MILLIMAN REPORT

Colorado House Bill 25-1309: Gender-affirming care 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 plans. 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 ten 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 Colorado House Bill 25-1309 that requires gender-affirming care (GAC) benefit coverage in the large group market. The benefits proposed would mirror GAC benefits added to the Colorado essential health benefits (EHBs) required for individual and small groups effective January 1, 2023. The GAC treatments added to EHBs include breast/chest surgery, facial surgery, genital surgery, laser hair removal, and hormone therapy.

Note**:** The sole focus of this analysis is the expansion of GAC coverage to enrollees in Colorado's large group health insurance market. This analysis does not consider the possible impact of the proposed rule titled "Patient Protection and Affordable Care Act; Marketplace Integrity and Affordability" which was published in the Federal Register on March 19, 2025. The proposed rule would prohibit coverage of gender-affirming care as an EHB in plan year 2026.[1]

Executive summary

Gender-affirming care (GAC) is a combination of medical, behavioral, surgical, and non-medical interventions to support individuals whose gender identity does not align with the biological sex assigned to them at birth. Care plans are specific to the individual and can include any combination of these interventions to support and affirm their gender identity.

Individuals seeking GAC typically identify as transgender, though anyone of any gender identity can seek GAC services. The American Psychological Association defines transgender as "an umbrella term for persons whose gender identity, gender expression or behavior does not conform to that typically associated with the sex to which they were assigned at birth".[2] This definition includes individuals who identify as nonbinary, or other gender identities beyond male/female identities. Nonbinary is an umbrella term for people who identify as a gender outside of the male/female gender binary.

Estimates of the transgender population in the United States are sparse, largely due to the lack of population-level survey data collected on gender identity. The William's Institute estimated that about 0.6% of U.S. individuals aged 13 and older in the US population identify as transgender[1], based on a 2017 to 2020 study. However, to date, no analysis of health insurance claims data nor survey has developed credible estimates for the transgender population.

Though research to date has been primarily limited by small sample sizes and descriptive, cross-sectional study designs, evidence is suggestive that GAC is effective in reducing psychiatric comorbidities and improving symptoms of gender dysphoria for youth and adults.[3,4,5,6,7] Lack of health benefits coverage has been associated with a higher likelihood of using nonprescription hormones, which are associated with unsafe and unmonitored medication use and the risk of adverse health outcomes.[8]

For this analysis, we summarized GAC into five categories of treatment or services: breast/chest surgery, genital surgery, facial surgery, laser hair removal, and hormone therapy. Services were identified using GAC coverage guides from the Colorado Division of Insurance (DOI) and the Centers for Medicare and Medicaid Services (CMS). Currently, there is a high level of coverage for these five categories in Colorado's fully-insured large group market, ranging from 73% of enrollees currently covered for laser hair removal to 100% of enrollees currently covered for breast and chest surgery. Coverage for all other services is approximately 90% of enrollees.

The estimated one-year, five-year cumulative, and 10-year cumulative premium impacts for mandated coverage of GAC for the fully insured large group market in Colorado are $230,000, $1,338,000, and $3,278,000 respectively, or $0.04, $0.04, and $0.05 per member per month (PMPM) respectively. This is a 0.01% change to premium for all time periods. The low premium impacts are due to the high level of baseline coverage and low utilization of services. In 2026, we estimate that there would be 110 new users of hormone therapy and fewer than 10 new users of all other services as a result of HB 25-1309.

EXHIBIT 1: ESTIMATED PREMIUM IMPACT OF THE PROPOSED LEGISLATION

	1-YEAR IMPACT (2026)	5-YEAR CUMULATIVE IMPACT (2026-2030)	10-YEAR CUMULATIVE IMPACT (2026-2035)
Large group - Total dollars	$230,000	$1,338,000	$3,278,000
Large group - PMPM	$0.04	$0.04	$0.05
Large group - Percent change	0.01%	0.01%	0.01%

If enacted, HB 25-1309 would financially impact large group health plan members who are transgender and who currently do not have coverage for the specified services but are seeking treatment. Our analysis does not estimate the number of enrollees using services without coverage due to the high rate of coverage at baseline. Cost sharing for GAC may continue to present a financial burden to health plan members. Cost has been identified as the largest barrier to receiving GAC.[9,10]

Background

GENDER-AFFIRMING CARE

Gender-affirming care (GAC) is a combination of medical, behavioral, surgical, and non-medical interventions to support individuals whose gender identity does not align with the biological sex assigned to them at birth. Care plans are specific to the individual and can include any combination of the following interventions to support and affirm their identity:

- **Surgical procedures**: May include chest, genital, facial, or other surgeries aimed at helping an individual transition to their self-identified gender.
- **Hormone therapy:** Includes feminizing hormones such as estrogen, anti-androgens, and progestins, and masculinizing hormones such as testosterone.
- **Laser or electrolysis hair removal:** Methods of permanent hair removal.
- **Mental and behavioral health:** Therapy or other mental health services related to gender identity, such as gender dysphoria, and transition to their self-identified gender.

