MILLIMAN REPORT

Fertility treatment coverage analysis

Prepared for the Colorado Division of Insurance

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Introduction

Under Colo. Rev. Stat. § 10-16-155, the Colorado Division of Insurance (DOI) under the Colorado Department of Regulatory Agencies (DORA) has retained Milliman, Inc. (Milliman) to perform actuarial reviews of legislative proposals that may impose a new health benefit coverage requirement on health benefit plans or reduce or eliminate coverage required under health benefit plan. The legislative requirements may impact the individual, small group, and large group markets. The actuarial review must consider the predicted effects of the legislative proposal on the affected markets during the one, five, and 10 years immediately following the effective date of the legislative proposal, or during another time period following the effective date of the legislative proposal if such consideration is more actuarially feasible, including:

- An estimate of the number of Colorado residents who will be directly affected by the legislative proposal
- Estimates of changes in the rates of utilization of specific healthcare services that may result from the legislative proposal
- Estimates of changes in consumer cost sharing that would result from the legislative proposal
- Estimates of changes in health benefit plan premiums charged to covered persons or employers that would result from the legislative proposal
- An estimate of the out-of-pocket healthcare cost changes associated with the legislative proposal
- An estimate of the potential long-term healthcare cost changes associated with the legislative proposal
- Identification of any potential health benefits for individuals or communities that would result from the legislative proposal
- Information concerning who would benefit from any cost changes and benefit expansions and any disproportionate effects it may have on protected classes, as available
- To the extent practicable, the social and economic impacts of the legislative proposal

At the request of DORA, Milliman was asked to provide an analysis of House Bill 24-1025, which was introduced but not passed in the 2024 legislative session, to mandate fertility treatment benefits in the individual and small group markets. The benefits proposed would mirror fertility treatment benefits mandated for large groups beginning in 2023 as a result of House Bill 20-1158 and would include diagnostic testing for infertility, assisted reproductive treatments (ART) such as in vitro fertilization (IVF), non-assisted reproductive treatments (NART) such as intrauterine insemination (IUI), and all prescription drugs related to fertility treatment. The bill would also include coverage of fertility preservation resulting from iatrogenic or medically induced infertility. Coverage of fertility medications must not impose any limits that are not applicable to coverage under the plan for other prescription medications, and the plan cannot impose deductibles, copayments, coinsurance, benefit maximums, waiting periods, or other limitations that are not applicable to other medical services covered under the plan.

Executive summary

Infertility is a condition characterized by the inability to establish a clinical pregnancy after 12 months of regular and unprotected vaginal intercourse or after six months for individuals over 35 years. It is estimated that between 2015 and 2019 in the United States, 13.4% of women ages 15 to 49 years had impaired fecundity, and 8.5% of married women aged 15 to 49 years and 12.8% of men aged 25 to 49 years had some type of infertility. This estimate does not include LGBTQ individuals or individuals seeking fertility treatment as single parents. It is recommended that heterosexual couples who have not become pregnant after a year of unprotected intercourse or six months for women over 35 years, and for any women over 40 years old to receive a diagnostic evaluation.[1]

In addition to diagnosis, fertility treatment services include assisted reproductive technologies (ART) such as in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), preimplantation genetic testing (PGT), and frozen embryo transfer (FET); non-assisted reproductive technology (NART) such as intrauterine insemination (IUI); fertility preservation services and medications such as clomiphene citrate; as well as others.

A November 2024 coverage survey of fully-insured individual and small group carriers in Colorado indicated a large variance in coverage between different fertility treatment services. Diagnostic testing and intrauterine insemination were covered by all responding carriers while services such as IVF, ICSI, PGT, etc. had less than 50% coverage in either market. No carriers in either market offered any type of coverage for IVF services for surrogates. All carriers indicated equivalent coverage regardless of sexual orientation.

Infertility treatments have been shown to be effective treatment for infertility, with IVF considered the most effective but most expensive and invasive option.[2] Health insurance mandates to cover infertility services have been shown to improve health outcomes of IVF. In a review of data reported through the 2018 CDC Assisted Reproductive Technology Fertility Clinic Success Rates Report,[3] live births per IVF cycle were statistically significantly higher in states providing comprehensive IVF coverage (35.4%) relative to noncomprehensive states (33.4%), where comprehensive mandates included complete coverage of vitro fertilization without lifetime limits or eligibility criteria. Fertility treatments are associated with a short-term increase in stress and poor mental health while undergoing treatment, especially if unsuccessful.[4,5] In the long term, there is some evidence that suggests successful fertility treatment is associated with improved mental health.[6]

The estimated one-year, five-year cumulative, and 10-year cumulative premium impacts for the fully-insured individual and small group market are $24,124,000, $142,965,000, and $358,256,000 respectively, or $3.71, $4.31, and $5.26 per member per month (PMPM) respectively. This is a 0.63%, 0.63%, and 0.64% change to premium.

Our analysis did not include the cost impact of additional babies resulting from infertility services. If the resulting babies and children were included in the analysis, the impacts would reflect the labor and delivery, well-baby visits and vaccinations, and all other medical claims for up to the first nine years of a child's life depending on what year in the 10-year projection the enrollee sought fertility services

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Individual – Total dollars	$11,458,000	$67,917,000	$170,207,000
Individual – PMPM	$3.46	$4.02	$4.91
Individual – Percent change	0.7%	0.7%	0.7%
Small group – Total dollars	$12,666,000	$75,048,000	$188,049,000
Small group – PMPM	$3.96	$4.61	$5.63
Small group – Percent change	0.6%	0.6%	0.6%

Background

INFERTILITY

Infertility is a condition characterized by the inability to establish a clinical pregnancy after 12 months of regular and unprotected vaginal intercourse or after six months for individuals over 35 years. Impaired fecundity is a condition characterized by the inability to conceive or carry a pregnancy to live birth. Infertility may be caused by a variety of factors. In females, factors may include problems with ovulation (e.g., polycystic ovarian syndrome), fallopian tube blockage (e.g., endometriosis, pelvic inflammatory disease), structural problems with uterus (e.g., fibroids, polyps), or low egg count. Fertility in females has also been found to decline with age.[7] Male factors include low sperm count, motility, or quality; varicocele; and certain drugs that may impact sperm or sexual function (i.e., antipsychotics). Factors that can affect both male and female partners include untreated sexually transmitted infections, hormone dysfunction (e.g., sex hormones, thyroid, prolactin), genetic disorders, smoking, or environmental toxins. Infertility may also be due to medical treatment or procedures, such as chemotherapy, radiation, or gender-affirming care. This type of infertility is called iatrogenic infertility. Additionally, someone may seek fertility assistance because they are looking to become a single (unpartnered) parent or are in a same-sex relationship.

INFERTILITY PREVALENCE

It is estimated that between 2015 and 2019 in the United States, 13.4% of women ages 15 to 49 years had impaired fecundity, and 8.5% of married women aged 15 to 49 years and 12.8% of men aged 25 to 49 years had some type of infertility.[8] This estimate does not include LGBTQ individuals or individuals seeking fertility treatment as single parents. These prevalence estimates are based on self-reported survey data on whether the individual met the clinical definition for infertility. These estimates do not specify whether the respondent was trying to conceive or not.

