

MILLIMAN REPORT

Adult Vision 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”), a global actuarial consulting firm, 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 impact the individual, small group, and large group markets regulated by the DOI. 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 health-care 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, in individual, small group and large group markets, that would result from the legislative proposal;
- An estimate of the out-of-pocket health-care cost changes associated with the legislative proposal;
- An estimate of the potential long-term health-care 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; and
- To the extent practicable, the social and economic impacts of the legislative proposal, including information concerning who would benefit from cost changes, and any disproportionate effects and a qualitative analysis of the impacts of the legislative proposal.

At the request of the Colorado DOI, Milliman was asked to provide an analysis of a legislative proposal that requires all commercial health benefit plans regulated by the state of Colorado to cover one annual standard vision screening and pair of eyeglasses, regardless of age and preexisting conditions. At present, the Affordable Care Act (ACA) mandates that all commercial market plans include vision coverage for children as part of the pediatric vision Essential Health Benefit (EHB), but this requirement does not extend to adults. This legislative proposal in Colorado would represent a change from the status quo as many vision benefits in today’s insurance market are provided as part of a vision insurance plan, as opposed to being covered benefits in a medical plan.

Distribution and Usage

Milliman does not intend to benefit any third-party recipient of its work product, even if Milliman consents to the release of its work product to such third party. T.J. Gray, Jordan Hull, and Norman Yu are members of the American Academy of Actuaries and meet the qualification standards for performing the financial analyses.

Executive Summary

The Colorado Division of Insurance (DOI) commissioned Milliman, Inc., a global actuarial consulting firm, to review a legislative proposal that would impose a new health benefit coverage requirement on commercial health plans. The proposal requires all commercial health benefit plans regulated by the state of Colorado to cover one annual standard vision screening and a pair of eyeglasses, regardless of age and preexisting conditions.

Currently, the Affordable Care Act (ACA) mandates vision coverage for children as an Essential Health Benefit (EHB), but not similar coverage for adults. The proposed change would expand access to vision services for adults who currently do not have coverage by requiring health benefit plans to cover adult vision services.

The actuarial review estimates the effects of the legislative proposal on the individual, small group, and large group markets regulated by the DOI over one, five, and ten years following the effective date of the proposal. Factors considered include the number of Colorado residents affected, changes in health-care service utilization rates, consumer cost sharing, health benefit plan premiums, out-of-pocket health-care cost changes, potential long-term health-care cost changes, potential health benefits for individuals or communities, and the social and economic impacts of the proposal. All values presented in this report are for non-HSA qualified plans only based on discussions with the potential bill sponsors around potential cost-sharing limitations on the proposed covered benefits.

As shown in Exhibit 1, the estimated 1-year, 5-year cumulative, and 10-year cumulative impact on premiums in the fully-insured commercial market is \$20.5 million, \$107.3 million, and \$226.6 million respectively, or \$1.92, \$1.97, and \$2.03 per member per month (PMPM) respectively. This represents a 0.4%, 0.3%, and 0.3% increase in premium over the timeframes analyzed.

EXHIBIT 1: ESTIMATED PREMIUM IMPACT OF ADULT VISION COVERAGE

	1 YEAR IMPACT	5 YEAR IMPACT	10 YEAR IMPACT
Individual - Total Dollars	\$5,427,000	\$28,322,000	\$59,831,000
Individual - PMPM	\$2.12	\$2.17	\$2.23
Individual - Percent Change	0.4%	0.3%	0.3%
Small Group - Total Dollars	\$5,475,000	\$28,556,000	\$60,302,000
Small Group - PMPM	\$1.98	\$2.03	\$2.09
Small Group - Percent Change	0.3%	0.3%	0.3%
Large Group - Total Dollars	\$9,652,000	\$50,374,000	\$106,423,000
Large Group - PMPM	\$1.80	\$1.85	\$1.90
Large Group - Percent Change	0.4%	0.3%	0.3%
All Commercial – Total Dollars	\$20,554,000	\$107,252,000	\$226,556,000
All Commercial – PMPM	\$1.92	\$1.97	\$2.03
All Commercial - Percent	0.4%	0.3%	0.3%

Much of this increase in health plan premium is offset by a corresponding decrease or elimination of vision insurance premium for those who currently are covered by a vision insurance plan. However, we assume that some people who do not currently utilize vision services would likely utilize them if coverage were included in health benefit plans.

The greatest impact would likely be on individuals older than 40 with commercial insurance who did not previously have vision insurance, as these individuals are more likely to need glasses and begin to be at risk for certain eye conditions.

Background

PROPOSED LEGISLATION

The proposed legislation would require all commercial market health benefit plans regulated by the State of Colorado to cover one annual standard vision screening and a pair of eyeglasses. We considered eyeglasses to include a frame and/or lenses and allowed for contact lenses to be substituted for glasses as is commonly the case in the vision insurance market today.

For the purposes of our analysis, we assumed new coverage through health benefit plans would be similar to what is currently provided by standalone vision insurers. We assumed cost sharing would align with plans in the current vision insurance market as outlined in the Methodology and Assumptions section of this report. Because we assumed vision services will be covered before the deductible, we have excluded HSA-plan enrollees from the analysis based on conversations with the potential bill sponsors because HSA plans would not be allowed to cover these services before the deductible and maintain their HSA status.

VISION BENEFIT COVERAGE LANDSCAPE

Colorado residents seek vision services for a variety of reasons, including poor vision and eye-related medical conditions. Currently, health benefit plans often cover medical treatment for eye diseases. Additionally, as noted in the Introduction section of this report, annual standard vision screenings and eyeglasses are covered for children under health benefit plans in the commercial market as an EHB. However, such coverage is not commonly included for adults within health benefit plans; instead, most people with these benefits receive this coverage through a separate vision policy.

According to the National Association of Insurance Commissioners (NAIC) U.S. Health Industry Analysis Report, over 1 million individuals in Colorado had a vision insurance plan in 2022.¹ These plans were often provided through their employers. Such vision insurance typically covers the set of benefits which is being proposed – namely, at least an annual vision screening and pair of eyeglasses.

Vision insurance premiums are paid to vision insurers by enrollees or their employers. A portion of insurance premiums are retained by insurers for administrative expenses and profit margin, and the rest is used to pay for vision services. Under the legislative proposal, commercial health insurance plans would be required to cover similar benefits to what is currently covered by standalone vision insurance plans.

In Colorado in 2022, the average premium for vision plans was \$8 per member per month (PMPM).² By paying this monthly premium, enrollees gain access to the vision insurer's network and discounts.

In most cases, if adults that do not have vision insurance need an annual vision screening and/or eyeglasses, they are either paid for out of pocket or are foregone. Adults without vision insurance may forego vision services for multiple reasons, including having adequate eyesight, wanting to avoid the cost of services, or not understanding how to obtain services. According to a 2020 study, 5.8 percent of U.S. adults in 2017 reported needing glasses but being unable to afford them.³ Those that pay for services out of pocket may use more inexpensive methods to seek care, such as through retail clinics or through various online vendors for materials.

