and ICSI procedures per 1,000 rates were then trended from 2020 to 2024 using a 2.75% annual utilization trend developed by comparing the 2019-2021 infertility service data from Milliman's proprietary 2021 Consolidated Health Cost Guidelines™ Sources Database (CHSD). An additional one-time 14% increase was included in the 2024 estimate to account for the lock-down period of the COVID-19 pandemic in 2020. The COVID-19 adjustment factor was based on seasonal patterns of infertility services observed in 2019 and 2021 data from CHSD.

Other Infertility Services

- Infertility services were identified in Milliman’s proprietary CHSD data. This database only captures services that are covered by insurance.
- Content expert input and guidance from recent research on the impact of state-level infertility mandates on health plan expenditures that used MarketScan data (Boulet et al., 2019) were the basis for CHBRP’s methodology on how to group claims codes into treatment categories.
 - Infertility Diagnosis — For all diagnostic and treatment categories, the claims were first subset to only include claims for members with the following infertility ICD 10 diagnosis codes: N468, N469, N970, N971, N972, N978, N979, Z3141, Z3181, Z3183, Z3189, Z31441, Z3149, Z317, Z319, N4601, N46021, N46022, N46023, N46024, N46025, N46029, N4611, N46121, N46122, N46123, N46124, N46125, N46129.
 - Diagnostic Procedures - For the claims with the infertility diagnosis codes, the following Current Procedural Terminology (CPT)⁴⁰/Healthcare Common Procedure Coding System (HCPCS) codes were used to identify diagnostic services: 54500, 54505, 54800, 55200, 55300, 55550, 58340, 58345, 58350, 58540, 58560, 58700, 58740, 58752, 58770, 58920, 74740, 76831, 83001, 83002, 89300, 89310, 89320, 89321, 89322, 89325, 89329, 89330, 89331, G0027, S3655, Q0115. Only services provided to females ages 18-44 and males ages 18-60 were included in the analysis.
 - Male treatments were identified as claims with an infertility diagnosis code and the following CPT²/HCPCS codes: 0357T, 55400, 58323, 55870, 58970, 58974, 58976, 89250, 89251, 89253, 89254, 89255, 89257, 89258, 89259, 89260, 89261, 89264, 89268, 89272, 89280, 89281, 89290, 89291, 89335, 89337, 89342, 89343, 89344, 89346, 89352, 89353, 89354, 89356, 89398, S4011, S4015, S4016, S4017, S4018, S4020, S4021, S4022, S4023, S4025, S4026, S4027, S4028, S4030, S4031, S4035, S4037, S4040, S4042, 76948. Only services provided to males ages 18-60 were included in the analysis.
 - Intrauterine insemination (IUI) was identified with the following CPT⁴¹ codes: 58321, 58322. All services that occurred during the IUI visit were included in the cost per service.
 - Medications – For enrollees with an infertility diagnosis, the following prescription drugs are included: Anastrozole, Bravelle, Bromocriptine mesylate, Cabergoline, Cetrorelix acetate, Cetrotide, Chorionic gonadotropin, Chorionic gonadotropin alfa, Clomid, Clomiphene citrate, Dexamethasone, Estrace, Femara, Follicle stimulating hormone/luteinizing hormone, Follistim aq, Follitropin beta, Follitropin beta/ganirelix acetate, Follitropin alfa, Ganirelix acetate, Glucophage, Gonadorelin acetate, Gonadorelin hydrochloride, Gonal-f, Gonal-f rff, Gonal-f rff pen, Histrelin acetate, Hydroxyprogesterone caproate, Letrozole, Lutropin alfa, Medroxyprogesterone acetate, Menopur, Metformin hcl, Metformin hydrochloride, micronized, Norethindrone, Norethindrone acetate, Novarel, Omnitrope, Ovidrel, Pregnyl w/diluent benzyl, Progesterone, recombinant, Repronex, Synarel, Testosterone gel, Testosterone patch, and Urofollitropin. Only scripts provided to females ages 18-44 and males ages 18-60 are included in the analysis.
- Because CHSD only includes claims for covered infertility services but includes membership for enrollees with and without coverage, CHBRP divided the utilization rates from the data by the percentage with coverage for each service from the carrier surveys to determine the utilization rate of services for enrollees with coverage.
- IUI and female diagnostic testing utilization among enrollees without coverage in California were assumed to be 10% less than that of enrollees with coverage. Male diagnostic tests, treatments, and medication utilization rates among enrollees without coverage are assumed to be the same as those with coverage. The coverage rate differentials are based on the observed utilization rate

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change for the state of Delaware before (2018) and after (2019) a similar mandate to cover infertility services went into effect.

- Female medication utilization among enrollees without coverage in California was assumed to be 20% less than that of enrollees with coverage. This value was derived by applying the IVF utilization differential for those with and without coverage to the medication utilization of enrollees who utilized IVF. CHBRP assumed all other female medication utilization would not change.
- The IUI and medication utilization rates were trended from 2021 to 2024 using an 2.75% utilization trend developed using 2019 to 2021 infertility service data from CHSD.

Methodology and Assumptions for Baseline Cost

- CHBRP calculated the average cost per service using Milliman’s proprietary 2021 CHSD data.
 - The average costs per IVF full cycle and retrieval only were calculated as the sum of the average allowed costs of services underlying bundled rates for complete IVF and IVF cancelled prior to transfer according to the Aetna infertility code mapping tool. CHBRP assumed the visits were distributed among CPT³ codes 99213-99215. To each case CHBRP added one unit of CPT³ 00840 for anesthesia and one unit of CPT³ 99215 as an initial consult.
 - The average cost per ICSI was calculated as the average allowed cost per procedure for CPT⁴² 89280 and 89281.
 - Average costs per script of female medication were developed separately for enrollees who utilized and did not utilize IVF. The average cost per script of females who utilize IVF is over 4 times the average cost per script of females who did not utilize IVF. The average costs per script were multiplied by the script utilization rates per 1,000 for those who utilized and those who did not utilize IVF to determine the average cost per service at baseline for those with and without coverage for IVF. For lines of business where the percentage with coverage for medications exceeded the percentage with coverage for IVF at baseline, CHBRP assumed the proportion with coverage for IVF also has coverage for medications.
 - For all other services, the average cost per service was calculated using the logic used to determine the baseline utilization.
- The average costs per medical service were trended from 2021 to 2024 using a 4% annual trend. Average costs per script for medications were trended from 2021 to 2024 using a 2.9% annual trend. These trends are based on trends from the 2023 Milliman Health Cost Guidelines.

Methodology and Assumptions for Baseline Cost Sharing

- CHBRP assumed the cost sharing for diagnostic services for enrollees with coverage is the same as major medical cost sharing because diagnostic services for covered individuals are covered under the medical plan. Enrollee cost share is equal to one minus the line of business paid-to-allowed ratio multiplied by the diagnostic services cost.
- All other services are assumed to have a 50% coinsurance without an out-of-pocket maximum.
- Services provided to enrollees without coverage are assumed to be paid by the enrollee in full.