The percentage of Asian women (67.7%) who were presumed fertile was higher than Black (53.3%), Hispanic (53.1%), or white (50.6%) women. The percentage of some types of infertility was higher in Hispanic men (16.9%) compared with Asian (11.1%), Black (11.7%), or white (11.8%) men. Infertility was not found to be associated with income level, but women with household incomes of less than 100% of the federal poverty level were about 1.4 times more likely to have impaired fecundity than women with household incomes of 400% of the federal poverty level or higher.[9]

It is challenging to estimate infertility prevalence, given that infertility is defined by the absence of a pregnancy occurring between two people over a defined time period. Given this challenge, infertility rates estimated using administrative claims data may underestimate prevalence. Studies estimating infertility prevalence using claims have reported lower prevalence rates than prevalence estimated using self-reported survey data. For example, in a study describing the risk of cancer among infertile women, 2% of women were infertile using administrative claims as compared to 10% of women estimated to be infertile when using population level survey data.[10]

DIAGNOSING & TREATMENT

It is recommended that heterosexual couples who have not become pregnant after a year of unprotected intercourse or six months for women over 35 years, and for any women over 40 years old to receive a diagnostic evaluation (ASRM 2021).[11] Diagnostic services for infertility include lab tests such as measuring hormones or ovarian reserves, semen analysis, imaging, and diagnostic procedures such as laparoscopy or hysteroscopy.

- Hysteroscopy: A procedure in which a lighted scope (hysteroscope) is inserted through the cervix into the uterus to enable the physician to view the inside of the uterus to diagnose and treat problems within the uterine cavity.
- Laparoscopy: A diagnostic procedure in which a surgeon inserts a laparoscope through a small incision below the navel and visually inspects the uterus, uterine ligaments, fallopian tubes, ovaries, and abdominal organs. Other incisions may also be made to allow insertion of additional instruments to facilitate diagnosis and treatment of pelvic diseases.
- Hysterosalpingogram (HSG): An X-ray procedure in which a special media (dye) is injected into the uterus to demonstrate the inner contour of the uterus and degree of openness (patency) of the fallopian tubes.

Treatment of infertility will depend on the cause of the condition. Common treatments include:

- **Medical advice**: A provider may review patient and partner medical history, including questions to help identify potential causes for difficulty in conceiving and review practices to maximize the chance of conceiving and having a healthy pregnancy.
- **Medications:** Medications for infertility work by causing the body to release hormones that trigger or regulate ovulation. Some common fertility drugs doctors may recommend are:
  - **Clomiphene citrate (Clomid):** An estrogen-blocking drug (also known as an ovary stimulant), clomiphene citrate causes the hypothalamus and pituitary gland to release hormones that trigger ovaries to make eggs.
  - **Injected fertility hormones:** Some of the common types include human chorionic gonadotropin, follicle-stimulating hormone (FSH), human menopausal gonadotropin, gonadotropin-releasing hormone (GnRH) agonist, and GnRH antagonist.
  - **Ganirelix:** An injectable medication used to prevent luteinizing hormone (LH) surges in people undergoing controlled ovarian hyperstimulation (COH).
  - **Cabergoline (Dostinex) and bromocriptine (Parlodel):** Used to treat hyperprolactinemia or abnormally high levels of prolactin in the body. Prolactin is the hormone responsible for lactation, and high levels can lead to fertility problems, among other complications.
- **Non-assisted reproductive technology (NART):**
  - **Intrauterine insemination (IUI):** The process whereby sperm are injected directly into the uterine cavity in order to bypass the cervix and place the sperm closer to the egg. The sperm are usually washed first in order to remove chemicals that can irritate the uterine lining and to increase sperm motility and concentration. Also referred to as artificial insemination.
- **Assisted reproductive technology (ART):** All treatments that include laboratory handling of eggs, sperm, and/or embryos. The most common examples of ART are in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), preimplantation genetic testing (PGT), frozen embryo transfer (FET), donor egg, and donor embryo transfer.
  - **In vitro fertilization (IVF**): A method of assisted reproduction that involves surgically removing eggs from the woman's ovaries, combining them with sperm in the laboratory and, if fertilized, replacing the resulting embryo into the woman's uterus.
  - **Intracytoplasmic sperm injection (ICSI):** A micromanipulation technique used in conjunction with IVF that involves injecting a sperm directly into an egg to facilitate fertilization. The fertilized egg is then transferred to the uterus.
- **Fertility preservation/cryopreservation:** The practice of freezing eggs or embryos from a patient's ART cycle for potential future use.

INSURANCE COVERAGE OF TREATMENTS

Currently 23 states have laws that mandate state regulated insurance cover at least some infertility or fertility preservation treatments, and Texas requires group health plans to offer at least one policy that covers infertility services.[12]

In November 2024, we received surveys from 11 carriers from Colorado about fertility treatment services in the individual and small group markets comprising approximately 98% and 99% of the individual and small group markets.

Responses revealed a mix of coverage across the two markets. Infertility diagnosis and diagnostic tests, intracervical insemination (ICI), and IUI were currently covered by all individual and small group plans. However, coverage ranges for ART treatments. Only 36% of enrollees in individual plans and 25% of enrollees in small group plans currently have coverage for IVF. As for ICSI, the percentage of coverage remains similar to the percentage of coverage for IVF.

Coverage for infertility medications is also varied (55% of individual plans and 100% of small group plans). Coverage for cryopreservation as a result of iatrogenic infertility/medically-induced infertility also varied across markets, with 36% of individual enrollees and 59% of small group enrollees having coverage. Carriers indicated that 76% of individual and 59% of small group enrollees have cost sharing for fertility treatment that is similar in structure to other major medical services.

No plans offered coverage for IVF services for surrogates.

All carriers indicated equivalent coverage regardless of sexual orientation.

POTENTIAL HEALTH BENEFITS

Infertility treatments have been shown to be effective treatment for infertility, with IVF considered the most effective but most expensive and invasive option.[13]

Health insurance mandates to cover infertility services have been shown to improve health outcomes of IVF. In a review of data reported through the 2018 CDC Assisted Reproductive Technology Fertility Clinic Success Rates Report,[14] live births per IVF cycle were statistically significantly higher in states providing comprehensive IVF coverage (35.4%) relative to noncomprehensive states (33.4%), where comprehensive mandates included complete coverage of IVF without lifetime limits or eligibility criteria. Fewer embryos were transferred per procedure in comprehensive states than in noncomprehensive states and comprehensive states had a lower percentage of multiple births as a percentage of all births (10.2%) relative to noncomprehensive states (13.8%). Multiparous births are associated with health risks, including congenital birth defects, premature birth and prenatal death, and maternal health risks such as preeclampsia, diabetes, and hemorrhage.[15]

Evidence suggests that infertility is associated with lower quality of life (QoL) and health-related quality of life (HQoL) scores in individuals experiencing infertility relative to individuals without infertility.[16] Fertility treatments are associated with a short-term increase in stress and poor mental health while undergoing treatment, especially if unsuccessful.[17,18] In the long term, some evidence suggests that successful fertility treatment is associated with improved mental health.[19] One study that followed women 20 to 23 years after IVF attempts found that depression symptoms were reported less frequently for women who were able to undergo IVF resulting in a live birth relative to people who remain childless.[20]Evidence suggests that children conceived through IVF may have a higher likelihood of having low birth weight, higher blood pressure, and higher fasting glucose at birth, though long term health risks to children are low.[21] There is an interaction between these health outcomes and multiple births; some of these associations may be lessened with an increase in single births.[22]

PUBLIC DEMAND, DISPARITY, AND AVAILABILITY OF SERVICES

According to the Kaiser Family Foundation (KFF) analysis of the 2015-2017 National Survey of Family Growth (NSFG), 10% of women between 18 and 49 reported that they or their partner have ever talked to a doctor about ways to help them become pregnant.[23] The top fertility services women reported included fertility advice (7%), fertility testing (6%), fertility drugs (5%), artificial insemination (2%), other procedures (2%).

An estimated 2.0% of infants in the United States and 2.3% in Colorado were conceived using ART in 2018.[24] Public health statistics on the number of births related to non-ART fertility services, including IUI or medication such as clomid, are not available.

