A REPORT TO THE 2025–2026 CALIFORNIA LEGISLATURE

Analysis of California Assembly Bill 546: Portable HEPA Purifiers

as amended on May 1, 2025

MAY 13, 2025

California Health Benefits Review Program (CHBRP)
University of California, Berkeley

chbrp.org

KEY FINDINGS

Analysis of California Assembly Bill 546 Portable HEPA Purifiers

Summary to the 2025-2026 California State Legislature, May 13, 2025

CHBRP

Summary

The May 1, 2025 version of California Assembly Bill (AB) 546 analyzed by California Health Benefits Review Program (CHBRP) would require coverage of portable high-efficiency particulate air (HEPA) purifiers up to $500 for enrollees diagnosed with asthma or chronic obstructive pulmonary disease (COPD), and enrollees who are pregnant, **and** who are in a county that has declared a local or state emergency due to wildfires.

In 2026, of the 22.2 million Californians enrolled in state-regulated health insurance, 9.2 million of them would have insurance subject to AB 546. The bill would apply to only the large group market of state-regulated health insurance.

Benefit Coverage

At baseline, there is no coverage for any enrollees in Department of Managed Health Care (DMHC)-regulated plans and California Department of Insurance (CDI)-regulated policies for portable HEPA purifiers. Postmandate, AB 546 would increase coverage for 100% of enrollees with asthma, COPD, or who are pregnant. AB 546 would not exceed essential health benefits (EHBs) because it would only apply to the large-group market, which is not subject to EHBs.

Medical Effectiveness

CHBRP found *some evidence* that HEPA filtration is effective in the reduction of negative health outcomes in those with asthma who were exposed to cigarette smoke, but *conflicting evidence* for the general asthma population. CHBRP found *some evidence* for the effectiveness of HEPA filtration on health outcomes for people with COPD or who are pregnant.

Cost and Health Impacts[1]

In 2026, AB 546 would result in approximately 6,500 additional households using portable HEPA purifiers, for an additional $413,000 in annual expenditures. This estimate is based on an approximate $1.2 million increase in premiums, an increase in cost sharing of about $226,000, a decrease in noncovered expenses of approximately $1 million, and cost offsets due to a reduction in the number of medications used for enrollees with asthma and a reduction in urgent care visits for enrollees with COPD, for those enrollees in counties with an emergency declaration due to wildfires. The increase in utilization among enrollees with asthma, COPD, or who are pregnant and who reside in a county that has declared an emergency due to wildfires would result in improvements in health outcomes.

Context, as amended May 1, 2025

Air pollution refers to harmful gases, tiny particles, or biological substances in the air that can negatively impact human health.[2] Air pollution can come from outdoor sources, such as factories and wildfires, and indoor sources, such as cooking, smoking, and heating. Fine particulate matter, known as PM2.5, is a major type of air pollutant. PM2.5 includes any particles that measure 2.5 microns or smaller in diameter—about 30 times smaller than the width of a human hair. Because these particles are so small, they can penetrate deeply into the lungs, causing serious health problems.

Portable high-efficiency particulate air (HEPA) purifiers can be used to remove harmful particles from indoor air. HEPA filters capture at least 99.97% of particles 0.3 microns in diameter, including PM2.5. Portable devices typically clean the air in a single room and require regular filter replacements. Larger, more powerful devices can clean bigger spaces but tend to cost more.

[1] Similar cost and health impacts could be expected for the following year though possible changes in medical science and other aspects of health make stability of impacts less certain as time goes by.

[2] Refer to CHBRP's full report for full citations and references.

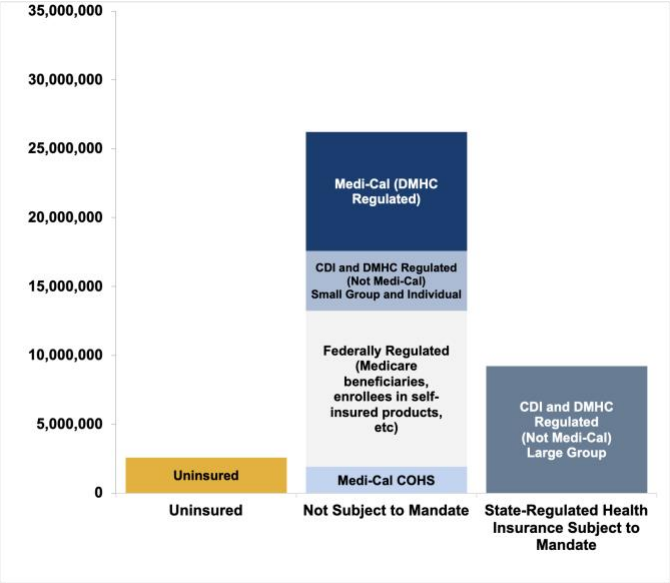
Bill Summary, as amended May 1, 2025

AB 546 as amended on May 1, 2025, would require coverage for portable HEPA purifiers for enrollees diagnosed with asthma or chronic obstructive pulmonary disease (COPD), and enrollees who are pregnant, if they are in a county where a local or state emergency has been declared due to wildfires.

If enacted, AB 546, as amended on May 1, 2025, would apply to the health insurance of approximately 9.2 million enrollees (24.2% of all Californians) (Figure A).

- **Includes**: enrollees in large-group commercial or California Public Employees' Retirement System (CalPERS) health insurance regulated by the Department of Managed Health Care (DMHC) and the California Department of Insurance (CDI).
- **Excludes**: Medi-Cal beneficiaries enrolled in DMHC-regulated plans or County Organized Health System (COHS) plans, and individual and small-group DMHC-regulated plans and CDI-regulated policies.

Figure A. Health Insurance in CA and AB 546



Source: California Health Benefits Review Program, 2025.

Note: CHBRP generally assumes alignment of Medi-Cal managed care plan benefits, with limited exceptions.[3]
Key: CDI = California Department of Insurance; COHS = County Organized Health System; DHCS = Department of Health Care Services; DMHC = Department of Managed Health Care.

Bill Specific Analysis of AB 546, Portable HEPA Purifiers, as Amended May 1, 2025

The requirements of AB 546 as amended on May 1, 2025, are similar to what was proposed in the bill as introduced. However, there are some differences between the two bills, as noted below:

- **Insurance subject to the mandate:** The May 1, 2025, amendments narrow the type of insurance subject to the mandate to only DMHC-regulated plans and CDI-regulated policies in the large-group market. The bill as introduced applied to the entire commercial market, i.e., the individual, small-group, and large group markets.
- **Eligibility requirements:** As introduced, enrollees diagnosed with asthma or COPD or who were pregnant, would have been eligible for new benefit coverage under AB 546, The May 1, 2025, amendments further narrow the pool of eligible enrollees to those who are in a county where a local or state emergency has been declared due to wildfires.
- **Equipment covered:** AB 546 as amended on May 1, 2025, would only require coverage for portable HEPA purifiers that cost up to $500. It would not mandate coverage for any air filters; more specifically, it would not require coverage for air filters for portable HEPA purifiers or those for household heating, ventilation, and air conditioning (HVAC) systems, which were all required by the bill as introduced. AB 546, as introduced, did not include a maximum on the unit costs of the air filtration equipment covered.
- **Cost sharing:** As introduced, AB 546 would have prohibited all cost sharing for air filtration equipment. AB 546 as amended on May 1, 2025, is silent regarding cost sharing; CHBRP has assumed cost sharing would be applied by health plans and insurers, accordingly.

[3] Although COHS plans are not subject to the Knox-Keene Act, DHCS generally updates Medi-Cal managed care plan contracts, All Plan Letters, and other appropriate authorities for alignment of managed care plan benefits, except in cases when the benefit is carved out of the Medi-Cal managed care plan contract or the law exempts specified Medi-Cal contracted providers.

Impacts, as amended May 1, 2025

Benefit Coverage

At baseline, there is no coverage in large-group DMHC-regulated plans and CDI-regulated policies for portable HEPA purifiers for enrollees diagnosed with asthma or COPD or who are pregnant, and who reside in a county that has declared a state of emergency due to wildfire coverage. AB 546 would increase coverage to 100%.

Utilization and Unit Cost

CHBRP estimates there are 10,337 households containing enrollees with pregnancy, asthma or COPD that use portable HEPA purifiers at baseline, and who would be in a county where a state of emergency has been declared due to wildfire. The number of households with enrollees who use a portable HEPA filter would increase postmandate by 62.98%, or approximately 6,500 enrollees. CHBRP estimates that, in counties that declare an emergency due to wildfires, the number of households that would obtain a portable HEPA purifier with pregnant enrollees would increase from 2,852 to 3,664, whereas the number of enrollees with asthma will increase from 7,055 to 12,482, and the number of enrollees with COPD obtaining a portable HEPA purifier would increase from 430 to 701 enrollees.

CHBRP estimates the additional benefit coverage for portable HEPA purifiers would increase the average cost of the equipment per year by 43.54%, from $101.19 to $145.25. The $44.06 increase in the annual cost of the devices is not due to an increase in the price of devices, but represents enrollees purchasing more expensive purifiers due to new coverage of purifiers.

Expenditures

AB 546 would increase total net annual expenditures by approximately $413,000 for enrollees with DMHC-regulated plans and CDI-regulated policies (Figure B). This is inclusive of an increase in premiums of $1,233,000; an approximate $1,046,000 decrease in enrollee expenses for noncovered benefits; an increase in cost sharing of $226,000; and cost offsets due to a reduction in the number of medications used for enrollees with asthma and a reduction in urgent care visits for enrollees with COPD, for those enrollees in counties with an emergency declaration due to wildfires.

Premiums would increase by $0.01 PMPM in both the DMHC- and CDI-regulated large group markets (0.0016% and 0.0012%, respectively). Because none of the insurance market segments had baseline coverage for portable HEPA purifiers, the increases in premiums are driven primarily by the underlying populations of people with asthma and COPD, and the pregnant population in each market segment, who reside in counties in which there is an emergency declaration due to wildfires.