Methodology and Assumptions for Postmandate Utilization

- CHBRP assumed the utilization rate for enrollees with coverage postmandate is equal to the utilization rate for enrollees with coverage at baseline. CHBRP did not make a utilization adjustment for the difference in cost share at baseline versus what is required postmandate since the underlying experience used to determine the utilization rates likely reflects different enrollee cost sharing.

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Methodology and Assumptions for Postmandate Cost

- CHBRP assumed the average cost per service would not change as a result of SB 729. CHBRP assumed an increase in IVF coverage will cause a shift to more expensive medications, resulting in a change in medication mix and higher average cost per script.

Methodology and Assumptions for Postmandate Cost Sharing

- CHBRP assumed the average cost sharing for enrollees in DMHC regulated plans is the same as cost sharing for other services covered under major medical policies. Enrollee cost share is equal to one minus the line of business paid-to-allowed ratio multiplied by the average cost per service. The cost sharing for each service is capped at the average out-of-pocket maximum by line of business. Because some enrollees may receive more than one service, the accumulation of these services may cause the enrollee to exceed the out-of-pocket maximum at a faster rate than implied by this analysis. This analysis does not account for the interaction between the services and could overstate the cost-sharing thereby understating premium impact.

Methodology and Assumptions Related to Pregnancies

- CHBRP assumed 48% of IVF procedures result in pregnancy (CDC , 2020). Of those pregnancies, 16.3% result in miscarriages, 78.6% are single deliveries, and 5.0% are higher order deliveries (CDC, 2019). Triplets and higher order infants conceived using ART occur at a rate 3 times the rate of all infants. Triplets and higher order infants occur at a rate of 0.08% (National Vital Statistics Reports Volume 72 Number 1, 2023), implying 4.8% of IVF deliveries are twin deliveries and 0.2% are higher order.
- The IVF multi-birth rate for states without a comprehensive mandate for coverage of infertility services is 1.4 times the multi-birth rate of states with a comprehensive mandate (Peipert et al 2022). Using this statistic and the IVF coverage rates from the carrier surveys, CHBRP assumed that 79.9% of deliveries are single, 3.5% are twins and 0.2% are multibirth for enrollees with coverage for IVF. For those without coverage, CHBRP assumed that 78.2% of deliveries are single, 5.2% are twin deliveries, and 0.3% are multi-birth.
- CHBRP assumed 15% of IUI procedures result in pregnancy. Of those pregnancies, 12.5% (March of Dimes) result in a miscarriage. CHBRP assumed the delivery distribution is like the overall population, where 84.7% are single, 2.7% are twin and 0.1% are multi-birth deliveries (National Vital Statistics Reports Volume 72 Number 1, 2023),
- The 2022 cost per pregnancy assumptions from CHBRP's analysis for AB 2029 are trended to 2023 using a 4.5% outpatient annual trend for miscarriages and 4.0% inpatient annual trend for live births.
- Major medical cost sharing, as described in the prior section, is assumed for pregnancies at baseline and post mandate.

Methodology and Assumptions related to Scenarios 2 through 4

The methodology and assumptions for scenarios 2 through 4 are the same as scenario 1 with the following exceptions:

- Scenario 2: The population subject to the mandated coverage includes individuals enrolled in DMHC-regulated commercial large group insurance plans, CDI-regulated large group policies, and CalPERS plans subject to the requirements of the Knox-Keene Health Care Service Plan Act.
- Scenario 3: The population is the same as scenario 1. Infertility services must be covered at the same benefit level as comprehensive medical coverage. However, the benefits are limited to a lifetime maximum of \$75,000 for infertility services, including a 3 cycle limit. CHBRP applied

lifetime adjustment factors to year 1 and year 2, reducing the insurer share of costs and increasing the noncovered benefit portion to be covered by the enrollee. The factors were calculated by summarizing 2020 and 2021 CHSD medical and pharmacy claims for infertility services trended to 2024 using the trends discussed above, for enrollees who had an infertility service claim in 2021. The claims were repriced under various coinsurance/maximum out-of-pocket scenarios to determine the insurer share of cost reduction resulting from a lifetime maximum of \$75,000. Because the factors (2.7% reduction of insurer share of cost in year 1, 4% reduction of insurer share of cost in year 2) were based on only two years of data, this methodology may underestimate the reduction in premiums and increase in noncovered services resulting from the lifetime maximum. No adjustment was made for the 3 cycle limit.

- Scenario 4: Postmandate cost sharing for infertility services is equal to 50% of the value of the service. No out-of-pocket maximums were applied. The IVF utilization rate postmandate is 9% less than scenario 1 as enrollees may use fewer services as the cost sharing increases from major medical cost sharing. The induced utilization factor is based on Milliman's 2023 Health Cost Guidelines.

APPENDIX C SCENARIO 1 – SB 729 AS INTRODUCED

Scenario 1 presents the impacts of SB 729 as introduced. It would require coverage of infertility treatments with cost sharing the same as major medical, for all commercial and CalPERS enrollees with state-regulated health insurance.

Relevant Population and Benefit Coverage

At baseline, 23% of enrollees with health insurance that would be subject to SB 729 have fertility coverage that includes IVF. CHBRP found 0% enrollees have health insurance that includes fertility coverage *and* cost sharing for covered fertility services (i.e., deductible, copayment, or coinsurance) that is **not** different from those imposed on other benefits.

Coverage by type of procedure varies substantially. Although the majority of enrollees (79%) have coverage for female and male diagnostic tests, about 42% have coverage for medication prescriptions for infertility, 46% have coverage for IUI and male treatments, and 23% have coverage for IVF and ICSI.

Table 5. Scenario 1, SB 729 Impacts on Benefit Coverage, Year 1

	Baseline (2024)	Postmandate Year 1 (2024)	Change Postmandate	
Benefit coverage	#	#	#	%
Total enrollees with health insurance subject to state-level benefit mandates*	22,842,000	22,842,000	0	(+0.0%)
Total enrollees with health insurance subject to SB 729	14,025,000	14,025,000	0	(+0.0%)
Percentage of enrollees with fully compliant coverage of infertility benefits	23%	100%	77%	(+334.5%)
Number of enrollees with fully compliant coverage of infertility benefits	3,227,653	14,025,000	10,797,347	(+334.5%)
Percentage of enrollees with fully compliant coverage of infertility benefits and cost-sharing limits	0%	100%	100%	
Number of enrollees with fully compliant coverage of infertility benefits and cost-sharing limits	0	14,025,000	14,025,000	

Source: California Health Benefits Review Program, 2023.

Notes: * Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, and Medi-Cal.