Fertility insurance mandates that require full coverage of IVF are strongly associated with an increase in IVF utilization.[25,26,27] In an analysis of the 2018 CDC ART Fertility Clinic Success Rates Report ,[28] IVF utilization in states with comprehensive IVF mandates was 133% higher than in states without these mandates (6.25 versus 2.68 cycles per 1,000 women), where comprehensive is defined as requiring full IVF coverage without lifetime limits or patient eligibility limitations. An example of a noncomprehensive insurance would be that Hawaii requires five years of infertility prior to covering treatment and has a limit of one IVF cycle per lifetime.

Despite an increase in overall utilization of infertility treatments, disparities in treatment persist across geographic, socio-economic, and demographic factors. In a 2005 survey conducted in Massachusetts, a state with an infertility insurance mandate requiring state licensed private health plans to cover the costs of diagnosis and treatment of infertility including IVF, college educated, higher income, non-Hispanic white women disproportionately accessed infertility services, whereas African American and Hispanic women were significantly underrepresented among individuals accessing services.[29] Of note, this survey was conducted prior to the 2007 individual insurance coverage mandate, requiring all individuals over 18 to have health insurance. A study of the 2014 CDC National ART Surveillance System (NASS) data reporting systems found that while states with mandated coverage had overall higher rates of ART utilization compared to states without mandates, Black non-Hispanic and Hispanic women still had lower rates of utilization on average relative to white, non-Hispanic women.[30] Finally, an analysis of 2018 NASS

data found that though racial disparities in infertility care were reduced in states with insurance mandates, mandates did not eliminate the disparity. Similar to other research findings, across state mandate coverage groups, non-Hispanic Asian and non-Hispanic White populations had the highest ART utilization rates, whereas the lowest rates were among the Hispanic, non-Hispanic Black, and non-Hispanic other/multiple races populations.[31]

IVF availability (physicians per capita) has also been found to be positively correlated with areas with higher income and education levels, leading to differential access to IVF by income and education.[32] It is estimated that almost 25% of the U.S. population lives in an area without access to ART, predominantly in rural areas.[33] As of 2022, Colorado has nine ART clinics in the state, all of which are located in the greater Denver-Boulder metro area.[34]

Financial analysis

The proposed legislation would require all individual and small health benefit plans to provide coverage for the treatment for infertility. The benefit coverage required in the proposed legislation mirrors House Bill 20-1158, which went into effect in 2023 for the large group market.

HB20-1158 required coverage of diagnosis of infertility, treatment for infertility, and fertility preservation services. Coverage of fertility medications must not impose any limits that are not applicable to coverage under the plan for other prescription medications, and the plan cannot impose deductibles, copayments, coinsurance, benefit maximums, waiting periods, or other limitations that are not applicable to other medical services covered under the plan.

Our evaluation projects the population, cost of benefits, premium, and enrollee cost sharing for calendar year 2026, calendar years 2026 through 2030, and calendar years 2026 through 2035 under the following two scenarios:

1. Baseline – Proposed legislation **does not** go into effect.
2. Post benefit requirement – Proposed legislation **does** go into effect.

The difference between the baseline and post benefit requirement values is the impact of the proposed legislation.

The 2023 claims in Colorado's All Payer Claims Database (APCD) show both users per 1,000 and cost per user for fertility treatment are higher in the large group market than the individual or small group markets. Because this proposed legislation extends the same fertility treatment benefits mandated in the large group market in 2023 to the individual and small group market, we used large group costs and utilization in 2023 as the post-benefit requirement benchmark for our analysis.

We assumed the large group post-benefit benchmark reflects a fully covered population. The difference in users per 1,000 between the benchmark and the baseline individual or small group markets was a result of benefit coverage and population differences between markets. Post-benefit requirement, we assumed users per 1,000 in the individual or small group markets would be equal to users per 1,000 in the large group benchmark adjusted for population differences.

Baseline individual and small group cost per user data was less than the large group post-benefit benchmark. We assumed that the difference in the cost per user between the benchmark and the baseline individual or small group markets was a result of benefit coverage and that baseline individual or small group users would pay the difference in cost fully out of pocket as a non-covered benefit. Post-benefit requirement, we assumed that cost per user in the individual or small group markets would be equal to the cost per user in the large group benchmark.

The following utilization and cost per user sections focus on female fertility treatment because male fertility treatment is a small total of overall fertility treatment costs. In the 2023 large group market where treatment is covered, male fertility treatment was less than 1% of the cost of all fertility treatment. The impact of the proposed legislation on male fertility treatment, while small, is included in the premium, out-of-pocket, and expenditure impact tables and appendices.

The analysis does not include the cost of pregnancy, delivery, or a projection of the first 10 years of medical claims associated with the resulting children added to the insurance market. Only fertility services directly impacted by the proposed legislation are included in the analysis.

FERTILITY TREATMENT UTILIZATION

Fertility treatment was split into 5 categories: ART episodes, NART episodes, fertility preservation episodes, infertility diagnosis services, and all other fertility treatment services. Enrollees using these fertility treatment services were identified in Colorado's All Payer Claims Database in 2023 and the number of users was trended to 2026. Exhibit 1 shows expected baseline female users of fertility treatment in 2026 if the legislation does not go into effect.

EXHIBIT 1: BASELINE FEMALE FERTILITY TREATMENT USERS PER 1,000, 2026

Fertility Treatment	Individual	Small Group
ART services	0.24	0.51
NART services	0.18	0.26
Fertility preservation	0.03	0.09
Infertility diagnosis	1.40	2.50
Other fertility treatment	0.60	1.12

Post-benefit requirement, we assumed 2026 fertility treatment users in the individual and small group markets would match 2026 large group users, adjusted for demographic differences. Exhibit 2 shows the number of female users of fertility treatment post-benefit requirement.

EXHIBIT 2: POST BENEFIT REQUIREMENT FEMALE FERTILITY TREATMENT USERS PER 1,000, 2026

Fertility Treatment	Individual	Small Group
ART services	1.29	1.48
NART services	0.32	0.36
Fertility preservation	0.15	0.17
Infertility diagnosis	3.56	4.08
Other fertility treatment	2.00	2.30

NON-COVERED SERVICE OUT-OF-POCKET COSTS PER USER

Estimating enrollee out-of-pocket spending for non-covered services is challenging because those claims are typically a transaction between the user and the provider of the service and not processed through insurance. For this analysis, we assumed that the difference between individual or small group market allowed costs (the sum of insurer cost and enrollee cost sharing for covered services) and large group allowed costs at baseline is a result of lower fertility treatment coverage in those markets and equal to the amount individual and small group markets are paying for treatments outside of insurance. Exhibit 3 is our estimate of female enrollee out-of-pocket costs for non-covered fertility treatment services at baseline. These services would become fully covered post-legislation and there would be no enrollee out-of-pocket costs for *non-covered* fertility treatment post-legislation. Enrollees would continue to pay cost sharing for covered services, which is discussed in the following section.

EXHIBIT 3: ANNUAL FERTILITY TREATMENT NON-COVERED BENEFIT OUT-OF-POCKET COST PER FEMALE USER, 2026

Fertility Treatment	Baseline Individual	Baseline Small Group
ART services	$17,700	$12,900
NART services	$200	$200
Fertility preservation	$110	$110
Infertility diagnosis	$150	$150
Other fertility treatment	$840	$1,420

COST PER USER FOR COVERED SERVICES

While we do not expect the cost of any individual fertility treatment service to change post-benefit requirement, we do expect services to shift from noncovered to covered and thus increase the average allowed cost per user (the sum of insurer cost and enrollee cost sharing) for covered services post-benefit requirement. The estimated baseline 2026 fertility treatment allowed cost per female user for covered services was calculated using the Colorado APCD and is shown in Exhibit 4. Cost post legislation for the individual and small group markets are based on large group data in the APCD.