POTENTIAL HEALTH BENEFITS

Annual standard vision screenings allow a healthcare professional such as an optometrist or ophthalmologist to determine whether eyeglasses are necessary for a patient and identify other potential health concerns. Incorrect or out-of-date prescriptions can lead to blurred vision, headaches, eye fatigue, and light sensitivity.⁴ New or updated eyeglass prescriptions can improve quality of life for patients with poor vision.

As noted in the request for this study, according to the American Optometric Association, "through an eye exam, Doctors of Optometry can identify early warning signs and manifestations of more than 270 systemic and chronic diseases including diabetes, high blood pressure, autoimmune diseases and cancers."⁵ Preventative screenings during comprehensive eye exams are important for the early detection of glaucoma, diabetic eye disease and age-related macular degeneration and early detection and treatment of these conditions can reduce the risk of vision loss.⁶

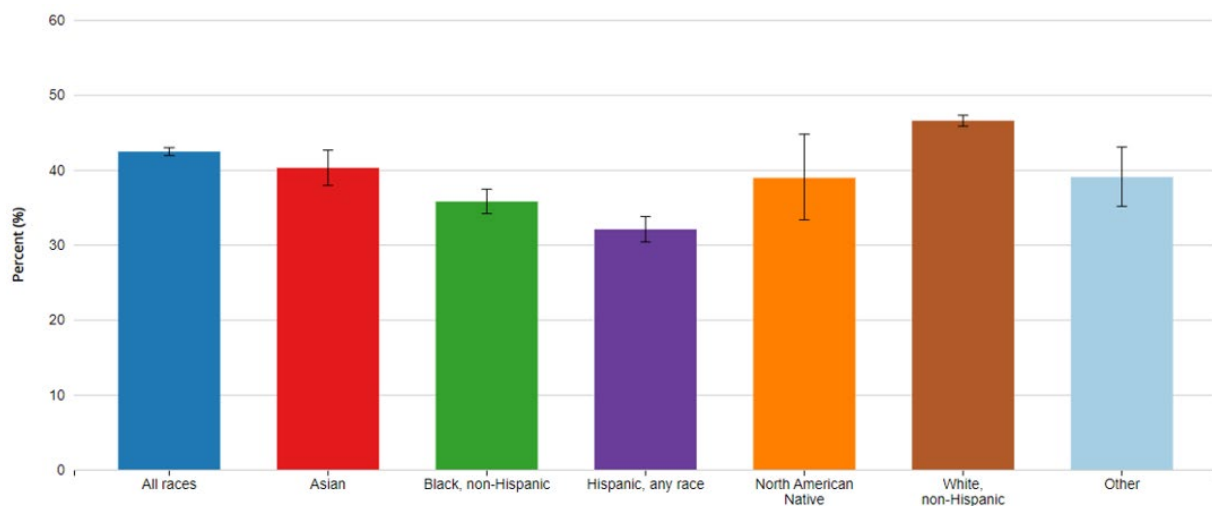
PUBLIC DEMAND, DISPARITY & AVAILABILITY OF SERVICES

Demand for Vision Services

It is estimated that 162.1 million (64%) U.S. adults use glasses or contact lenses and 93 million U.S. adults are at high risk for vision loss as of 2017.^{7,8}

In the 2016-2017 Vision and Eye Health Surveillance System (VEHSS) National Health Interview Survey, 42.4% of adults surveyed reported having an eye exam within the past 12 months.^a There are disparities across race and ethnicities, with 46.6% of white, non-Hispanic adults, 35.8% of Black, non-Hispanic adults and 32.1% of Hispanic adults reporting seeing an eye doctor. Exhibit 2 illustrates these disparities in greater detail.⁹

EXHIBIT 2: PERCENT OF US ADULTS WHO REPORTED HAVING AN EYE EXAM IN THE LAST 12 MONTHS BY RACE/ETHNICITY



	ALL RACES	ASIAN	BLACK, NON-HISPANIC	HISPANIC, ANY RACE	NORTH AMERICAN NATIVE	WHITE, NON-HISPANIC	OTHER
National Percent (%)	42.43	40.26	35.77	32.06	38.92	46.55	39.04
95% Confidence Interval	41.90 - 42.95	37.92 - 42.62	34.16 - 37.41	30.38 - 33.77	33.33 - 44.75	45.82 - 47.29	35.13 - 43.04
Sample Size	59,093	2,881	6,289	6,979	502	41,280	1,162

In a cross-sectional study describing uncorrected or undercorrected refractive errors in the US population, 5.9% of individuals were found to be wearing the wrong prescription.¹⁰ This study also found racial disparities in refractive error correction. Mexican Americans and non-Hispanic Black individuals were found to have a higher likelihood of having inadequate refractive correction than non-Hispanic white individuals.¹¹

In an analysis of 2017 NHIS data, Saydah et al found that more than 5.8% of US adults reported needing glasses and could not afford to purchase them. Fewer individuals with private insurance only reported being unable to afford glasses (3.9%) as compared to those with only public insurance (6.8%), both public and private insurance (4.8%) or no insurance (11.8%).¹²

In a systematic literature review, Solomon et al reported that low-income populations are also at higher risk for vision problems and underutilization of vision services due to barriers in access and financial concerns.¹³

^a The Vision and Eye Health Surveillance System defines eye exam as "having seen or talked to an optometrist, optician or eye doctor (someone who prescribes eyeglasses) about their own health." Figure source: <https://ddt-vehss.cdc.gov/>

Market for Vision Benefits

For those offered vision insurance, enrollment rates are on par with health insurance.¹⁴ According to the March 2023 Bureau of Labor Statistics report, vision benefits are currently offered to 27% of private industry workers nationally and 73% of workers who have access to the benefit enroll. In the Mountain Census Division^b, 30% of private industry workers have access to vision benefits, and 75% of those who have access to vision benefits enroll. Access to vision benefits also varies by employer size. Nationally, 17% of workers employed by private industry employers with less than 50 workers had access to vision benefits and 71% of those with access enrolled. Thirty eight percent of workers employed by private industry employers with 100 employees or more had access to vision benefits and 74% of those who had access enrolled.¹⁵

Nationally, access to vision benefits varies by wage category. Twelve percent of workers in the bottom 25th percentile of wages have access to benefits, whereas 41% of workers in the top 25th percentile of wages have access to benefits. There is less variation in the take-up rate of benefits between wage categories. Sixty-nine percent of workers in the bottom 25th percentile of wages enrolled in a vision benefit when offered, and 75% of workers in the top 25th percentile of wages enrolled.¹⁶

There is little information available on the utilization of vision benefits by beneficiaries. In a 2023 survey conducted by The Harris Poll for XP Health, of employees ages 25 years or older who are eligible to receive vision benefits from their employer, 48% of the 1009 respondents used their benefits one hundred percent of the time to cover any part of the costs of exams and prescription glasses/contact needs and 30% of respondents reported it was easier to get care out of pocket than through their benefits.¹⁷

Research has shown a positive relationship between vision insurance coverage and utilization of vision services. For example, in a retrospective cross-sectional study of National Health Interview Survey (NHIS) data, individuals with vision benefits were more likely to have seen an eye care provider (and less likely to report having difficulty affording glasses).¹⁸ Individuals with vision coverage have also been found to be less likely to be using the wrong prescription lens than those without coverage.¹⁹

Lack of coverage has been reported as a barrier to vision services.²⁰ It is important to note that insurance coverage type is often not included in self-reported vision data, but many individuals included in studies would likely be covered under Medicaid or Medicare,^c which are not included in the legislative proposal. Traditional Medicare does not cover corrective lenses and has limitations on when vision exams are covered. Medicare Advantage plans often have coverage for some vision services. Medicaid benefits vary by state – Heath First Colorado’s vision benefit provides vision benefits, including eyeglasses and exams, to children (under age 21) through its Early Periodic Screening Diagnosis and Treatment program. Coverage for adults is provided only following eye surgery.²¹

Availability of services

Lower cost eye exams are offered through various national retailers for individuals paying out of pocket. For example, Target offers an eye exam (excluding pupil dilation and contact lens fitting) starting at \$55 and Walmart exams start at \$60.²² Similarly, low-cost eyeglass frames and lenses can be purchased through on-line retailers with costs of a frame with basic lenses costing \$100 or less.

