MILLIMAN REPORT

Analysis of proposed legislation to provide dental coverage for individuals with head and neck cancers

Prepared for the Colorado Division of Insurance

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Table of contents

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 a health benefit plan. The legislative requirements may impact the individual, small group, and large group health insurance markets. The actuarial review must consider the predicted effects of the legislative proposal on the affected markets during the one, five, and 10 years immediately following the effective date of the legislative proposal, or during another time period following the effective date of the legislative proposal if such consideration is more actuarially feasible, including:

- An estimate of the number of Colorado residents who will be directly affected by the legislative proposal
- Estimates of changes in the rates of utilization of specific healthcare services that may result from the legislative proposal
- Estimates of changes in consumer cost sharing that would result from the legislative proposal
- Estimates of changes in health benefit plan premiums charged to covered persons or employers, in individual, small group and large group markets, 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, 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 potential legislative proposal affecting medical plans in the commercial insurance market that would require coverage of certain services related to dental treatment and other services that may be required for individuals with head and neck cancers. We did not receive specific bill language. In developing the estimates within this report, based on discussions with DOI and bill sponsors, we assumed that the required coverage would include dental services (including Class I – Class III services such as routine dental cleanings, X-rays, fluoride, fillings, root canals, crowns, dentures, etc.), jaw reconstruction surgery, obturators, and palatal augmentation prostheses as required in the treatment of head and neck cancer patients. The proposed legislation would apply to state-regulated individual, small group, and large group health plans issued on or after January 1, 2026.

At present, the Patient Protection and Affordable Care Act (ACA) mandates that ACA-regulated commercial market plans offer dental coverage for children as part of the pediatric dental essential health benefit (EHB), but this requirement does not extend to adults. This proposal would add coverage of dental services for adults with head and neck cancer, as well as expand coverage for children with head and neck cancers beyond the pediatric dental EHB.

Executive summary

The Colorado Division of Insurance (DOI) commissioned Milliman, Inc. to review a potential legislative proposal that would require all commercial health benefit plans in the individual, small group, and large group markets to cover dental care and certain other medically necessary procedures for individuals with certain head and neck cancers as part of the health benefit plan.

Milliman did not receive specific bill language for this proposed legislation. In developing the estimates within this report, based on discussions with the DOI and bill sponsors, we assumed that the required coverage would include dental services (including Class I – Class III services such as routine dental cleanings, X-rays, fluoride, fillings, root canals, crowns, dentures, etc.), jaw reconstruction surgery, obturators, and palatal augmentation prostheses as needed by head and neck cancer patients.

The review estimates the effects of the legislative proposal on Colorado state-regulated individual and group health benefit plans in Colorado over one-, five-, and 10-year periods following the effective date of the proposal. Factors considered include the number of Colorado residents affected, changes in healthcare service utilization rates, consumer cost sharing, health benefit plan premiums, out-of-pocket healthcare cost changes, potential long-term healthcare cost changes, potential health benefits for individuals or communities, and the social and economic impacts of the proposal.

As shown in **Exhibit 1**, the estimated one-year, five-year cumulative, and 10-year cumulative impact on premiums in the fully-insured commercial market of these additional coverage requirements is $0.4 million, $2.1 million, and $4.9 million respectively, or $0.03, $0.03, and $0.04 per member per month (PMPM) respectively. This represents a 0.006%, 0.005%, and 0.005% increase in premium over the timeframes analyzed.

EXHIBIT 1: ESTIMATED PREMIUM IMPACT OF ADULT DENTAL COVERAGE

	1-YEAR IMPACT	5-YEAR IMPACT	10-YEAR IMPACT
Individual - Total Dollars	$99,000	$547,000	$1,248,000
Individual – PMPM	$0.03	$0.03	$0.04
Individual - Percent Change	0.006%	0.006%	0.005%
Small Group - Total Dollars	$103,000	$569,000	$1,298,000
Small Group – PMPM	$0.03	$0.03	$0.04
Small Group - Percent Change	0.005%	0.004%	0.004%
Large Group - Total Dollars	$186,000	$1,028,000	$2,351,000
Large Group – PMPM	$0.03	$0.03	$0.04
Large Group - Percent Change	0.006%	0.006%	0.005%
All Commercial - Total Dollars	**$388,000**	**$2,144,000**	**$4,897,000**
All Commercial - PMPM	**$0.03**	**$0.03**	**$0.04**
All Commercial - Percentage Change	**0.006%**	**0.005%**	**0.005%**

Background

PROPOSED LEGISLATION

The proposed legislation would require individual, small group and large group health benefit plans regulated by the State of Colorado to cover dental services and other medically necessary treatment associated with dental problems arising from head and neck cancer. For purposes of analysis, we have included dental services (including Class I – Class III services such as routine dental cleanings, X-rays, fluoride, fillings, root canals, crowns, dentures, etc.), jaw reconstruction surgery, obturators, and palatal augmentation prostheses as needed by individuals with cancers of the oral cavity, pharynx, and larynx.

