



CALIFORNIA
HEALTH BENEFITS REVIEW PROGRAM

Analysis of Senate Bill 890: Basic Health Care Services

A Report to the 2009-2010 California Legislature
April 17, 2010

CHBRP 10-07



The California Health Benefits Review Program (CHBRP) responds to requests from the State Legislature to provide independent analyses of the medical, financial, and public health impacts of proposed health insurance benefit mandates and proposed repeals of health insurance benefit mandates. CHBRP was established in 2002 by statute (California Health and Safety Code, Section 127660, et seq). The program was reauthorized in 2006 and again in 2009. CHBRP's authorizing statute defines legislation proposing to mandate or proposing to repeal an existing health insurance benefit as a proposal that would mandate or repeal a requirement that a health care service plan or health insurer (1) permit covered individuals to obtain health care treatment or services from a particular type of health care provider; (2) offer or provide coverage for the screening, diagnosis, or treatment of a particular disease or condition; or (3) offer or provide coverage of a particular type of health care treatment or service, or of medical equipment, medical supplies, or drugs used in connection with a health care treatment or service.

A small analytic staff in the University of California's Office of the President supports a task force of faculty and staff from several campuses of the University of California, as well as Loma Linda University, the University of Southern California, and Stanford University, to complete each analysis within a 60-day period, usually before the Legislature begins formal consideration of a mandate or repeal bill. A certified, independent actuary helps estimate the financial impacts, and a strict conflict-of-interest policy ensures that the analyses are undertaken without financial or other interests that could bias the results. A National Advisory Council, drawn from experts from outside the state of California and designed to provide balanced representation among groups with an interest in health insurance benefit mandates or repeals, reviews draft studies to ensure their quality before they are transmitted to the Legislature. Each report summarizes scientific evidence relevant to the proposed mandate, or proposed mandate repeal, but does not make recommendations, deferring policy decision making to the Legislature. The State funds this work through a small annual assessment on health plans and insurers in California. All CHBRP reports and information about current requests from the California Legislature are available at the CHBRP Web site, www.chbrp.org.

A Report to the 2009-2010 California State Legislature

Analysis of Senate Bill 890: Basic Health Care Services

April 17, 2010

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PREFACE

The California Senate Committee on Health requested on February 22, 2010, that the California Health Benefits Review Program (CHBRP) conduct an evidence-based assessment of the medical, financial, and public health impacts of a proposed Senate Bill that would impose benefit mandates. Specifically the proposed legislation, SB 890, would require health policies regulated by the California Department of Insurance (CDI) to cover medically necessary “basic health care services.” CHBRP undertook this analysis pursuant to the provisions of the program’s authorizing statute.

Janet Coffman, MPP, PhD, Mi-Kyung (Miki) Hong, MPH, Chris Tonner, MPH, and Edward Yelin, PhD, all of the University of California, San Francisco, prepared the medical effectiveness analysis. Penny Coppernoll-Blach, MLIS, of the University of California, San Diego, conducted the literature search. Helen Halpin, PhD, and Sara McMenamain, PhD, of the University of California, Berkeley, prepared the public health impact analysis. Robert Kaplan, PhD, and Yair Babad, PhD, of the University of California, Los Angeles, prepared the cost impact analysis. Robert Cosway, FSA, MAAA, of Milliman, provided actuarial analysis. H.E. Frech, III, PhD, of the University of California, Santa Barbara, and Len Nichols, PhD, of the George Mason University provided technical assistance with the literature review and expert input on the analytic approach. Susan Philip, MPP, and David Guarino of CHBRP staff, prepared the background section and synthesized the individual sections into a single report. Cherie Wilkerson provided editing services. A subcommittee of CHBRP’s National Advisory Council (see final pages of this report) and a member of the CHBRP Faculty Task Force, Susan Ettner, PhD, of the University of California, Los Angeles, reviewed the analysis for its accuracy, completeness, clarity, and responsiveness to the Legislature’s request.