EXHIBIT 4: ANNUAL FERTILITY TREATMENT COST PER FEMALE USER, 2026

Fertility Treatment	Baseline Individual	Baseline Small Group	Post-legislation
ART services	$7,200	$11,900	$24,900
NART services	$2,800	$2,800	$3,000
Fertility preservation	$8,680	$8,680	$8,790
Infertility diagnosis	$780	$780	$940
Other fertility treatment	$2,770	$2,180	$3,600

COST SHARING PER USER FOR COVERED SERVICES

There are two dynamics at play when determining the shift in cost sharing per user for covered services:

1. Carriers indicated that 76% of individual and 59% of small group enrollees have cost sharing for fertility treatment that is similar in structure to other major medical services. Large group plans cover fertility treatment using a cost-sharing structure similar to that for other major medical services. We assumed that individual and small group plans would also use a cost-sharing structure similar to that for other major medical services for fertility treatment post-legislation by using large group cost sharing adjusted for benefit differences by market.
2. As a result of the change in coverage, services shift from noncovered to covered services. Instead of paying in full for noncovered services, enrollees pay for a portion of the newly covered services in the form of cost sharing. Because more services are covered, the cost sharing increases from baseline to post-legislation.

Sometimes the major medical cost-sharing structure, which reduces the cost sharing per benefit, does not offset the increase in cost of covered services, resulting in an increase in cost sharing per treatment. In other cases, the major medical cost-sharing structure does offset the increase in cost of covered services, resulting in a reduction in the cost sharing per treatment.

The baseline and post-legislation cost sharing per female user is shown in Exhibit 5.

EXHIBIT 5: BASELINE ANNUAL FERTILITY TREATMENT COST SHARING PER FEMALE USER, 2026

Fertility Treatment	Baseline Individual	Post-legislation Individual	Baseline Small Group	Post-legislation Small Group
ART services	$1,400	$2,300	$1,900	$1,000
NART services	$1,200	$1,000	$1,200	$900
Fertility preservation	$140	$140	$730	$740
Infertility diagnosis	$500	$430	$440	$400
Other fertility treatment	$830	$610	$750	$450

ENROLLEE OUT-OF-POCKET IMPACT

As previously mentioned, we assumed that the difference in baseline cost per user in the individual and small group markets compared to the cost per user in the large group market to be due to the difference in coverage. We also assumed that baseline users would pay this difference out of pocket as a non-covered benefit expense. Post-legislation, out-of-pocket costs for non-covered services are eliminated. This savings more than offsets any increase in cost sharing for newly covered services.

Cost sharing for covered services and enrollee cost for non-covered benefits are included in the estimated enrollee out-of-pocket cost impact in Exhibit 6. The total enrollee out-of-pocket impacts are spread across all enrollees in the market to calculate the per member per month (PMPM) enrollee out-of-pocket impacts.

- For individual insurance, we estimate a one-year total patient out-of-pocket impact of -$196,000, a five-year patient out-of-pocket impact of -$1,222,000, and a 10-year patient out-of-pocket impact of -$3,239,000 or -$0.06, -$0.07, and -$0.09 PMPM respectively.
- For small group insurance, we estimate a one-year total patient out-of-pocket impact of -$1,944,000, a five-year patient out-of-pocket impact of -$11,553,000, and a 10-year patient out-of-pocket impact of -$29,057,000 or -$0.61, -$0.71, and -$0.87 PMPM respectively.

EXHIBIT 6: ESTIMATED ENROLLEE OUT-OF-POCKET IMPACT OF THE PROPOSED LEGISLATION

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Individual - Total dollars	-$196,000	-$1,222,000	-$3,239,000
Individual - PMPM	-$0.06	-$0.07	-$0.09
Small group - Total dollars	-$1,944,000	-$11,553,000	-$29,057,000
Small group - PMPM	-$0.61	-$0.71	-$0.87
Individual and small group - Total dollars	**-$2,140,000**	**-$12,775,000**	**-$32,296,000**
Individual and small group - PMPM	**-$0.33**	**-$0.39**	**-$0.47**

PREMIUM IMPACT

The estimated premium impact from passing fertility treatment coverage requirements in the individual and small group markets is shown in Exhibit 7. The total premium impacts are spread across all enrollees in the individual and small group markets to calculate the PMPM premium impacts.

- For individual insurance, we estimate a one-year premium impact of $11,458,000, a five-year premium impact of $67,917,000, and a 10-year premium impact of $170,207,000, or $3.46, $4.02, and $4.91 PMPM respectively, or 0.7%, 0.7%, and 0.7% percent change over baseline premium respectively.

- For small group insurance, we estimate a one-year premium impact of $12,666,000, a five-year premium impact of $75,048,000, and a 10-year premium impact of $188,049,000, or $3.96, $4.61, and $5.63 PMPM respectively, or 0.6%, 0.6%, and 0.6% percent change over baseline premium respectively.

EXHIBIT 7: ESTIMATED PREMIUM IMPACT OF THE PROPOSED LEGISLATION

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Individual – Total dollars	$11,458,000	$67,917,000	$170,207,000
Individual – PMPM	$3.46	$4.02	$4.91
Individual – Percent change	0.7%	0.7%	0.7%
Small group – Total dollars	$12,666,000	$75,048,000	$188,049,000
Small group – PMPM	$3.96	$4.61	$5.63
Small group – Percent change	0.6%	0.6%	0.6%
Individual and small group – Total dollar	**$24,124,000**	**$142,965,000**	**$358,256,000**
Individual and small group – PMPM	**$3.71**	**$4.31**	**$5.26**
Individual and small group – Percentage change	**0.63%**	**0.63%**	**0.64%**

TOTAL EXPENDITURE IMPACT

The total estimated expenditure impact, including premium and enrollee out-of-pocket costs, from passing the proposed legislation is shown in Exhibit 8.

- For individual insurance, we estimate a one-year total cost of care impact of $11,262,000, a five-year total cost of care impact of $66,695,000, and a 10-year total cost of care impact of $166,968,000 or $3.40, $3.95, and $4.82 PMPM respectively.
- For small group insurance, we estimate a one-year total cost of care impact of $10,722,000, a five-year total cost of care impact of $63,495,000, and a 10-year total cost of care impact of $158,992,000 or $3.36, $3.90, and $4.76 PMPM respectively.

EXHIBIT 8: ESTIMATED TOTAL COST OF CARE IMPACT OF THE PROPOSED LEGISLATION

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Individual - Total dollars	$11,262,000	$66,695,000	$166,968,000
Individual - PMPM	$3.40	$3.95	$4.82
Small group - Total dollars	$10,722,000	$63,495,000	$158,992,000
Small group - PMPM	$3.36	$3.90	$4.76
Individual and small group - Total dollars	**$21,984,000**	**$130,190,000**	**$325,960,000**
Individual and small group - PMPM	**$3.38**	**$3.92**	**$4.79**

See Appendix B through G for more detailed information on PMPM and total cost of care.

LONG-TERM HEALTHCARE COST IMPACT

We did not include costs associated with pregnancy, labor and delivery, and children born as a result of fertility treatment. We do not expect long-term cost impacts associated with children conceived via fertility treatment to be greater than children conceived naturally. Evidence suggests that the long-term health risks to children are low,

though children conceived through IVF have a higher likelihood of having low birth weight, higher blood pressure, and higher fasting glucose at birth.[35,36]

STATE DEFRAYAL OF MANDATED BENEFITS IN EXCESS OF ESSENTIAL HEALTH BENEFITS

Individual and small group carriers in Colorado currently cover NART, such as IUI or ICI, the diagnosis of infertility, and other infertility treatment related to NART or infertility diagnosis based on the coverage survey described above. The Colorado Division of Insurance (Division) believes this is because coverage for these services is currently mandated under Colorado's essential health benefit (EHB) benchmark plan and that the state would not be required to defray the costs of these services.

ART, such as IVF and ICSI, fertility preservation, and other infertility treatment related to ART or fertility preservation appear to be in addition to EHB and the state may be required to defray the costs of these services.