Individuals seeking GAC typically identify as transgender, though anyone of any gender identity can seek GAC services. The American Psychological Association defines transgender as "an umbrella term for persons whose gender identity, gender expression or behavior does not conform to that typically associated with the sex to which they were assigned at birth".[11], This definition includes individuals who identify as nonbinary, or other gender identities beyond male/female identities. Nonbinary is an umbrella term for people who identify as a gender outside of the male/female gender binary.

GAC may be used to treat individuals experiencing gender dysphoria. Gender dysphoria is defined by the American Psychiatric Society as the "psychological distress that results from an incongruence between one's sex assigned at birth and one's gender identity."[12] Not all individuals who identify as transgender seek GAC services.

GENDER DYSPHORIA PREVALENCE

Estimates of the transgender population in the United States are sparse, largely due to the lack of population-level survey data collected on gender identity. The William's Institute estimated that about 0.6% of U.S. individuals the age 13 and older US population identify as transgender[1], based on a 2017 to 2020 study. However, to date, no analysis of health insurance claims data nor survey has developed credible estimates for the transgender population.[13,14,15,16,17,18,19,20,21,22,23,24]

There has been an increase in the proportion of people openly identifying as transgender over time, likely driven by a higher proportion of adolescents and young adults identifying as transgender.[25,26,27] For example, results from the 2022 U.S. Transgender Survey show that 43% of respondents identifying as transgender were age 18 to 24, 36% were age 25 to 44, 9% were age 45 to 54, and 13% were 55 or older.[28]

Evidence suggests that racial and ethnic minorities may be overrepresented in the transgender population relative to the general population.[29,30, 31] Using 2014 BRFSS data, Flores et al. found that 16% of transgender adults identified as African-American or Black adults as compared to 12% of the general population, and 21% of transgender adults identified as Hispanic or Latino as compared to 15% of the general population. [32] This work also estimated that 0.5% of non-Hispanic white adults, 0.8% of African-American or Black adults, 0.8% of Latino or Hispanic adults, and 0.6% of adults of other races or ethnicities identify as transgender.

INSURANCE COVERAGE OF GENDER-AFFIRMING CARE

As of 2023, Colorado began explicitly including GAC services in its benchmark health insurance plan for essential health benefits (EHBs).

In December 2024, the Colorado Department of Insurance conducted a survey of insurance carriers in the large group market in the state of Colorado about current coverage of GAC services. Carriers responded with high levels of coverage for the listed GAC services. The survey can be found in Appendix A.

EXHIBIT 2: CURRENT LARGE GROUP COVERAGE OF GAC

Gender-affirming Care	Percent of Enrollees with Coverage
Breast/chest surgery	100%
Genital surgery	90%
Facial surgery [includes blepharoplasty (eye and lid modification); face/forehead and/or neck tightening; facial bone remodeling for facial feminization; genioplasty (chin width reduction); rhytidectomy (cheek, chin, and neck); cheek, chin, and nose implants; lip lift/augmentation; mandibular angle augmentation/creation/reduction (jaw); orbital recontouring; and rhinoplasty (nose reshaping)]	88%
Laser hair removal	73%
Hormone therapy	90%

POTENTIAL HEALTH BENEFITS

Though research to date has been primarily limited by small sample sizes and descriptive, cross-sectional study designs, evidence suggests that GAC is effective in reducing psychiatric comorbidities and improving gender dysphoria for youth and adults.[33,34,35,36,37]

A systematic review of the effects of hormone therapy on mental health among transgender adults found that hormone therapy led to an improvement in psychological functioning at three to six months and further improvement at 12 months and increase in quality of life (QOL) after 12 months post-hormone therapy.[38] A similar relationship has been found between behavioral health and gender-affirming surgery. An analysis of the 2015 U.S. Transgender Survey (USTS) found that transgender individuals who received gender-affirming surgery had lower odds of past-month psychological distress (odds ratio = 0.58), past-year smoking (odds ratio = 0.65), or suicidal ideation (odds ratio =0.56) relative to transgender individuals who did not receive surgery.[39]