HEAD AND NECK CANCER

The National Cancer Institute (NCI) describes head and neck cancer (HNC) as cancers that begin in the squamous cells lining the mucosal surfaces of the head and neck, including the larynx, pharynx, throat, lips, tongue, tonsils, nasal cavity.[1] These are collectively referred to as squamous cell carcinoma (SCC) of the head and neck. Head and neck cancer may also occur in the paranasal sinuses and salivary glands, though these occurrences are much less common than SCC.[2]

Tobacco use is the leading risk factor for developing HNC, and alcohol use is a second major risk factor, especially when drinking occurs with tobacco use.[3] Other known risk factors include infection with cancer-causing Human Papillomavirus (HPV) strains, exposure to radiation, occupational exposure to certain particulates, ancestry, and Epstein-Barr virus infection.[4]

According to the National Cancer Institute's Surveillance, Epidemiology, and End Results Program (SEER), between 2017 and 2021, 0.0471% of people have been diagnosed with cancer of the oral cavity and pharynx and 0.0091% of people have been diagnosed with cancer of the larynx. Men are much more likely to develop HNC than women.[5] Incidence of HNC is higher among individuals over 50 than younger people. In 2021, incidence rates for cancer of the oral cavity and pharynx were nearly twice as high in individuals 65 years and older relative to individuals aged 50 to 64 years, and 20 times higher than in individuals under 50 years (48.1 per 100,000 for individuals 65 and over compared to 27.4 per 100,000 in 50 to 64 year olds and 2.3 per 100,000 in individuals under 50 years old).[6]

In 2021, larynx cancer incidence rates were highest for non-Hispanic Black individuals (3.6 per 100,000), followed by non-Hispanic white and non-Hispanic American Indian/Alaska Native (2.9 and 2.8 per 100,000), and Hispanic individuals of any race (2.1 per 100,000). The non-Hispanic Asian/Pacific Islander population had the lowest incidence rate (1.0 per 100,000). In 2021, the incidence rate of cancer of the oral cavity and pharynx for non-Hispanic whites (14.3 per 100,000) was approximately 1.5 to 1.9 times as high as the rate for non-Hispanic Asian/Pacific Islander (9.6 per 100,000), non-Hispanic Black (8.6 per 100,000) or Hispanic individuals of any race (7.6 per 100,000).

TREATMENT AND ORAL HEALTH

HNC is typically treated with a combination of surgery, radiotherapy, chemotherapy, immunotherapy, or targeted therapies.[7] Surgery and radiotherapy risk damaging tissue in the oral cavity or bone and teeth, which have long-term side effects leading to a decline in oral health.

Acute adverse effects related to cancer treatment include oral mucositis (inflammation and ulceration of mucous members in the mouth and throat), taste disturbance, xerostomia (dry mouth), and trismus (jaw muscle spasms).[8]

Dry mouth can accelerate the development of dental caries (tooth decay and cavities) if not managed in the long term.[9] Chronic adverse effects include radiation caries and osteoradionecrosis, a serious condition characterized by bone death and non-healing tissue of the jaw that is associated with pre- and post-radiation tooth extraction.[10] This damage to oral tissue and jaw bone can negatively affect speech and swallowing.[11]

Adverse dental effects are highly prevalent among HNC patients. A cohort study conducted at a single health center reported that virtually all patients receiving radiotherapy for HNC between 2015 and 2022 developed some degree of mucositis during treatment, with approximately 60% of individuals developing severe mucositis.[12] The majority of respondents to a survey of clinical registry of dental outcomes in HNC patients four years post-radiotherapy reported

dry mouth (75%).[13] Other issues among respondents included problems swallowing (38%), dental caries (22%), and difficulty keeping their mouth open during dental procedures (17%).[14] Osteonecrosis may affect up to 15% of HNC patients.[15,16]

Dental care is recommended to address these side effects.[17] Dental providers can offer care pre-radiotherapy, during radiotherapy, and post-radiotherapy to improve patient outcomes.

Pre-radiotherapy care includes:[18]

- Early dental assessment: Routine dental care to diagnose existing oral disease and plan for necessary treatment before radiotherapy begins
- Dental extractions: Extraction of teeth with poor prognosis, particularly those within the field of radiation, to prevent complications like osteoradionecrosis
- Patient education: Education of patients on the potential side effects of radiotherapy on oral health

During radiotherapy, care includes managing acute side effects through a combination of pharmacological and non-pharmacological treatments and physical exercises for muscles:[19]

- Oral mucositis**:** Pharmacological treatments like prescription oral rinses and non-pharmacological approaches such as ice chips
- Taste disturbance: Monitor and provide supportive care to manage altered taste
- Xerostomia (dry mouth): Advise frequent sips of water, use of sugar-free chewing gum, and possibly pharmacological treatments or artificial saliva
- Trismus: Encourage pre-treatment exercises for masticatory muscles

Post-radiotherapy care may include:[20]

- Routine dental care to monitor oral health
- Fillings, crowns and/or tooth extractions to treat radiation caries
- Partial or full dentures, depending on extent of tooth damage
- Reconstruction of jaw: surgical intervention to address osteoradionecrosis
- Fitting of obturator prosthesis: a removable prosthesis used to close gaps or defects in the palate for patients who have tissue damage or issues with tongue mobility due to surgery or radiation treatment
- Fitting of palatal augmentation prosthesis (PAP): a removable prosthesis that reshapes the palate to improve speech and swallowing for patients who have tissue damage or issues with tongue mobility due to surgery or radiation treatment

INSURANCE COVERAGE

In February 2025, the Colorado Division of Insurance surveyed Colorado insurance carriers in the individual, small group, and large group markets regarding current coverage of dental services and other specified medical services for individuals with head and neck cancers. A copy of this survey is included as Appendix A in this report. Survey results suggest that dental services (Class I – Class III) are not typically covered by medical plans in the current market, jaw reconstruction and obturators are covered by nearly all carriers, and coverage for PAPs varies across carriers. The results of the survey suggest that the inclusion of these services, particularly dental services, in medical plans would increase plan-covered utilization.