EXHIBIT 9: STATE DEFRAYAL ESTIMATES

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Total individual and small group enrollment	**541,988**	**2,764,324**	**5,671,146**
PMPM - Assisted reproductive technology	$3.25	$3.78	$4.63
PMPM - Non-assisted reproductive technology	$0.00	$0.00	$0.00
PMPM - Fertility preservation	$0.13	$0.16	$0.19
PMPM - Other infertility treatment	$0.57	$0.67	$0.82
PMPM - Infertility diagnosis	$0.00	$0.00	$0.00
PMPM - All defrayed services	**$3.96**	**$4.61**	**$5.64**
Total dollars - Assisted reproductive technology	$21,143,000	$125,534,000	$315,330,000
Total dollars - Non-assisted reproductive technology	$0	$0	$0
Total dollars - Fertility preservation	$872,000	$5,180,000	$13,013,000
Total dollars - Other infertility treatment	$3,730,000	$22,146,000	$55,628,000
Total dollars - Infertility diagnosis	$0	$0	$0
Total dollars - All defrayed services	**$25,745,000**	**$152,860,000**	**$383,971,000**

If these services in the current legislative proposal were determined to be in excess of EHB coverage, the state would be required to defray the costs of mandating coverage.

SOCIAL AND ECONOMIC IMPACT

Passage of legislation requiring coverage of infertility treatment would decrease the out-of-pocket costs for individuals enrolled in small group or individual market health plans who are seeking to have biological children using fertility treatment.

The proposed legislation does not exclude same-sex couples from the definition of infertility and would likely decrease disparities in fertility treatment by sexual orientation and gender identity by expanding coverage to all people seeking to have biological children. This legislation would also improve access to cryopreservation services for individuals undergoing healthcare treatment, such as chemotherapy, radiation, or pelvic surgery, that may impact fertility.

Racial and economic disparities exist in those who receive treatment. An increase in infertility treatment may not be evenly distributed across all income levels or race or ethnicity. Evidence suggests that mandates are not sufficient to eliminate racial and ethnic disparities in infertility treatment.[37]

The proposed legislation allows for cost sharing, meaning that low-income individuals would likely continue to face financial barriers to care. Individuals enrolled in high-deductible plans may also still face financial barriers to care given the high cost of fertility treatment. Cost has been identified as the greatest barrier to infertility care and ART, in particular. In a survey of women 18 to 44 at five gynecology clinics in Boston between 2018 and 2019, cost was found to be the most common barrier to infertility care.[38] The 30.4% of respondents also reported being unaware of insurance benefits, despite an insurance mandate requiring coverage for infertility treatment In Massachusetts.

Access to services may still be a barrier to care if the proposed legislation is passed. The availability of ART clinics in Colorado is low. There are nine clinics in Colorado as of 2022, all of which are in the greater Denver area, Colorado Springs, or Fort Collins. Individuals living elsewhere in the state do not have the same access to services regardless of insurance coverage.

Methodology and assumptions

As noted in the prior section, the financial evaluation projects the population, cost of benefits, premium, and enrollee cost sharing for calendar year 2026, calendar years 2026 through 2030, and calendar years 2026 through 2035 under the following two scenarios:

1. Baseline – Proposed legislation **does not** go into effect.
2. Post benefit requirement – Proposed legislation **does** go into effect.

The difference between the baseline and post benefit requirement values is the impact of the proposed legislation.

To perform the financial evaluation, we made the following key assumptions:

- This legislative proposal extends the same fertility treatment benefits coverage requirements in the large group market starting in 2023 to the individual and small group market.
- We assumed that post-legislation fertility treatment utilization and cost for the individual and small group markets would be similar to 2023 large group fertility benefit utilization and cost, adjusted for population differences.
- For baseline individual and small group fertility treatment users, we assumed that the difference between their baseline cost per user and the cost per user for a large group user is due to the difference in coverage and that baseline individual and small group users pay this difference out of pocket as a non-covered benefit.

COLORADO POPULATION

We used 2023 enrollment data from the Colorado All Payer Claims Database (APCD) to identify underwritten commercial enrollment in preferred provider organization plans (PPO), point of service plans (POS), exclusive provider organization plans (EPO), and health maintenance organization plans (HMO). We limited the data to enrollment months with both medical and pharmacy coverage to reflect comprehensive benefits and premiums, and placed each enrollment month into individual, small group, or large group based on their plan size.

Rocky Mountain HMO was not present in 2023 enrollment data. To adjust for missing enrollment, we used 2023 enrollment information for the plan from the 2023 Colorado Insurance Statistical Report to supplement totals from the APCD. We then used Colorado population projections from the Department of Local Affairs to trend all 2023 enrollment data to 2026 through 2035.

COLORADO CLAIMS AND PREMIUM

We summarized medical and pharmacy claims from the Colorado APCD by individual, small group, and large group and estimated claim liability for calendar year 2023 to calculate the total incurred claims. We then trended claims to 2026 through 2035 and applied administration and profit to develop premium.

The claim liability is calculated as the total estimated claims incurred through the valuation date, less the total claims paid to date. We estimated incurred claims using the development method (sometimes referred to as the completion factor method or the lag method). The lag patterns were derived from the claim data from the APCD. The incurred claims for a given month are estimated as the amount of claims incurred in that month and paid by February 2024, divided by our estimate of the percentage of the total incurred that has been paid (or the completion factor). Completion factors were estimated based on historical claims, using the arithmetic completion ratio method. Completion ratios are derived from claim data and reflect the lag between the date of incurral and date of payment. Completion ratios are equal to the quotient of cumulative claims paid through one month divided by the cumulative claims paid through the subsequent month. Arithmetic completion ratios are calculated by taking the arithmetic average of a number of the most recent completion ratios.

Although we used the methodology described above to analyze the lagged claims, we combined it with a different method to develop the final estimate of claims incurred but not paid for each group of members. The completion factor method is not reliable for the most recent incurral months because the paid portions of claims incurred during those months are generally low and are therefore not good predictors of the ultimate total incurred amounts. Accordingly, the incurred claims for the most recent months (months that we estimate are less than 70% completely paid) were estimated separately as the product of the number of the plan members enrolled for those months and the

amount of estimated claims incurred PMPM for the same months. These estimated incurred claims PMPM were calculated using trend analysis. We estimated incurred claims per member for all service categories.

We used the estimated incurred claims per member to calculate the medical and pharmacy completion factors for individual, small group, and large group plans in 2023 and used those factors to complete 2023 medical and pharmacy claims from the Colorado APCD.

EXHIBIT 10: 2023 COMPLETION FACTORS

2023	INDIVIDUAL	SMALL GROUP
Medical completion factor	0.968	0.976
Pharmacy completion factor	0.984	0.999

The completed 2023 medical and pharmacy paid claims were projected to 2026 through 2035 claims using a 6.5% annual claims trend with a 0.5% leveraging factor. Claims trend was developed by reviewing historical individual, small group, and large group trend in Colorado and nationwide, as well as reviewing Colorado filing documents and unified rate review templates submitted by various insurance carriers to DORA.

We applied administration expense ratios by individual and small group lines of business to the projected claims to develop premiums for 2026 through 2035. Exhibit 11 shows the assumed administration expenses as a percentage of total premium based on industry experience.

EXHIBIT 11: ADMINISTRATIVE COSTS INCLUDING PROFIT, AS A PERCENTAGE OF TOTAL PREMIUM

	INDIVIDUAL	SMALL GROUP
Administration ratio	15%	20%

CARRIER COVERAGE SURVEY

We surveyed insurance carriers in Colorado about current coverage of fertility treatment in individual and small group markets. We received responses from 11 carriers who together make up approximately 99% of the individual market and 98% of the small group market based on premium market share from the 2023 Colorado Insurance Statistical Report. The survey is in Appendix A.