National workforce projections by the Health Resources & Services Administration (HRSA) suggest that supply of optometrists will meet the demand between 2021-2036. Nationally, there were enough ophthalmologists to meet demand, but projections suggest a shortage in the next 15 years.²³ Nonmetro areas are more impacted by the availability of vision services. HRSA projections suggest that only 39% of ophthalmologist demand in nonmetro areas was met in 2021 as compared to supply exceeding demand in metro areas. Data on provider availability was unavailable at the state or county level for Colorado.²⁴ In a systematic literature review on improving access to vision

^b The Census Mountain Division includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. <https://www.census.gov/programs-surveys/popest/about/glossary/geo-terms.html>

^c Individuals with blindness or vision problems that prevent work may qualify for Medicare.

care, authors found that rural Americans face barriers to vision care including lack of providers, transportation, and distance to providers.²⁵

Demographic Differences in Prevalence of Eye Diseases and Disorders

There are differences in the risk of developing certain eye diseases and conditions across demographic categories. The risk of developing certain eye disorders, including age-related macular degeneration, glaucoma, and cataracts, increases with age.²⁶

Within the Medicare population in Colorado, glaucoma is more prevalent among individuals who identify as Black, non-Hispanic (12.7%), Asian (11.7%) or Other (12.7%) than individuals who identify as white, non-Hispanic (9.5%), North American Native (9.5%) or Hispanic, any race (7.2%).²⁷ Similar patterns exist for the Colorado Medicaid population.^d

Within the Medicare population in Colorado, diabetic retinopathy is almost three times more prevalent in people of color than in white individuals. Diabetic retinopathy is highest among individuals who identify as Hispanic, any race (4.8%) and North American Native (4.8%), whereas white, non-Hispanic individuals have the lowest prevalence (1.7%). Diabetic retinopathy is lower within the Medicaid population, but some disparities still exist. Notably, North American Native (0.4%) and Asian (0.4%) individuals have the highest prevalence of diabetic retinopathy, as compared to white, non-Hispanic (0.3%), Hispanic, any race (0.3%) or Black, non-Hispanic (0.3%) individuals.²⁸ Individuals with diabetes are at risk for developing diabetic retinopathy. In the US, diabetes disproportionately affects racial and ethnic minority populations, and these individuals are at higher risk for developing diabetes related complications, including diabetic retinopathy.^{29,30}

We were not able to analyze differences in the prevalence of eye diseases or disorders across race or ethnicity for individuals currently in the commercial vision insurance market, due to lack of available data.

^d Race/ethnicity data was only available for Medicaid and Medicare through the Vision and Eye Health Surveillance System (VEHSS) database.

Financial Analysis

The proposal would require all individual and group health benefit plans to cover one annual standard vision screening and a pair of eyeglasses for adult health insurance enrollees. We considered eyeglasses to include a frame and/or lenses and allowed for contact lenses to be substituted for glasses as is commonly the case in the vision insurance market today.

Our evaluation projects the population, cost of benefits, premium and enrollee cost sharing for calendar year 2025, calendar years 2025 through 2029, and calendar years 2025 through 2034 under the following two scenarios:

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

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

Cost sharing requirements are not defined in the proposal. However, it is our understanding that the intent of the proposal is to include adult vision services in health insurance policies with cost sharing that is similar to what is available in the vision insurance market today. For the purposes of our analysis, we assumed the following cost sharing:

- Annual vision exams have a \$10 copayment
- Eyeglasses (frames and lenses) have a \$25 copayment and are subject to a \$150 maximum.

For a health plan to be health savings account (HSA) eligible, one condition that must be met is that all services, with the exception of some preventive services, are subject to the deductible. HSA eligible health plans would not be able to offer adult vision services in the health insurance policies with cost sharing similar to what is available in the vision insurance market today. For this reason, we assumed HSA eligible health plans would not be subject to the proposed legislation and removed enrollees in HSA eligible health plans from our analysis.

If cost sharing is not defined in the legislation, the projected utilization and financial results could be very different from what is presented in this report.

We assumed that individuals who currently utilize vision services (whether through insurance or not), will continue to use services as they have previously. We assumed that among those who do not currently utilize vision services, a portion will begin utilizing them once these services are covered under commercial health insurance. The cost of providing these services to additional utilizers is offset to some extent by assumed reduced administrative expenses associated with medical plans typically having lower administrative cost ratios than vision plans.

VISION BENEFIT UTILIZERS

At the time of this report, there is no information available to know the vision insurance status of a Colorado resident and their corresponding health insurance coverage status. The 2022 NAIC US Health Insurance Industry Annual Report indicated that there are approximately 1 million Colorado residents (17.2%) with standalone vision insurance coverage. Accounting for populations that may already have coverage and would not be counted in the NAIC report, we assumed that 25% of enrollees in a commercial health plan also have a standalone vision insurance policy.

EXHIBIT 3: ESTIMATED NUMBER OF ENROLLEES IN NON-HSA HEALTH PLANS WITH VISION INSURANCE, 2025

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
Enrollees in Non-HSA Health Plans, Ages 19+	183,600	186,800	353,200
Of enrollees in Non-HSA Health Plans...			
Number of Enrollees with Vision Insurance	45,900	46,700	88,300
Percentage of Enrollees with Vision Insurance	25%	25%	25%
Number of Enrollees without Vision Insurance	137,700	140,100	264,900
Percentage of Enrollees without Vision Insurance	75%	75%	75%

At baseline, enrollees with vision insurance are often choosing to pay a premium to obtain it either as an individual or through a group plan where an employer has not covered the full cost of vision insurance. This results in selection bias where enrollees who need vision services purchase insurance at a higher rate than those who do not need vision services. In our analysis, we assumed that enrollees in a standalone vision insurance product utilize vision services at a higher rate than the average Colorado resident. Post benefit requirement, we assume these enrollees will continue to use vision services under their health benefit plan at a similar rate as they did under their standalone vision insurance policy. We assumed 40% of enrollees with vision insurance at baseline use vision services in any given year.

Similarly, we assume enrollees who do not have vision insurance at baseline but are using vision services at baseline will continue to use vision services at a similar rate with vision services under the health insurance policy post benefit requirement. We assume 3.9% of enrollees without vision insurance use vision services at baseline.