Medi-Cal

There would be no impact on Medi-Cal expenditures because the health insurance of all Medi-Cal beneficiaries is exempt from the bill.

Figure B. Expenditure Impacts of AB 546

Source: California Health Benefits Review Program, 2025.
Key: DMHC = Department of Managed Health Care.

CalPERS

For enrollees associated with CalPERS in DMHC-regulated plans, CHBRP estimates premiums would increase by 0.0013%.

Covered California – Individually Purchased

There would be no impact on health insurance in the individual market because it is exempt from the bill.

Number of Uninsured in California

Because the change in average premiums does not exceed 1% for any market segment, CHBRP would expect no measurable change in the number of uninsured persons due to the enactment of AB 546.

Administrative Costs

CHBRP estimates that the increase in administrative costs of DMHC-regulated plans and/or CDI-regulated policies would be higher than the increase in premiums. In comparing the level of administrative effort to the unit cost of each portable HEPA purifier the ratio of administrative costs to unit cost of the benefit is potentially much higher than other health insurance benefit mandates.

Medical Effectiveness, as amended May 1, 2025

CHBRP assumed that HEPA filtration devices are effective in removing particulate matter from the air, trapping at least 99.97% of particles 0.3 microns in size. The medical effectiveness analysis summarizes studies that examined the impact of HEPA filtration for individuals with the specified conditions regardless of the cause of air impurities, although separate findings for wildfire smoke and tobacco smoke are reported. CHBRP found:

- *Some evidence*[4] that HEPA filtration is effective in the reduction of negative health outcomes in those with asthma who were exposed to cigarette smoke, but *conflicting evidence*[5] regarding the impact on negative health outcomes for those with asthma who were not exposed to cigarette smoke.

- *Some evidence* for the effectiveness of HEPA filtration on health outcomes for those with COPD or who are pregnant.

With regard to the impact of HEPA filters on the reduction of negative health outcomes for those with asthma but who were not regularly exposed to cigarette smoke, several studies reported significant findings? for outcomes such as symptom control and medication utilization. However, other studies of similar size and quality reported non-significant findings for similar health outcomes leading CHBRP to conclude the evidence is *conflicting* for this population.

It is well established both that HEPA filtration is effective at cleaning indoor air, and that exposure to polluted air, especially that due to smoke, leads to adverse health outcomes. However, there is not enough current research on the direct impact of HEPA filtration on health outcomes for those exposed to polluted air.

Public Health, as amended May 1, 2025

AB 546, as amended on May 1, 2025, is projected to lead to the following improvements in health outcomes among new users of portable HEPA purifiers:

- An improvement in fetal growth and cognitive development for babies born in the 800 homes with pregnant enrollees;
- An improvement in respiratory health status and quality of life for approximately 270 enrollees with COPD, including a reduction in the number of urgent care visits by 34 visits; and
- An improvement in respiratory health status for enrollees with asthma especially the 380 living in homes where they are exposed to tobacco smoke, including a significant reduction in the use of steroids and inhalers.

In addition, it is estimated that AB 546 would lead to a reduction in financial burden of $820,000 in out-of-pocket costs for enrollees.

In the first year postmandate, CHBRP estimates that people with asthma exposed to tobacco smoke in the home, enrollees with COPD, and pregnant enrollees would all experience improvements in health outcomes. This estimate is supported by *some evidence* that portable HEPA purifiers are medically effective and an estimated increase in approximately 6,500 homes that would use this equipment postmandate.

Long-Term Impacts, as amended May 1, 2025

Future climate shifts are expected to increase the frequency and severity of wildfires in California. More frequent wildfires will result in increased air pollution and greater health risks. Given these projected increases in

[4] *Some evidence* indicates that a small number of studies have limited generalizability to the population of interest and/or the studies have a serious methodological concern in research design or implementation. Conclusions could be altered with additional evidence.

[5] Conflicting evidence indicates that a similar number of studies of equal quality suggest the treatment is effective as suggest the treatment is not effective.

ambient air pollution, increased use of portable HEPA purifiers could be more beneficial in the coming years.

Over time, clinician and population awareness of the benefits of portable HEPA purifiers is expected to improve and utilization of the equipment will increase. Due to likely increases in wildfire frequency and severity, more people may be likely to purchase portable HEPA purifiers to address wildfire smoke concerns, especially for those with asthma and COPD. It is unclear how health plans and insurers would structure the benefit if AB 546 were enacted, which leads to some uncertainty about long-term use and costs.

Essential Health Benefits and the Affordable Care Act

AB 546, as amended on May 1, 2025, would not exceed the definition of EHBs in California, as the bill only applies to the large-group market of state-regulated health insurance. EHB requirements under the Affordable Care Act apply to the individual and small group markets, which are excluded from the bill.

About CHBRP

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

The state funds CHBRP through an annual assessment on health plans and insurers in California.

An analytic staff based at the University of California, Berkeley, supports a task force of faculty and research staff from multiple University of California campuses to complete each CHBRP analysis. A strict conflict-of-interest policy ensures that the analyses are undertaken without bias. A certified, independent actuary helps to estimate the financial impact. Content experts with comprehensive subject-matter expertise are consulted to provide essential background and input on the analytic approach for each report.

More detailed information on CHBRP's analysis methodology, authorizing statute, as well as all CHBRP reports and other publications, are available at chbrp.org.

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Acronyms and Abbreviations

AB – Assembly Bill
ACA – Affordable Care Act
CA – California
CalPERS – California Public Employees' Retirement System
CARB – California Air Resources Board
CDC – Centers for Disease Control and Prevention
CDI – California Department of Insurance
CHBRP – California Health Benefits Review Program
CMS – Centers for Medicare & Medicaid Services
COHS – County Organized Health System
COPD – chronic obstructive pulmonary disease
DHCS – Department of Health Care Services
DMHC – Department of Managed Health Care
EHB – essential health benefits
HEPA – high-efficiency particulate air
HVAC – heating, ventilation, and air conditioning
OOP – out-of-pocket
PM2.5 – particulate matter with a diameter of 2.5 micrometers or less
PMPM – per member per month

Introduction

The California Assembly Speaker's Office requested that the California Health Benefits Review Program (CHBRP)[6] conduct an evidence-based assessment of the financial impacts of Assembly Bill (AB) 546 on portable high-efficiency particulate air (HEPA) purifiers, as amended on May 1, 2025.

Bill Language of AB 546 Portable HEPA Purifiers

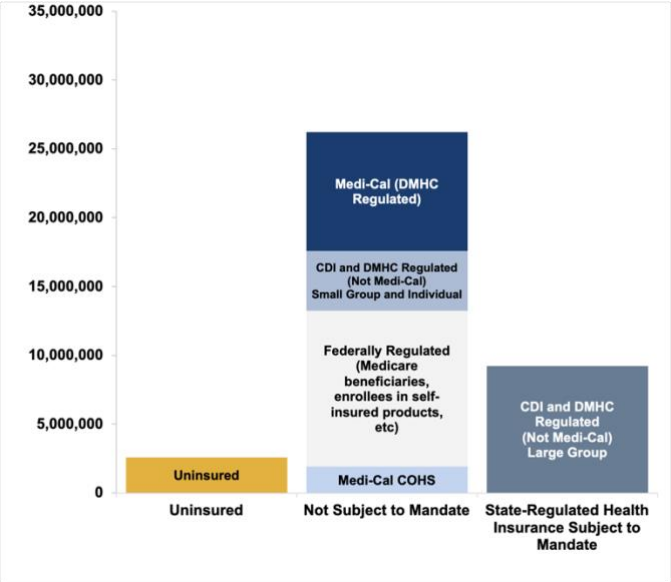
AB 546 as amended on May 1, 2025, would require coverage for portable HEPA purifiers for enrollees diagnosed with asthma or chronic obstructive pulmonary disease (COPD), and enrollees who are pregnant, if they are in a county where a local or state emergency has been declared due to wildfires.

See the full text of AB 546, as amended on May 1, 2025, in Appendix A. More information on asthma, COPD, and pregnancy in relation to air filtration is in the *Background on Air Pollution and Air Filtration Equipment* section of CHBRP's analysis of AB 546, as introduced (CHBRP, 2025).

If enacted, AB 546, as amended on May 1, 2025, would apply to the health insurance of approximately 9.2 million enrollees (24.2% of all Californians) (Figure 1).

- **Includes**: enrollees in large-group commercial or California Public Employees' Retirement System (CalPERS) health insurance regulated by the Department of Managed Health Care (DMHC) and the California Department of Insurance (CDI).
- **Excludes**: Medi-Cal beneficiaries enrolled in DMHC-regulated plans or County Organized Health System (COHS) plans, and individual and small-group DMHC-regulated plans and CDI-regulated policies.

Figure 1. Health Insurance in CA and AB 546, as amended on May 1, 2025



Source: California Health Benefits Review Program, 2025.
Note: CHBRP generally assumes alignment of Medi-Cal Managed Care plan benefits, with limited exceptions.[1]
Key: CDI = California Department of Insurance; COHS = County Organized Health System; DHCS = Department of Health Care Services; DMHC = Department of Managed Health Care.

Bill Specific Analysis of AB 546, Portable HEPA Purifiers, as Amended May 1, 2025

The requirements of AB 546 as amended on May 1, 2025, are similar to what was proposed in the bill as introduced. However, there are some differences between the two bills, as noted below:

- **Insurance subject to the mandate:** The May 1, 2025, amendments narrow the type of insurance subject to the mandate to only DMHC-regulated plans and CDI-regulated policies in the large-group market. The bill as introduced applied to the entire commercial market, i.e., the individual, small-group, and large group markets.
- **Eligibility requirements:** As introduced, enrollees diagnosed with asthma or COPD or who were pregnant, would have been eligible for new benefit coverage under AB 546, The May 1, 2025, amendments further narrow the

[6] See CHBRP's authorizing statute.

pool of eligible enrollees to those who are in a county where a local or state emergency has been declared due to wildfires.