CHBRP gratefully acknowledges all of these contributions but assumes full responsibility for all of the report and its contents. Please direct any questions concerning this report to:

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EXECUTIVE SUMMARY

California Health Benefits Review Program Analysis of Senate Bill 890

The California Senate Committee on Health requested on February 22, 2010, that the California Health Benefits Review Program (CHBRP) conduct an evidence-based assessment of the medical, financial, and public health impacts of a proposed Senate Bill (SB) 890 that would require health policies regulated by the California Department of Insurance (CDI) to cover medically necessary “basic health care services.” CHBRP undertook this analysis pursuant to the provisions of the program’s authorizing statute.¹

Provisions of SB 890

SB 890 would make the four following changes to the CDI-regulated health insurance market:

- Create a benefits floor or minimum benefits standard by requiring CDI-regulated health insurance policies to provide coverage for “basic health care services” (BHCS). The definition of BHCS would be the same as that used for plans regulated by the Department of Managed Health Care (DMHC) as specified in Sections 1345 Health & Safety Code and Section 1300.67 of Title 28 of the Code of California Regulations.
- Prohibit such policies from having an annual limit or lifetime limit on BHCS.
- Establish that BHCS must be covered per medical necessity, and thus create a medical necessity standard for these services for CDI-regulated health insurance policies.
- Provide the commissioner the authority to approve copayments, deductibles, or limitations (for example, benefit limitations such as visit limits or dollar limits).

SB 890 would affect 2,438,000 Californians enrolled in CDI-regulated health insurance policies.

SB 890 would *not* prohibit policies “from charging subscribers or insureds a copayment or a deductible for a basic health care service or from setting forth, by contract, limitations on maximum coverage of basic health care services, provided that the copayments, deductibles, or limitations are reported to, and held unobjectionable by, the commissioner and set forth to the subscriber or insured.”

According to the bill author, this legislation would establish consistent benefit coverage requirements, irrespective of regulator. Current law permits CDI-licensed health insurers to have annual and lifetime limits in coverage, whereas DMHC-regulated HMOs do not. SB 890 would prohibit such annual and lifetime benefit limits. CDI-regulated policies have benefit mandates as

¹ On February 22, 2010 CHBRP was requested to analyze bill language that was intended to be included in a gutted/amended version of SB 890. That language may be found in Appendix A. SB 890 was subsequently amended on April 6, 2010 to include the provisions related to BHCS. On April 13, 2010, SB 890 was further amended to include a number of provisions related to health care coverage and individual market reform. CHBRP’s analysis is limited to the provision that adds Section 10112.56 to the Insurance Code per the original request submitted on February 22, 2010.

do DMHC-regulated plans, but CDI-regulated policies have no minimum benefit floor, which DMHC-regulated plans have under “basic health care services.” Thus SB 890 would require CDI-regulated policies to cover medically necessary basic health care services in the same manner as plans regulated by the DMHC. Establishing consistent benefit mandate laws and regulations would “level the playing field” across both DMHC- and CDI-regulated markets and would prevent plans and insurers from “regulator shopping,” in which different requirements incentivize plans (and the market) to move towards CDI-regulated policies. CDI-regulated policies have statutory benefit standards that allow for less comprehensive health insurance products that have historically lower medical loss ratios (proportion of premium spent on medical care) and higher administrative costs than DMHC-regulated plans. The bill author seeks to reverse this trend out of concern over the growing proportion of CDI-regulated policies in the market, especially in the individual market.

Potential Effects of Health Care Reform

On March 23, 2010, the federal government enacted the federal Patient Protection and Affordable Care Act (P.L.111-148), which was amended by the Health Care and Education Reconciliation Act (H.R.4872) that the President signed into law on March 30, 2010. These laws (referred to as P.L. 111-148) came into effect after CHBRP received a request for analysis for SB 890. There are provisions in P.L.111-148 that go into effect by 2014 that would dramatically affect the California health insurance market and its regulatory environment. For example, the law would establish state-based health insurance exchanges, with minimum benefit standards, for the small-group and individual markets. How these provisions are implemented in California would largely depend on regulations to be promulgated by federal agencies, and statutory and regulatory actions to be undertaken by the California state government.