POTENTIAL HEALTH BENEFITS

Pre- and post-radiation dental care has been shown to reduce the risk of developing osteoradionecrosis.[21, 22,23] Evidence also suggests that pre-treatment dental care is effective at reducing the severity of oral mucositis and the incidence of oral infections and infection-related hospitalization during chemotherapy.[24]

Issues with oral health related to HNC negatively impact quality of life for patients.[25] Research shows that individuals who received dental rehabilitation, such as restorations, prostheses, or implants, often report better oral function (including chewing and swallowing) and improved overall quality of life relative to individuals who do not receive dental care.[26,27,28,29]

Dental insurance coverage is associated with improved health outcomes in HNC patients.[30,31] A survey of patients who had completed chemoradiotherapy at Dana Farber Cancer Institute between 2005 and 2012 found that dental insurance was associated with younger age at diagnosis and longer overall survival after diagnosis.[32]

PUBLIC DEMAND AND AVAILABILITY OF SERVICES

Demand for dental Services among HNC patients

As discussed in the Treatment and Oral Health section, the majority of HNC patients will have oral complications that will at least require routine dental care pre- and post-cancer treatment, such as cleanings, fillings, and extractions.[33,34,35 36]

It is important to note that the population with the highest burden of HNC is over 65 years old. The majority of this population is covered by Medicare and does not participate in the commercial market.[37]

Published rates of oral treatment compliance or adherence for pre- and post-cancer treatment were scarce, making it difficult to estimate the percentage of HNC patients with these complications who receive treatment.

Patients may not be informed about the need for pre- and post-treatment dental services, which may influence dental service utilization. In an online survey conducted by the Oral Cancer Foundation among support group participants, 72.6% and 53.6% of respondents reported being informed that they needed to receive dental services in the pre- and post- cancer treatment periods, respectively.[38] Dental care compliance among respondents was 71.2% during the pre-treatment and 49.2% in the post-treatment period.[39]

Financial hardship is frequently cited in surveys of HNC patients as the primary reason for not receiving all recommended dental care.[40] In a 2023 survey of Head and Neck Cancer Alliance members, 32% percent of respondents reported not receiving post-treatment dental care due to cost. [41]

Availability of services

Dental provider shortages are recognized as a national challenge. Colorado has 884,783 people living in designated health provider shortage areas (HPSA), and 58.12% of the state's need is met through current dental providers as of December 31, 2024. An additional 85 dental providers would be needed to remove the HPSA designation statewide in Colorado. Colorado has the third-highest percentage of need met out of the 50 states. Rural and other non-metro areas are relatively more impacted by the availability of dental services.[42]

Additionally, specialized dental services, such as fitting obturators, palatal augmentation prostheses (PAPs), and dentures to restore oral function, may require a prosthodontist to perform the work. Patients requiring substantial dental extractions may also require a consultation with an oral and maxillofacial surgeon.[43] Though a quantitative estimate of prosthodontists at the state level was unavailable, it is a reasonable assumption that access to specialty care may be more limited than general dentistry.

Financial analysis

The legislative proposal would require all commercial market health plans to cover dental and other medically necessary services, such as PAPs and obturators, for their enrollees with head and neck cancers. Milliman did not receive specific bill language for this proposed legislation. In our analysis, we assumed that the required coverage would include dental services (including Class I – Class III services such as routine dental cleanings, X-rays, fluoride, fillings, root canals, crowns, dentures, etc.), jaw reconstruction surgery, obturators, and palatal augmentation prostheses.

Our evaluation projects the population, cost of benefits to the plan and enrollees, and premium for calendar years 2026 through 2035 under the following two scenarios:

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

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

HEAD AND NECK CANCER INCIDENCE

Of the types of cancers described above, cancers affecting the lips, oral cavity, pharynx, or larynx are the most likely to require dental intervention. Treatment of cancers of the nasal cavity or paranasal sinuses can have impacts on oral health, but it is not likely. In these cancers, impact on oral health is dependent on the specific location of the cancer and surgical approach taken. For the purpose of our analysis, we relied on incidence rates from SEER for cancers of the oral cavity and pharynx and cancers of the larynx.[44]

The estimated number of enrollees who are impacted by this proposal in the first year is shown in **Exhibit 2**. In 2026, the number of people affected by the proposal is estimated to be 30 people in each of the individual and small group markets and 50 people in the large group market. This represents an incidence rate of 8.79 people per 100,000 for individuals under 65 and 57.2 people per 100,000 for individuals 65 and over.