- **Equipment covered:** AB 546 as amended on May 1, 2025, would only require coverage for portable HEPA purifiers that cost up to $500. It would not mandate coverage for any air filters; more specifically, it would not require coverage for air filters for portable HEPA purifiers or those for household heating, ventilation, and air conditioning (HVAC) systems, which were all required by the bill as introduced. AB 546, as introduced, did not include a maximum on the unit costs of the air filtration equipment covered.

- **Cost sharing:** As introduced, AB 546 would have prohibited all cost sharing for air filtration equipment. AB 546 as amended on May 1, 2025, is silent regarding cost sharing; CHBRP has assumed cost sharing would be applied by health plans and insurers, accordingly.

What Are Air Pollution and Portable HEPA Purifiers?

Air pollution refers to harmful gases, tiny particles, or biological substances in the air that can negatively impact human health (WHO, 2024). Air pollution can come from outdoor sources, such as factories and wildfires, and indoor sources, such as cooking, smoking, and heating (Huang et al., 2024). Fine particulate matter, known as PM2.5, is a major type of air pollutant (Huang et al., 2024). PM2.5 includes any particles that measure 2.5 microns or smaller in diameter—about 30 times smaller than the width of a human hair. Because these particles are so small, they can penetrate deeply into the lungs, causing serious health problems as described in more detail in the *Background* section of CHBRP's analysis of AB 546, as introduced.

Indoor air filtration equipment can be used to remove harmful particles from indoor air. AB 546 specifically addresses portable HEPA purifiers, also referred to as air cleaners or portable air filtration devices. Portable HEPA purifiers are mobile units that use HEPA filters to filter particulate matter out of the air. These units require filters to be replaced on a regular basis to maximize their efficiency.

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Analytic Approach and Assumptions

The language of AB 546 as amended on May 1, 2025, specifically mandates coverage for "portable HEPA purifiers" and defines them as one that "uses a mechanical air filter that can remove at least 99% of airborne particles that are 10 microns in size." For this analysis, CHBRP assumes that the benefit mandate would apply to portable HEPA purifiers that use only physical filtration, also known as "mechanical" air filters, and do not generate ozone or ions (see the *Background* section of CHBRP's analysis for AB 546 as introduced (CHBRP, 2025)), for more information. In addition, CHBRP assumes that portable HEPA purifiers would be used only inside the enrollee's home.

The amended language also states that the population eligible for the new benefit must be "in" a county where a local or state emergency has been declared due to wildfires, in addition to having a qualifying condition. CHBRP assumes that enrollees must reside in the county where the emergency declaration has been made in order to be considered eligible for the benefit.

Policy Context

Please see the *Policy Context* section of CHBRP's analysis of AB 546 as introduced (CHBRP, 2025), as it remains relevant for the analysis of AB 546 as amended on May 1, 2025, except for the subject of essential health benefits (EHBs). Because the bill as amended on May 1, 2025 excludes the individual and small-group market from the mandate, it would not exceed EHBs. The EHB requirements under the Affordable only apply to the individual and small-group markets; the large-group market is not subject to EHBs.

Background on Air Pollution and Portable HEPA Purifiers

For more information on air pollution and portable HEPA purifiers, please see the *Background on Air Pollution and Air Filtration Equipment* section of CHBRP's analysis of AB 546 as introduced (CHBRP, 2025), as it remains relevant for the analysis of AB 546 as amended on May 1, 2025. The only exception to this statement is that the bill as amended on May 1, 2025 does not address household HVAC filters or replacement air filters for portable HEPA purifiers.

Medical Effectiveness

CHBRP conducted a medical effectiveness review to summarize findings from evidence[7] on the medical effectiveness of air filtration equipment for reducing negative health outcomes for those with asthma or COPD, or for those who are pregnant. The review focused on HEPA air filtration equipment and focused on the following key questions:

1. Is HEPA filtration effective for reducing negative health outcomes for those with asthma?
   a. For those with asthma exposed to cigarette smoke?
   b. For those with asthma for general health outcomes not specific to cigarette smoke exposure?
2. Is HEPA filtration effective for reducing negative health outcomes for those with COPD?

[7] Much of the discussion in this section is focused on reviews of available literature. However, as noted in the section on Implementing the Hierarchy of Evidence in the Medical Effectiveness Analysis and Research Approach document, in the absence of fully applicable to the analysis peer-reviewed literature on well-designed randomized controlled trials (RCTs), CHBRP's hierarchy of evidence allows for the inclusion of other evidence.

3. Is HEPA filtration effective for reducing negative health outcomes for those who are pregnant?

Summary of Findings

CHBRP found no studies that specifically examined the impact of HEPA filtration of air pollution due to wildfires for those with these conditions. CHBRP found there is *some evidence* that HEPA filtration is effective in the reduction of negative health outcomes in those with asthma who were exposed to cigarette smoke. CHBRP concluded that there were *conflicting findings* for asthma, and *some evidence* for the effectiveness of HEPA filtration on health outcomes for people with COPD or who are pregnant.

It is well established both that HEPA filtration is effective at cleaning indoor air, and that exposure to polluted air, especially due to wildfire? smoke, leads to adverse health outcomes (CHBRP, 2025). However, the current research is not enough research on the direct impact of HEPA filtration on health outcomes for those exposed to polluted air.

With regard to the impact of HEPA filters on the reduction of negative health outcomes for those with asthma but who were not regularly exposed to cigarette smoke, several studies reported significant findings for outcomes such as symptom control and medication utilization. However, other studies of similar size and quality reported non-significant findings for similar health outcomes leading CHBRP to conclude the evidence is *conflicting* for this population. Although there were multiple randomized controlled trials (RCTs) on the impact of HEPA filtration for those suffering from asthma, there were limitations for many RCTs such as small sample sizes or limited measurement of outcomes. The studies included in this analysis reported mixed findings, with some studies reporting improvements in outcomes when compared to control or comparison groups, and others reporting nonsignificant findings for primary or secondary study outcomes. Additionally, the observation periods of the studies varied widely, with some as short as two weeks. However, it should be noted that many of the studies with nonsignificant results did report promising trends in the direction of significant effectiveness, with many lacking a sufficient sample size for the effects to achieve significance.

The analysis of the effectiveness of HEPA filtration for those with COPD or who are pregnant was limited due to a lack of studies, with only one main study having been conducted in each area. Additional research involving each of these populations is required in order to reach definitive conclusions regarding the effectiveness of HEPA filtration in reducing negative outcomes for these groups.

For more details on the medical effectiveness review, please see CHBRP's analysis of AB 546, as introduced (CHBRP, 2025).

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Benefit Coverage, Utilization, and Cost Impacts

As discussed in the *Introduction* section, AB 546 as amended on May 1, 2025, would require DMHC-regulated health plans and CDI-regulated health policies in the large-group market to include coverage for portable HEPA purifiers for enrollees who are diagnosed with asthma or COPD, or who are pregnant, and who are in a county with a local or state emergency due to wildfires.

This section reports the potential incremental impacts of AB 546 as amended on May 1, 2025, on estimated baseline benefit coverage, utilization, and overall cost.

Analytic Approach and Key Assumptions

CHBRP used a survey of DMHC- and CDI-regulated health plans and insurers to estimate the baseline level of coverage for portable HEPA purifiers. Responses to the survey represented 88% of commercial enrollees with health insurance that can be subject to state benefit mandates. The surveys indicated that no enrollees in regulated plans or insurance policies had existing coverage for air filtration equipment. Data from the 2023 Consolidated Health Cost Guidelines Sources Database (CHSD) also indicated no paid claims for air filtration equipment.

Due to the lack of current coverage and paid claims for portable HEPA purifiers, CHBRP made several assumptions about baseline use based on guidance from content experts. For further details on the underlying data sources and methods used in this analysis, please see Appendix B.

The following assumptions were made to model baseline utilization and cost:

1. At baseline, 18.6% of enrollees used portable HEPA purifiers regardless of health status or condition (NCHS, 2023). An additional 0.01% of enrollees with pregnancy, 3.75% of enrollees with asthma, and 2.25% of enrollees with COPD used portable air filtration devices based upon a doctor's recommendation.

2. Of the enrollees with a qualifying condition (asthma, COPD, or pregnancy), CHBRP estimates that 17.6% would live in a county with at least one fire-related emergency declaration. The number of counties and the population that are declared states of emergency due to wildfire vary across years. CHBRP used the average population over 5 years of data (2020 to 2024) to calculate the number of enrollees who would be eligible for benefits under the bill. For more information about these estimates, refer to CHBRP's 2025 analysis of AB 1032 Coverage for Behavioral Health Visits.

3. The average baseline cost of using a portable HEPA purifier is $101.19 per household per year to purchase one portable air filtration device in the first year. Due to lack of coverage, all costs were out-of-pocket (OOP).

The following assumptions were made to model postmandate utilization and cost:

1. CHBRP assumes coverage would be provided only to patients with a qualifying condition as assessed by a primary care provider or qualified specialist, consistent with the requirements of AB 546 as amended on May 1, 2025.

2. To comply with the proposed benefit mandate, CHBRP assumes enrollees that obtained a portable HEPA purifier due to the mandate would be able to purchase one device per year.

3. Use of portable HEPA purifiers would increase due to the mandate, however, utilization would be dampened due to implementation of cost sharing. CHBRP estimates that 5.3% of enrollees who are pregnant, 20.9% of enrollees with asthma, and 15.4% of enrollees with COPD would obtain portable HEPA purifiers and filters postmandate. At

baseline, no health plans or policies cover portable HEPA purifiers, and these services are paid for out-of-pocket. The increase in utilization is anticipated to be attributable to changes in clinician practice patterns for patients with asthma and COPD. Given pregnancy can occur anytime throughout a year and people are not pregnant for the entire policy period, CHBRP assumes use by pregnant enrollees was lower due to partial year coverage. CHBRP also assumes that recommendations for portable HEPA purifiers would be lower among pregnant patients of primary care, obstetrics, and gynecology when compared to allergists and pulmonologists.