Utilization of mental health services was shown to decline after hormone and surgical interventions among gender non-congruent individuals in the Swedish National Patient Registry, including antidepressant and anti-anxiety medication, visits for mental health specialty care, and hospitalization for suicidality.[40]

Lack of insurance has been associated with a higher likelihood of using nonprescription hormones, which are associated with unsafe and unmonitored medication use and the risk of adverse health outcomes.[41]

Risks associated with gender affirming surgery include surgical complications like infection, excessive bleeding, issues with wound healing or post operative complications with pelvic floor, urinary or bowel function.[42,43] In a study of gender affirming surgery in a nationally representative commercial health claims between 2009-2015, the surgical complication rate, including infection, blood clots, healing issues and excessive bleeding, across all gender affirming procedures for adults was 5.8%, with the most common complication being wound infection.[44] Across any type of surgical site, infection occurs in between 0.3% and 5% of patients undergoing surgery.[45] The rate of blood clot formation in gender affirming surgery (0.003%) was found to be less than the estimated rate of blood clot formation in plastic surgery more generally (0.5-2.8%).[46]

Evidence suggests that risks associated with both feminizing gender affirming hormone therapy include an increased risk of blood clots, cardiovascular disease, stroke and diabetes.[47] However, further evidence is needed to understand if these risks exist for individuals receiving testosterone.[48] Evidence also suggests that people taking feminizing hormone therapy may have a higher risk of breast cancer as compared to cisgender men (men whose gender identity aligns with their sex assigned at birth), but their risk is not greater the risk for cisgender women (women whose gender identity aligns with their sex assigned at birth).[49]

PUBLIC DEMAND, DISPARITY, AND AVAILABILITY OF SERVICES

Hormone therapy is the most commonly utilized GAC service, with higher demand among the transgender population. The 2015 USTS is a nationally representative sample of 92,329 transgender people aged 16 years or older in the United States. Among the 2015 USTS respondents, 91% of transgender individuals reported wanting counseling or hormone treatment, but 65% reported ever having received these services.[50] An online survey of 280 transgender adults conducted between 2012 and 2013 found that 59% of respondents had ever used hormone therapy, and 65% of those who had never used hormone therapy planned to.[51]

Gender-affirming surgery is less utilized than hormone therapy by adults. Twenty-five percent of USTS respondents reported undergoing any type of GAC surgery.[52] Studies have found that chest surgery is the most common procedure, followed by genital surgery and facial surgery.[53] The 2015 USTS survey found that among respondents with a biological sex of female listed on their original birth certificate, 21% of respondents reported having had chest surgery and 52% reported wanting it someday; 8% reported having had a hysterectomy and 44% reported wanting it someday; and 1% of respondents reported having had a phalloplasty and 7% reported wanting it someday. Among respondents with a biological sex of male listed on their original birth certificate, 12% of respondents reported having had a vaginoplasty or labiaplasty, with 54% wanting it someday; 11% of respondents reported having had an augmentation mammoplasty, with 54% wanting it someday; and 7% of respondents reported having had facial feminization surgery, with 43% wanting it someday.

In a study of commercially insured and Medicare Advantage enrollees from a claims-based database that spanned 1993 to 2019, 72.1% of the transgender population had ever used hormone therapy, and 14% of the transgender population had ever undergone GAC surgery.[54] Finally, a retrospective chart review of 99 transgender patients at an endocrinology clinic at Boston Medical Center between 2004 to 2015 found 35% of patients had undergone any type of gender-affirming surgery, with chest surgery occurring at the highest rates (25%), followed by genital surgery (13%) and facial surgery (8%).[55]

Cost is reported as the largest barrier to receiving GAC, including out-pocket costs, lack of insurance coverage, or issues with insurance.[56, 57] Compared to the general population or cisgender adults, transgender adults have the highest uninsured rate (23.5% of transgender individuals, 16.1% of cisgender men, and 12.8% of cisgender women) using data from 20-14-2019 BRFSS.[58] Cisgender refers to individuals whose gender identity matches their biological sex assigned at birth.