EXHIBIT 2 – POPULATION IMPACTED BY MANDATE, 2026

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
Total Enrollment Subject to State Benefit Requirements	276,000	266,000	506,000
Total Enrollment With Head and Neck Cancer	30	30	50
% of Enrollment Affected by Proposal	**0.01%**	**0.01%**	**0.01%**

INSURANCE COVERAGE

As noted in the Background section of this report, in February 2025, the Colorado Division of Insurance surveyed Colorado health insurance carriers in the individual, small group, and large group markets regarding their coverage of dental services and other specified medical services for individuals with head and neck cancers. For our analysis, we relied on this survey to estimate the baseline coverage for each service category. The full survey text is presented in **Appendix A**. The assumed current percentage of enrollees with coverage for specified services used in our analysis is shown below in **Exhibit 3** in the Baseline column. This proposal requires that 100% of enrollees receive coverage for these services in the post-mandate period.

EXHIBIT 3 – HEALTH BENEFIT COVERAGE, 2026

Service Category	Baseline	Post Mandate	Impact
Dental (Class I-III)	0%	100%	100%
Jaw Reconstruction	100%	100%	0%
Obturators, Palatal Augmentation Prosthesis	80%	100%	20%

Currently, close to 100% of enrollees do not receive coverage for dental services through their medical health insurance and approximately 20% of enrollees do not receive coverage for obturators and palatal augmentation prosthesis.

BENEFIT UTILIZERS

The anticipated increase in the number of estimated utilizers before and after implementation of the proposal is shown in **Exhibit 4**. We assumed that 50% of individuals with HNC would seek significant dental care,[45] 7.5% would require jaw reconstruction,[46] and 5% would require an obturator or PAP. We estimate that the proposal would increase the number of people using dental services in 2026 by between six and seven people depending on the market. The majority of HNC patients requiring a jaw reconstruction or PAP individuals already have coverage through insurance in the baseline period. Combined with the low incidence rate of HNC, this leads to a projection of fewer than one additional person expected to receive these services as a result of the proposal.

EXHIBIT 4 – INCREASE IN UTILIZERS OF SPECIFIED SERVICES POST- PROPOSAL IMPLEMENTATION, 2026

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
Dental (Class I-III)	7	6	6
Jaw Reconstruction	0	0	0
Obturators, Palatal Augmentation Prosthesis	0	0	0

COST PER SERVICE AND ENROLLEE COST SHARING

We assumed cost per service and cost sharing in 2026 as shown in **Exhibit 5** for the services analyzed:

EXHIBIT 5 – ESTIMATED COST OF SPECIFIED SERVICES, 2026

	COST PER SERVICE	COST SHARING
Dental (Class I-III)	$8,000	$1,600
Jaw Reconstruction	$150,000	$5,000
Obturators, Palatal Augmentation Prosthesis	$3,000	$600

Cost estimates for dental services represent utilization that is substantially higher than what is traditional for typical users of dental insurance. We developed this estimate by assuming significant additional utilization due to affected individuals having HNC, including four times more utilization of Class I services, restorations, periodontics, endodontics, and bridges, and 90 times more utilization of reconstructive inlays/onlays/crowns and dentures when compared to traditional enrollees in dental plans (approximately seven to eight crowns per patient).

We assumed that cost sharing for these services will be similar to typical plans in the current market, with levels similar to a gold plan as defined by the Affordable Care Act (~80%).

PREMIUM IMPACT

The estimated health insurance premium impact due to the proposal is shown in **Exhibit 6**.

- For individual insurance, we estimate a one-year premium impact of $99,000, a five-year premium impact of $547,000, and a 10-year premium impact of $1,248,000, or $0.03, $0.03, and $0.04 per member per month respectively, or 0.006%, 0.006%, and 0.005% percent change over baseline premium respectively.
- For small group insurance, we estimate a one-year premium impact of $103,000, a five-year premium impact of $569,000, and a 10-year premium impact of $1,298,000, or $0.03, $0.03, and $0.04 per member per month respectively, or 0.005%, 0.004%, and 0.004% percent change over baseline premium respectively.
- For large group insurance, we estimate a one-year premium impact of $186,000, a five-year premium impact of $1,028,000, and a 10-year premium impact of $2,351,000, or $0.03, $0.03, and $0.04 per member per month respectively, or 0.006%, 0.006%, and 0.005% percent change over baseline premium respectively.

EXHIBIT 6 – HEALTH INSURANCE PREMIUM IMPACT

	1-Year impact	5-Year impact	10-year impact
Individual - Total Dollars	$99,000	$547,000	$1,248,000
Individual - PMPM	$0.03	$0.03	$0.04
Individual - Percent Change	0.006%	0.006%	0.005%
Small Group - Total Dollars	$103,000	$569,000	$1,298,000
Small Group - PMPM	$0.03	$0.03	$0.04
Small Group - Percent Change	0.005%	0.004%	0.004%
Large Group - Total Dollars	$186,000	$1,028,000	$2,351,000
Large Group - PMPM	$0.03	$0.03	$0.04
Large Group - Percent Change	0.006%	0.006%	0.005%
All Commercial - Total Dollars	**$388,000**	**$2,144,000**	**$4,897,000**
All Commercial - PMPM	**$0.03**	**$0.03**	**$0.04**
All Commercial - Percentage Change	**0.006%**	**0.005%**	**0.005%**

STATE DEFRAYAL OF MANDATED BENEFITS IN EXCESS OF ESSENTIAL HEALTH BENEFITS

Under federal law, states must defray the premium cost of mandated benefits in excess of essential health benefits (EHBs) for qualified health plans (QHPs). Because adult dental care is not considered an EHB, the state may be required to defray the costs of mandating coverage for adult dental care for individuals with HNC.