Utilization

The highest utilization of fertility services is from diagnostic tests and medication prescriptions for infertility (Table 6). For females at baseline there are more than 334,000 diagnostic tests among enrollees and almost 275,000 prescriptions for infertility medications. For males, there are about 127,000 diagnostic tests, treatments, and medications. There are about 20,000 IUI procedures, 16,000 IVF procedures, and 12,000 ICSI procedures. Some enrollees may use multiple services. For example, enrollees who use IVF also use prescription medications and may also receive diagnostic tests. CHBRP is not able to identify this overlap in utilization.

CHBRP examined utilization of services received at baseline by benefit coverage and use of services at baseline varies by type of infertility service. For example, about 60% of services received at baseline for IVF and ICSI are not covered at baseline, which is in contrast to about 21% of diagnostic tests for females used at baseline without coverage. All services not covered at baseline would become covered postmandate.

In addition to the shift of fertility benefits from not covered to covered, additional utilization will occur among enrollees who were previously not using fertility services. In the first year postmandate, utilization of IVF and ICSI increase by about 80%, while use of female diagnostic tests, IUI, and female prescriptions increase by 2%, 6%, and 19%, respectively. In the second year postmandate, utilization of all infertility treatments increase due to changes in the population.

Pregnancies and Live Births

CHBRP estimates an increase in 6,000 pregnancies due to fertility services postmandate, a 55% increase from baseline (11,000 pregnancies at baseline, increasing to 17,000 postmandate). CHBRP estimates an additional 5,000 live birth deliveries due to fertility services postmandate (a 56% increase from baseline).

Enrollee Expenses

Postmandate, average cost sharing per service for covered benefits would mostly decrease, because cost sharing is limited to the same structure as for other benefits (Table 6). The majority of enrollees with coverage for infertility treatments at baseline have cost sharing that is higher than that for other benefits, such as a 50% coinsurance. As a result, average cost sharing for IVF, ICSI, and IUI procedures would decrease by more than 70% postmandate, from \$7,330 to \$1,790 for IVF, \$700 to \$170 for ICSI, and \$300 to \$80 for IUI.

However, at the per member per month (PMPM) level, cost sharing for covered benefits in the form of deductibles and copayments would mostly increase given greater utilization of fertility services and due to the change in noncovered services becoming covered postmandate. The enrollee expenses for noncovered benefits decreases, offsetting all increases in cost sharing for covered benefits.

CHBRP finds the largest increases in enrollee cost sharing for covered benefits would be for enrollees in DMHC-regulated individual (\$0.94 PMPM) and small-group plans (\$0.80 PMPM) and CDI-regulated individual and small-group policies (\$1.32 PMPM and \$1.00 PMPM, respectively), given these enrollees are most likely to not have fertility coverage at baseline. The smallest increase would be for CalPERS HMOs (\$0.03 PMPM). There would be a reduction in cost sharing for covered benefits for enrollees in large-group DMHC-regulated plans (-\$0.51 PMPM).

Table 6. Scenario 1, SB 729 Impacts on Utilization and Cost, Years 1 and 2 Postmandate

	Baseline (2024)	Postmandate Year 1 (2024)		Change Postmandate		Postmandate Year 2 (2025)		Change 2024 to 2025 (a)	
	#	#	#	%	#	#	%		
Utilization									
IVF Procedures	15,890	28,530	12,640	(+79.5%)	29,450	920	(+3.2%)		
ICSI Procedures	12,300	22,080	9,780	(+79.5%)	22,790	710	(+3.2%)		
IUI Procedures	19,990	21,180	1,190	(+6.0%)	21,870	690	(+3.3%)		
Female Diagnostic Tests	334,320	342,120	7,800	(+2.3%)	353,070	10,950	(+3.2%)		
Female Medications	274,980	326,780	51,800	(+18.8%)	337,240	10,460	(+3.2%)		
Male Diagnostic Tests, Treatments and Medications	127,400	127,400	0	(+0.0%)	131,470	4,070	(+3.2%)		
Average Cost per Service									
IVF Procedures	\$14,660	\$14,660	\$0	(+0.0%)	\$15,180	\$520	(+3.5%)		
ICSI Procedures	\$1,400	\$1,400	\$0	(+0.0%)	\$1,450	\$50	(+3.6%)		
IUI Procedures	\$590	\$590	\$0	(+0.0%)	\$610	\$20	(+3.4%)		
Female Diagnostic Tests	\$110	\$110	\$0	(+0.0%)	\$110	\$0	(+0.0%)		
Female Medications (b)	\$410	\$510	\$100	(+24.4%)	\$530	\$20	(+3.9%)		
Male Diagnostic Tests, Treatments and Medications	\$78	\$78	\$0	(+0.0%)	\$88	\$10	(+13.4%)		

Average Cost-Sharing per Service for Covered Benefits							
IVF Procedures	\$7,330	\$1,790	-\$5,540	(-75.6%)	\$1,850	\$60	(+3.4%)
ICSI Procedures	\$700	\$170	-\$530	(-75.7%)	\$180	\$10	(+5.9%)
IUI Procedures	\$300	\$80	-\$220	(-73.3%)	\$80	\$0	(+0.0%)
Female Diagnostic Tests	\$10	\$20	\$10	(+100.0%)	\$20	\$0	(+0.0%)
Female Medications	\$230	\$70	-\$160	(-69.6%)	\$70	\$0	(+0.0%)
Male Diagnostic Tests, Treatments and Medications	\$31	\$14	-\$16	(-53.0%)	\$15	\$0	(+3.0%)
Birth Outcomes							
Estimated Number of Pregnancies due to Infertility Services	11,000	-	-	-	17,000	6,000	(+54.5%)
Estimated Number of Live Birth Deliveries due to Infertility Services	9,000	-	-	-	14,000	5,000	(+55.6%)
Average 1st Year Cost of Pregnancies and Deliveries from Infertility Services	\$39,000	-	-	-	\$38,000	-\$1,000	(-2.6%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Includes utilization and claims trend.

(b) CHBRP does not assume that the cost of individual services will change as a result of SB 729. CHBRP assumes the mix of services will change, which results in a change in the average cost per service.

Key: ICSI = intracytoplasmic sperm injection; IUI = intrauterine insemination; IVF = in vitro fertilization.

Expenditures

SB 729 would increase total net annual expenditures by \$351,574,000 or 0.24% in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. This is due to a \$570,716,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, an increase of \$8,562,000 in enrollee cost sharing for covered benefits, and a decrease of \$227,702,000 in enrollee expenses for noncovered benefits (Table 7). In year 2 postmandate, total expenditures would increase by \$638,370,000 (0.41%) due to continued increases in use of infertility treatments, as well as due to the increase in pregnancies as a result of infertility treatments received in year 1.

At baseline, 61% of total expenditures of non-covered services are due to IVF procedures, while 26% of total expenditures of non-covered services are from female medications.