Availability of services

We were unable to find research that quantified the availability of providers or facilities providing GAC or specialized LGBTQ+ care. Qualitative research suggests that there is a shortage of providers with specialized training in GAC, and this shortage is a barrier for accessing GAC services. In a qualitative study of transgender healthcare experience among 116 transgender U.S. adults, respondents described barriers related to providers' limited training of GAC and awareness of transgender patients.[59] An online survey of 280 transgender adults found that among the 70 respondents who had never undergone GAC surgery, 41% of transgender men and 2% of transgender women reported accessing qualified care as the primary reason for not receiving surgery.[60]

Comprehensive training in GAC for providers is limited. A review of current and past medical school training on GAC and LGBTQ+ health found that although the incorporation of training on these topics into medical school training and continuing medical education has accelerated, education is not widespread across medical school curriculum, and there is a lack of consensus on best practices to improve medical students' knowledge of transgender healthcare.[61] A 2012 survey of the 138 Liaison Committee on Medical Education accredited U.S. academic faculty practices about their LGBT policies and procedures found that 9% of responding practices had procedures in place to identify LGBT competent physicians, 16% reported having comprehensive LGBT competency training, and 52% reported having no training, though 80% of respondents reported interest in doing more to address LGBT health.[62]

Health disparities

Racial disparities exist in GAC post-operative outcomes. Evidence suggests that Black patients have higher odds of post-operative surgical complications as compared to patients with other racial or ethnic identities.[63,64,65] In a 2010 to 2018 study of the National Surgical Quality Improvement Program (NSQIP) found that Black patients had higher odds

of reoperation (odds ratio = 1.82), 30-day readmission (odds ratio =2.46), and surgical infection (odds ratio = 4.65) than white patients.[66]

We identified few examples of literature discussing disparities in access to care by race, ethnicity, or age. However, discrimination and barriers to care among the transgender population relative to cisgender individuals are well documented in the literature. For example, transgender individuals experience higher rates of delaying treatment (50%) relative to cisgender individuals (20%)[67] and higher rates of uninsurance (23.5% of transgender individuals, 16.1% of cisgender men, and 12.8% of cisgender women).[68]

Financial analysis

If enacted, HB 25-1309 would require all fully insured large group health benefit plans to provide coverage for GAC. The benefit coverage required in HB25-1309 mirrors the GAC coverage in Colorado's essential health benefits and in the individual and small group markets, which went into effect in 2023. For this analysis, we summarized encounters into the following five categories of GAC:

- Breast/chest surgery
- Genital surgery
- Facial surgery
- Laser hair removal
- Hormone therapy (medical if administered in a physician setting, or pharmacy if fulfilled by an outpatient pharmacy)

The analysis is performed on a per-user basis. It is possible that an individual receives two or more of the above services, so an individual could be counted as a user in multiple service categories. It is also possible that an individual receives more than one service at a time. For example, if an individual received genital and facial surgery during the same encounter, the entire encounter is assigned to the service that has a higher relative value unit (RVU), which is used as a proxy for service intensity. The sum of the total claims for the year for each type of encounter are totaled, and values are presented on an annual-cost-per-patient basis.

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.

GENDER-AFFIRMING CARE UTILIZATION

Although Colorado's individual and small group markets have full coverage for GAC services, the 2023 Colorado All Payer Claims Database (APCD) shows large group utilization for all GAC services at a level similar to GAC utilization in the individual and small group markets.

We assumed that GAC utilization would increase proportionally to baseline coverage after HB25-1309 is implemented in plan year 2026. For example, genital surgery has 0.059 users per 1,000 at baseline with 90% of enrollees currently covered. If the legislation passes, coverage would be 100% and utilization would increase to 0.066 users per 1,000 (0.059 users per 1,000 / 90% coverage). Exhibit 3 shows the level of coverage in 2024, projected 2026 baseline utilization, and projected 2026 post benefit requirement utilization.

EXHIBIT 3: BASELINE AND POST-BENEFIT REQUIREMENT GAC USERS PER 1,000, 2026

Gender-affirming Care	2024 Coverage	Baseline	Post-benefit Requirement	Change in Users
Breast/chest surgery	100%	0.160	0.160	0

Genital surgery	90%	0.059	0.066	<10
Facial surgery	88%	0.018	0.021	<10
Laser hair removal	73%	0.029	0.039	<10
Hormone therapy (medical)	90%	0.012	0.014	<10
Hormone therapy (pharmacy)	90%	1.915	2.136	110

Note that due to the high coverage and low utilization of these services, the number of new users of each type of service is fewer than 10 for all services except hormone therapy fulfilled by an outpatient pharmacy.