EXHIBIT 12: CARRIER SURVEY REPRESENTATION

	INDIVIDUAL	SMALL GROUP
Carrier survey respondents	99%	98%

FERTILITY TREATMENT IDENTIFICATION

Assisted reproductive technology, non-assisted reproductive technology, and fertility preservation

We divided fertility treatment into three categories of services: ART, NART, and fertility preservation.

We identified trigger events for ART, NART, and fertility preservation by market in the APCD to build episodes of care for each type of fertility treatment. We then grouped infertility-related medical and pharmacy services 30 days before and after a trigger service into ART, NART, or fertility preservation episodes.

Trigger events included retrievals and transfers for ART, insemination for NART, and cryopreservation services fertility preservation. These services were identified in the Colorado APCD using CPT[a]/HCPCS and ICD-10 procedure codes. In the case of overlapping trigger events, episodes were combined and extended to include 30 days of claims after the final trigger event, and the episode would be categorized in the hierarchy of fertility preservation, ART, and then NART.

Infertility-related medical and pharmacy services 30 days before and after a trigger service included pharmacy drugs, office visits, diagnostic testing, as well as services occurring during the fertility treatment event itself. These services were identified using CPT/HCPCS, ICD-10 procedure codes, and ICD-10 diagnosis codes.

Infertility diagnosis and services

We then identified diagnostic services associated with fertility treatment or infertility diagnosis claims by market in the APCD, not within the ART, NART, and fertility preservation episodes of care previously identified.

Other fertility treatment

After ART, NART, and fertility preservation episodes and diagnostic services, we identified all other fertility treatment related claims by market in the APCD. These related claims include pharmacy drugs related to infertility; fertility treatment surgeries not within ART, NART, and fertility preservation episodes; and other services with an infertility diagnosis.

FERTILITY TREATMENT UTILIZATION

We summarized the ART, NART, and fertility preservation episodes; infertility diagnosis and services; and other fertility treatment in the APCD by individual, small group, and large group markets. A version of this proposed benefit requirement went into effect in the large group market in 2023 and as such the number of fertility treatment users per 1,000 members in the 2023 large group market is much higher than the fertility treatment users per 1,000 members in the 2023 individual and small group markets in every fertility treatment service category.

We reviewed ART utilization in states with similar fertility treatment coverage and relying on utilization in these states, assumed a 10% annual user trend from 2023 through 2026 and a 0.5% annual user trend from 2026 through 2035 for all fertility treatment services. In the baseline scenario, we trended 2023 fertility treatment users per 1,000 members through 2035 in the individual and small group markets using the 10% annual trend until 2026 and then the 0.5% trend from 2026 through 2035.

In the post-benefit requirement scenario, we assumed that the fertility treatment users per 1,000 members from 2026 through 2035 in the individual and small group markets would rise to the level of the large group market, also trended to 2026 using a 10% user trend to model a ramp up in fertility treatment usage because 2023 was the first year of large group coverage and then further trended from 2026 through 2035 using a 0.5% user trend.

We then adjusted for the proportion of female members aged 15 to 49 in each market. The proportion of females aged 15 to 49 in the individual and small group market is 26% and 30%, compared to 32% in the large group market.

FERTILITY TREATMENT ANNUAL AVERAGE COST PER USER

Baseline costs per member for fertility treatment services were calculated using data from the APCD. While the 2023 average cost of any individual fertility treatment service did not vary between markets, in the 2023 large group market, the average annual fertility treatment cost per user was higher than the individual or small group markets as a result of increased coverage and users using more services.

In the baseline scenario, we assumed that the average annual cost for each category of fertility treatment would be the trended 2023 average annual cost in the individual and small group markets.

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In the post-benefit requirement scenario, we assumed that the average annual cost for each category of fertility treatment would be the trended 2023 average annual cost in large group market.

We projected the average annual cost of ART, NART, and fertility preservation episodes, and other fertility treatment per user to 2026 through 2035 using a 7% trend based on Milliman's 2024 Commercial Health Cost Guidelines™. Diagnostic services were trended using a 4.5% trend also based on Milliman's 2024 Commercial Health Cost Guidelines.

Baseline cost sharing for each category of fertility treatment in the individual and small group markets was calculated using the paid-to-allowed ratio for each market. Post-benefit requirement cost sharing for both markets was then adjusted to match the paid-to-allowed ratio of the large group market.

Baseline non-covered benefit cost was calculated as the difference between the trended average annual cost in the large group market minus the trended average annual cost in the individual or small group market.

ADMINISTRATIVE COSTS

We assumed no additional administrative costs due to this requirement beyond the typical proportional increase in retention costs when applied to medical cost increases.

CONSIDERATIONS AND LIMITATIONS

As of 2022 there are nine ART clinics in Colorado, with the majority in the greater Denver area or other urban centers. Colorado has a lower ratio of ART clinics to population than other states, but we assumed no barriers to care access or treatment in the analysis and made no adjustments to utilization due to provider limitations. To the extent that future fertility treatment is limited due to a lack of clinics or providers, our estimates overestimate the impact of the proposed legislation.

Baseline individual and small group fertility treatment users received fewer services covered by insurance than large group users. For this analysis we assumed that the average fertility treatment user used services at the same rate and cost as the large group users, and users in the individual and small group markets spent the difference out of pocket as non-covered benefits. To the extent that baseline individual and small group users do not spend the difference and instead utilize services at a different rate from large group users, our estimates overestimate the baseline out-of-pocket costs for non-covered benefits as well as the impact of the proposed legislation on out-of-pocket costs for non-covered fertility treatment benefits.

Our analysis did not include the cost impact of additional babies resulting from infertility services. We do not expect long-term cost impacts associated with children conceived via fertility treatment to be greater than children conceived naturally. Evidence suggests that the long-term health risks to children are low, though children conceived through IVF may have a higher likelihood of having low birth weight, higher blood pressure, and higher fasting glucose at birth. If the resulting babies and children were included in the analysis, the impacts would reflect the labor and delivery, well-baby visits and vaccinations, and all other medical claims for up to the first nine years of a child's life depending on what year in the 10-year projection the enrollee sought fertility services. This analysis was not included as it would make it difficult to discern between the additional costs of fertility services versus the existence of more children for 10 years. The resulting trend would also seem misleading because the number of children in existence would be cumulative.

Variability of results

Differences between our estimates and actual amounts depend on the extent to which future experience conforms to the assumptions made in this model. It is almost certain that actual experience will not conform exactly to the assumptions used in this model. Actual amounts will differ from projected amounts to the extent that actual experience is better or worse than expected.

Model and data reliance

Milliman has developed certain models to estimate the values included in this report. The intent of the models was to estimate the impact of bill HB 24-1025. We have reviewed this model, including its inputs, calculations, and outputs

for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

The models rely on data and information as input to the models. We have relied upon certain data and information for this purpose and accepted it without audit. To the extent that the data and information provided is not accurate, or is not complete, the values provided in this report may likewise be inaccurate or incomplete.

Milliman's data and information reliance includes:

- Data from Colorado's All Payer Claims Database
- Colorado census data and projections
- Historical Colorado specific ART treatment utilization from the CDC
- An October 29, 2024, meeting with DORA, the legislator and staff who submitted HB 24-1025, Colorado's assistant reproductive attorney, and a representative from the fertility advocacy group RESOLVE
- All other sources mentioned inline and in references, including survey and studies

The models, including all input, calculations, and output may not be appropriate for any other purpose.

We have performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our investigation.

Qualifications to perform analysis

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The developers of this model and authors of this paper, Casey Hammer and Norman Yu, are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses supported by this model.

Distribution and usage

Milliman's work is prepared solely for the use and benefit of Colorado Department of Regulatory Agencies in accordance with its statutory and regulatory requirements. Milliman recognizes that this report will be public record subject to disclosure to third parties. To the extent that the information contained in this report is provided to any third parties, the report should be distributed in its entirety. We do not intend this information to benefit, or create a legal liability to, any third party, even if Milliman consents to the release of its work product to such third party. Similarly, third parties are instructed to place no reliance upon this report prepared by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties. It is the responsibility of any recipient of this report to make an independent determination as to the adequacy of the proposed results for their organization.