Premiums

Premiums would increase by \$570,716,000 postmandate year 1 as a result of SB 729. Changes in premiums would vary by market segment due to the number of enrollees with health insurance that would be subject to SB 729. Increases range between \$2.98 PMPM (0.5%) for enrollees in large-group DMHC-regulated plans and \$4.10 (0.64%) for enrollees in individual DMHC-regulated plans. Among publicly funded DMHC-regulated CalPERS plans, the premium increase is \$3.59 (0.52%).

Premiums for enrollees in individual plans purchased through Covered California would increase by \$106,150,000, or 0.65%, in year 1 and \$162,039,000, or 0.93%, in year 2 (Table 6).

It is important to note that the increase in premiums in Year 2 stems from both increases in (1) utilization of fertility services and (2) pregnancies and births. About 72% (of the increase in premiums is attributable to the increase in fertility services and the remainder is attributable to increases in pregnancy-related services and about 28% is attributable to increases in pregnancy-related services.

Table 7. Scenario 1, SB 729 Impacts on Expenditures, Years 1 and 2 Postmandate

Expenditures	Baseline (2024)	Change Postmandate (2024)		Change Postmandate (2025) (a)	
	\$	\$	%	\$	%
<u>Premiums</u>					
Employer-sponsored (b)	\$57,647,993,000	\$305,350,000	(+0.53%)	\$443,669,000	(+0.73%)
CalPERS employer (c)	\$6,158,262,000	\$31,755,000	(+0.52%)	\$49,267,000	(+0.77%)
Medi-Cal (excludes COHS) (d)	\$29,618,383,000	\$0	(+0.0%)	\$0	(+0.0%)
<u>Enrollee premiums (expenditures)</u>					
Enrollees, individually purchased insurance	\$21,229,233,000	\$134,842,000	(+0.64%)	\$204,868,000	(+0.92%)
Outside Covered California	\$4,867,955,000	\$28,692,000	(+0.59%)	\$42,829,000	(+0.85%)
Through Covered California	\$16,361,278,000	\$106,150,000	(+0.65%)	\$162,039,000	(+0.93%)
Enrollees, group insurance (e)	\$18,263,775,000	\$98,767,000	(+0.54%)	\$144,988,000	(+0.76%)
<u>Enrollee out-of-pocket expenses</u>					
Cost-sharing for covered benefits (deductibles, copayments, etc.)	\$13,857,141,000	\$8,562,000	(+0.06%)	\$38,334,000	(+0.26%)
Expenses for noncovered benefits (f) (g)	\$227,702,000	-\$227,702,000	(-100.00%)	-\$242,756,000	(-100.00%)
Total expenditures	\$147,002,489,000	\$351,574,000	(+0.24%)	\$638,370,000	(+0.41%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Change between baseline 2025 and postmandate 2025. Includes fertility services received in 2025 and impact of babies born from fertility services received in 2024.

(b) In some cases, a union or other organization. Excludes CalPERS.

(c) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.1% are state retirees, state employees, or their dependents. About one in five (22.5%) of these enrollees has a pharmacy benefit not subject to DMHC. CHBRP has projected no impact for those enrollees. However, CalPERS could, postmandate, require equivalent coverage for all its members (which could increase the total impact on CalPERS).

(d) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, CHBRP is estimating it seems likely that there would also be a proportional increase of \$0 million for Medi-Cal beneficiaries enrolled in COHS managed care.

(e) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(f) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. 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.

(g) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).

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

APPENDIX D SCENARIO 2 – LARGE GROUP AND CALPERS ONLY

Scenario 2 would require coverage of infertility treatments with cost sharing the same as major medical, for commercial and CalPERS enrollees with state-regulated health insurance in the large-group market (excludes enrollees in individual and small-group market plans and policies).

Relevant Population and Benefit Coverage

At baseline, 33% of enrollees with health insurance that would be subject to scenario 2 have fertility coverage that includes IVF. CHBRP found 0% enrollees have health insurance that includes fertility coverage *and* cost sharing for covered fertility services (i.e., deductible, copayment, or coinsurance) that is **not** different from those imposed on other benefits.

Coverage by type of procedure varies substantially. Although the majority of enrollees (93%) have coverage for female and male diagnostic tests, about 66% have coverage for medication prescriptions for infertility, 67% have coverage for IUI and male treatments, and 33% have coverage for IVF and ICSI.

Table 8. Scenario 2 Impacts on Benefit Coverage, Year 1

	Baseline (2024)	Postmandate Year 1 (2024)	Change Postmandate	
Benefit coverage	#	#	#	%
Total enrollees with health insurance subject to state-level benefit mandates	22,842,000	22,842,000	0	(+0.0%)
Total enrollees with health insurance subject to SB 729	9,033,000	9,033,000	0	(+0.0%)
Percentage of enrollees with fully compliant coverage of infertility benefits	33%	100%	67%	(+204.9%)
Number of enrollees with fully compliant coverage of infertility benefits	2,962,672	9,033,000	6,070,328	(+204.9%)
Percentage of enrollees with fully compliant coverage of infertility benefits and cost sharing limits	0%	100%	100%	
Number of enrollees with fully compliant coverage of infertility benefits and cost sharing limits	0	9,033,000	9,033,000	

Source: California Health Benefits Review Program, 2023.

Notes: * Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, and Medi-Cal.

Utilization

The highest utilization of fertility services is from diagnostic tests and medication prescriptions for infertility (Table 9). For females at baseline there are more than 206,000 diagnostic tests among enrollees and more than 172,000 prescriptions for infertility medications. For males, there are about 77,500 diagnostic tests, treatments, and medications. There are about 12,500 IUI procedures, 11,000 IVF procedures, and 8,300 ICSI procedures. Some enrollees may use multiple services. For example, enrollees who use IVF also use prescription medications and may also receive diagnostic tests. CHBRP is not able to identify this overlap in utilization.

CHBRP examined utilization of services received at baseline by benefit coverage and use of services at baseline varies by type of infertility service. For example, about 47% of services received at baseline for IVF and ICSI are not covered at baseline, which is in contrast to about 6% of diagnostic tests for females used at baseline without coverage. All services not covered at baseline would become covered postmandate.

In addition to the shift of fertility benefits from not covered to covered, additional utilization will occur among enrollees who were previously not using fertility services. In the first year postmandate, utilization of IVF and ICSI increase by about 62%, whereas use of female diagnostic tests, IUI, and female prescriptions increase by 1%, 3%, and 16%, respectively. In the second year postmandate, utilization of all fertility services increase due to changes in the population.

Pregnancies and live births

CHBRP estimates an increase in 3,000 pregnancies due to fertility services postmandate, a 43% increase from baseline (7,000 pregnancies at baseline, increasing to 10,000 postmandate). CHBRP estimates an additional 3,000 live birth deliveries due to fertility services postmandate (a 50% increase from baseline).