4. The average cost of the portable HEPA purifiers purchased by enrollees would increase to $145.25 due to the new coverage required by AB 546, as amended on May 1, 2025. A typical household might spend between $99 (for a small HEPA purifier) to $220 (for a large HEPA purifier). The $44.06 (43.54%) increase in the annual cost of the devices is not due to an increase in the price of devices, but represents enrollees purchasing more expensive purifiers due to new coverage of purifiers.

5. CHBRP's estimates of postmandate utilization reflect the reality that obtaining coverage for portable HEPA purifiers will require some administrative effort on behalf of the enrollee. CHBRP assumes that postmandate, the new benefit would be administered either through direct enrollee reimbursement or through contracting with a vendor who would procure the portable HEPA purifier directly to the enrollee. Due to the relatively small number of people who would become eligible for coverage (those living in a county with an emergency declaration due to wildfire and who have a qualifying condition), CHBRP does not assume that air purifier vendors will actively try to solicit clients and bill health insurers for the portable HEPA purifiers sold. AB 546 would require reimbursement for the cost of the portable HEPA purifiers themselves and does not include coverage for labor associated with installation or delivery.

6. CHBRP assumed there would be no change in state-regulated health insurance coverage resulting from being in a county with a state emergency declaration. While there may be impacts to employment, and thus state-regulated health insurance coverage, resulting from wildfires, there are no data available to suggest the extent of the changes.

The following offsets were applied to assess the potential cost savings due to AB 546, as amended on May 1, 2025. As described in the *Medical Effectiveness* section, there is conflicting evidence for enrollees with asthma (not specific to cigarette smoke exposure), and some evidence for COPD and those who are pregnant, suggesting potential health improvements due to use of HEPA purifiers and filters among enrollees with COPD or who are pregnant. It is possible that the use of clinical services attributed to pre-term birth and asthma and COPD exacerbations would decline postmandate despite the mixed evidence available. Note that the calculations present estimates for the "best case scenario" based on the studies cited.

1. Air filtration improvements would reduce urgent care visits for people with COPD by 68% (Hansel et al., 2022).

2. For enrollees with asthma (Lee et al., 2020), reductions in medication use with air filtration improvements would vary depending on whether smoking occurs in the home. All enrollees with asthma would see a reduction of 3% for steroid use to address flare ups. There would also be a decrease in inhaler use — a 48% reduction among people with asthma in a household with secondhand smoke and a 3% reduction for all other populations (Lee et al., 2020). As stated in the *Background* section, 7.1% of children in California live in a household where someone uses cigarettes, cigars, or pipe tobacco in the home (America's Health Rankings, 2023). In total, inhaler use would decrease by 3.4% for all enrollees with asthma.

With these figures, CHBRP estimated an annualized cost offset of $20.19 for patients with asthma and $42.43 for patients with COPD for households using portable HEPA purifiers.

There would be no measurable cost offsets for pregnant enrollees because of AB 546, as amended on May 1, 2025. Although there is some evidence of reduction of negative health outcomes with the use of HEPA filtration, these outcomes are not likely to lead to measurable cost offsets in the first or second year postmandate.

Baseline and Postmandate Benefit Coverage

As amended on May 1, 2025, AB 546 would apply to state-regulated health insurance, including commercial enrollees, and enrollees with insurance through the California Public Employees' Retirement System (CalPERS) in the large-group market. Medi-Cal beneficiaries, including those enrolled in DMHC-regulated plans, and state-regulated health insurance in the small and individual markets are exempt from the bill. It should be noted that DMHC regulates the plans and policies of approximately 74% of enrollees associated with CalPERS. [8]

CHBRP estimates that at baseline, approximately 9.2 million Californians (100%) with state-regulated insurance subject to the mandate are enrolled in plans or policies out of compliance with AB 546, as amended on May 1, 2025, and none (0%) are enrolled in plans or policies that are already compliant with the bill at baseline.

Benefit coverage would increase because of the mandate, resulting in new coverage for portable HEPA purifiers for enrollees with asthma and COPD, and those who are pregnant, and who are located in counties in which an emergency has been declared due to wildfire. The new coverage would result in increased use of services by enrollees and increased spending by health plans and health insurers. Enrollees would be subject to cost sharing for the new benefit.

Below, Table 1 provides estimates of how many Californians have health insurance that would have to comply with AB 546, as amended on May 1, 2025, in terms of benefit coverage.

Table 1. AB 546 Impacts on Benefit Coverage, 2026

	Baseline	Postmandate	Increase/Decrease
Total enrollees with health insurance subject to state benefit mandates*	22,207,000	22,207,000	0
Total enrollees with health insurance subject to AB 546	9,212,000	9,212,000	0
Percentage of enrollees with coverage for mandated benefit	0%	100%	100%
Number of enrollees with fully compliant coverage for mandated benefit	0	9,212,000	9,212,000

Source: California Health Benefits Review Program, 2025.
Notes: * Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, or Medi-Cal.[9]
Key: CalPERS = California Public Employees' Retirement System; CDI = California Department of Insurance; DMHC = Department of Managed Health Care.

Baseline and Postmandate Utilization and Household Cost

There are 10,337 households containing enrollees with pregnancy, asthma or COPD that use portable HEPA purifiers at baseline that live in counties in which an emergency has been declared due to wildfire. The number would increase postmandate by 62.98%. CHBRP estimates that the number of households that would obtain a portable HEPA purifier with pregnant enrollees would increase from 2,852 to 3,664, whereas the number of households that would obtain a portable HEPA purifier with enrollees with asthma will increase from 7,055 to 12,482, and the number households that

[8] For more detail, see CHBRP's resource, *Sources of Health Insurance in California*.
[9] For more detail, see CHBRP's resource, *Sources of Health Insurance in California*.

would obtain a portable HEPA purifier with of enrollees with COPD would increase from 430 to 701 enrollees. The additional benefit coverage for portable HEPA purifiers would increase the average cost of the equipment per year by 43.54%.

Below, Table 2 provides estimates of the impacts of AB 546, as amended on May 1, 2025, on utilization and household cost of portable HEPA purifiers.

Table 2. AB 546 Impacts on Utilization and Unit Cost, 2026

	Baseline (2026)	Postmandate Year 1 (2026)	Increase/ Decrease	Percentage Change
Eligible populations				
Number of enrollees that are pregnant	21,000	21,000	0	0.00%
Number of enrollees with asthma	47,000	47,000	0	0.00%
Number of enrollees with COPD	3,000	3,000	0	0.00%
Utilization without coverage (a)				
Number of households receiving a portable HEPA purifier due to an enrollee with pregnancy	2,852	0	(2,852)	-100.00%
Number of households receiving a portable HEPA purifier due to an enrollee with asthma	7,055	0	(7,055)	-100.00%
Number of households receiving a portable HEPA purifier due to an enrollee with COPD	430	0	(430)	-100.00%
Utilization with coverage (a)				
Number of households receiving a portable HEPA purifier due to an enrollee with pregnancy	0	3,664	3,664	
Number of households receiving a portable HEPA purifier due to an enrollee with asthma	0	12,482	12,482	
Number of households receiving a portable HEPA purifier due to an enrollee with COPD	0	701	701	
Total number of households receiving a portable HEPA purifier (a)	10,337	16,847	6,510	62.98%
Average annualized cost of portable HEPA purifiers	$ 101.19	$ 145.25	$ 44.06	43.54%

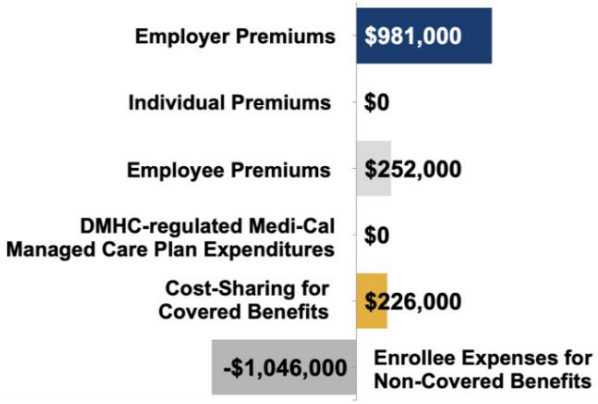
Source: California Health Benefits Review Program, 2025.
Note: (a) Utilization is estimated for those enrollees residing in counties in which local or state emergency declarations have been made due to wildfires.
Key: COPD = chronic obstructive pulmonary disease.

Baseline and Postmandate Expenditures

For DMHC-regulated plans and CDI-regulated policies, AB 546, as amended on May 1, 2025, would increase total premiums paid by employers and enrollees for newly covered benefits. Enrollee expenses for covered and/or noncovered benefits would decrease. This would result in an increase of 0.0002% ($413,000) total net annual expenditures for enrollees with DMHC-regulated plans and CDI-regulated policies (Figure 2).

Below, Table 3 provides estimates of the impacts of AB 546, as amended on May 1, 2025, on expenditures, which include premiums, enrollee cost sharing, and enrollee expenses for noncovered benefits.

Figure 2. Expenditure Impacts of AB 546



Source: California Health Benefits Review Program, 2025.
Key: DMHC = Department of Managed Health Care.

Table 3. AB 546 Impacts on Expenditures, 2026

	Baseline (2026)	Postmandate Year 1 (2026)	Increase/ Decrease	Percentage Change
Premiums				
Employer-sponsored (a)	$68,752,638,000	$68,753,518,000	$880,000	0.0013%
CalPERS employer	$7,881,873,000	$7,881,974,000	$101,000	0.0013%
Medi-Cal (excludes COHS) (b)	$31,818,731,000	$31,818,731,000	$0	0.0000%
Enrollee premiums (expenditures)				
Enrollees, individually purchased insurance	$21,757,790,000	$21,757,790,000	$0	0.0000%
Outside Covered California	$6,011,399,000	$6,011,399,000	$0	0.0000%
Through Covered California	$15,746,391,000	$15,746,391,000	$0	0.0000%
Enrollees, group insurance (c)	$21,712,866,000	$21,713,118,000	$252,000	0.0012%
Enrollee out-of-pocket expenses				
Cost sharing for covered benefits (deductibles, copayments, etc.)	$18,992,422,000	$18,992,648,000	$226,000	0.0012%
Expenses for noncovered benefits (d) (e)	$1,046,000	$0	-$1,046,000	-100.00%
Total Expenditures	$170,917,366,000	$170,917,779,000	$413,000	0.0002%

Source: California Health Benefits Review Program, 2025.
Notes: (a) In some cases, a union or other organization. Excludes CalPERS.
(b) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans.
(c) Enrollee premium expenditures include contributions by enrollees to employer (or union or other organization)-sponsored health insurance, health insurance purchased through Covered California, and any contributions to enrollment through Medi-Cal to a DMHC-regulated plan.