There are also provisions in P.L.111-148 that go into effect within the short term (e.g., within 6 months of enactment), that would expand the number of Californians obtaining health insurance and potentially impact their sources of insurance. For example, one provision would allow children to enroll onto their parent’s health plan or policy until they turn 26 years of age (effective 6 months following enactment). This may decrease the number of uninsured and/or potentially shift those enrolled with individually purchased insurance to group-purchased insurance. Given the uncertainty surrounding implementation of these provisions and given that P.L.111-148 was only recently enacted, the potential effects of these short-term provisions are not taken into account in the baseline estimates presented in this report. CHBRP’s analysis of mandate bills typically address the marginal effects of the mandate bill—specifically how the state mandate would impact coverage, utilization, costs, and the public health, holding all other factors constant. P.L.111-148 would require plans and policies to cover certain preventive services at first dollar—with no copayments and with preventive services being exempt from deductibles (effective 6 months after enactment). Since these would be covered, the marginal cost impact and public health impacts projected in this analysis may be diminished due to the recently enacted federal health care reform.

Benefits to Be Newly Mandated Under SB 890

SB 890 refers to Sections 1345 Health & Safety Code and Section 1300.67 of Title 28 of the Code of California Regulations to define BHCS. Taking into account existing state and federal mandates already in place, SB 890 would newly mandate coverage for (1) preventive benefits for adults (physical exams, immunizations, health education, vision screenings, and hearing screenings), (2) preventive benefits for children (physical exams, immunizations, health education, well baby exams, vision screenings, and hearing screenings), (3) maternity coverage, (4) physical, occupational, and speech therapy, (5) home health care, and (6) hospice services.

Analytic Approach for SB 890

As discussed, SB 890 would make four changes to the CDI-regulated health insurance market. CHBRP's medical effectiveness, cost impact, and public health impact analyses will focus on the effects of the first two: setting BHCS as the minimum benefit floor, and prohibiting policies from setting annual or lifetime benefit limits. In the case of the benefit floor, since outpatient doctor's office visits, ambulatory services, diagnostic services, and inpatient hospitalizations are broad categories of coverage for which, by definition, health insurance policies provide reimbursement, CHBRP's analysis will focus on the following categories of benefits: (1) preventive benefits for adults (physical exams, immunizations, health education, vision screenings, and hearing screenings), (2) preventive benefits for children (physical exams, immunizations, health education, well baby exams, vision screenings, and hearing screenings), (3) maternity coverage, (4) physical, occupational, and speech therapy, (5) home health care, and (6) hospice services.

The third change—requiring that BHCS be covered per medical necessity criteria—would affect the way in which coverage determinations are made for BHCS for CDI-regulated policies. Because the adjudication of claims based on medical necessity by insurers cannot be predicted and because regulator behavior in dealing with those coverage determinations through the independent medical review (IMR) process also cannot be predicted, CHBRP is not able to assess the effects of this specific provision for this analysis. Instead, this report provides contextual information regarding the current regulatory framework for enforcing medical necessity determinations and how insurers use medical necessity criteria for coverage determinations.

The fourth change—providing the Insurance Commissioner authority to determine appropriate cost-sharing and benefit limitation levels—would affect the types of policies and products available in the market, depending on the regulations that may be promulgated and the way in which the Commission decides to enforce the provisions of SB 890. Because future regulator behavior cannot be predicted, the effects of this provision cannot be addressed for this analysis. Instead, the following provides contextual information regarding the comparative size and available products of CDI-regulated health insurance policies in California. In addition, historical information and background regarding the two agencies that oversee health insurance in California is provided.

Medical Effectiveness

SB 890 would require health insurers regulated by the California Department of Insurance (CDI) to provide coverage for a large number of health care services for which coverage is not required under current law. CDI-regulated insurers voluntarily cover some of these services. The medical effectiveness review focused on evidence of the effectiveness of services for which SB 890 would most likely affect coverage.

Preventive Services for Adults

Physical exams

- Adults who receive periodic health evaluations (i.e., periodic physical exams) were more likely to receive three screening tests for which there is evidence of effectiveness: cholesterol screening, fecal occult blood testing for colorectal cancer, gynecological examinations/Pap tests for cervical cancer.
- Findings from studies of the effects of periodic health evaluations on adults' receipt of counseling regarding health behaviors, immunization, and mammography were inconsistent.
- Findings regarding the effects of periodic health evaluations on health outcomes for adults were inconsistent.