COST AND COST SHARING PER USER

The estimated 2026 average annual cost per GAC service, and cost sharing per user are shown in Exhibit 4. The projected cost is based on 2023 APCD values trended to 2026. Cost sharing was developed using the percentage of the cost per service paid by the enrollee in the 2023 APCD applied to projected 2026 allowed costs for each service. We do not expect the cost or cost sharing of any individual GAC service to change post-benefit requirement. It is important to note that actual cost sharing for any enrollee will vary by plan design and by how much they have paid toward their out-of-pocket maximum on other services received at the time of the date of service.

EXHIBIT 4: ANNUAL GAC COST AND COST SHARING PER USER, 2026

Gender-affirming Care	Cost	Cost Sharing
Breast/chest surgery	$16,000	$2,000
Genital surgery	$25,000	$1,000
Facial surgery	$54,000	$4,000
Laser hair removal	$1,600	$300
Hormone therapy (medical)	$15,000	$2,000
Hormone therapy (pharmacy)	$470	$120

As a result of high baseline coverage for GAC services and the high allowed cost per user in Colorado's large group market, we assumed no baseline noncovered benefit utilization. The number of enrollees interested in GAC services who do not have current coverage and who are willing to navigate through the medical system without insurance coverage to acquire GAC services would be low. As mentioned in the GAC utilization section, there are estimated to be fewer than 10 new enrollees using each type of GAC service—with the exception of hormone therapy (pharmacy)—if coverage is extended. Those who were previously willing to pay out of pocket for non-covered services at baseline would be a fraction of those new users.

Similarly, extending coverage of hormone therapy (pharmacy) would increase the number of users by 110 enrollees. It is possible that some of these new enrollees are purchasing hormones without coverage at baseline, but it is difficult to quantify due to lack of published research and because there is a higher likelihood of using non-prescription hormones when individuals do not have insurance coverage.[69]

PREMIUM IMPACT

The estimated premium impact from Colorado's proposed GAC coverage requirements in the large group market is shown in Exhibit 5.

For large group insurance, we estimate a one-year premium impact of $230,000, a five-year premium impact of $1,338,000, and a 10-year premium impact of $3,278,000, or $0.04, $0.04, and $0.05 per member per month respectively, or a 0.01% percent change over baseline premium in each time period.

EXHIBIT 5: ESTIMATED PREMIUM IMPACT OF THE PROPOSED LEGISLATION

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Large Group - Total Dollars	$230,000	$1,338,000	$3,278,000
Large Group - PMPM	$0.04	$0.04	$0.05
Large Group - Percent Change	0.01%	0.01%	0.01%

ENROLLEE OUT-OF-POCKET IMPACT

We calculated enrollee out-of-pocket cost sharing using typical large group cost sharing, as shown in Exhibit 6. As mentioned above, due to the high cost of GAC services and high coverage at baseline, we assumed that no patients are purchasing services outside of insurance as a noncovered benefit. Thus, the estimated out of pocket does not include any noncovered benefits.

For large group insurance, we estimate a one-year patient out-of-pocket impact of $25,000, a five-year patient out-of-pocket impact of $142,000, and a 10-year patient out-of-pocket impact of $336,000.

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

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Large group - Total dollars	$25,000	$142,000	$336,000
Large group - PMPM	$0.00	$0.00	$0.01

TOTAL EXPENDITURE IMPACT

The total estimated expenditure impact, including premium and enrollee out-of-pocket costs, if HB 25-1309 is passed in Colorado is shown in Exhibit 7.

For large group insurance, we estimate a one-year total cost of care impact of $255,000, a five-year total cost of care impact of $1,480,000, and a 10-year total cost of care impact of $3,614,000 or $0.04, $0.05, and $0.06 per member per month respectively.

EXHIBIT 7: ESTIMATED TOTAL COST OF CARE IMPACT OF THE PROPOSED LEGISLATION

	1-YEAR IMPACT	5-YEAR CUMULATIVE IMPACT	10-YEAR CUMULATIVE IMPACT
Large group - Total dollars	$255,000	$1,480,000	$3,614,000
Large group - PMPM	$0.04	$0.05	$0.06

See Appendices C through D for more detailed information on PMPM and total cost of care.