Many adults that are currently not utilizing vision services would continue not to use them post benefit requirement, whether due to cost sharing or for other reasons. Some enrollees without vision insurance at baseline who are not utilizing vision services would use vision services covered under their health insurance plan post benefit requirement. We assumed 1.5% of enrollees without vision insurance at baseline would use vision services under the health benefit plan post benefit requirement.

In total, we assume 12.5% of health insurance enrollees use vision services at baseline (whether through vision insurance or self-pay) and 14.1% will use vision services post benefit requirement.

Our analysis is examining discrete one-year time periods therefore the utilization rates above are for a one-year time frame. For example, many people do not use vision services until they have a problem with their vision or need a new prescription for glasses or contacts. These enrollees are not using vision services annually.

Exhibit 4 shows the estimated number of utilizers of vision services in 2025 post benefit requirement.

EXHIBIT 4: UTILIZERS OF VISION SERVICES POST BENEFIT REQUIREMENT, 2025

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
With vision insurance at baseline	18,360	18,680	35,320
Without vision insurance but paying out-of-pocket at baseline	5,330	5,420	10,260
New utilizers post benefit requirement	2,130	2,170	4,100

COST PER SERVICE AND ENROLLEE COST SHARING

As noted above, the reported 2022 vision insurance premium is \$8.00 per member per month (PMPM) which is estimated to be \$8.25 PMPM or \$99 per year in 2025 when trended for inflation. In 2025, in addition to vision insurance premiums, at baseline enrollees with insurance access vision exams and glasses/contacts at estimated average costs of \$60 and \$323, respectively. Due to lack of available data on the cost of vision services to those

without vision insurance at baseline, we assumed that the cost per service for those with and without insurance was the same. This could be achieved through higher utilization of low-cost retail clinics by those without vision insurance.

The average enrollee cost sharing for enrollees with vision insurance is \$10 for vision exams and \$188 for glasses or contacts at baseline and post benefit requirement. Those without vision insurance pay the full cost of the services out of pocket at baseline.

We assumed the cost of exams, glasses, and contacts do not change as a result of the proposed benefit requirement. However, the standalone vision services premium would be eliminated post benefit requirement. It would be replaced with an increase in the health insurance premium, described in the section that follows.

PREMIUM IMPACT

The estimated health insurance premium impact from including the proposed vision benefit coverage in the health insurance policy is shown in Exhibit 5 below.

- For the individual health insurance market, we estimate a 1-year premium increase of \$5.4 million, a 5-year cumulative premium increase of \$28.3 million, and a 10-year cumulative premium increase of \$59.8 million or \$2.12, \$2.17, and \$2.23 per member per month, respectively. As a percentage of premium, this impact ranges from 0.3% to 0.4%.
- For the small group health insurance market, we estimate a 1-year premium increase of \$5.5 million, a 5-year cumulative premium increase of \$28.6 million, and a 10-year cumulative premium increase of \$60.3 million or \$1.98, \$2.03, and \$2.09 per member per month, respectively. As a percentage of premium, this impact is about 0.3%.
- For the large group health insurance market, we estimate a 1-year premium increase of \$9.7 million, a 5-year cumulative premium increase of \$50.4 million, and a 10-year cumulative premium increase of \$106.4 million or \$1.80, \$1.85, and \$1.90 per member per month, respectively. As a percentage of premium, this increase ranges from 0.3% to 0.4%.

EXHIBIT 5: ESTIMATED PREMIUM IMPACT OF ADULT VISION COVERAGE

	1 YEAR IMPACT	5 YEAR IMPACT	10 YEAR IMPACT
Individual - Total Dollars	\$5,427,000	\$28,322,000	\$59,831,000
Individual - PMPM	\$2.12	\$2.17	\$2.23
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Large Group - Total Dollars	\$9,652,000	\$50,374,000	\$106,423,000
Large Group - PMPM	\$1.80	\$1.85	\$1.90
Large Group - Percent Change	0.4%	0.3%	0.3%
All Commercial – Total Dollars	\$20,554,000	\$107,252,000	\$226,556,000
All Commercial – PMPM	\$1.92	\$1.97	\$2.03
All Commercial - Percent	0.4%	0.3%	0.3%

As noted above, the reported 2022 vision insurance premium is \$8.00 per member per month (PMPM) which is estimated to be \$8.25 PMPM or \$99 per year in 2025. The health insurance premium increase from adding vision services to the health insurance benefit is estimated to be lower than the standalone vision policy premium for two reasons:

1. Vision benefit costs are spread across a greater number of non-utilizing enrollees. At baseline, 40% of enrollees with vision insurance use vision services. Post benefit requirement, 14.1% of enrollees in non-HSA health benefit plans use vision services.
2. Administrative expenses as a percentage of total premium are lower post benefit requirement. According to the 2022 NAIC Health Insurance industry report, 71.2% of vision insurance premium was used to pay claims for vision services with the remaining 28.8% to pay for administrative expenses and profit. In contrast, health insurers generally have an administrative load of 10% to 20%, varying by line of business.

STATE DEFRAID OF MANDATED BENEFITS IN EXCESS OF ESSENTIAL HEALTH BENEFITS

Because Adult Vision is not an EHB, the state would likely be required to defray the costs of mandating coverage of this benefit. The premium change shown in Exhibit 5 reflects the estimated average increase specific to the inclusion of Adult Vision benefits. Note that since we have no way of distinguishing Qualified Health Plans (QHPs) from non-QHPs, we have presented our results assuming all individual and small group market enrollees are enrolled in a QHP. Federal guidance establishes that QHPs are the ones responsible for calculating the costs that must be defrayed but allows states flexibility on whether this calculation will be based on statewide averages or each QHP issuer's actual costs.³¹ Costs described in the next section related to enrollee out-of-pocket costs and impact on total cost of care as reported in Exhibits 6 and 7 are not directly relevant to defrayal considerations.

ENROLLEE OUT-OF-POCKET AND TOTAL COST OF CARE IMPACT

The estimated enrollee out-of-pocket cost impact is in Exhibit 6 below. Please note that baseline out-of-pocket costs include both self-pay for vision services and current vision insurance premiums since those are paid outside of the medical plan. The cost of vision insurance may be paid by the employer or the employee in the baseline period.

As a result of the legislative proposal, we estimate health benefit plan premiums would be impacted as shown in Exhibit 5. Under the legislative proposal, enrollees would receive vision benefits included in their health insurance plan. We have assumed they would thus avoid paying separate vision insurance premiums. As such the post benefit requirement vision insurance premium was assumed to be \$0 in our analysis. It should also be noted that we have assumed that enrollees in health benefit plans would have cost sharing and other out of pocket expenses for vision benefits as described elsewhere in this report (i.e., copays for exams and copays with a benefit maximum for materials).

The out-of-pocket savings represented here is primarily driven by assuming that vision insurance cost for enrollees in health insurance plans that cover vision services would no longer be incurred.