Enrollee Expenses

Postmandate, average cost sharing per service for covered benefits would mostly decrease, because cost sharing is limited to the same structure as for other benefits (Table 9). The majority of enrollees with coverage for infertility treatments at baseline have cost sharing that is higher than that for other benefits, such as a 50% coinsurance. As a result, average cost sharing for IVF, ICSI, and IUI procedures would decrease by more than 80% postmandate, from \$7,330 to \$1,140 for IVF, \$700 to \$110 for ICSI, and \$300 to \$50 for IUI. Large group plans and policies tend to have lower cost sharing responsibilities, including deductibles, as compared with plans and policies offered through small group or individual markets.

At the per member per month (PMPM) level, cost sharing for covered benefits in the form of deductibles and copayments would increase for some, given greater utilization of fertility services and due to the change in noncovered services becoming covered postmandate. The enrollee expenses for noncovered benefits decreases, offsetting all increases in cost sharing for covered benefits. Increases in enrollee cost sharing for covered benefits for enrollees in CDI-regulated large-group policies would be \$0.50 PMPM. For CalPERS HMOs, enrollee cost sharing would increase by \$0.03 PMPM. There would be a reduction in cost sharing for covered benefits for enrollees in large-group DMHC-regulated plans of -\$0.51 PMPM.

Table 9. Scenario 2, Impacts on Utilization and Cost, years 1 and 2 postmandate

	Baseline (2024)	Postmandate Year 1 (2024)	Change Postmandate		Postmandate Year 2 (2025)	Change 2024 to 2025 (a)	
	#	#	#	%	#	#	%
Utilization							
IVF Procedures	10,710	17,360	6,650	(+62.1%)	17,920	560	(+3.2%)
ICSI Procedures	8,290	13,440	5,150	(+62.1%)	13,870	430	(+3.2%)
IUI Procedures	12,470	12,890	420	(+3.4%)	13,310	420	(+3.3%)
Female Diagnostic Tests	206,660	208,150	1,490	(+0.7%)	214,840	6,690	(+3.2%)
Female Medications	172,100	198,820	26,720	(+15.5%)	205,210	6,390	(+3.2%)
Male Diagnostic Tests, Treatments and Medications	77,520	77,520	0	(+0.0%)	80,000	2,480	(+3.2%)
Average Cost per Service							
IVF Procedures	\$14,660	\$14,660	\$0	(+0.0%)	\$15,180	\$520	(+3.5%)
ICSI Procedures	\$1,400	\$1,400	\$0	(+0.0%)	\$1,450	\$50	(+3.6%)
IUI Procedures	\$590	\$590	\$0	(+0.0%)	\$610	\$20	(+3.4%)
Female Diagnostic Tests	\$110	\$110	\$0	(+0.0%)	\$110	\$0	(+0.0%)
Female Medications (b)	\$430	\$510	\$80	(+18.6%)	\$530	\$20	(+3.9%)
Male Diagnostic Tests, Treatments and Medications	\$78	\$78	\$0	(+0.0%)	\$88	\$10	(+13.3%)

Average Cost-Sharing per Service for Covered Benefits							
IVF Procedures	\$7,330	\$1,140	-\$6,190	(-84.4%)	\$1,180	\$40	(+3.5%)
ICSI Procedures	\$700	\$110	-\$590	(-84.3%)	\$110	\$0	(+0.0%)
IUI Procedures	\$300	\$50	-\$250	(-83.3%)	\$50	\$0	(+0.0%)
Female Diagnostic Tests	\$10	\$10	\$0	(+0.0%)	\$10	\$0	(+0.0%)
Female Medications	\$220	\$40	-\$180	(-81.8%)	\$40	\$0	(+0.0%)
Male Diagnostic Tests, Treatments and Medications	\$22	\$4	-\$18	(-81.9%)	\$4	\$0	(-0.1%)
Birth Outcomes							
Estimated Number of Pregnancies due to Infertility Services	7,000	-	-	-	10,000	3,000	(+42.9%)
Estimated Number of Live Birth Deliveries due to Infertility Services	6,000	-	-	-	9,000	3,000	(+50.0%)
Average 1st Year Cost of Pregnancies and Deliveries from Infertility Services	\$39,000	-	-	-	\$38,000	-\$1,000	(-2.6%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Includes utilization and claims trend.

(b) CHBRP does not assume that the cost of individual services will change as a result of SB 729. CHBRP assumes the mix of services will change, which results in a change in the average cost per service.

Expenditures

Scenario 2 would increase total net annual expenditures by \$182,747,000, or 0.12%, in year 1 for enrollees with large-group or CalPERS DMHC-regulated plans and CDI-regulated policies. This is due to a \$332,378,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, a decrease of \$44,751,000 in enrollee cost sharing for covered benefits, and a decrease of \$104,879,000 in enrollee expenses for noncovered benefits (Table 10). In year 2 postmandate, total expenditures would increase by \$329,941,000 (0.21%) due to continued increases in use of infertility treatments, as well as due to the increase in pregnancies as a result of infertility treatments received in year 1.

At baseline, 70% of total expenditures of non-covered services are due to IVF procedures, while 20% of total expenditures of non-covered services are from female medications.

Premiums

Premiums would increase by \$332,378,000 postmandate year 1 as a result of scenario 2. Changes in premiums would vary by market segment due to the number of enrollees with health insurance that would be subject to this scenario. Increases for enrollees in large group DMHC-regulated plans would be \$2.98 PMPM (0.5%) and \$3.60 (0.54%) for enrollees in large-group CDI-regulated policies. Among publicly funded DMHC-regulated CalPERS plans, the premium increase is \$3.59 (0.52%).

It is important to note that the increase in premiums in Year 2 stems from both increases in (1) utilization of fertility services and (2) pregnancies and births. About 74% (of the increase in premiums is attributable to the increase in fertility services and the remainder is attributable to increases in pregnancy-related services and about 26% is attributable to increases in pregnancy-related services.