Immunizations

- The Centers for Disease Control and Prevention recommend the following immunizations for adults based on evidence from randomized controlled trials (RCTs) and nonrandomized studies.
 - Hepatitis A vaccine—adults at increased risk
 - Hepatitis B vaccine—adults at increased risk
 - Human papillomavirus vaccine—all females age 11 to 26 years
 - Influenza vaccine—annually for all adults age 50 or older and younger adults at increased risk
 - Measles-mumps-rubella vaccine—all adults aged 19 to 49 years plus older adults at increased risk
 - Meningococcal conjugant vaccine—adults at increased risk
 - Pneumococcal polysaccharide vaccine—all elderly adults, and non-elderly adults at increased risk
 - Tetanus and diphtheria toxoid and pertussis vaccine—booster every 10 years for all adults
 - Varicella (i.e., chicken pox) vaccine—adults who lack immunity
 - Zoster (i.e., shingles) vaccine—all adults age 60 years or older

Health education

- There is evidence that the following **health education services that can be delivered as part of routine office visits** improve adults' behaviors associated with prevention of illness or injury.
 - Brief, multisession counseling interventions regarding alcohol misuse
 - Brief advice regarding smoking cessation
- There is also evidence that the following types of intensive, multisession health education services that cannot be delivered as part of a routine office visit are effective.
 - Psychotherapy interventions for alcoholism
 - Smoking cessation counseling interventions
 - Counseling to prevent sexually transmitted infections among adults at increased risk
 - Weight loss counseling and behavioral interventions for obese adults
 - Counseling and behavioral interventions to promote a healthy diet among adults with hyperlipidemia and other risk factors for cardiovascular and other diet-related chronic diseases
 - Self-management education for persons with arthritis, asthma, diabetes, and other chronic conditions.

Vision screening

- No studies of the effectiveness of screening adults for refractive error (i.e., nearsightedness, farsightedness, and astigmatism) were identified.
- There is insufficient evidence to assess the effectiveness of screening adults for glaucoma. *The lack of evidence for the effectiveness of glaucoma screening is not evidence that screening provides no benefit.*

Hearing screening

- No studies comparing hearing outcomes in screened versus unscreened adults were identified.
- Findings from a single multicomponent study of adults aged 55 to 74 years suggest that
 - Questionnaires and pure tone audiometry are accurate screening tests for hearing loss
 - Use of hearing aids is associated with improvements in hearing and quality of life
 - Persons who begin using hearing aids at a younger age have better hearing and report that hearing loss is associated with fewer adverse effects than persons who begin using hearing aids at an older age.

Preventive Services for Children

Physical exams

- No studies of the effectiveness of periodic physical examinations for children were identified.
- A guideline issued by the American Academy of Pediatrics that is based on expert opinion recommends that all children and adolescents receive periodic physical examinations. Recommendations regarding the frequency and content of physical examinations vary depending on the child's age (e.g., recommends more frequent visits for infants and toddlers than for older children).

Immunizations

- The Centers for Disease Control and Prevention recommend the following immunizations for children based on evidence from RCTs and nonrandomized studies.
 - Haemophilus influenza type B conjugate vaccine—all children
 - Hepatitis A vaccine—all children
 - Hepatitis B vaccine—all children
 - Human papillomavirus vaccine—all females age 11 to 26 years
 - Influenza vaccine—annually for all children age 6 months to 18 years
 - Measles-mumps-rubella vaccine—all children
 - Meningococcal conjugate vaccine— all children age 11 to 12 years plus younger children at increased risk
 - Pneumococcal conjugate vaccine—all children
 - Pneumococcal polysaccharide vaccine—children at increased risk
 - Inactivated poliovirus vaccine—all children
 - Rotavirus vaccine—all children
 - Tetanus and diphtheria toxoid and pertussis vaccine—all children plus booster every 10 years for adolescents
 - Varicella (i.e., chicken pox) vaccine—all children