- For the individual insurance market, we estimate a 1-year patient out-of-pocket decrease of \$5.1 million, a 5-year cumulative patient out-of-pocket decrease of \$26.6 million, and a 10-year cumulative patient out-of-pocket decrease of \$56.2 million or decreases of \$1.99, \$2.03, and \$2.09 per member per month, respectively.
- For the small group insurance market, we estimate a 1-year patient out-of-pocket decrease of \$5.2 million, a 5-year cumulative patient out-of-pocket decrease of \$27.0 million, and a 10-year cumulative patient out-of-pocket decrease of \$57.1 million or decreases of \$1.87, \$1.92, and \$1.98 per member per month, respectively.
- For the large group insurance market, we estimate a 1-year patient out-of-pocket decrease of \$9.8 million, a 5-year cumulative patient out-of-pocket decrease of \$51.2 million, and a 10-year patient out-of-pocket decrease of \$108.1 million or decreases of \$1.83, \$1.88, and \$1.93 per member per month, respectively.

The average out-of-pocket expense reductions for individual market enrollees are greater than average out-of-pocket reductions for small group and large group market enrollees because the individual population enrolled in non-HSA plans in the individual market has a greater percentage of enrollees age 19 and older.

EXHIBIT 6: ESTIMATED ENROLLEE OUT-OF-POCKET IMPACT OF ADULT VISION COVERAGE

	1 YEAR IMPACT	5 YEAR IMPACT	10 YEAR IMPACT
Individual - Total Dollars	--\$5,096,000	-\$26,598,000	-\$56,191,000
Individual - PMPM	--\$1.99	-\$2.03	-\$2.09
Small Group - Total Dollars	-\$5,185,000	-\$27,044,000	-\$57,111,000
Small Group - PMPM	-\$1.87	-\$1.92	-\$1.98
Large Group - Total Dollars	-\$9,806,000	-\$51,176,000	-\$108,119,000
Large Group - PMPM	-\$1.83	-\$1.88	-\$1.93
All Commercial - Total Dollars	-\$20,087,000	-\$104,818,000	-\$221,421,000
All Commercial - PMPM	-\$1.88	-\$1.93	-\$1.98

The total estimated cost of care impact for an enrollee, including out-of-pocket costs, from the proposed vision benefit coverage change is in Exhibit 7 below. Our financial analysis concluded there would be small aggregate increases in healthcare costs due to requiring commercial health insurers to cover annual vision exams and eyeglasses for adults. Premiums for health benefit plans would increase due to covering the additional benefits. Individuals who currently utilize vision services would continue to utilize them, at rates similar to those who currently have vision insurance. Some individuals who do not currently utilize these services will begin to as a result of having coverage through their health plan and will also utilize them at rates similar to those who currently have vision insurance.

- For the individual insurance market, we estimate a 1-year total expenditure increase of \$331,000, a 5-year total cumulative expenditure increase of \$1.7 million, and a 10-year total cumulative expenditure increase of \$3.6 million or increases of \$0.13, \$0.13, and \$0.14 per member per month, respectively.
- For the small group insurance market, we estimate a 1-year total expenditure increase of \$290,000, a 5-year total cumulative expenditure increase of \$1.5 million, and a 10-year total cumulative expenditure increase of \$3.2 million or increases of \$0.10, \$0.11, and \$0.11 per member per month, respectively.
- For the large group insurance market, we estimate a 1-year total expenditure decrease of \$154,000, a 5-year total cumulative expenditure decrease of \$802,000, and a 10-year total cumulative expenditure decrease of \$1.7 million or decreases of -\$0.03, -\$0.03, and -\$0.03 per member per month, respectively.

Anticipated per member per month premiums for large group plans are slightly lower than for other markets in our analysis due to the lower assumed medical loss ratio in the large group market, which results in a reduction in total cost in this market once the impact of out-of-pocket costs is considered.

EXHIBIT 7: ESTIMATED TOTAL COST OF CARE IMPACT OF ADULT VISION COVERAGE

	1 YEAR IMPACT	5 YEAR IMPACT	10 YEAR IMPACT
Individual - Total Dollars	\$331,000	\$1,724,000	\$3,640,000
Individual - PMPM	\$0.13	\$0.13	\$0.14
Small Group - Total Dollars	\$290,000	\$1,512,000	\$3,191,000
Small Group - PMPM	\$0.10	\$0.11	\$0.11
Large Group - Total Dollars	-\$154,000	-\$802,000	-\$1,696,000
Large Group - PMPM	-\$0.03	-\$0.03	-\$0.03
All Commercial - Total Dollars	\$467,000	\$2,434,000	\$5,135,000
All Commercial - PMPM	\$0.04	\$0.04	\$0.05

See Appendices A through F for more detailed information on PMPM and Total Cost of Care. In the appendices, costs are divided into three components: (1) insurer premium, (2) enrollee cost sharing, and (3) enrollee non-covered. Insurer premium represents the premium for medical plans. Enrollee cost sharing represents copays associated with

covered benefits. Enrollee non-covered includes costs of care obtained without insurance and vision insurance premiums in the baseline period. In the post benefit requirement scenario, enrollee non-covered includes amounts in excess of the modeled annual maximum benefit.

LONG TERM HEALTH CARE COST IMPACT

Our financial analysis concluded there would be small aggregate increases in healthcare costs due to requiring commercial health insurers to cover annual vision exams and eyeglasses for adults. As noted above, according to the American Optometric Association, annual vision exams can identify many health conditions.³² We did not quantify potential offsets to the cost of providing vision services, such as the potential cost impact of improved health outcomes as part of this analysis.

Social and Economic Impact

Based on our financial analysis, we conclude that requiring individual, small group, and large group carriers to cover vision insurance would not substantially impact costs to beneficiaries. Many of the out-of-pocket costs associated with vision insurance shift to co-insurance, co-pays, and deductibles, meaning that individuals facing financial hardship would likely still struggle to afford glasses or eye exams.

This proposed legislation would likely have the greatest impact on individuals older than 40 with commercial insurance who did not previously have vision insurance. These individuals are more likely to need glasses and begin to be at risk for certain eye conditions and would gain coverage through this proposal.³³

It is important to note that the population with the highest burden of eye disease and vision impairment is over 65 years old and excluded from the proposal as this population is not typically covered by commercial market plans.

Methodology and Assumptions

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

- Copays and benefit maximums for newly covered vision services would be similar to those currently applied in the vision insurance market. Specifically, we assumed annual vision exams would have a \$10 member copay, eyeglasses would have a \$25 member copay, and eyeglasses (frames and lenses) would be subject to a \$150 benefit maximum. In practice, many health plans in the commercial market have high deductibles (i.e., cost sharing for adult vision benefits in the commercial health insurance market may be much different than current vision insurance norms) and adult vision benefits may largely be subject to cost sharing in the commercial health insurance market.
- Given that the benefit plan design for vision services we utilized is similar to the designs in the current vision insurance market, we assumed that plan costs per utilizing member would be similar to current vision insurance results. We utilized NAIC reporting (trended to the projection period) to estimate the costs to health plans of providing the new health benefit coverage.
- Only adult members in the commercial market would be impacted by this change since children (up to age 18) already have these benefits covered through the pediatric vision EHB.
- For the purposes of estimating vision expenses before and after applying the proposed vision changes, we attributed all Colorado commercial market adult members into one of five cohorts:
 - 1) Members with current vision coverage that utilize vision benefits,
 - 2) Members with current vision coverage that do not utilize vision benefits,
 - 3) Members without vision coverage that currently pay for vision services out-of-pocket,
 - 4) Members without vision coverage that do not utilize vision services but that would do so if they were covered under the members' health insurance plans, and
 - 5) Members without vision coverage that would not utilize vision services even if such services were covered under the members' health insurance plans.
- Members that currently use vision services will continue to use them at the same rate under the new benefit coverage. We assumed the only members that would change their vision service utilization behavior would be the fourth cohort in the bullet above and that such members would begin to utilize services at the same rate as members who currently utilize services.
- Of members that utilize the vision benefits, we assumed 90% utilization of the eyeglasses benefit, and that the others would only utilize the vision exam benefit.