Table 10. Scenario 2, Impacts on Expenditures, Years 1 and 2 Postmandate

	Baseline (2024)	Change Postmandate (2024)		Change Postmandate (2025) (a)	
Expenditures	\$	\$	%	\$	%
Premiums					
Employer-sponsored (b)	\$57,647,993,000	\$232,983,000	(+0.40%)	\$333,999,000	(+0.55%)
CalPERS employer (c)	\$6,158,262,000	\$31,755,000	(+0.52%)	\$49,267,000	(+0.77%)
Medi-Cal (excludes COHS) (d)	\$29,618,383,000	\$0	(+0.0%)	\$0	(+0.0%)
Enrollee premiums (expenditures)					
Enrollees, individually purchased insurance	\$21,229,233,000	\$0	(+0.0%)	\$0	(+0.0%)
Outside Covered California	\$4,867,955,000	\$0	(+0.0%)	\$0	(+0.0%)
Through Covered California	\$16,361,278,000	\$0	(+0.0%)	\$0	(+0.0%)
Enrollees, group insurance (e)	\$18,263,775,000	\$67,639,000	(+0.37%)	\$97,814,000	(+0.51%)
Enrollee out-of-pocket expenses					
Cost-sharing for covered benefits (deductibles, copayments, etc.)	\$13,857,141,000	-\$44,751,000	(-0.32%)	-\$39,281,000	(-0.27%)
Expenses for noncovered benefits (f) (g)	\$104,879,000	-\$104,879,000	(-100.00%)	-\$111,858,000	(-100.00%)
Total expenditures	\$146,879,666,000	\$182,747,000	(+0.12%)	\$329,941,000	(+0.21%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Change between baseline 2025 and postmandate 2025. Includes fertility services received in 2025 and impact of babies born from fertility services received in 2024.

(b) In some cases, a union or other organization. Excludes CalPERS.

(c) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.1% are state retirees, state employees, or their dependents. About one in five (22.5%) of these enrollees has a pharmacy benefit not subject to DMHC. CHBRP has projected no impact for those enrollees. However, CalPERS could, postmandate, require equivalent coverage for all its members (which could increase the total impact on CalPERS).

(d) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, CHBRP is estimating it seems likely that there would also be a proportional increase of \$0 million for Medi-Cal beneficiaries enrolled in COHS managed care.

(e) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(f) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. 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.

(g) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).

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

APPENDIX E SCENARIO 3 – LIFETIME LIMIT OF \$75,000

Scenario 3 would require coverage of infertility treatments with cost sharing the same as major medical, for all commercial and CalPERS enrollees with state-regulated health insurance; lifetime limit of \$75,000 is applied. Due to time constraints, CHBRP was unable to estimate utilization of fertility services under this scenario.

Relevant Population and Benefit Coverage

At baseline, 23% of enrollees with health insurance that would be subject to SB 729 have fertility coverage that includes IVF. CHBRP found 0% enrollees have health insurance that includes fertility coverage *and* cost sharing for covered fertility services (i.e., deductible, copayment, or coinsurance) that is **not** different from those imposed on other benefits.

Coverage by type of procedure varies substantially. Although the majority of enrollees (79%) have coverage for female and male diagnostic tests, about 42% have coverage for medication prescriptions for infertility, 46% have coverage for IUI and male treatments, and 23% have coverage for IVF and ICSI.

Table 11. Scenario 3, Impacts on Benefit Coverage, Year 1

	Baseline (2024)	Postmandate Year 1 (2024)	Change Postmandate	
	#	#	#	%
Benefit coverage				
Total enrollees with health insurance subject to state-level benefit mandates*	22,842,000	22,842,000	0	(+0.0%)
Total enrollees with health insurance subject to SB 729	14,025,000	14,025,000	0	(+0.0%)
Percentage of enrollees with fully compliant coverage of infertility benefits	23%	100%	77%	(+334.5%)
Number of enrollees with fully compliant coverage of infertility benefits	3,227,653	14,025,000	10,797,347	(+334.5%)
Percentage of enrollees with fully compliant coverage of infertility benefits and cost sharing limits	0%	100%	100%	
Number of enrollees with fully compliant coverage of infertility benefits and cost sharing limits	0	14,025,000	14,025,000	

Source: California Health Benefits Review Program, 2023.

Notes: * Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, and Medi-Cal.

Expenditures

Scenario 3 would increase total net annual expenditures by \$348,394,000, or 0.24%, in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. This is due to a \$551,800,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, an increase of \$8,563,000 in enrollee cost sharing for covered benefits, and a decrease of \$211,968,000 in enrollee expenses for noncovered benefits (Table 12). In year 2 postmandate, total expenditures would increase by \$633,345,000 (0.41%) due to continued increases in use of infertility treatments, as well as due to the increase in pregnancies as a result of infertility treatments received in year 1.

The vast majority of enrollees utilizing infertility treatments have claims that do not exceed the \$75,000 lifetime limit. It is also unlikely that an enrollee would reach this limit within 1 or 2 years. Additionally, it is important to note that the lifetime limit applies to what the insurer would pay, so the enrollee cost sharing contributes to a higher overall total limit of infertility services. Enrollees would be responsible for the full cost of infertility services once the \$75,000 limit is reached.

Premiums

Premiums would increase by \$551,800,000 postmandate year 1 as a result of scenario 3. Changes in premiums would vary by market segment due to the number of enrollees with health insurance that would be subject to scenario 3. Increases range between \$2.87 PMPM (0.48%) for enrollees in large-group DMHC-regulated plans and \$3.98 (0.62%) for enrollees in individual DMHC-regulated plans. Among publicly funded DMHC-regulated CalPERS plans, the premium increase would be \$3.47 (0.50%).

Premiums for enrollees in individual plans purchased through Covered California would increase by \$103,015,000, or 0.63%, in year 1 and \$157,053,000, or 0.90%, in year 2 (Table 12).

Table 12. Scenario 3, Impacts on Expenditures, Years 1 and 2 Postmandate

	Baseline (2024)	Change Postmandate (2024)		Change Postmandate (2025) (a)	
	\$	\$	%	\$	%
Expenditures					
<i>Premiums</i>					
Employer-sponsored (b)	\$57,647,993,000	\$294,707,000	(+0.51%)	\$426,843,000	(+0.71%)
CalPERS employer (c)	\$6,158,262,000	\$30,769,000	(+0.50%)	\$47,719,000	(+0.74%)
Medi-Cal (excludes COHS) (d)	\$29,618,383,000	\$0	(+0.0%)	\$0	(+0.0%)
<i>Enrollee Premiums (expenditures)</i>					
Enrollees, individually purchased insurance	\$21,229,233,000	\$130,883,000	(+0.62%)	\$198,613,000	(+0.89%)
Outside Covered California	\$4,867,955,000	\$27,868,000	(+0.57%)	\$41,560,000	(+0.83%)
Through Covered California	\$16,361,278,000	\$103,015,000	(+0.63%)	\$157,053,000	(+0.90%)
Enrollees, group insurance (e)	\$18,263,775,000	\$95,441,000	(+0.52%)	\$139,732,000	(+0.73%)
<i>Enrollee out-of-pocket expenses</i>					
Cost-sharing for covered benefits (deductibles, copayments, etc.)	\$13,857,141,000	\$8,562,000	(+0.06%)	\$38,334,000	(+0.26%)
Expenses for noncovered benefits (f) (g)	\$227,702,000	-\$211,968,000	(-93.09%)	-\$217,896,000	(-89.76%)
Total expenditures	\$147,002,489,000	\$348,394,000	(+0.24%)	\$633,345,000	(+0.41%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Change between baseline 2025 and postmandate 2025. Includes fertility services received in 2025 and impact of babies born from fertility services received in 2024.