(d) Includes only expenses paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. This only includes those expenses that will be newly covered postmandate. Other components of expenditures in this table include all health care services covered by insurance.
(e) For covered benefits, such expenses would be eliminated, although enrollees with newly compliant benefit coverage might pay some expenses if benefit coverage is denied (through utilization management review).
Key: CalPERS = California Public Employees' Retirement System; CDI = California Department of Insurance; COHS = County Organized Health Systems; DMHC = Department of Managed Health Care.

Premiums

At the end of this section, Table 4 and Table 5 present baseline and postmandate expenditures by market segment for DMHC-regulated plans and CDI-regulated policies. The tables present per member per month (PMPM) premiums, enrollee expenses for both covered and noncovered benefits, and total expenditures (premiums as well as enrollee expenses).

Premiums would increase by $0.01 PMPM in both the DMHC- and CDI-regulated large group markets (0.0016% and 0.0012%, respectively). For enrollees associated with CalPERS in DMHC-regulated plans, premiums would also increase by $0.01 PMPM (0.0013%). Because none of the insurance market segments had baseline coverage for portable HEPA purifiers, the increases in premiums are driven primarily by the underlying populations of people with asthma and COPD, and the pregnant population in each market segment, who reside in counties in which there is an emergency declaration due to wildfires.

Enrollee Expenses

AB 546–related changes in out-of-pocket (OOP) expenses for noncovered benefits would vary by market segment. Note that such changes are related to the number of enrollees (see Table 1, Table 4, and Table 5) with health insurance that would be subject to AB 546, as amended on May 1, 2025, expected to use portable HEPA purifiers in connection with a qualifying health condition while residing in a county with an emergency declaration due to a wildfire, during the year after enactment.

At baseline, no enrollees had coverage for portable HEPA purifiers. Postmandate, although enrollees would likely have cost sharing responsibilities, OOP expenses would still decrease due to the new coverage for portable HEPA purifiers. Premiums would increase by between 0.0012% and 0.0016% depending on the market segment.

Overall, there would be reductions in enrollee OOP expenses. Expenses for noncovered benefits would decrease by approximately $1 million or enrollees in plans and policies in the DMHC- and CDI-regulated large-group markets, including those with insurance through CalPERS. CHBRP estimates that cost sharing would increase for enrollees with DMHC-regulated plans and CDI-regulated policies by approximately $226,000. Overall, OOP expenses by enrollees would decline by $820,000.

Postmandate Administrative and Other Expenses

CHBRP estimates that the increase in administrative costs of DMHC-regulated plans and/or CDI-regulated policies would be higher than the increase in premiums. In general, CHBRP assumes that if health care costs increase because of increased utilization or changes in unit costs, there is a corresponding proportional increase in administrative costs. In this case, additional administrative expenses would occur due to: 1) the processing of manual claims from enrollees seeking reimbursement for the device they purchased; 2) the review of patient medical history to confirm a patient's qualifying health condition; and, 3) the review of county emergency declaration records to confirm eligibility due to the place of residence. In comparing the level of administrative effort to the unit cost of each portable HEPA purifier (~$145), the ratio of administrative costs to unit cost of the benefit is potentially much higher than other health insurance benefit mandates.

Other Considerations for Policymakers

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

Postmandate Changes in the Number of Uninsured Persons

Because the change in average premiums does not exceed 1% for any market segment (see Table 3, Table 4, and Table 5) CHBRP would expect no measurable change in the number of uninsured persons due to the enactment of AB 546, as amended on May 1, 2025.

Changes in Public Program Enrollment

CHBRP estimates that the mandate would produce no measurable impact on enrollment in publicly funded insurance programs due to the enactment of AB 546, as amended on May 1, 2025.

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

At baseline, enrollees who obtain portable HEPA purifiers are not reimbursed for them by their health plan or insurance policy because they are not a covered benefit. CHBRP estimates that 18.6% of all enrollees and a portion of people with asthma, COPD, and pregnancy have a portable HEPA purifier in their home for a variety of reasons (e.g., wildfire smoke exposure, COVID-19 mitigation, or allergies). Although many purchased portable HEPA purifiers on their own, a portion may have received them at no cost through their health care provider, a charity, or an event focused on addressing air pollution. For example, universities held events to build Corsi-Rosenthal boxes at the height of COVID-19 and continue to do so during wildfire recovery efforts (Hannah, 2022). While these types of charitable or donation-based sources of portable HEPA purifiers may continue, CHBRP anticipates some of the need for a portable HEPA purifier through these free sources would be addressed by the benefit mandate. However, AB 546 would not necessarily replace the need for free, donated devices in crisis situations due to convenience, shortages of supplies, and other factors that might result in people obtaining free, donated devices despite already owning or being eligible for reimbursement for portable HEPA purifiers through their insurance coverage. For example, there were likely residents who were evacuated from their homes in the recent Southern California wildfires who received a donated portable HEPA purifier to use in their hotel room, despite owning a portable unit in their evacuated home.

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Table 4. Baseline Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2026

	DMHC-Regulated						CDI-Regulated			Total
	Commercial Plans (by Market) (a)			Publicly Funded Plans			Commercial Policies (by Market) (a)			
	Large Group	*Small Group*	*Individual*	*CalPERS (b)*	*Medi-Cal (Excludes COHS) (c)*		*Large Group*	*Small Group*	*Individual*	
					Under 65	*65+*				
Enrollee counts										
Total enrollees in plans/policies subject to state mandates (d)	8,034,000	2,076,000	2,181,000	914,000	7,787,000	850,000	264,000	65,000	36,000	22,207,000
Total enrollees in plans/policies subject to AB 546	8,034,000	0	0	914,000	0	0	264,000	0	0	9,212,000
Premiums										
Average portion of premium paid by employer (e)	$557.33	$507.76	$0.00	$718.62	$276.79	$583.72	$609.11	$567.83	$0.00	$108,453,242,000
Average portion of premium paid by enrollee	$145.58	$212.63	$818.51	$139.09	$0.00	$0.00	$224.25	$185.49	$777.47	$43,470,656,000
Total premium	**$702.91**	**$720.39**	**$818.51**	**$857.71**	**$276.79**	**$583.72**	**$833.35**	**$753.32**	**$777.47**	**$151,923,898,000**
Enrollee expenses										
Cost sharing for covered benefits (deductibles, copays, etc.)	$64.42	$164.36	$272.54	$81.59	$0.00	$0.00	$122.99	$249.30	$173.93	$18,992,422,000
Expenses for noncovered benefits (f)	$0.01	$0.00	$0.00	$0.01	$0.00	$0.00	$0.01	$0.00	$0.00	$1,046,000
Total expenditures	**$767.34**	**$884.75**	**$1,091.05**	**$939.31**	**$276.79**	**$583.72**	**$956.35**	**$1,002.63**	**$951.40**	**$170,917,366,000**

Source: California Health Benefits Review Program, 2025.
Notes: (a) Includes enrollees with grandfathered and nongrandfathered health insurance acquired outside or through Covered California (the state's health insurance marketplace).
(b) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.6% are state retirees, state employees, or their dependents.
(c) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. Includes those who are also Medicare beneficiaries.
(d) Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, or Medi-Cal.[10]
(e) In some cases, a union or other organization – or Medi-Cal for its beneficiaries.
(f) Includes only those expenses that are paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. This only includes those expenses that will be newly covered, postmandate. Other components of expenditures in this table include all health care services covered by insurance.
Key: CalPERS = California Public Employees' Retirement System; CDI = California Department of Insurance; COHS = County Organized Health Systems; DMHC = Department of Managed Health Care.

[10] For more detail, see CHBRP's resource *Sources of Health Insurance in California*.

Table 5. Postmandate Change in Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2026

	DMHC-Regulated						CDI-Regulated			Total
	Commercial Plans (by Market) (a)			Publicly Funded Plans			Commercial Policies (by Market) (a)			
	Large Group	*Small Group*	*Individual*	*CalPERS (b)*	*Medi-Cal (Excludes COHS) (c)*		*Large Group*	*Small Group*	*Individual*	
					Under 65	*65+*				
Enrollee counts										
Total enrollees in plans/policies subject to state mandates (d)	8,034,000	2,076,000	2,181,000	914,000	7,787,000	850,000	264,000	65,000	36,000	22,207,000
Total enrollees in plans/policies subject to AB 546	8,034,000	0	0	914,000	0	0	264,000	0	0	9,212,000
Premiums										
Average portion of premium paid by employer (e)	$0.0089	$0.0000	$0.0000	$0.0092	$0.0000	$0.0000	$0.0076	$0.0000	$0.0000	$982,000
Average portion of premium paid by enrollee	$0.0023	$0.0000	$0.0000	$0.0018	$0.0000	$0.0000	$0.0028	$0.0000	$0.0000	$252,000
Total premium	$0.0112	$0.0000	$0.0000	$0.0110	$0.0000	$0.0000	$0.0104	$0.0000	$0.0000	**$1,233,000**
Enrollee expenses										
Cost sharing for covered benefits (deductibles, copays, etc.)	$0.0020	$0.0000	$0.0000	$0.0021	$0.0000	$0.0000	$0.0032	$0.0000	$0.0000	$226,000
Expenses for noncovered benefits (f)	-$0.0095	$0.0000	$0.0000	-$0.0095	$0.0000	$0.0000	-$0.0095	$0.0000	$0.0000	-$1,046,000
Total expenditures	$0.0037	$0.0000	$0.0000	$0.0036	$0.0000	$0.0000	$0.0041	$0.0000	$0.0000	**$414,000**
Postmandate percent change										
Percent change insured premiums	0.0016%	0.0000%	0.0000%	0.0013%	0.0000%	0.0000%	0.0012%	0.0000%	0.0000%	0.0008%
Percent change total expenditures	0.0005%	0.0000%	0.0000%	0.0004%	0.0000%	0.0000%	0.0004%	0.0000%	0.0000%	0.0002%