LONG-TERM HEALTHCARE COST IMPACT

Current evidence on the long-term cost impact of GAC or insurance coverage for GAC is sparse, and existing studies are limited to theoretical economic simulations.[70] A 2013 study using a Markov model to examine the long-term cost effectiveness of GAC insurance coverage from a US societal perspective concluded that GAC is cost effective on five- and 10-year time horizons relative to non-coverage. GAC resulted in long-term reductions in cost from reducing the risk of depression, HIV, suicidality, and drug abuse, which were assumed to decrease with treatment.[71] These savings were not quantified in this analysis as modeling these savings is complex and research on necessary model inputs is scant.

SOCIAL AND ECONOMIC IMPACT

If enacted, HB25-1309 would increase access to GAC services for individuals currently enrolled in large group plans not offering these benefits. We assumed that utilization of services would increase for enrollees without coverage at baseline to the same level as enrollees with baseline coverage.

Due to both the high level of baseline coverage and the high cost of GAC services, we assumed no baseline non-covered benefit utilization of GAC services and we did not model the cost savings for enrollees paying out of pocket for noncovered services at baseline, but HB25-1309 may have financial impact for these enrollees. The increase in premiums across the large group population is $0.04 PMPM on average in the first year for the total covered population (see Exhibit 5). In addition, cost sharing for GAC may continue to present a financial burden to health plan members. Cost has been identified as the largest barrier to receiving GAC.[72, 73] Transgender individuals are impacted by poverty more than the general population.[74,75]

As discussed in the "Public demand, disparity, and availability of services" section, the availability of providers offering GAC may also remain a barrier to care if HB25-1309 is passed.

Finally, social stigma will also likely continue to limit access to healthcare services.[76] The 2022 U.S. Transgender Survey found that 24% of survey respondents reported not seeing a doctor when they needed to because of fear of being mistreated as a transgender person, and 48% reported having at least one negative experience because they were transgender, such as being refused healthcare, being misgendered, or having a provider use harsh or abusive language.[77]

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:

- Utilization would increase proportionally as coverage increases to 100% post-benefit requirement.
- Enrollees without baseline coverage for GAC services do not utilize non-covered GAC benefits.

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 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 the 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.

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 incurred but not paid claims 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 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 per member per month (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. The completion factors were 0.975 and 0.983, respectively.

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 submitted by various insurance carriers to DORA.

We applied an administration expense ratio of 12% to the projected claims to develop large group premiums for 2026 through 2035.

CARRIER COVERAGE SURVEY

We surveyed insurance carriers in Colorado about current coverage of GAC treatment in the large group market. We received responses from 13 carriers who together make up approximately 99% of the large group market based on enrollment from the 2023 Colorado Insurance Statistical Report. The survey is in Appendix A.

GAC SERVICE IDENTIFICATION

We limited GAC services to only enrollees in the Colorado APCD with a diagnosis code of F640, F641, F642, F648, F649, or Z87890.

We divided GAC services into five categories: breast/chest surgery, genital surgery, facial surgery, laser hair removal, and hormone therapy. We further divided hormone therapy into hormone therapy provided through the medical care and therapy provided through pharmacy drugs.

In the medical claims, we identified key services for breast/chest surgery, genital surgery, facial surgery, laser hair removal, or hormone therapy using CPT/HCPCS and ICD-10 procedure codes from coverage guides for GAC surgeries, procedures, and drugs published by both the Colorado DOI and CMS. We included the full claim event or inpatient admission for the identified service. Because multiple surgeries can occur in a single event, we categorized events based on the triggering service with the highest relative value unit (RVU) as a proxy for the most intensive service received in a single event.

For pharmacy claims for hormone therapy, we only included hormone therapy drugs prescribed to enrollees with a gender identity disorder diagnosis in the medical claims.

GAC TREATMENT UTILIZATION

We summarized the 2023 claim events in the large group market for the baseline scenario. GAC services were projected from 2026 to 2035 using 0.5% utilization trend. The analysis assumes that coverage post-legislation will increase proportionately from current coverage from the carrier survey to full coverage post-legislation for each GAC service.

GAC TREATMENT ANNUAL AVERAGE COST PER USER

Baseline and post-legislation costs per member for GAC services were calculated using data from the 2023 APCD. We projected the average annual cost of GAC services per user to 2026 through 2035 using an annual 7% trend for GAC medical services and an annual 3% trend for hormone therapy based on the 2024 Milliman Commercial Health Cost Guidelines™ (HCGs), assuming that most hormone therapies are generic. We do not believe that the average cost per user would change as a result of enacting HB 25-1309.