COLORADO POPULATION

We used 2022 enrollment data from the Colorado All Payer Claims Database (APCD) to identify fully-insured 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. We then used Colorado population projections from the Department of Local Affairs to trend the 2022 enrollment data to 2025 through 2034.

ADULT VISION COHORTS

As noted above, we allocated all Colorado adult commercial members into one of five cohorts. We utilized 2022 Colorado NAIC reporting of vision insurance enrollees to determine the percentage of total adults with vision coverage. We relied on industry utilization data to determine the portion of vision insurance enrollees that utilize their benefits. For the cohorts without vision coverage, we quantified the group that currently purchases vision services out of pocket based on the observed proportion of people that receive vision services with and without insurance. We relied on a nationwide study of the number of people needing glasses but not being able to afford them to estimate the number of adults that would utilize vision services if such services were covered under their insurance.

VISION CLAIMS AND PREMIUM

After categorizing all adult commercial market members into the five cohorts, we applied cost per utilizing member assumptions to these cohorts to determine vision service claim costs under the baseline and post benefit requirement scenarios. Specifically, we assumed that cohorts 1 and 3 are currently utilizing vision services in the baseline scenario and that cohorts 1, 3, and 4 would utilize vision services under the post benefit requirement scenario.

We applied administration expense ratios by individual, small group, and large group from the 2020 and 2021 Colorado Department of Regulatory Agencies Health Insurance Cost Reports to the projected claims to develop premiums for 2025 through 2034. Administration expenses include 2% assumed profit. Exhibit 8 shows the assumed administration expenses as a percentage of total premium. We note that the assumed administrative expenses shown in Exhibit 8 are lower than current administrative expenses for vision insurance carriers as reported by the NAIC (26%).

EXHIBIT 8: ADMINISTRATION EXPENSES AS A PERCENTAGE OF TOTAL PREMIUM INCLUDING PROFIT

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
Administration Ratio	16.8%	16.1%	10.0%

ADMINISTRATIVE COSTS

We assumed no undue burden from administering this additional benefit. Administrative costs will increase in proportion to the cost of additional mandated benefits.

Considerations and Limitations

As noted above in the Methodology and Assumptions section, we assumed that copays and benefit maximums for newly covered vision services would be similar to those currently applied in the vision insurance market. To the extent that health insurers deviate from the cost sharing assumed in this analysis, the actual impact on both premiums and cost sharing will vary from what we have estimated.

We have estimated the expected number of members that will begin to utilize vision benefits based on nationwide datasets in the absence of better data showing actual pent-up demand for vision services. Our analysis may overstate or underestimate the impact of this legislation to the extent that Colorado market utilization deviates from such nationwide data sources.

We estimated the impact to health plan premiums based on vision insurance claim costs and observed health insurance administrative retention loads. This approach assumes that administrative costs to health insurers for administering vision services will be similar to the costs of administering other health services. If health insurers were to contract with current vision insurers to administer vision services, the administrative costs would likely be higher than estimated in this analysis.

We observe in the vision insurance market that plans have negotiated substantial discounts with providers. It is our expectation that health insurers will eventually negotiate similar discounts to those currently obtained by the vision offerors, but it is likely that health insurers will not immediately reach the vision insurance market level of discounts upon offering these benefits unless they work through existing relationships (i.e., there may be a transition phase where health insurer discounts are less material than current vision market discounts). Given the unpredictability of new discount negotiations, we chose to simplify the analysis to assume that health insurers would achieve similar discounts to current vision insurance offerors. This might be achieved in the short- or long-term through partnering with current vision insurance providers to offer this benefit as part of a health benefit plan.

We assumed that under the new health benefit coverage members that currently purchase vision insurance (whether by themselves or through their employers) would end their vision insurance coverage given that similar services would now be provided under their health insurance plan. However, in practice there may be many reasons for members to continue their separate vision insurance coverage including employer sponsorship, network differences, and cost-sharing differences. If many members retain and utilize their current insurance vision coverage, we expect a reduction in the estimated impact on health insurer premiums and that out-of-pocket costs will not decrease by as much as shown in this report, as these members would continue to incur the cost of premiums for vision insurance.

Our analysis did not consider the downstream impacts of the proposed legislation. Post benefit requirement, enrollees with a fully insured individual or group policy may not purchase through traditional vision insurers. Uninsured Coloradans or Coloradans enrolled in HSA qualified plans, Medicaid or a self-funded health plan would need to purchase a standalone policy if they wanted insurance for vision services post benefit requirement. With fewer people enrolled in standalone vision policies, it may increase the administration costs per policy for the enrollees who purchase standalone vision service policies post benefit mandate. Depending on the price sensitivity of these enrollees, these enrollees may opt to not purchase vision insurance. It is also possible that with a smaller pool of enrollees, vision insurance companies may consolidate with each other or with health insurers. Modeling these impacts is considered beyond the scope of this 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 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 different than expected.

Model and Data Reliance

Milliman has developed certain models to estimate the values included in this report. The intent of the model was to estimate the impact of the proposed vision requirements for commercial market insurers. 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
- All other sources mentioned inline and in references.

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. T.J. Gray, Jordan Hull, and Norman Yu are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses supported by this model.

Appendix A: Individual Enrollee PMPM

Individual Market	1-Year	5-Year	10-Year
Total enrollment subject to state benefit requirements (non-HSA qualified health plans)	213,787	1,090,005	2,238,173
Total population affected	213,787	1,090,005	2,238,173
Baseline PMPM			
Insurer premium	\$585.94	\$676.13	\$816.98
Enrollee cost sharing	\$0.00	\$0.00	\$0.00
Enrollee non-covered	\$3.76	\$3.85	\$3.96
Total Baseline PMPM	\$589.70	\$679.98	\$820.94
Post benefit requirement PMPM			
Insurer premium	\$588.05	\$678.30	\$819.21
Enrollee cost sharing	\$0.34	\$0.34	\$0.35
Enrollee non-covered	\$1.44	\$1.47	\$1.51
Total Post benefit requirement PMPM	\$589.83	\$680.11	\$821.08
Change attributable to proposed benefits			
Insurer premium	\$2.12	\$2.17	\$2.23
Enrollee cost sharing	\$0.34	\$0.34	\$0.35
Enrollee non-covered	-\$2.32	-\$2.38	-\$2.45
Total change PMPM	\$0.13	\$0.13	\$0.14
Percent change attributable to proposed benefits			
Insurer premium	0.4%	0.3%	0.3%
Enrollee cost sharing	0.0%	0.0%	0.0%
Enrollee non-covered	-61.8%	-61.8%	-61.8%
Total percent change	0.0%	0.0%	0.0%