Source: California Health Benefits Review Program, 2025.
Notes: (a) Includes enrollees with grandfathered and nongrandfathered health insurance acquired outside or through Covered California (the state's health insurance marketplace).
(b) Includes only CalPERS enrollees in DMHC-regulated plans. Approximately 51.6% are state retirees, state employees, or their dependents.
(c) Includes only Medi-Cal beneficiaries enrolled in DMHC-regulated plans. Includes those who are also Medicare beneficiaries.
(d) Enrollees in plans and policies regulated by DMHC or CDI. Includes those associated with Covered California, CalPERS, or Medi-Cal.[11]
(e) In some cases, a union or other organization, or Medi-Cal for its beneficiaries.
(f) Includes only those expenses that are paid directly by enrollees (or other sources) to providers for services related to the mandated benefit that are not covered by insurance at baseline. This only includes those expenses that will be newly covered, postmandate. Other components of expenditures in this table include all health care services covered by insurance.
Key: CalPERS = California Public Employees' Retirement System; CDI = California Department of Insurance; COHS = County Organized Health Systems; DMHC = Department of Managed Health Care.

[11] For more detail, see CHBRP's resource *Sources of Health Insurance in California*.

Public Health Impacts

Measurable health outcomes relevant to AB 546 include control of asthma symptoms, use of rescue medication, urgent care visits, emergency department visits, respiratory health status and quality of life related to COPD, and cognitive development and fetal growth related to exposure during pregnancy.

As presented in the *Medical Effectiveness* section, there is *conflicting evidence* as to the use of HEPA filtration to improve control of asthma symptoms. While it appears that this equipment is effective in homes with asthmatic children exposed to tobacco smoke, it is unclear the extent to which these findings would apply to a broader population of people with asthma. There is also some evidence that the use of HEPA filtration improves health outcomes for people who are pregnant or who have COPD.

As presented in the *Benefit Coverage, Utilization, and Cost Impacts* section, it is estimated that postmandate, there would be an increase in nearly approximately 6,500 households using portable HEPA purifiers. This breaks down into an increase of approximately 800 homes with pregnant enrollees, 5,400 homes with enrollees with asthma, and 270 homes with enrollees with COPD. It is estimated that among the 5,400 homes with enrollees with asthma, approximately 380 would be among homes with people exposed to tobacco smoke.

AB 546, as amended on May 1, 2025, is projected to lead to the following improvements in health outcomes:

- An improvement in fetal growth and cognitive development for babies born in the 800 homes with pregnant enrollees;
- An improvement in respiratory health status and quality of life for approximately 270 enrollees with COPD, including a reduction in the number of urgent care visits by 34 visits; and
- An improvement in respiratory health status for enrollees with asthma especially the 380 living in homes where they are exposed to tobacco smoke, including a significant reduction in the use of steroids and inhalers.

In addition, it is estimated that AB 546 would lead to a reduction in financial burden of $820,000 in out-of-pocket costs for enrollees.

In the first year postmandate, CHBRP estimates that people with asthma exposed to tobacco smoke in the home, enrollees with COPD, and pregnant enrollees would all experience improvements in health outcomes. This estimate is supported by *some evidence* that portable HEPA purifiers are medically effective and an estimated increase in approximately 6,500 homes that would use this equipment postmandate.

Impact on Disparities[12]

Disparities in exposure to air pollution exist by race/ethnicity, sex, age, and income (CHBRP, 2025). A 2024 study by Casey et al. suggests that some racial and ethnic groups in California likely bear a disproportionate burden of air pollution exposure during wildfires (Casey et al., 2024). Within the first 12 months postmandate, CHBRP estimates that it is likely that AB 546, as amended on May 1, 2025, could reduce negative health outcomes related to increased exposure to air pollution by specific populations. Therefore, the disparities that exist in exposure to air pollution among people of color, may be reduced by AB 546, as amended on May 1, 2025. For a discussion of potential impacts beyond the first 12 months of implementation (including social drivers of health), see the *Long-Term Impacts* section.

[12] For details about CHBRP's methodological approach to analyzing disparities, see the *Benefit Mandate Structure and Unequal Racial/Ethnic Health Impacts* document.

Long-Term Impacts

In this section, CHBRP estimates the long-term impact of AB 546, which CHBRP defines as impacts occurring beyond the first 12 months after implementation. These estimates are qualitative and based on the existing evidence available in the literature. CHBRP does not provide quantitative estimates of long-term impacts because of unknown improvements in clinical care, changes in prices, implementation of other complementary or conflicting policies, and other unexpected factors.

Long-Term Utilization and Cost Impacts

Utilization Impacts

Over time, provider and population awareness of the benefits of portable HEPA purifiers is likely to improve and utilization of the equipment is expected to increase. Due to the likely increases in wildfire frequency and severity, more people may be prone to purchase portable HEPA purifiers to address wildfire smoke concerns, especially those with asthma and COPD (Abatzoglou and Williams, 2016). The extent to which this would occur in the long-term is unknown.

Cost Impacts

Additional use and payment by health plans and insurers after Year 1 is likely, with premiums expected to increase concurrently with increased use of portable HEPA purifiers. The cost of the equipment is approximately $145 per year. As mentioned above, though there are cost offsets for specific subgroups of people with asthma (e.g., children in a household with secondhand smoke exposure would experience greater benefits), the reductions in medication use and urgent care visits do not fully offset the additional premium spending for the covered benefit.

Long-Term Public Health Impacts

Some interventions in proposed mandates provide immediate measurable impacts (e.g., maternity service coverage or acute care treatments), whereas other interventions may take years to make a measurable impact (e.g., coverage for tobacco cessation or vaccinations). When possible, CHBRP estimates the long-term effects (beyond 12 months postmandate) to the public's health that would be attributable to the mandate, including impacts disparities, premature death, and economic loss.

Future climate shifts are expected to increase the frequency and severity of wildfires in California (Abatzoglou and Williams, 2016). Hotter and drier climate conditions create drier vegetation, which more easily fuel larger fires (Williams et al., 2019). More frequent wildfires will result in increased air pollution and greater health risks (Qiu et al., 2024). Given these projected increased in ambient air pollution, increased use of portable HEPA purifiers could be more beneficial in the coming years.

Impacts on Disparities and the Social Drivers of Health[13]

Periodically, health insurance mandates can influence social drivers of health (SDOH[14]), which can mediate health inequities. Evidence presented in the *Background* section indicates that people with lower incomes are more likely to live in areas with higher levels of air pollution. The exposure to poor air quality leads to adverse health outcomes, especially for individuals with asthma, COPD, and for people who are pregnant. AB 546 could potentially create healthier environment for individuals who have higher levels of pollution in their home as a result of exposure to wildfire smoke, through the provision of a portable HEPA purifier that has been proven to improve indoor air quality. This could specifically impact health outcomes for enrollees with lower incomes who live in environments with poorer air quality and have more

[13] For more information about SDOH, see CHBRP's Public Health Impact Analysis and Research Approach.
[14] Also referred to as "social determinants of health."

exposure to wildfire smoke, are more likely to develop asthma, COPD, or have poor pregnancy outcomes, and are less likely to be able to afford effective a portable HEPA purifier.

CHBRP estimates that AB 546 could modify the effects of poor air quality on health outcomes by providing a mechanism to reduce exposure to air pollutants in the home.

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Appendix A. Text of Bill Analyzed

On May 2, 2025, the California Assembly Speaker's office requested that CHBRP analyze AB 546, as amended on May 1, 2025.

AMENDED IN ASSEMBLY MAY 01, 2025

CALIFORNIA LEGISLATURE— 2025–2026 REGULAR SESSION

ASSEMBLY BILL **NO. 546**

Introduced by Assembly Member Caloza
(Principal coauthor: Assembly Member Rivas)

February 11, 2025

An act to add Section ~~1367.56~~ *1368.8* to the Health and Safety Code, and to add Section ~~10123.63~~ *10112.96* to the Insurance Code, relating to health care coverage, and declaring the urgency thereof, to take effect immediately.

LEGISLATIVE COUNSEL'S DIGEST

AB 546, as introduced, Caloza. Health care coverage: portable HEPA ~~purifiers and filters~~ *purifiers*.

Existing law, the Knox-Keene Health Care Service Plan Act of 1975, provides for the licensure and regulation of health care service plans by the Department of Managed Health Care and makes a willful violation of the act's requirements a crime. Existing law provides for the regulation of health insurers by the Department of Insurance. Existing law sets forth specified coverage requirements for plan contracts and insurance policies, and limits the copayment, coinsurance, deductible, and other cost sharing that may be imposed for specified health care services.

This bill would require a *large group* health care service plan contract or *group* health insurance ~~policy~~ *policy, except a specialized health care service plan contract or health insurance policy, that is* issued, amended, or renewed on or after January 1, 2026, to include coverage for portable high-efficiency particulate air (HEPA) purifiers ~~and filters~~ for enrollees or insureds who are pregnant or diagnosed with asthma or chronic obstructive pulmonary ~~disease. The bill would prohibit a portable HEPA purifier and filter covered pursuant to these provisions from being subject to a deductible, coinsurance, or copayment requirement.~~ *disease if the enrollee or insured is in a county where a local or state emergency has been declared due to wildfires. The bill would prohibit the cost of the HEPA purifier from exceeding $500, adjusted for inflation.*

Because a willful violation of these provisions by a health care service plan would be a crime, this bill would impose a state-mandated local program.

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

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

This bill would declare that it is to take effect immediately as an urgency statute.