Exhibit 6 shows the estimated average change to premiums associated with the inclusion of the proposed benefits and an estimate of what the state would be required to defray. Note that since we have no way of distinguishing QHPs from non-QHPs, we have presented our results assuming that all individual and small group market enrollees are enrolled in a QHP.

ENROLLEE OUT-OF-POCKET IMPACT

Some enrollees with HNC do not have full coverage for every service required by their treatment in the baseline period. While some of these enrollees may choose to pay for their care out of pocket, some will choose to defer services. The extent of deferral is unknown and would require further research. We assumed that in the baseline period 50% of enrollees who currently lack coverage will choose to pay for their care and that the remaining 50% of enrollees will defer their care. In the post-mandate period, all services will be covered, but subject to cost sharing specific to the medical plan.

The impact of the proposal on the estimated enrollee out-of-pocket costs, including expenses for both self-payment of non-covered services and cost sharing on covered services, is shown in **Exhibit 7**.

- For individual insurance, we estimate a one-year patient out-of-pocket impact of -$31,000, a five-year patient out-of-pocket impact of -$174,000, and a 10-year patient out-of-pocket impact of -$398,000 or -$0.01, -$0.01, and -$0.01 per member per month respectively.
- For small group insurance, we estimate a one-year patient out-of-pocket impact of -$30,000, a five-year patient out-of-pocket impact of -$170,000, and a 10-year patient out-of-pocket impact of -$389,000 or -$0.01, -$0.01, and -$0.01 per member per month respectively.
- For large group insurance, we estimate a one-year patient out-of-pocket impact of -$61,000, a five-year patient out-of-pocket impact of -$339,000, and a 10-year patient out-of-pocket impact of -$776,000 or -$0.01, -$0.01, and -$0.01 per member per month respectively.

EXHIBIT 7 – ENROLLEE OUT OF POCKET AND NON-COVERED COST IMPACT

	1-Year impact	5-Year impact	10-year impact
Individual - Total Dollars	($31,000)	($174,000)	($398,000)
Individual – PMPM	($0.01)	($0.01)	($0.01)
Small Group - Total Dollars	($30,000)	($170,000)	($389,000)
Small Group – PMPM	($0.01)	($0.01)	($0.01)
Large Group - Total Dollars	($61,000)	($339,000)	($776,000)
Large Group – PMPM	($0.01)	($0.01)	($0.01)
All Commercial - Total Dollars	**($122,000)**	**($683,000)**	**($1,563,000)**
All Commercial – PMPM	**($0.01)**	**($0.01)**	**($0.01)**

TOTAL COST OF CARE IMPACT

The estimated impact of the proposal on total cost of care is shown in **Exhibit 8**. The total cost of care is the sum of the costs covered by the medical plan, the cost sharing paid by the enrollee, and any non-covered services paid by the enrollee. Because all members will receive coverage after the implementation of the proposal, the cost of non-covered services is assumed to be eliminated by the proposal.

- For individual insurance, we estimate a one-year total cost of care impact of $68,000, a five-year total cost of care impact of $373,000, and a 10-year total cost of care impact of $850,000 or $0.02, $0.02, and $0.02 per member per month respectively.
- For small group insurance, we estimate a one-year total cost of care impact of $73,000, a five-year total cost of care impact of $399,000, and a 10-year total cost of care impact of $909,000 or $0.02, $0.02, and $0.03 per member per month respectively.
- For large group insurance, we estimate a one-year total cost of care impact of $125,000, a five-year total cost of care impact of $689,000, and a 10-year total cost of care impact of $1,575,000 or $0.02, $0.02, and $0.02 per member per month respectively.

EXHIBIT 8 – TOTAL COST OF CARE IMPACT

	1-Year impact	5-Year impact	10-year impact
Individual - Total Dollars	$68,000	$373,000	$850,000
Individual – PMPM	$0.02	$0.02	$0.02
Small Group - Total Dollars	$73,000	$399,000	$909,000
Small Group – PMPM	$0.02	$0.02	$0.03
Large Group - Total Dollars	$125,000	$689,000	$1,575,000
Large Group – PMPM	$0.02	$0.02	$0.02
All Commercial - Total Dollars	**$266,000**	**$1,461,000**	**$3,334,000**
All Commercial – PMPM	**$0.02**	**$0.02**	**$0.03**

Please see **Appendices B through G** for a more detailed breakdown of the estimated impact of this proposal by market.

SCENARIO TESTING ON USE OF NON-COVERED SERVICES AT BASELINE

The tables and numbers presented in the remainder of this report assume that 50% of baseline enrollees without coverage will elect to self-pay for their treatments and the remainder will defer treatment. **Exhibit 9** illustrates the one-year impact of varying this assumption between 0% and 100%. The overall impact of this proposal increases as the proportion of baseline enrollees without coverage who self-pay decreases. This is because the more people who defer treatment in the baseline, the smaller the reduction in non-covered expenses.