Appendix B: Small Group Enrollee PMPM

Small Group Market	1-Year	5-Year	10-Year
Total enrollment subject to state benefit requirements (non-HSA qualified health plans)	230,447	1,173,332	2,406,870
Total population affected	230,447	1,173,332	2,406,870
Baseline PMPM			
Insurer premium	\$572.86	\$660.99	\$798.60
Enrollee cost sharing	\$0.00	\$0.00	\$0.00
Enrollee non-covered	\$3.55	\$3.63	\$3.74
Total Baseline PMPM	\$576.41	\$664.62	\$802.34
Post benefit requirement PMPM			
Insurer premium	\$574.84	\$663.01	\$800.69
Enrollee cost sharing	\$0.32	\$0.33	\$0.34
Enrollee non-covered	\$1.35	\$1.39	\$1.43
Total Post benefit requirement PMPM	\$576.51	\$664.73	\$802.45
Change attributable to proposed benefits			
Insurer premium	\$1.98	\$2.03	\$2.09
Enrollee cost sharing	\$0.32	\$0.33	\$0.34
Enrollee non-covered	-\$2.19	-\$2.25	-\$2.31
Total change PMPM	\$0.10	\$0.11	\$0.11
Percent change attributable to proposed benefits			
Insurer premium	0.3%	0.3%	0.3%
Enrollee cost sharing	0.0%	0.0%	0.0%
Enrollee non-covered	-61.8%	-61.8%	-61.8%
Total percent change	0.0%	0.0%	0.0%

Appendix C: Large Group Enrollee PMPM

Large Group Market	1-Year	5-Year	10-Year
Total enrollment subject to state benefit requirements (non-HSA qualified health plans)	445,930	2,270,693	4,658,316
Total population affected	445,930	2,270,693	4,658,316
Baseline PMPM			
Insurer premium	\$509.84	\$588.72	\$711.72
Enrollee cost sharing	\$0.00	\$0.00	\$0.00
Enrollee non-covered	\$3.47	\$3.55	\$3.66
Total Baseline PMPM	\$513.30	\$592.27	\$715.38
Post benefit requirement PMPM			
Insurer premium	\$511.64	\$590.57	\$713.62
Enrollee cost sharing	\$0.31	\$0.32	\$0.33
Enrollee non-covered	\$1.32	\$1.36	\$1.40
Total Post benefit requirement PMPM	\$513.28	\$592.24	\$715.35
Change attributable to proposed benefits			
Insurer premium	\$1.80	\$1.85	\$1.90
Enrollee cost sharing	\$0.31	\$0.32	\$0.33
Enrollee non-covered	-\$2.14	-\$2.20	-\$2.26
Total change PMPM	-\$0.03	-\$0.03	-\$0.03
Percent change attributable to proposed benefits			
Insurer premium	0.4%	0.3%	0.3%
Enrollee cost sharing	0.0%	0.0%	0.0%
Enrollee non-covered	-61.8%	-61.8%	-61.8%
Total percent change	0.0%	0.0%	0.0%

Appendix D: Individual Enrollee Total Dollars

Individual Market	1-Year	5-Year	10-Year
Total enrollment subject to state benefit requirements (non-HSA qualified health plans)	213,787	1,090,005	2,238,173
Total population affected	213,787	1,090,005	2,238,173
Baseline total dollars			
Insurer premium	\$1,503,193,000	\$8,843,837,000	\$21,942,575,000
Enrollee cost sharing	\$0	\$0	\$0
Enrollee non-covered	\$9,644,000	\$50,328,000	\$106,322,000
Total Baseline dollars	\$1,512,837,000	\$8,894,165,000	\$22,048,897,000
Post benefit requirement total dollars			
Insurer premium	\$1,508,620,000	\$8,872,159,000	\$22,002,406,000
Enrollee cost sharing	\$865,000	\$4,512,000	\$9,532,000
Enrollee non-covered	\$3,683,000	\$19,218,000	\$40,599,000
Total Post benefit requirement dollars	\$1,513,168,000	\$8,895,889,000	\$22,052,537,000
Change attributable to proposed benefits			
Insurer premium	\$5,427,000	\$28,322,000	\$59,831,000
Enrollee cost sharing	\$865,000	\$4,512,000	\$9,532,000
Enrollee non-covered	-\$5,961,000	-\$31,110,000	-\$65,723,000
Total change	\$331,000	\$1,724,000	\$3,640,000
Percent change attributable to proposed benefits			
Insurer premium	0.4%	0.3%	0.3%
Enrollee cost sharing	0.0%	0.0%	0.0%
Enrollee non-covered	-61.8%	-61.8%	-61.8%
Total percent change	0.0%	0.0%	0.0%

Appendix E: Small Group Enrollee Total Dollars

Small Group Market	1-Year	5-Year	10-Year
Total enrollment subject to state benefit requirements (Non-HSA qualified health plans)	230,447	1,173,332	2,406,870
Total population affected	230,447	1,173,332	2,406,870
Baseline total dollars			
Insurer premium	\$1,584,173,000	\$9,306,685,000	\$23,065,443,000
Enrollee cost sharing	\$0	\$0	\$0
Enrollee non-covered	\$9,811,000	\$51,171,000	\$108,061,000
Total Baseline dollars	\$1,593,984,000	\$9,357,856,000	\$23,173,504,000
Post benefit requirement total dollars			
Insurer premium	\$1,589,648,000	\$9,335,241,000	\$23,125,745,000
Enrollee cost sharing	\$880,000	\$4,587,000	\$9,687,000
Enrollee non-covered	\$3,746,000	\$19,540,000	\$41,263,000
Total Post benefit requirement dollars	\$1,594,274,000	\$9,359,368,000	\$23,176,695,000
Change attributable to proposed benefits			
Insurer premium	\$5,475,000	\$28,556,000	\$60,302,000
Enrollee cost sharing	\$880,000	\$4,587,000	\$9,687,000
Enrollee non-covered	-\$6,065,000	-\$31,631,000	-\$66,798,000
Total change	\$290,000	\$1,512,000	\$3,191,000
Percent change attributable to proposed benefits			
Insurer premium	0.3%	0.3%	0.3%
Enrollee cost sharing	0.0%	0.0%	0.0%
Enrollee non-covered	-61.8%	-61.8%	-61.8%
Total percent change	0.0%	0.0%	0.0%

Appendix F: Large Group Enrollee Total Dollars

Large Group Market	1-Year	5-Year	10-Year
Total enrollment subject to state benefit requirements (Non-HSA qualified health plans)			
	445,930	2,270,693	4,658,316
Total population affected	445,930	2,270,693	4,658,316
Baseline total dollars			
Insurer premium	\$2,728,222,000	\$16,041,552,000	\$39,784,988,000
Enrollee cost sharing	\$0	\$0	\$0
Enrollee non-covered	\$18,554,000	\$96,832,000	\$204,573,000
Total Baseline dollars	\$2,746,776,000	\$16,138,384,000	\$39,989,561,000
Post benefit requirement total dollars			
Insurer premium	\$2,737,874,000	\$16,091,926,000	\$39,891,411,000
Enrollee cost sharing	\$1,663,000	\$8,681,000	\$18,339,000
Enrollee non-covered	\$7,085,000	\$36,975,000	\$78,115,000
Total Post benefit requirement dollars	\$2,746,622,000	\$16,137,582,000	\$39,987,865,000
Change attributable to proposed benefits			
Insurer premium	\$9,652,000	\$50,374,000	\$106,423,000
Enrollee cost sharing	\$1,663,000	\$8,681,000	\$18,339,000
Enrollee non-covered	-\$11,469,000	-\$59,857,000	-\$126,458,000
Total change	-\$154,000	-\$802,000	-\$1,696,000
Percent change attributable to proposed benefits			
Insurer premium	0.4%	0.3%	0.3%
Enrollee cost sharing	0.0%	0.0%	0.0%
Enrollee non-covered	-61.8%	-61.8%	-61.8%
Total percent change	0.0%	0.0%	0.0%