DIGEST KEY

Vote: 2/3 Appropriation: NO Fiscal Committee: YES Local Program: YES

BILL TEXT

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

~~SECTION 1.Section 1367.56 is added to the Health and Safety Code, to read:~~
~~1367.56.~~
SECTION 1. *Section 1368.8 is added to the Health and Safety Code, to read:*

1368.8. (a) *(1)* A *large group* health care service plan ~~contract~~ *contract, except a specialized health care service plan contract, that is* issued, amended, or renewed on or after January 1, ~~2026 ,~~ *2026,* shall include coverage for portable high-efficiency particulate air (HEPA) purifiers ~~and filters~~ for enrollees who are pregnant and enrollees diagnosed with asthma or chronic obstructive pulmonary disease ~~(COPD).~~ *(COPD) if the enrollee is in a county where a local or state emergency has been declared due to wildfires.*

~~(1)A portable HEPA purifier and filter pursuant to this section shall not be subject to a deductible, coinsurance, or copayment requirement.~~

~~(2)If a health care service plan contract is a high deductible health plan, as defined in Section 223(c)(2) of Title 26 of the United States Code, the contract shall not impose cost sharing as specified in this section, unless not applying cost sharing would conflict with federal requirements for high deductible health plans.~~

(2) An enrollee is entitled to the benefit specified in paragraph (1) until one year from the date the local or state emergency is lifted, whichever is later.

(3) The cost of the HEPA purifier specified in paragraph (1) shall not exceed five hundred dollars ($500), adjusted for inflation.

(b) ~~(1)~~For purposes of this section, a portable HEPA purifier ~~and filter~~ uses a mechanical air filter that can remove at least 99% of airborne particles that are 10 microns in ~~size or have a minimum efficiency reporting value (MERV) of 13 or higher.~~ *size.*

~~(2)A HEPA filter includes a filter used for air purification systems for home use or portable use.~~

(c) This section shall apply to ~~enrollees of a Public Employees' Retirement System (CalPERS) sponsored health plan~~ *a health care benefit plan or contract entered into with the Board of Administration of the Public Employees' Retirement System pursuant to the Public Employees' Medical and Hospital Care Act (Part 5 (commencing with Section 22750) of Division 5 of Title 2 of the Government Code)* and members of the State Teachers' Retirement System (CalSTRS) who receive a health care benefit under CalSTRS.

(d) (1) This section shall not apply to a Medicare supplement policy or a specialized health care service plan contract that covers only dental or vision benefits.

(2) This section shall not apply to Medi-Cal managed care plans that contract with the State Department of Health Care Services pursuant to Chapter 7 (commencing with Section 14000) of, and Chapter 8 (commencing with Section 14200) of, Part 3 of Division 9 of the Welfare and Institutions Code.

~~(3)This section shall not apply with respect to self-insured employer plans governed by the Employee Retirement Income Security Act of 1974 (ERISA) (Public Law 93-406).~~

~~SEC. 2.Section 10123.63 is added to the Insurance Code, to read:~~
~~10123.63.~~
SEC. 2. *Section 10112.96 is added to the Insurance Code, to read:*

10112.96. (a) *(1)* A *group* health insurance ~~policy~~ *policy, except a specialized health insurance policy, that is* issued, amended, or renewed on or after January 1, ~~2026,~~ *2026,* shall include coverage for portable high-efficiency particulate air (HEPA) purifiers ~~and filters~~ for insureds who are pregnant and insureds diagnosed with asthma or chronic obstructive pulmonary disease ~~(COPD).~~ *(COPD) if the insured is in a county where a local or state emergency has been declared due to wildfires.*

~~(1)A portable HEPA purifier and filter pursuant to this section shall not be subject to a deductible, coinsurance, or copayment requirement.~~

~~(2)If a health insurance policy is a high deductible health plan, as defined in Section 223(c)(2) of Title 26 of the United States Code, the contract shall not impose cost sharing as specified in this section, unless not applying cost sharing would conflict with federal requirements for high deductible health plans.~~

(2) An insured is entitled to the benefit specified in paragraph (1) until one year from the date the local or state emergency is lifted, whichever is later.

(3) The costs of the HEPA purifier specified in paragraph (1) shall not exceed five hundred dollars ($500), adjusted for inflation.

(b) ~~(1)~~For purposes of this section, a portable HEPA purifier ~~and filter~~ uses a mechanical air filter that can remove at least 99% of airborne particles that are 10 microns in ~~size or have a minimum efficiency reporting value (MERV) of 13 or higher.~~ *size.*

~~(2)A HEPA filter includes a filter used for air purification systems for home use or portable use.~~

(c) This section shall apply to insureds of a ~~Public Employees' Retirement System (CalPERS) sponsored health plan~~ *health care benefit plan or contract entered into with the Board of Administration of the Public Employees' Retirement System pursuant to the Public Employees' Medical and Hospital Care Act (Part 5 (commencing with Section 22750) of Division 5 of Title 2 of the Government Code)* and members of the State Teachers' Retirement System (CalSTRS) who receive a health care benefit under CalSTRS.

(d) ~~(1)~~This section shall not apply to a Medicare supplement policy or a specialized health insurance policy that covers only dental or vision benefits.

~~(2)This section shall not apply with respect to self-insured employer plans governed by the Employee Retirement Income Security Act of 1974 (ERISA) (Public Law 93-406)~~

SEC. 3. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

SEC. 4. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the California Constitution and shall go into immediate effect. The facts constituting the necessity are:

Pregnant women who are exposed to particulate matter from wildfire smoke face a higher risk of preterm birth than women who were not exposed. Wildfire smoke can additionally trigger asthma attacks or chronic obstructive pulmonary disease (COPD). To mitigate these outcomes, it is necessary that this act take effect immediately.

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Appendix B. Cost Impact Analysis: Data Sources, Caveats, and Assumptions

With the assistance of CHBRP's contracted actuarial firm, Milliman, Inc., the cost analysis presented in this report was prepared by the faculty and researchers connected to CHBRP's Task Force with expertise in health economics.[15] Information on the generally used data sources and estimation methods, as well as caveats and assumptions generally applicable to CHBRP's cost impacts analyses, are available on CHBRP's website.[16]

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

Analysis-Specific Data Sources

Baseline coverage of air filtration equipment for commercial enrollees was determined by a survey of the largest (by enrollment) providers of health insurance in California. Responses to this survey represent 88% of commercial enrollees with health insurance that can be subject to state benefit mandates. As necessary, CHBRP extrapolated from responses of similarly situated plans/policies.

Health Cost Guidelines

The Health Cost Guidelines (HCGs) are a health care pricing tool used by actuaries in many of the major health plans in the United States. The guidelines provide a flexible but consistent basis for estimating health care costs for a wide variety of commercial health insurance plans. It is likely that these organizations use the HCGs, among other tools, to determine the initial premium impact of any new mandate. Thus, in addition to producing accurate estimates of the costs of a mandate, Milliman believes the HCG-based values are also good estimates of the premium impact as estimated by the HMOs and insurance companies.

The highlights of the commercial HCGs include:

- Specific major medical, managed care, and prescription drug rating sections and guidance with step-by-step rating instructions.
- Other helpful analysis resources, such as inpatient length of stay distribution tables, Medicare Severity-Adjusted Diagnosis Related Group (MS-DRG) models, and supplementary sections addressing EHBs and mandated benefits, experience rating, and individual and small group rating considerations.
- Presentation of loosely and well-managed nationwide utilization and cost information by Milliman benefit-aligned service categories used throughout the Rating Structures – inpatient hospital services for both loosely and well-managed are also supported by DRG level utilization and cost benchmarks.
- Annual updates address emerging regulatory considerations such as health care reform and mental health parity requirements.
- Annually updated benefit descriptions used in the HCG service categories.
- Annually updated medical trend assumptions and considerations.
- Presentation of two sets of nationwide area factors to facilitate development of area-specific claim costs, including separate utilization and charge level factors by type of benefit, state and Metropolitan Statistical Area for first-dollar coverage, and composite factors by deductible amount.
- Claim Probability Distributions (CPDs) by type of coverage that contain distributions of claim severity patterns for unique combinations of benefits and member types (adult, child, composite member).

[15] CHBRP's authorizing statute requires that CHBRP use a certified actuary or "other person with relevant knowledge and expertise" to determine financial impact.
[16] See CHBRP's Cost Impact Analysis landing page; in particular, see *Cost Impact Analyses: Data Sources, Caveats, and Assumptions*.

- The Prescription Drug Rating Model (RXRM), an automated rating tool that provides a detailed analysis of prescription drug costs and benefits.

Consolidated Health Cost Guidelines Sources Database

Milliman maintains benchmarking and analytic databases that include health care claims data for nearly 60 million commercial lives and over 3 million lives of Medicaid Managed Care data. This dataset is routinely used to evaluate program impacts on cost and other outcomes.

Detailed Cost Notes Regarding Analysis-Specific Caveats and Assumptions

The analytic approach and key assumptions are determined by the subject matter and language of the bill being analyzed. As a result, analytic approaches may differ between topically similar analyses, and therefore the approach and findings may not be directly comparable.

Methodology and Assumptions for Baseline and Postmandate Utilization

Enrollees with asthma or chronic obstructive pulmonary disease (COPD), and enrollees who were pregnant were identified in Milliman's proprietary 2023 Consolidated Health Cost Guidelines™ Sources Database (CHSD). This database only captures services that are filed for reimbursement by insurance and may not fully capture conditions related to noncovered benefits. CHBRP assigned enrollees into these conditions using ICD 10 diagnosis codes. Enrollees were also split by coverage status and whether they purchased a portable HEPA purifier at baseline.

- CHBRP assumed that at baseline and postmandate 18.6% of all households regardless of disease would use air filtration equipment.
- At baseline, an additional 0.0% of pregnant people, 2.3% of individuals with COPD, and 3.8% of individuals with asthma would purchase a portable HEPA purifier based upon physicians' recommendations.
- Post mandate, an additional 5.3% of pregnant people, 15.4% of individuals with COPD, and 20.9% of individuals with asthma would purchase a portable HEPA purifier based upon doctor's recommendations.