Health education

- There is evidence that brief advice and counseling prevents smoking among adolescents and increases the percentage of adolescent smokers who quit smoking.
- There is insufficient evidence to determine whether brief counseling interventions prevent or reduce alcohol use among adolescents. *The lack of evidence for the effectiveness of these health education services for adolescents is not evidence that such counseling is not beneficial.*

- There is evidence that the following types of intensive, multisession health education services that cannot be delivered as part of a routine office visit improve the health of children or adolescents.
 - Counseling to prevent sexually transmitted infections among sexually active adolescents
 - Weight loss counseling and behavioral interventions for obese children age 6 years or older
 - Asthma self-management education

Vision screening

- No studies were identified that compared prevalence of amblyopia (i.e., lazy eye) or refractive error (i.e., nearsightedness, farsightedness, and astigmatism) among screened and unscreened children were identified. *The lack of evidence for the effectiveness of screening for amblyopia and refractive error is not evidence that screening provides no benefit.*
- Evidence from a large, well-designed RCT suggests that children who are screened multiple times as infants or toddlers are less likely to have amblyopia (i.e., lazy eye) at age 7.5 years than children who are screened only once.

Hearing screening

- Evidence from nonrandomized studies with comparison groups suggest that participation in a universal newborn screening program increases the likelihood that a child with permanent congenital hearing loss will be diagnosed by age 9 months.
- Children with permanent congenital hearing loss diagnosed through universal screening programs have higher scores on tests of receptive and expressive language than children with permanent hearing loss who did not participate in a universal screening program.

Physical, Occupational, and Speech Therapy

- Physical, occupational, and speech therapy are used to help persons recover from many types of injuries or illnesses and to cope with multiple chronic conditions.
- Most studies of the effectiveness of physical, occupational, and speech therapy assess impact on persons with specific injuries, illnesses, and conditions. Findings from studies that enrolled persons with one condition may not generalize to persons with other conditions.
- There is evidence that some forms of physical, occupational, and speech therapy are effective for treatment of some injuries, illnesses, and conditions.

Home Health Services

- Most studies of home health services have evaluated the impact of these services on elderly persons, and many of them have been conducted outside the United States.

- There is *clear and convincing evidence* that home health services are associated with statistically significant *reductions* in days of hospitalization and nursing home use and with a nonsignificant decrease in mortality relative to usual care.
- There is *clear and convincing evidence* that home-based rehabilitation is associated with *fewer* days of hospitalization than inpatient rehabilitation.
- There is *insufficient evidence* to determine whether home care improves physical or mental health outcomes for children with very low birth weight, genetic disorders, or chronic conditions. *Insufficient evidence indicates a lack of evidence regarding the medical effectiveness of home health services for children. It is not the same as evidence of no effect.*

Hospice Care Services

- Most studies of hospice care that have strong research designs were published in the 1980s. Pain control medication and standards of care for pain control may have changed since these studies were conducted.
- Most studies have evaluated the impact of hospice care on persons with terminal cancers.
- The *preponderance of evidence* suggests that hospice care *reduces* some symptoms associated with terminal illness, such as anxiety, diarrhea, and nausea.
- The evidence of the effects of hospice care on pain and quality of life is *ambiguous*.

Maternity Services

- CHBRP has completed three reports on the effectiveness of prenatal care services. These reports have concluded that many prenatal care services reduce the likelihood of poor birth outcomes for mothers and newborns. These services include
 - Counseling regarding behavioral risk factors (e.g., smoking, alcohol use)
 - Screening for fetal abnormalities (e.g., Down syndrome)
 - Screening and treatment for infectious disease (e.g., human immunodeficiency virus)
 - Screening and treatment for metabolic, nutritional, and endocrine disorders (e.g., gestational diabetes)
 - Screening for hypertensive disorders and treatment to prevent preeclampsia and eclamptic seizures
 - Screening for placenta previa
 - Use of progestational agents to prevent preterm delivery
 - Medications to prevent neurological and respiratory impairment in fetuses at risk for preterm delivery

Utilization, Cost, and Coverage Impacts

SB 890 would affect 2,438,000 people enrolled in CDI-regulated policies. SB 890 does not directly affect privately purchased plans regulated by DMHC nor would it directly affect publicly purchased DMHC-regulated plans, California Public Employees' Retirement System Health Maintenance Organizations (CalPERS HMOs), Medi-Cal Managed Care, or Healthy Families.