EXHIBIT 9 – IMPACTS OF SERVICE DEFERRAL ON INSURER PREMIUM, PATIENT OUT-OF-POCKET, AND PATIENT NON-COVERED

	Proportion of Non-Covered Services Deferred		
	100%	**50%**	**0%**
PMPM Change Attributable to Proposed Benefits			
Insurer premium	$0.031	$0.031	$0.031
Patient out-of-pocket	$0.007	$0.007	$0.007
Patient non-covered	$0.000	-$0.016	-$0.033
Total Change PMPM	**$0.037**	**$0.021**	**$0.005**
Dollar Change Attributable to Proposed Benefits			
Insurer premium	$388,000	$388,000	$388,000
Patient out-of-pocket	$83,000	$83,000	$83,000
Patient non-covered	$0	-$205,000	-$411,000
Total Change	**$471,000**	**$266,000**	**$60,000**

LONG-TERM HEALTHCARE COST IMPACT

Our financial analysis concluded that there would be minimal aggregate increases in healthcare costs due to requiring commercial market health insurers to cover these additional services for individuals with HNC. The increase in costs is primarily due to individuals having access to dental benefits through their medical plan without an annual maximum that is common in dental insurance plans and the corresponding increase in utilization of services. We did not quantify any potential offsets due to improved health outcomes on the cost of providing dental care 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 additional services as defined above for individuals with HNC would reduce out-of-pocket costs for enrollees diagnosed with HNC, while having negligible impact on enrollee premiums.

This proposed legislation would likely have the greatest impact on individuals over 50 years old with commercial insurance who did not previously have dental insurance. These individuals are more likely to have HNC than those under 50 years old[47] and would gain coverage through this legislation.

It is important to note that the population with the highest burden of HNC is over 65 years old. The majority of this population is covered by Medicare and does not participate in the commercial market, and, as such, would not be affected by this proposed legislation.[48]

Methodology and assumptions

As noted in the prior section, the financial analysis projects the population, cost of benefits, premium, and enrollee cost sharing for calendar year 2026, calendar years 2026 through 2023, and calendar years 2026 through 2035 under the following two scenarios:

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

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

COLORADO POPULATION

We used 2023 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 or small group segments based on their plan size. We then used Colorado population projections from the Department of Local Affairs to trend the 2023 enrollment data to 2026 through 2035. We did not separately account for the potential expiration of enhanced subsidies in the ACA market for 2026 or other potential future changes that could dramatically impact the number of individuals enrolled by market.

COLORADO CLAIMS AND PREMIUM

Using the data provided in the Colorado APCD, we summarized medical and pharmacy claims by individual, small group, and large group incurred during calendar year 2023 and paid through April 2024. Claims were adjusted to account for claims incurred but not paid using completion factors calculated using the development method. The resulting completion factors are in **Exhibit 10**. The medical completion factors range from 0.968 to 0.976 by market and the pharmacy completion factors range from 0.983 to 0.999.

EXHIBIT 10: 2023 COMPLETION FACTORS

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
Medical Completion Factor	0.968	0.976	0.975
Pharmacy Completion Factor	0.984	0.999	0.983

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

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

EXHIBIT 11: ADMINISTRATION EXPENSES AS A PERCENTAGE OF TOTAL PREMIUM INCLUDING PROFIT

	INDIVIDUAL	SMALL GROUP	LARGE GROUP
Administration Ratio	15.0%	20.0%	12.0%

ENROLLEES WITH HEAD AND NECK CANCERS

We relied upon research from the National Cancer Institute's SEER to determine the annual incidence rate of head and neck cancers. This rate was applied to the number of enrollees in individual, small group, and large group commercial health plans to estimate the number of people diagnosed with head and neck cancer each year.

CLAIMS, PREMIUM, AND COST SHARING

After estimating the total number of enrollees with head and neck cancer, we applied cost per utilizing member assumptions to determine claim costs under the baseline and post benefit requirement scenarios. Dental claim costs were modeled using Milliman's 2025 Dental Rating Model with significant increases to projected utilization due to the covered population having HNC as described in the Cost Per Service and Enrollee Cost Sharing section of this report. This model is designed to price dental plans based on many inputs including plan benefit design and member geography and demographics. The model utilizes industry data and research to estimate cost and utilization patterns for each dental service.

Jaw reconstruction costs and obturator and PAP costs were estimated from a review of research, although jaw reconstruction was assumed to already be a fully covered benefit at baseline after surveying carriers.

We assumed that plan cost sharing for these services will be similar to typical plans in the current market, with levels similar to a gold plan as defined by the Affordable Care Act (~80%).

Considerations and limitations

We have estimated the expected number of members that will be diagnosed with head and neck cancers based on nationwide datasets. Our analysis may overstate or underestimate the impact of this legislation to the extent that Colorado population deviates from such nationwide data sources.