Pregnancy

- Enrollees with pregnancy were identified using the ICD 10 diagnosis codes that start with "O."

Asthma

- Enrollees with asthma were identified using the ICD 10 diagnosis codes that start with "J45."

Chronic Obstructive Pulmonary Disease

- Enrollees with chronic obstructive pulmonary disease (COPD) were identified using the ICD 10 diagnosis codes that start with "J44."

Methodology and Assumptions for Baseline Cost

- CHBRP assumed the average annualized cost of using a portable HEPA purifier from costs of portable HEPA purifiers on Amazon.com (as of March 2025) and an assumed distribution of costs shown in "Table 2 Cost" in the AB 546 Cost Model. The assumed average baseline cost of using a portable HEPA purifier is $101.19 per household per year.

Methodology and Assumptions for Baseline Cost Sharing

- CHBRP assumed air filtration equipment bought by enrollees without coverage were paid in full by the enrollee out-of-pocket.

Methodology and Assumptions for Postmandate Cost

- CHBRP assumed the average cost per portable HEPA purifier would not change as a result of AB 546, but CHBRP assumed more people would choose more expensive portable HEPA purifier options if they were covered 100% by insurance as a result of AB 546.

Methodology and Assumptions for Postmandate Cost Sharing

- CHBRP assumed a portable HEPA purifier bought by enrollees with coverage were paid in full by the health plan and enrollees would have a cost sharing responsibility equal to that of the enrollee's current medical benefits.

Other Methodology and Assumptions

- CHBRP assumed a pregnancy dampening factor of 1.4 to account for pregnancies spanning over 1 calendar year.
- To calculate the number of households from the number of enrollees with a condition utilizing a portable HEPA purifier, CHBRP assumed 1 pregnant person per household, 1.5 people with asthma per household, and 1.5 people with COPD per household.
- For enrollees with asthma (Lee et al., 2020), reductions in medication use with air filtration improvements would vary depending on whether smoking occurs in the home. All enrollees with asthma would see a reduction of 3% for steroid use to address flare ups. There would also be a decrease in inhaler use — a 48% reduction among people with asthma in a household with secondhand smoke and a 3% reduction for all other populations (Lee et al., 2020). As stated in the *Background* section, 7.1% of children in California live in a household where someone uses cigarettes, cigars, or pipe tobacco in the home (America's Health Rankings, 2023). In total, inhaler use would decrease by 3.4% for all enrollees with asthma.

Determining Public Demand for the Proposed Mandate

CHBRP reviews public demand for benefits by comparing the benefits provided by self-insured health plans or policies (which are not regulated by the DMHC or CDI and therefore not subject to state-level mandates) with the benefits that are provided by plans or policies that would be subject to the mandate.

Among publicly funded self-insured health insurance policies, the preferred provider organization (PPO) plans offered by CalPERS have the largest number of enrollees. The CalPERS PPOs currently provide benefit coverage similar to what is available through group health insurance plans and policies that would be subject to the mandate.

To further investigate public demand, CHBRP used the bill-specific coverage survey to ask plans and insurers who act as third-party administrators for (non-CalPERS) self-insured group health insurance programs whether the relevant benefit coverage differed from what is offered in group market plans or policies that would be subject to the mandate. The responses indicated that there were no substantive differences.

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References

Abatzoglou JT, Williams AP. Impact of anthropogenic climate change on wildfire across western US forests. *Proceedings of the National Academy of Science of the United States of America*. 2016;113(42):11770-11775. doi:10.1073/pnas.1607171113

California Health Benefits Review Program (CHBRP). (2025). *Analysis of California Assembly Bill 546: portable HEPA purifiers and filters.* Berkeley, CA.

Casey JA, Kioumourtzoglou MA, Padula A, Benmarhnia T. Measuring long-term exposure to wildfire PM2.5 in California: Time-varying inequities in environmental burden. *PNAS.* 2024;121(8):e2306729121.

Hannah D. The Homemade Air Purifier That's Been Saving Lives During the COVID-19 Pandemic. *Smithsonian Magazine*. March 7, 2022. Available at: https://www.smithsonianmag.com/innovation/homemade-air-purifier-thats-been-saving-lives-during-covid-19-pandemic-180979681/. Accessed March 27, 2025.

Huang W, Xu H, Wu J, Ren M, Ke Y, Qiao J. Toward cleaner air and better health: current state, challenges, and priorities. *Science*. 2024;385(6707):386-390.

Lee GH, Kim JH, Kim S, Lee S, Lim DH. Effects of indoor air purifiers on children with asthma. *Yonsei Medical Journal*. 2020;61(4):310-316. doi:10.3349/ymj.2020.61.4.310

Qiu M, Li J, Gould C, et al. Wildfire smoke exposure and mortality burden in the US under future climate change. Preprint. Posted online March 12, 2024. EarthArXiv X5RQ5C. https://doi.org/10.31223/X5RQ5C.

Williams AP, Abatzoglou JT, Gershunov A, et al. Observed impacts of anthropogenic climate change on wildfire in California. *Earth's Future*. 2019;7(8):892-910. https://doi.org/10.1029/2019EF001210

World Health Organization (WHO). Household Air Pollution. October 16, 2024. Available at: https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health. Accessed March 21, 2025.

California Health Benefits Review Program Committees and Staff

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

CHBRP Staff

Garen Corbett, MS, Director
Adara Citron, MPH, Associate Director
An-Chi Tsou, PhD, Principal Policy Analyst
Anna Pickrell, MPH Principal Policy Analyst
Karen Shore, PhD, Contractor*
Nisha Kurani, MPP, Contractor*
*Independent Contractor working with CHBRP to support analyses and other projects.

Faculty Task Force

Paul Brown, PhD, University of California, Merced
Timothy T. Brown, PhD, University of California, Berkeley
Shana Charles, PhD, MPP, University of California, Los Angeles, and California State University, Fullerton
Janet Coffman, MA, MPP, PhD, *Vice Chair for Medical Effectiveness,* University of California, San Francisco
Todd Gilmer, PhD, University of California, San Diego
Sylvia Guendelman, PhD, LCSW, University of California, Berkeley
Elizabeth Magnan, MD, PhD, *Vice Chair for Medical Effectiveness and Public Health*, University of California, Davis
Sara McMenamin, PhD, *Vice Chair for Medical Effectiveness and Public Health*, University of California, San Diego
Joy Melnikow, MD, MPH, University of California, Davis
Aimee Moulin, MD, University of California, Davis
Jack Needleman, PhD, University of California, Los Angeles
Mark A. Peterson, PhD, University of California, Los Angeles
Nadereh Pourat, PhD, *Vice Chair for Cost*, University of California, Los Angeles
Dylan Roby, PhD, University of California, Irvine
Marilyn Stebbins, PharmD, University of California, San Francisco
Jonathan Watanabe, PharmD, MS, PhD, University of California, San Francisco

Task Force Contributors

Bethney Bonilla-Herrera, MA, University of California, Davis
Danielle Casteel, MA, University of California, San Diego
Margaret Fix, MPH, University of California, San Francisco
Carlos Gould, PhD, University of California, San Diego
Julia Huerta, BSN, RN, MPH, University of California, Davis
Michelle Keller, PhD, MPH, University of California, Los Angeles, and University of Southern California
Thet Nwe Myo Khin, MPH, University of California, San Diego
Xenia Mendez, MPH, University of California, San Francisco
Jacqueline Miller, University of California, San Francisco
Marykate Miller, MS, University of California, Davis
Katrine Padilla, MPP, University of California, Davis
Kyoko Peterson, MPH, University of California, San Francisco
Amy Quan, MPH, University of California, San Francisco
Dominique Ritley, MPH, University of California, Davis
Riti Shimkhada, PhD, University of California, Los Angeles
Meghan Soulsby Weyrich, MPH, University of California, Davis
Steven Tally, PhD, University of California, San Diego

National Advisory Council

Lauren LeRoy, PhD, Strategic Advisor, L. LeRoy Strategies, *Chair*
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Marilyn Moon, PhD, (Retired) Senior Fellow, American Institutes for Research, Washington, DC
Rachel Nuzman, MPH, Senior Vice President for Federal and State Health Policy, The Commonwealth Fund, New York, NY
Carolyn Pare, (Retired) President and CEO, Minnesota Health Action Group, Bloomington, MN
Osula Evadne Rushing, MPH, Senior Vice President for Strategic Engagement, KFF, Washington, DC
Ruchika Talwar, MD, MMHC, Assistant Professor Department of Urology and Medical Director Episodes of Care, Population Health, Vanderbilt University Medical Center
Alan Weil, JD, MPP, Senior Vice President for Public Policy, AARP, Washington, DC

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Steven Tally, PhD, of the University of California, San Diego, prepared the medical effectiveness analysis. Bruce Abbott, MLS, of the University of California, Davis, conducted the literature search. Sara McMenamin, PhD, Carlos Gould, PhD, Thet Nwe Myo Khin, MPH, and Katherine Cha, all of the University of California, San Diego, prepared the public health impact analysis. Dylan Roby, PhD, of the University of California, Irvine, prepared the cost impact analysis. Aleece Blake, FSA, MAAA, and John Rogers, ASA, MAAA, MS of Milliman, provided actuarial analysis. Sydney Leibel, MD, MPH, of the University of California, San Diego, and John Balmes, MD, of the University of California, San Francisco and the University of California, Berkeley, provided technical assistance with the literature search and expert input on the analytic approach. An-Chi Tsou, PhD, of CHBRP staff prepared the Policy Context and synthesized the individual sections into a single report. A subcommittee of CHBRP's National Advisory Council (see previous page of this report) and member of the CHBRP Faculty Task Force, Mark Peterson, PhD, of the University of California, Los Angeles, reviewed the analysis for its accuracy, completeness, clarity, and responsiveness to the Legislature's request.

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

Garen Corbett, MS
Director

Please direct any questions concerning this document to: California Health Benefits Review Program, MC 3116, Berkeley, CA 94720-3116; info@chbrp.org; or chbrp.org.