References

- ¹ U.S. Health Insurance Industry Analysis Report. 2022 Annual Results. National Association of Insurance Commissioners. Accessed March 15, 2024, from <https://content.naic.org/sites/default/files/inline-files/Health%202022%20Annual%20Industry%20Report.pdf>.
- ² Ibid.
- ³ Saydah SH, Gerzoff RB, Saaddine JB, Zhang X, Cotch MF. Eye Care Among US Adults at High Risk for Vision Loss in the United States in 2002 and 2017. *JAMA Ophthalmol.* 2020;138(5):479–489. doi:10.1001/jamaophthalmol.2020.0273
- ⁴ Refractive Errors. National Eye Institute. Accessed March 15, 2024 from <https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/refractive-errors>
- ⁵ Eye Deserve More Communications Toolkit. American Optometric Association. Accessed March 15, 2024, from <https://www.aoa.org/AOA/Documents/Healthy%20Eyes/EDM%20Affiliate%20and%20Member%20Toolkit%20final.pdf>
- ⁶ Common Eye Disorders and Diseases. Centers for Disease Control and Prevention. Accessed March 15, 2024, from <https://www.cdc.gov/visionhealth/basics/ced/index.html>
- ⁷ Vision & Eye Health Surveillance System (VEHSS), Centers for Disease Control and Prevention, Vision Health Initiative, [online] [accessed Feb 8, 2024]]. URL: <https://www.cdc.gov/visionhealth/vehss/project/index.html>
- ⁸ Saydah SH, Gerzoff RB, Saaddine JB, Zhang X, Cotch MF. Eye Care Among US Adults at High Risk for Vision Loss in the United States in 2002 and 2017. *JAMA Ophthalmol.* 2020;138(5):479–489. doi:10.1001/jamaophthalmol.2020.0273
- ⁹ Vision & Eye Health Surveillance System (VEHSS), Centers for Disease Control and Prevention, Vision Health Initiative, [online] [accessed Feb 8, 2024]]. URL: <https://www.cdc.gov/visionhealth/vehss/project/index.html>
- ¹⁰ Qiu M, Wang S, Singh K, Lin S. Racial disparities in uncorrected and undercorrected refractive error in the United States. *Investigative Ophthalmology & Visual Science.* 2014; 55(10): 6996-7005
- ¹¹ Ibid.
- ¹² Saydah SH, Gerzoff RB, Saaddine JB, Zhang X, Cotch MF. Eye Care Among US Adults at High Risk for Vision Loss in the United States in 2002 and 2017. *JAMA Ophthalmol.* 2020;138(5):479–489. doi:10.1001/jamaophthalmol.2020.0273
- ¹³ Solomon SD, Shoge RY, Ervin AM, et al. Improving access to eye care: a systematic review of the literature. *Ophthalmology.* 2022; 129(10): e114-e126
- ¹⁴ Bureau of Labor Statistics. Employee Benefits in the United States - March 2023. U.S. Department of Labor; 2023. Available at: <https://www.bls.gov/ebs/publications/employee-benefits-in-the-united-states-march-2023.htm> . Accessed Feb 8, 2024
- ¹⁵ Ibid.
- ¹⁶ Ibid.
- ¹⁷ The Harris Poll. The State of Vision Health 2023. XP Health. Available at: <https://www.xphealth.co/whitepaper/> . Accessed Feb 8, 2024.
- ¹⁸ Varadaraj V, Frick KD, Saaddine JB, et al. Trends in eye care use and eyeglasses affordability: The US National Health Interview Survey, 2008-2016. *JAMA Ophthalmology.* 2019; 137(4):391-398. doi:10.1001/jamaophthalmol.2018.6799
- ¹⁹ Qiu M, Wang S, Singh K, Lin S. Racial disparities in uncorrected and undercorrected refractive error in the United States. *Investigative Ophthalmology & Visual Science.* 2014; 55(10): 6996-7005
- ²⁰ Li YJ, Xirasagar S, Pumkam C, Krishnaswamy M, Bennett CL. Vision insurance, eye care visits, and vision impairment among working-age adults in the United States. *JAMA Ophthalmol.* 2013 Apr;131(4):499-506.
- ²¹ Health First Colorado Vision Benefit. Colorado Department of Health Care Policy and Financing. Accessed March 15, 2024, from <https://hcpf.colorado.gov/vision-benefit>
- ²² Steinheimer, Laura. What you Need to Know: Eye Exam Costs and Financing Options. Accessed March 15, 2024, from <https://www.visioncenter.org/pricing/eye-exam-without-insurance/>
- ²³ Workforce Projections. Health Resources & Services Administration. Accessed March 15, 2024, from <https://data.hrsa.gov/topics/health-workforce/workforce-projections>
- ²⁴ Ibid.

²⁵ Solomon SD, Shoge RY, Ervin AM, et al. Improving access to eye care: a systematic review of the literature. *Ophthalmology*. 2022; 129(10): e114-e126

²⁶ Common Eye Disorders and Diseases. Centers for Disease Control and Prevention. Accessed March 15, 2024, from <https://www.cdc.gov/visionhealth/basics/ced/index.html>

²⁷ Vision & Eye Health Surveillance System (VEHSS), Centers for Disease Control and Prevention, Vision Health Initiative, [online] [accessed Feb 8, 2024]]. URL: <https://www.cdc.gov/visionhealth/vehss/project/index.html>

²⁸ Ibid.

²⁹ Centers for Disease Control and Prevention. *National Diabetes Statistics Report, 2020*. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; 2020

³⁰ Haw JS, Shah M, Turbow S, Egeolu M, Umpierrez G. Diabetes Complications in Racial and Ethnic Minority Populations in the USA. *Curr Diab Rep*. 2021 Jan 9;21(1):2.

³¹ Essential Health Benefits Final Rule. Federal Register, Vol. 87, No. 27. February 25, 2013. Available at: www.gpo.gov/fdsys/pkg/FR-2013-02-25/pdf/2013-04084.pdf.

³² Eye Deserve More Communications Toolkit. American Optometric Association. Accessed March 15, 2024, from <https://www.aoa.org/AOA/Documents/Healthy%20Eyes/EDM%20Affiliate%20and%20Member%20Toolkit%20final.pdf>

³³ Common Eye Disorders and Diseases. Centers for Disease Control and Prevention. Accessed March 15, 2024, from <https://www.cdc.gov/visionhealth/basics/ced/index.html>



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