We estimated the impact to health plan premiums based on estimated claim costs and observed health insurance administrative retention loads. This approach assumes that administrative costs to health insurers for administering dental services will be similar to the costs of administering other health services. If health insurers were to contract with current dental insurers to administer dental services, the administrative costs would likely differ from those estimated in 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 dental 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.
- Carrier survey responses

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

Appendix A: Carrier coverage survey

COLORADO
Department of
Regulatory Agencies

COVERAGE SURVEY FOR ADULT DENTAL COVERAGE IN HEALTH BENEFIT PLANS

Colorado Revised Statute § 10-16-155 calls for the Colorado Division of Insurance (the division) to retain by contract one or more entities that have experience in actuarial reviews, healthcare policy, and health equity for the purpose of performing actuarial reviews of legislative proposals that may impose a new health benefit coverage mandate on health benefit plans or reduce or eliminate coverage mandated under health benefit plans. The entities, under the direction of the division, shall conduct actuarial reviews of up to six legislative proposals, regardless of the number of legislative proposals that are requested for each regular legislative session by members of the general assembly.

The sponsors of a potential bill related to the coverage of dental care in individual and small group health benefit plans have requested an actuarial review of the benefits included in the legislation.

The potential bill requires coverage of dental care under the medical benefit for individual and small group health benefit plans with a similar benefit design to existing standard dental plans.

Please return this survey to Riley De Valois and Tara Smith by February 12, 2025.

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1. What is the name of the insurance carrier?

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

Individual Market	**Small Group Market**	**Large Group Market**
#	#	#

3. Please complete the following table with the % of enrollees that have coverage for the following services for head and neck cancer patients:

Service Category	Individual Market	Small Group Market	Large Group Market
Routine dental (cleanings, x-rays, etc.)	%	%	%
Fillings	%	%	%
Partial or full dentures	%	%	%
Crowns	%	%	%
Root canals	%	%	%
Reconstruction of the jaw	%	%	%
Obturator prosthesis	%	%	%
Palatal augmentation prosthesis (PAP)	%	%	%

4. Do you expect any additional administrative burden resulting from coverage of services resulting from treatment for head and neck cancers as defined above? If so, please describe the additional complexity you expect.

5. Please provide any applicable language related to coverage of specific services for head and neck cancer in current plan documentation (including those listed in the table above) and reference the relevant populations that the language is applicable to. Provide information on how the language is applied, and how coverage is offered in specific situations, and any exceptions or limitations that might apply.

6. Is there any additional information you would like to share about coverage of dental and reconstructive services for head and neck cancer patients, including services listed in the table above?

Appendix B: Individual enrollee PMPM

Individual Market	1-Year	5-Year	10-Year
Total Enrollment Subject to State Benefit Requirements	276,000	1,407,000	2,886,000
Total Population With Head and Neck Cancers	30	130	270
Baseline PMPM			
Insurer premium	$500.961	$577.736	$697.654
Patient out-of-pocket	$0.003	$0.004	$0.004
Patient non-covered	$0.016	$0.017	$0.019
Total Baseline PMPM	**$500.980**	**$577.757**	**$697.677**
Post-benefit Requirement PMPM			
Insurer premium	$500.991	$577.768	$697.690
Patient out-of-pocket	$0.009	$0.010	$0.012
Patient non-covered	$0.000	$0.000	$0.000
Total Post-benefit Requirement PMPM	**$501.001**	**$577.779**	**$697.702**
Change Attributable to Proposed Benefits			
Insurer premium	$0.030	$0.032	$0.036
Patient out-of-pocket	$0.006	$0.007	$0.008
Patient non-covered	-$0.016	-$0.017	-$0.019
Total Change PMPM	**$0.020**	**$0.022**	**$0.025**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	202.0%	192.8%	181.0%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.004%**	**0.004%**	**0.004%**

Appendix C: Small group enrollee PMPM

Small Group Market	1-Year	5-Year	10-Year
Total Enrollment Subject to State Benefit Requirements	266,000	1,358,000	2,785,000
Total Population With Head and Neck Cancers	30	130	270
Baseline PMPM			
Insurer premium	$684.100	$789.241	$953.319
Patient out-of-pocket	$0.003	$0.004	$0.004
Patient non-covered	$0.016	$0.017	$0.019
Total Baseline PMPM	**$684.119**	**$789.262**	**$953.343**
Post-benefit Requirement PMPM			
Insurer premium	$684.132	$789.276	$953.358
Patient out-of-pocket	$0.010	$0.011	$0.012
Patient non-covered	$0.000	$0.000	$0.000
Total Post-benefit Requirement PMPM	**$684.142**	**$789.286**	**$953.370**
Change Attributable to Proposed Benefits			
Insurer premium	$0.032	$0.035	$0.039
Patient out-of-pocket	$0.006	$0.007	$0.008
Patient non-covered	-$0.016	-$0.017	-$0.019
Total Change PMPM	**$0.022**	**$0.024**	**$0.027**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	202.0%	192.8%	181.0%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.003%**	**0.003%**	**0.003%**