(b) In some cases, a union or other organization. Excludes CalPERS.

(c) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.1% are state retirees, state employees, or their dependents. About one in five (22.5%) of these enrollees has a pharmacy benefit not subject to DMHC. CHBRP has projected no impact for those enrollees. However, CalPERS could, postmandate, require equivalent coverage for all its members (which could increase the total impact on CalPERS).

(d) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, CHBRP is estimating it seems likely that there would also be a proportional increase of \$0 million for Medi-Cal beneficiaries enrolled in COHS managed care.

(e) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(f) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. 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.

(g) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).

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

APPENDIX F SCENARIO 4 – 50% COST SHARING

Scenario 4 would require coverage of infertility treatments with 50% cost sharing, for all commercial and CalPERS enrollees with state-regulated health insurance.

Relevant Population and Benefit Coverage

At baseline, 23% of enrollees with health insurance that would be subject to scenario 4 have fertility coverage that includes IVF. CHBRP found 0% enrollees have health insurance that includes fertility coverage *and* cost sharing for covered fertility services (i.e., deductible, copayment, or coinsurance) that is **not** different from those imposed on other benefits.

Coverage by type of procedure varies substantially. While the majority of enrollees (79%) have coverage for female and male diagnostic tests, about 42% have coverage for medication prescriptions for infertility, 46% have coverage for IUI and male treatments, and 23% have coverage for IVF and ICSI.

Table 13. Scenario 4, Impacts on Benefit Coverage, Year 1

	Baseline (2024)	Postmandate Year 1 (2024)	Change Postmandate	
Benefit coverage	#	#	#	%
Total enrollees with health insurance subject to state-level benefit mandates*	22,842,000	22,842,000	0	(+0.0%)
Total enrollees with health insurance subject to SB 729	14,025,000	14,025,000	0	(+0.0%)
Percentage of enrollees with fully compliant coverage of infertility benefits	23%	100%	77%	(+334.5%)
Number of enrollees with fully compliant coverage of infertility benefits	3,227,653	14,025,000	10,797,347	(+334.5%)

Source: California Health Benefits Review Program, 2023.

Note: * Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, and Medi-Cal.

Utilization

The highest utilization of fertility services is from diagnostic tests and medication prescriptions for infertility (Table 14). For females at baseline there are more than 334,000 diagnostic tests among enrollees and almost 275,000 prescriptions for infertility medications. For males, there are about 127,000 diagnostic tests, treatments, and medications. There are about 20,000 IUI procedures, 16,000 IVF procedures, and 12,000 ICSI procedures. Some enrollees may use multiple services. For example, enrollees who use IVF also use prescription medications and may also receive diagnostic tests. CHBRP is not able to identify this overlap in utilization.

CHBRP examined utilization of services received at baseline by benefit coverage and use of services at baseline varies by type of infertility service. For example, about 60% of services received at baseline for IVF and ICSI are not covered at baseline, which is in contrast to about 21% of diagnostic tests for females used at baseline without coverage. All services not covered at baseline would become covered postmandate.

In addition to the shift of fertility benefits from not covered to covered, additional utilization will occur among enrollees who were previously not using fertility services. In the first year postmandate, utilization of IVF and ICSI increase by about 66%, while use of female diagnostic tests, IUI, and female prescriptions increase by 2%, 6%, and 19%, respectively. In the second year postmandate, utilization of all infertility treatments increase due to changes in the population.

Pregnancies and live births

CHBRP estimates an increase in 5,000 pregnancies due to fertility services postmandate, a 46% increase from baseline (11,000 pregnancies at baseline, increasing to 16,000 postmandate). CHBRP estimates an additional 4,000 live birth deliveries due to fertility services postmandate (a 44% increase from baseline).

Enrollee Expenses

Postmandate, there would be no change in average enrollee cost sharing due to changes in benefit coverage because scenario 4 does not require plans and policies to change the cost-sharing policies of fertility benefits. CHBRP assumes baseline cost sharing policies require 50% coinsurance and no out of pocket maximum for covered infertility treatments. Some changes in average enrollee cost sharing for covered benefits would occur because of a change in the mix of services covered.

However, at the per member per month (PMPM) level, cost sharing for covered benefits in the form of deductibles and copayments would mostly increase given greater utilization of fertility services and due to the change in noncovered services becoming covered postmandate. The enrollee expenses for noncovered benefits decreases, offsetting all increases in cost sharing for covered benefits. CHBRP finds the largest increases in enrollee cost sharing for covered benefits would be for enrollees in DMHC-regulated individual (\$1.94 PMPM) and small-group plans (\$0.178 PMPM) and CDI-regulated individual and small-group policies (\$2.04 PMPM and \$1.82 PMPM, respectively), given these enrollees are most likely to not have fertility coverage at baseline. The smallest increase would be for enrollees in large-group DMHC-regulated plans (\$0.93 PMPM).

Table 14. Scenario 4 Impacts on Utilization and Cost, Years 1 and 2 Postmandate

	Baseline (2024)	Postmandate Year 1 (2024)	Change Postmandate		Postmandate Year 2 (2025)	Change 2024 to 2025 (a)	
	#	#	#	%	#	#	%
Utilization							
IVF Procedures	15,890	26,430	10,540	(+66.3%)	27,280	850	(+3.2%)
ICSI Procedures	12,300	20,460	8,160	(+66.3%)	21,110	650	(+3.2%)
IUI Procedures	19,990	21,180	1,190	(+6.0%)	21,870	690	(+3.3%)
Female Diagnostic Tests	334,320	342,120	7,800	(+2.3%)	353,070	10,950	(+3.2%)
Female Medications	274,980	326,780	51,800	(+18.8%)	337,240	10,460	(+3.2%)
Male Diagnostic Tests, Treatments and Medications	127,400	127,400	0	(+0.0%)	131,470	4,070	(+3.2%)
Average Cost per Service							
IVF Procedures	\$14,660	\$14,660	\$0	(+0.0%)	\$15,180	\$520	(+3.5%)
ICSI Procedures	\$1,400	\$1,400	\$0	(+0.0%)	\$1,450	\$50	(+3.6%)
IUI Procedures	\$590	\$590	\$0	(+0.0%)	\$610	\$20	(+3.4%)
Female Diagnostic Tests	\$110	\$110	\$0	(+0.0%)	\$110	\$0	(+0.0%)
Female Medications (b)	\$410	\$510	\$100	(+24.4%)	\$530	\$20	(+3.9%)
Male Diagnostic Tests, Treatments and Medications	\$78	\$78	\$0	(+0.0%)	\$88	\$10	(+13.4%)
Average Cost-Sharing per Service for Covered Benefits							
IVF Procedures	\$7,330	\$7,330	\$0	(+0.0%)	\$7,590	\$260	(+3.5%)
ICSI Procedures	\$700	\$700	\$0	(+0.0%)	\$720	\$20	(+2.9%)
IUI Procedures	\$300	\$300	\$0	(+0.0%)	\$310	\$10	(+3.3%)
Female Diagnostic Tests	\$10	\$20	\$10	(+100.0%)	\$20	\$0	(+0.0%)
Female Medications	\$230	\$260	\$30	(+13.0%)	\$260	\$0	(+0.0%)