Appendix A: Carrier coverage survey

COLORADO
Department of Regulatory Agencies

COVERAGE SURVEY FOR FERTILITY TREATMENT

Please return this survey to Riley De Valois (riley.devalois@state.co.us) and Tara Smith (tara.smith@state.co.us) by January 7, 2025.

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1) What is the name of the insurance carrier?

2) Please complete the following table with how many people are enrolled in the following lines of business as of October 31, 2024? Please exclude all self-insured or administrative services only plans in your responses.

Individual Market	Small Group Market	Large Group Market
#	#	#

3) Please complete the following table with the % of enrollees **with coverage** for the listed benefit

	Individual Market	Small Group Market	Large Group Market
% enrollees with coverage for infertility diagnosis and diagnostic tests	%	%	%
% enrollees with coverage for infertility medications***	%	%	%
% enrollees with coverage for intracervical insemination (ICI)	%	%	%
% enrollees with coverage for intrauterine insemination (IUI)	%	%	%

% enrollees with coverage for in vitro fertilization (IVF) to treat infertility	%	%	%
% enrollees with coverage for intracytoplasmic sperm injection (ICSI)	%	%	%
% enrollees with coverage for preimplantation genetic testing (PGT)	%	%	%
% enrollees with coverage for donor materials for infertility services including sperm, eggs, or embryos	%	%	%
% enrollees with IVF coverage for surrogates	%	%	%
% enrollees with coverage for cryopreservation as a result of iatrogenic infertility or medically induced infertility	%	%	%

***Infertility medications include but are not limited to: Clomiphene, Metformin, Follicle-stimulating hormone (FSH), Luteinizing hormone (LH), Human chorionic gonadatropic (hCG), Human menopausal gonadotropin (hMG), Dopamine agonists, Gonadotropin-releasing hormone (GnRH), GnRH agonists, GnRH antagonists, Aromatase inhibitors, and Dexamethasone

4) For enrollees **with coverage** for fertility treatment, please complete the following table. Leave blank if no enrollees have coverage.

	Individual Market	**Small Group Market**	**Large Group Market**
% of enrollees that have fertility treatment coverage with **the same cost sharing structure** as other major medical services	%	%	%
% of enrollees that have fertility treatment coverage **with a different cost sharing structure** than major medical services	%	%	%

5) For enrollees that have fertility treatment coverage with a different cost sharing structure than major medical services, please describe the cost sharing structure below or attach documentation of the cost sharing structure.

6) For enrollees with coverage for cryopreservation as a result of iatrogenic infertility, how many storage years are covered by this benefit?

7) For fertility treatment benefits, are there any benefit maximums, waiting periods, or other limitations?

8) For enrollees who have coverage for in vitro fertilization, are there limits on the services covered such as a limit to oocyte retrievals or number of embryo transfers?

9) Do same sex couples or single individuals qualify for fertility treatment benefit coverage? Is the inability to reproduce with the partner enough or are there additional steps that must be met before accessing coverage?

10) For Large Group enrollees, what percentage of enrollees have religious employer exemptions for contraceptives?

11) Is there any additional information you would like to share about coverage for fertility treatment?

Appendix B: Individual enrollees impacted by benefit requirement

Individual Market	1-Year	5-Year Average	10-Year Average
Total enrollment subject to state benefit requirements	275,720	1,406,660	2,886,402
Total population affected	275,720	1,406,660	2,886,402
Female Baseline			
Female users per 1,000			
Assisted reproductive technology	0.24	0.24	0.25
Non-assisted reproductive technology	0.18	0.18	0.19
Fertility preservation	0.03	0.03	0.03
Other infertility treatment	0.60	0.61	0.61
Infertility diagnosis	1.40	1.41	1.43
Benefit cost			
Assisted reproductive technology	$7,200	$8,300	$10,000
Non-assisted reproductive technology	$2,800	$3,300	$4,000
Fertility preservation	$8,680	$10,010	$12,100
Other infertility treatment	$2,770	$3,190	$3,860
Infertility diagnosis	$780	$860	$970
Insurer paid			
Assisted reproductive technology	$5,800	$6,700	$8,000
Non-assisted reproductive technology	$1,600	$2,000	$2,400
Fertility preservation	$8,540	$9,850	$11,900
Other infertility treatment	$1,940	$2,230	$2,700
Infertility diagnosis	$280	$320	$360
Patient out-of-pocket			
Assisted reproductive technology	$1,400	$1,600	$2,000
Non-assisted reproductive technology	$1,200	$1,300	$1,600
Fertility preservation	$140	$160	$200
Other infertility treatment	$830	$960	$1,160
Infertility diagnosis	$500	$540	$610
Patient non-covered			
Assisted reproductive technology	$17,700	$20,400	$24,600
Non-assisted reproductive technology	$200	$200	$300
Fertility preservation	$110	$120	$150
Other infertility treatment	$840	$970	$1,160
Infertility diagnosis	$150	$170	$190

Appendix B: Individual enrollees impacted by benefit requirement (continued)

Individual Market	1-Year	5-Year Average	10-Year Average
Total enrollment subject to state benefit requirements	275,720	1,406,660	2,886,402
Total population affected	275,720	1,406,660	2,886,402
Female Post-benefit Requirement			
Female users per 1,000			
Assisted reproductive technology	1.29	1.30	1.32
Non-assisted reproductive technology	0.32	0.32	0.32
Fertility preservation	0.15	0.15	0.15
Other infertility treatment	2.00	2.02	2.05
Infertility diagnosis	3.56	3.59	3.64
Benefit cost			
Assisted reproductive technology	$24,900	$28,700	$34,600
Non-assisted reproductive technology	$3,000	$3,500	$4,200
Fertility preservation	$8,790	$10,130	$12,240
Other infertility treatment	$3,600	$4,150	$5,020
Infertility diagnosis	$940	$1,020	$1,160
Insurer paid			
Assisted reproductive technology	$22,600	$26,100	$31,400
Non-assisted reproductive technology	$2,000	$2,300	$2,700
Fertility preservation	$8,650	$9,970	$12,040
Other infertility treatment	$2,990	$3,450	$4,170
Infertility diagnosis	$510	$550	$630
Patient out-of-pocket			
Assisted reproductive technology	$2,300	$2,600	$3,200
Non-assisted reproductive technology	$1,000	$1,200	$1,500
Fertility preservation	$140	$160	$200
Other infertility treatment	$610	$700	$850
Infertility diagnosis	$430	$470	$530
Patient non-covered			
Assisted reproductive technology	$0	$0	$0
Non-assisted reproductive technology	$0	$0	$0
Fertility preservation	$0	$0	$0
Other infertility treatment	$0	$0	$0
Infertility diagnosis	$0	$0	$0

Appendix C: Small group enrollees impacted by benefit requirement

Small Group Market	1-Year	5-Year Average	10-Year Average
Total enrollment subject to state benefit requirements	266,268	1,357,664	2,784,744
Total population affected	266,268	1,357,664	2,784,744
Female Baseline			
Female users per 1,000			
Assisted reproductive technology	0.51	0.52	0.53
Non-assisted reproductive technology	0.26	0.26	0.26
Fertility preservation	0.09	0.09	0.09
Other infertility treatment	1.12	1.13	1.14
Infertility diagnosis	2.50	2.52	2.56
Benefit cost			
Assisted reproductive technology	$11,900	$13,700	$16,600
Non-assisted reproductive technology	$2,800	$3,300	$4,000
Fertility preservation	$8,680	$10,010	$12,100
Other infertility treatment	$2,180	$2,510	$3,040
Infertility diagnosis	$780	$860	$970
Insurer paid			
Assisted reproductive technology	$10,000	$11,500	$14,000
Non-assisted reproductive technology	$1,600	$1,900	$2,400
Fertility preservation	$7,950	$9,160	$11,080
Other infertility treatment	$1,430	$1,640	$1,990
Infertility diagnosis	$340	$370	$420
Patient out-of-pocket			
Assisted reproductive technology	$1,900	$2,200	$2,600
Non-assisted reproductive technology	$1,200	$1,400	$1,600
Fertility preservation	$730	$850	$1,020
Other infertility treatment	$750	$870	$1,050
Infertility diagnosis	$440	$490	$550
Patient non-covered			
Assisted reproductive technology	$12,900	$14,900	$18,000
Non-assisted reproductive technology	$200	$200	$300
Fertility preservation	$110	$120	$150
Other infertility treatment	$1,420	$1,650	$1,980
Infertility diagnosis	$150	$170	$190