Appendix D: Large group enrollee PMPM

Large Group Market	1-Year	5-Year	10-Year
Total Enrollment Subject to State Benefit Requirements	506,000	2,578,000	5,287,000
Total Population With Head and Neck Cancers	50	260	530
Baseline PMPM			
Insurer premium	$519.400	$599.499	$724.390
Patient out-of-pocket	$0.003	$0.004	$0.005
Patient non-covered	$0.017	$0.018	$0.020
Total Baseline PMPM	**$519.420**	**$599.521**	**$724.415**
Post-benefit Requirement PMPM			
Insurer premium	$519.431	$599.532	$724.427
Patient out-of-pocket	$0.010	$0.011	$0.013
Patient non-covered	$0.000	$0.000	$0.000
Total Post-benefit Requirement PMPM	**$519.441**	**$599.543**	**$724.440**
Change Attributable to Proposed Benefits			
Insurer premium	$0.031	$0.033	$0.037
Patient out-of-pocket	$0.007	$0.007	$0.008
Patient non-covered	-$0.017	-$0.018	-$0.020
Total Change PMPM	**$0.020**	**$0.022**	**$0.025**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	202.0%	192.8%	180.9%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.004%**	**0.004%**	**0.003%**

Appendix E: Individual total dollars

Individual Market	1-Year	5-Year	10-Year
Total Enrollment Subject to State Benefit Requirements	276,000	1,407,000	2,886,000
Total Population With Head and Neck Cancers	30	130	270
Baseline Total Dollars			
Insurer premium	$1,659,184,000	$9,754,493,000	$24,161,144,000
Patient out-of-pocket	$10,000	$60,000	$146,000
Patient non-covered	$52,000	$290,000	$663,000
Total Baseline Dollars	**$1,659,246,000**	**$9,754,843,000**	**$24,161,953,000**
Post-benefit Requirement Total Dollars			
Insurer premium	$1,659,283,000	$9,755,040,000	$24,162,392,000
Patient out-of-pocket	$31,000	$176,000	$411,000
Patient non-covered	$0	$0	$0
Total Post-benefit Requirement Dollars	**$1,659,314,000**	**$9,755,216,000**	**$24,162,803,000**
Change Attributable to Proposed Benefits			
Insurer premium	$99,000	$547,000	$1,248,000
Patient out-of-pocket	$21,000	$116,000	$265,000
Patient non-covered	-$52,000	-$290,000	-$663,000
Total Change	**$68,000**	**$373,000**	**$850,000**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	210.0%	193.3%	181.5%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.004%**	**0.004%**	**0.004%**

Appendix F: Small group total dollars

Small Group Market	1-Year	5-Year	10-Year
Total Enrollment Subject to State Benefit Requirements	266,000	1,358,000	2,785,000
Total Population With Head and Neck Cancers	30	130	270
Baseline Total Dollars			
Insurer premium	$2,183,647,000	$12,861,466,000	$31,859,927,000
Patient out-of-pocket	$10,000	$59,000	$143,000
Patient non-covered	$51,000	$284,000	$649,000
Total Baseline Dollars	**$2,183,708,000**	**$12,861,809,000**	**$31,860,719,000**
Post-benefit Requirement Total Dollars			
Insurer premium	$2,183,750,000	$12,862,035,000	$31,861,225,000
Patient out-of-pocket	$31,000	$173,000	$403,000
Patient non-covered	$0	$0	$0
Total Post-benefit Requirement Dollars	**$2,183,781,000**	**$12,862,208,000**	**$31,861,628,000**
Change Attributable to Proposed Benefits			
Insurer premium	$103,000	$569,000	$1,298,000
Patient out-of-pocket	$21,000	$114,000	$260,000
Patient non-covered	-$51,000	-$284,000	-$649,000
Total Change	**$73,000**	**$399,000**	**$909,000**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	210.0%	193.2%	181.8%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.003%**	**0.003%**	**0.003%**

Appendix G: Large group total dollars

Large Group Market	1-Year	5-Year	10-Year
Total Enrollment Subject to State Benefit Requirements	506,000	2,578,000	5,287,000
Total Population With Head and Neck Cancers	50	260	530
Baseline Total Dollars			
Insurer premium	$3,153,797,000	$18,546,100,000	$45,958,217,000
Patient out-of-pocket	$20,000	$117,000	$286,000
Patient non-covered	$102,000	$565,000	$1,293,000
Total Baseline Dollars	**$3,153,919,000**	**$18,546,782,000**	**$45,959,796,000**
Post-benefit Requirement Total Dollars			
Insurer premium	$3,153,983,000	$18,547,128,000	$45,960,568,000
Patient out-of-pocket	$61,000	$343,000	$803,000
Patient non-covered	$0	$0	$0
Total Post-benefit Requirement Dollars	**$3,154,044,000**	**$18,547,471,000**	**$45,961,371,000**
Change Attributable to Proposed Benefits			
Insurer premium	$186,000	$1,028,000	$2,351,000
Patient out-of-pocket	$41,000	$226,000	$517,000
Patient non-covered	-$102,000	-$565,000	-$1,293,000
Total Change	**$125,000**	**$689,000**	**$1,575,000**
Percent Change Attributable to Proposed Benefits			
Insurer premium	0.0%	0.0%	0.0%
Patient out-of-pocket	205.0%	193.2%	180.8%
Patient non-covered	-100.0%	-100.0%	-100.0%
Total Percent Change	**0.004%**	**0.004%**	**0.003%**

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