Baseline and post-legislation cost sharing for each category of GAC service was calculated using the paid-to-allowed ratio from the 2023 APCD.

PREMIUM AND RETENTION

We assumed a medical loss ratio of 88% for fully insured large group plans.

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

We assumed no baseline noncovered benefit utilization for GAC services because of the high proportion of baseline coverage in the large group market. To the extent that enrollees without GAC service coverage do use GAC services outside of insurance, our out-of-pocket estimates will differ from actual enrollee out-of-pocket costs.

GAC may result in savings associated with reduced rates of depression, HIV, suicidality, and drug abuse. These savings were not quantified in this analysis due to the high coverage at baseline and lack of research with quantifiable results to support this type of analysis.

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 the proposed legislation. 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
- Gender-affirming care coverage guides from both the Colorado DOI and CMS
- All other sources mentioned inline and in references, including surveys 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. Two of 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

COVERAGE SURVEY FOR GENDER-AFFIRMING CARE

Please return this survey to **Riley De Valois (riley.devalois@state.co.us) and Tara Smith (tara.smith@state.co.us)** by December 9, 2024**.**

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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 that **have coverage** for the following gender-affirming care services.

% of members that **have** coverage for…	Individual Market	Small Group Market	Large Group Market
Blepharoplasty (eye and lid modification)	%	%	%
Face/forehead and/or neck tightening	%	%	%
Facial bone remodeling for facial feminization	%	%	%
Genioplasty (chin width reduction)	%	%	%
Rhytidectomy (cheek, chin, and neck)	%	%	%
Cheek, chin, and nose implants	%	%	%
Lip lift/augmentation	%	%	%
Mandibular angle augmentation/creation/reduction (jaw)	%	%	%
Orbital recontouring	%	%	%
Rhinoplasty (nose reshaping)	%	%	%

Laser or electrolysis hair removal	%	%	%
Breast/Chest Augmentation, Reduction, Construction	%	%	%
Genital surgery	%	%	%
Hormone therapy	%	%	%

4) Are there restrictions or limitations to the gender-affirming care services listed above? If so, please describe those restrictions or limitations for each line of business.

Individual Market	Small Group Market	Large Group Market
•	•	•

5) Is there any additional information you would like to share about gender-affirming care services, including services not listed in the table above?

Appendix B: Large group enrollees impacted by proposed legislation

Large Group Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	505,569	2,577,736	5,287,177
Total population affected	505,569	2,577,736	5,287,177
Baseline			
Benefit Users per 1,000 members			
Breast/chest augmentation, reduction, construction	0.160	0.162	0.164
Genital surgery	0.059	0.060	0.061
Facial surgery	0.018	0.019	0.019
Laser or electrolysis hair removal	0.029	0.029	0.029
Hormone therapy (medical benefit)	0.012	0.012	0.013
Hormone therapy (pharmacy benefit)	1.915	1.934	1.959
Annual Benefit Cost			
Breast/chest augmentation, reduction, construction	$16,000	$18,000	$22,000
Genital surgery	$25,000	$29,000	$35,000
Facial surgery	$54,000	$62,000	$75,000
Laser or electrolysis hair removal	$1,600	$1,900	$2,300
Hormone therapy (medical benefit)	$15,000	$16,000	$17,000
Hormone therapy (pharmacy benefit)	$470	$500	$540
Annual Insurer Paid			
Breast/chest augmentation, reduction, construction	$14,000	$15,000	$19,000
Genital surgery	$24,000	$27,900	$33,700
Facial surgery	$50,000	$57,000	$69,000
Laser or electrolysis hair removal	$1,300	$1,500	$1,800
Hormone therapy (medical benefit)	$13,000	$14,000	$15,000
Hormone therapy (pharmacy benefit)	$350	$370	$400
Annual Patient Out-of-Pocket			
Breast/chest augmentation, reduction, construction	$2,000	$3,000	$3,000
Genital surgery	$1,000	$1,100	$1,300
Facial surgery	$4,000	$5,000	$6,000
Laser or electrolysis hair removal	$300	$400	$500
Hormone therapy (medical benefit)	$2,000	$2,000	$2,000
Hormone therapy (pharmacy benefit)	$120	$130	$140

Appendix B: Large group enrollees impacted by proposed legislation (cont.)