Appendix C: Small group enrollees impacted by benefit requirement (continued)

Small Group Market	1-Year	5-Year Average	10-Year Average
Total enrollment subject to state benefit requirements	266,268	1,357,664	2,784,744
Total population affected	266,268	1,357,664	2,784,744
Female Post-benefit Requirement			
Female users per 1,000			
Assisted reproductive technology	1.48	1.49	1.51
Non-assisted reproductive technology	0.36	0.37	0.37
Fertility preservation	0.17	0.17	0.17
Other infertility treatment	2.30	2.32	2.35
Infertility diagnosis	4.08	4.13	4.18
Benefit cost			
Assisted reproductive technology	$24,900	$28,700	$34,600
Non-assisted reproductive technology	$3,000	$3,500	$4,200
Fertility preservation	$8,790	$10,130	$12,240
Other infertility treatment	$3,600	$4,150	$5,020
Infertility diagnosis	$940	$1,020	$1,160
Insurer paid			
Assisted reproductive technology	$23,900	$27,500	$33,200
Non-assisted reproductive technology	$2,100	$2,400	$2,900
Fertility preservation	$8,050	$9,270	$11,200
Other infertility treatment	$3,150	$3,630	$4,400
Infertility diagnosis	$540	$580	$660
Patient out-of-pocket			
Assisted reproductive technology	$1,000	$1,200	$1,400
Non-assisted reproductive technology	$900	$1,100	$1,300
Fertility preservation	$740	$860	$1,040
Other infertility treatment	$450	$520	$620
Infertility diagnosis	$400	$440	$500
Patient non-covered			
Assisted reproductive technology	$0	$0	$0
Non-assisted reproductive technology	$0	$0	$0
Fertility preservation	$0	$0	$0
Other infertility treatment	$0	$0	$0
Infertility diagnosis	$0	$0	$0

Appendix D: Individual enrollee PMPM

Individual Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	275,720	1,406,660	2,886,402
Total population affected	275,720	1,406,660	2,886,402
Baseline PMPM			
Insurer premium	$500.96	$577.74	$697.65
Patient out-of-pocket	$0.15	$0.17	$0.20
Patient non-covered	$0.42	$0.49	$0.60
Total Baseline PMPM	**$501.53**	**$578.40**	**$698.45**
Post-benefit Requirement PMPM			
Insurer premium	$504.42	$581.76	$702.57
Patient out-of-pocket	$0.51	$0.59	$0.71
Patient non-covered	$0.00	$0.00	$0.00
Total Post-benefit Requirement PMPM	**$504.94**	**$582.35**	**$703.27**
Change Attributable to Proposed Benefits			
Insurer premium	$3.46	$4.02	$4.91
Patient out-of-pocket	$0.36	$0.42	$0.50
Patient non-covered	-$0.42	-$0.49	-$0.60
Total Change PMPM	**$3.40**	**$3.95**	**$4.82**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.691%	0.696%	0.704%
Patient out-of-pocket	240.0%	242.5%	245.8%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**1%**	**1%**	**1%**

Appendix E: Individual enrollee total dollars

Individual Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	275,720	1,406,660	2,886,402
Total population affected	275,720	1,406,660	2,886,402
Baseline Total Dollars			
Insurer premium	$1,657,501,000	$9,752,134,000	$24,164,513,000
Patient out-of-pocket	$497,000	$2,894,000	$7,080,000
Patient non-covered	$1,390,000	$8,239,000	$20,642,000
Total Baseline Dollars	**$1,659,388,000**	**$9,763,267,000**	**$24,192,235,000**
Post-benefit Requirement Total Dollars			
Insurer premium	$1,668,959,000	$9,820,051,000	$24,334,720,000
Patient out-of-pocket	$1,691,000	$9,911,000	$24,483,000
Patient non-covered	$0	$0	$0
Total Post-benefit Requirement Dollars	**$1,670,650,000**	**$9,829,962,000**	**$24,359,203,000**
Change Attributable to Proposed Benefits			
Insurer premium	$11,458,000	$67,917,000	$170,207,000
Patient out-of-pocket	$1,194,000	$7,017,000	$17,403,000
Patient non-covered	-$1,390,000	-$8,239,000	-$20,642,000
Total Change	**$11,262,000**	**$66,695,000**	**$166,968,000**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.691%	0.696%	0.704%
Patient out-of-pocket	240.2%	242.5%	245.8%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**1%**	**1%**	**1%**

Appendix F: Small group PMPM

Small Group Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	266,268	1,357,664	2,784,744
Total population affected	266,268	1,357,664	2,784,744
Baseline PMPM			
Insurer premium	$684.10	$789.24	$953.32
Patient out-of-pocket	$0.28	$0.32	$0.38
Patient non-covered	$0.73	$0.85	$1.03
Total Baseline PMPM	**$685.11**	**$790.41**	**$954.74**
Post-benefit Requirement PMPM			
Insurer premium	$688.06	$793.85	$958.95
Patient out-of-pocket	$0.40	$0.46	$0.55
Patient non-covered	$0.00	$0.00	$0.00
Total Post-benefit Requirement PMPM	**$688.46**	**$794.30**	**$959.49**
Change Attributable to Proposed Benefits			
Insurer premium	$3.96	$4.61	$5.63
Patient out-of-pocket	$0.12	$0.14	$0.16
Patient non-covered	-$0.73	-$0.85	-$1.03
Total Change PMPM	**$3.36**	**$3.90**	**$4.76**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.579%	0.584%	0.590%
Patient out-of-pocket	42.5%	42.4%	42.2%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.5%**	**0.5%**	**0.5%**

Appendix G: Small group total dollars

Small Group Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	266,268	1,357,664	2,784,744
Total population affected	266,268	1,357,664	2,784,744
Baseline Total Dollars			
Insurer premium	$2,185,847,000	$12,858,288,000	$31,856,996,000
Patient out-of-pocket	$896,000	$5,228,000	$12,840,000
Patient non-covered	$2,325,000	$13,768,000	$34,475,000
Total Baseline Dollars	**$2,189,068,000**	**$12,877,284,000**	**$31,904,311,000**
Post-benefit Requirement Total Dollars			
Insurer premium	$2,198,513,000	$12,933,336,000	$32,045,045,000
Patient out-of-pocket	$1,277,000	$7,443,000	$18,258,000
Patient non-covered	$0	$0	$0
Total Post-benefit Requirement Dollars	**$2,199,790,000**	**$12,940,779,000**	**$32,063,303,000**
Change Attributable to Proposed Benefits			
Insurer premium	$12,666,000	$75,048,000	$188,049,000
Patient out-of-pocket	$381,000	$2,215,000	$5,418,000
Patient non-covered	-$2,325,000	-$13,768,000	-$34,475,000
Total Change	**$10,722,000**	**$63,495,000**	**$158,992,000**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.6%	0.6%	0.6%
Patient out-of-pocket	42.5%	42.4%	42.2%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.5%**	**0.5%**	**0.5%**

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