Male Diagnostic Tests, Treatments and Medications	\$31	\$31	\$0	(+0.0%)	\$31	\$0	(0.0%)
Birth Outcomes							
Estimated Number of Pregnancies due to Infertility Services	11,000	-	-	-	16,000	5,000	(+45.5%)
Estimated Number of Live Birth Deliveries due to Infertility Services	9,000	-	-	-	13,000	4,000	(+44.4%)
Average 1st Year Cost of Pregnancies and Deliveries from Infertility Services	\$39,000	-	-	-	\$38,000	-\$1,000	(-2.6%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Includes utilization and claims trend.

(b) CHBRP does not assume that the cost of individual services will change as a result of SB 729. CHBRP assumes the mix of services will change, which results in a change in the average cost per service.

Key: ICSI = intracytoplasmic sperm injection; IUI = intrauterine insemination; IVF = in vitro fertilization.

Expenditures

Scenario 4 would increase total net annual expenditures by \$269,614,000 or 0.14% in year 1 for enrollees with DMHC-regulated plans and CDI-regulated policies. This is due to a \$275,784,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, an increase of \$221,534,000 in enrollee cost sharing for covered benefits, and a decrease of \$227,702,000 in enrollee expenses for noncovered benefits (Table 15). In year 2 postmandate, total expenditures would increase by \$506,128,000 (0.33%) due to continued increases in use of infertility treatments, as well as due to the increase in pregnancies as a result of infertility treatments received in year 1.

At baseline, 61% of total expenditures of non-covered services are due to IVF procedures, while 26% of total expenditures of non-covered services are from female medications.

Premiums

Premiums would increase by \$275,784,000 postmandate year 1 as a result of scenario 4. Changes in premiums would vary by market segment due to the number of enrollees with health insurance that would be subject to scenario 4. Increases range between \$1.15 PMPM (0.19%) for enrollees in large group DMHC-regulated plans and \$2.61 (0.42%) for enrollees in individual DMHC-regulated plans. Among publicly funded DMHC-regulated CalPERS plans, the premium increase is \$1.67 (0.24%).

Premiums for enrollees in individual plans purchased through Covered California would increase by \$64,708,000, or 0.40%, in year 1 and \$109,379,000, or 0.63%, in year 2 (Table 6).

It is important to note that the increase in premiums in Year 2 stems from both increases in (1) utilization of fertility services and (2) pregnancies and births. About 72% (of the increase in premiums is attributable to the increase in fertility services and the remainder is attributable to increases in pregnancy-related services and about 28% is attributable to increases in pregnancy-related services.

Table 15. Scenario 4, Impacts on Expenditures, Years 1 and 2 Postmandate

	Baseline (2024)	Change Postmandate (2024)		Change Postmandate (2025) (a)	
Expenditures	\$	\$	%	\$	%
<i>Premiums</i>					
Employer-sponsored (b)	\$57,647,993,000	\$132,518,000	(+0.23%)	\$239,075,000	(+0.40%)
CalPERS employer (c)	\$6,158,262,000	\$14,815,000	(+0.24%)	\$28,602,000	(+0.44%)
Medi-Cal (excludes COHS) (d)	\$29,618,383,000	\$0	(+0.0%)	\$0	(+0.0%)
<i>Enrollee premiums (expenditures)</i>					
Enrollees, individually purchased insurance	\$21,229,233,000	\$83,169,000	(+0.39%)	\$139,353,000	(+0.62%)
Outside Covered California	\$4,867,955,000	\$18,461,000	(+0.38%)	\$29,974,000	(+0.60%)
Through Covered California	\$16,361,278,000	\$64,708,000	(+0.40%)	\$109,379,000	(+0.63%)
Enrollees, group insurance (e)	\$18,263,775,000	\$45,280,000	(+0.25%)	\$81,153,000	(+0.42%)
<i>Enrollee out-of-pocket expenses</i>					
Cost-sharing for covered benefits (deductibles, copayments, etc.)	\$13,857,141,000	\$221,534,000	(+1.60%)	\$260,701,000	(+1.79%)
Expenses for noncovered benefits (f) (g)	\$227,702,000	-\$227,702,000	(-100.00%)	-\$242,756,000	(-100.00%)
Total expenditures	\$147,002,489,000	\$269,614,000	(+0.18%)	\$506,128,000	(+0.33%)

Source: California Health Benefits Review Program, 2023.

Notes: (a) Change between baseline 2025 and postmandate 2025. Includes fertility services received in 2025 and impact of babies born from fertility services received in 2024.

(b) In some cases, a union or other organization. Excludes CalPERS.

(c) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.1% are state retirees, state employees, or their dependents. About one in five (22.5%) of these enrollees has a pharmacy benefit not subject to DMHC. CHBRP has projected no impact for those enrollees. However, CalPERS could, postmandate, require equivalent coverage for all its members (which could increase the total impact on CalPERS).

(d) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, CHBRP is estimating it seems likely that there would also be a proportional increase of \$0 million for Medi-Cal beneficiaries enrolled in COHS managed care.

(e) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(f) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. 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.

(g) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).

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

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ABOUT CHBRP

The California Health Benefits Review Program (CHBRP) was established in 2002. As per its authorizing statute, CHBRP provides the California Legislature with independent analysis of the medical, financial, and public health impacts of proposed health insurance benefit-related legislation. The state funds CHBRP through an annual assessment on health plans and insurers in California.

A group of faculty, researchers, and staff complete the analysis that informs California Health Benefits Review Program (CHBRP) reports. The CHBRP **Faculty Task Force** comprises rotating senior faculty from University of California (UC) campuses. In addition to these representatives, there are other ongoing researchers and analysts who are **Task Force Contributors** to CHBRP from UC that conduct much of the analysis. The **CHBRP staff** works with Task Force members in preparing parts of the analysis, and manages external communications, including those with the California Legislature. As required by CHBRP's authorizing legislation, UC contracts with a certified actuary, **Milliman**, to assist in assessing the financial impact of each legislative proposal mandating or repealing a health insurance benefit. The **National Advisory Council** provides expert reviews of draft analyses and offers general guidance on the program to CHBRP staff and the Faculty Task Force. Information on CHBRP's analysis methodology, authorizing statute, as well as all CHBRP reports and other publications, are available at www.chbrp.org.

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CHBRP assumes full responsibility for the report and the accuracy of its contents. All CHBRP bill analyses and other publications are available at www.chbrp.org.

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