Large Group Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	505,569	2,577,736	5,287,177
Total population affected	505,569	2,577,736	5,287,177
Post-benefit Requirement			
Benefit Users per 1,000 members			
Breast/chest augmentation, reduction, construction	0.160	0.162	0.164
Genital surgery	0.066	0.067	0.068
Facial surgery	0.021	0.021	0.021
Laser or electrolysis hair removal	0.039	0.040	0.040
Hormone therapy (medical benefit)	0.014	0.014	0.014
Hormone therapy (pharmacy benefit)	2.136	2.158	2.186
Annual Benefit Cost			
Breast/chest augmentation, reduction, construction	$16,000	$18,000	$22,000
Genital surgery	$25,000	$29,000	$35,000
Facial surgery	$54,000	$62,000	$75,000
Laser or electrolysis hair removal	$1,600	$1,900	$2,300
Hormone therapy (medical benefit)	$15,000	$16,000	$17,000
Hormone therapy (pharmacy benefit)	$470	$500	$540
Annual Insurer Paid			
Breast/chest augmentation, reduction, construction	$14,000	$15,000	$19,000
Genital surgery	$24,000	$27,900	$33,700
Facial surgery	$50,000	$57,000	$69,000
Laser or electrolysis hair removal	$1,300	$1,500	$1,800
Hormone therapy (medical benefit)	$13,000	$14,000	$15,000
Hormone therapy (pharmacy benefit)	$350	$370	$400
Annual Patient Out-of-Pocket			
Breast/chest augmentation, reduction, construction	$2,000	$3,000	$3,000
Genital surgery	$1,000	$1,100	$1,300
Facial surgery	$4,000	$5,000	$6,000
Laser or electrolysis hair removal	$300	$400	$500
Hormone therapy (medical benefit)	$2,000	$2,000	$2,000
Hormone therapy (pharmacy benefit)	$120	$130	$140

Appendix C: Large group enrollee PMPM

Large Group Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	505,569	2,577,736	5,287,177
Total population affected	505,569	2,577,736	5,287,177
Baseline PMPM			
Insurer premium	$519.40	$599.50	$724.39
Patient out-of-pocket	$0.06	$0.07	$0.08
Patient non-covered	$0.00	$0.00	$0.00
Total Baseline PMPM	**$519.46**	**$599.57**	**$724.47**
Post-benefit Requirement PMPM			
Insurer premium	$519.44	$599.54	$724.44
Patient out-of-pocket	$0.07	$0.08	$0.09
Patient non-covered	$0.00	$0.00	$0.00
Total Post-benefit Requirement PMPM	**$519.50**	**$599.62**	**$724.53**
Change Attributable to Proposed Benefits			
Insurer premium	$0.04	$0.04	$0.05
Patient out-of-pocket	$0.00	$0.00	$0.01
Patient non-covered	$0.00	$0.00	$0.00
Total Change PMPM	**$0.04**	**$0.05**	**$0.06**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	6.6%	6.5%	6.3%
Patient non-covered	0.0%	0.0%	0.0%
Total Percent Change	**0.0%**	**0.0%**	**0.0%**

Appendix D: Large group enrollee total dollars

Large Group Market	1-Year Impact	5-Year Cumulative Impact	10-Year Cumulative Impact
Total enrollment subject to state benefit requirements	505,569	2,577,736	5,287,177
Total population affected	505,569	2,577,736	5,287,177
Baseline Total Dollars			
Insurer premium	$3,151,111,000	$18,544,201,000	$45,959,754,000
Patient out-of-pocket	$381,000	$2,203,000	$5,350,000
Patient non-covered	$0	$0	$0
Total Baseline dollars	**$3,151,492,000**	**$18,546,404,000**	**$45,965,104,000**
Post-benefit Requirement Total Dollars			
Insurer premium	$3,151,341,000	$18,545,539,000	$45,963,032,000
Patient out-of-pocket	$406,000	$2,345,000	$5,686,000
Patient non-covered	$0	$0	$0
Total Post-benefit Requirement Dollars	**$3,151,747,000**	**$18,547,884,000**	**$45,968,718,000**
Change Attributable to Proposed Benefits			
Insurer premium	$230,000	$1,338,000	$3,278,000
Patient out-of-pocket	$25,000	$142,000	$336,000
Patient non-covered	$0	$0	$0
Total Change	**$255,000**	**$1,480,000**	**$3,614,000**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	6.6%	6.4%	6.3%
Patient non-covered	0.0%	0.0%	0.0%
Total Percent Change	**0.0%**	**0.0%**	**0.0%**

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