The bill could affect utilization and cost in two ways: (1) by requiring CDI-regulated policies to cover medically necessary BHCS and (2) by prohibiting those policies from using an annual or lifetime benefit limits for BHCS.

The main cost effect of SB 890 is driven by additional coverage for maternity services within the CDI-regulated individual market. Currently, 216,000 individuals are covered for maternity care in this market, and the mandate would extend this coverage to 963,000 individuals without maternity services coverage. This represents a 446% increase.

Coverage

- Currently, 97% of enrollees in the group market and 88% in the individual market have coverage for **adult preventive services**.
- Current coverage for **preventive services for children** is estimated to be approximately 100% in the group market and 88% in the individual market.
- Coverage for **physical, occupation, and speech therapy** are estimated to be approximately 100% in the group market and 85% in the individual market.
- Coverage for **home health services** is estimated to be approximately 100% in the group markets and 88% in the individual market.
- Coverage for **hospice services** is estimated to be approximately 100% in the group market and 88% in the individual market.
- Coverage for **maternity services** is estimated to be 100% in the group market (due to existing federal requirements) and 18% in the individual market.

For those with current gaps in coverage, SB 890 would extend coverage to 100%. Table 1 shows the number of persons in group (large and small) and the individual market who would be gaining coverage. Again, the effect of SB 890 would be most pronounced in the individual market for maternity services where coverage would be added for 963,000 individuals in the CDI-regulated individual market, or 82% of that market.

Utilization

- For enrollees without coverage for specific BHCS services (except maternity services), CHBRP relied on the RAND Health Insurance Experiment (HIE). For enrollees with coverage for specific services, CHBRP relied on data reflected in the Milliman Health Cost Guidelines (HCGs) to model the effects of cost sharing on health care utilization. As

summarized in Table 1, utilization for specific BHCS is estimated to increase by a range: approximately 1.8% (for home health visits) to 2.4% (for adult physical exams) over premandate levels. There are two exceptions where CHBRP assumed no increase in utilization as a result of the mandate

- Childhood immunizations: CHBRP estimates no increase in utilization of these services since children are generally required to have immunizations before enrolling in schools, and enrollees without coverage can obtain immunizations through the Vaccine for Children program.
- Vision exams: Although many enrollees in the CDI-regulated market currently do not have coverage for routine vision exams under their health insurance policy, many employers offer separate vision plans to cover these services. CHBRP assumed that all group enrollees without vision exam coverage through their CDI-regulated policy would have access to either discounted or partially covered vision exams through other sources. Thus, CHBRP assumed no increase in utilization for enrollees in the small- and large-group markets newly covered for vision exams under the mandate. In the individual market, CHBRP assumed an increase in utilization for vision exams for adults but not for children since responses to an estimated 100% of children in the individual market currently have coverage for this service.
- To estimate the impact on utilization of SB 890 on maternity services, CHBRP relied on our *Analysis of AB 1825: Maternity Services*. CHBRP estimates no increase in utilization for maternity services as result of coverage since (1) most women deliver in a hospital, so utilization for maternity-related hospitalization is not estimated to change, and (2) most women are likely to continue to face large out-of-pocket expenditures for maternity services (including prenatal care), regardless of whether or not their insurance policy includes maternity benefits. This is because about 70% of the women in CDI-regulated individual policies are currently in high-deductible health plans (HDHPs).

Premiums and Expenditures

As summarized in Table 1, the total net annual expenditures for all plans and policies are estimated to increase by \$49,075,000 or 0.06% for the year following implementation of the mandate. Approximately 82% of the expenditure increase is attributable to maternity services, and the other 18% is associated with other BHCS.

- CalPERS HMO, MediCal Managed Care, and Healthy Families are not directly affected by the mandate.
- The increase in out-of-pocket expenditures for benefits that would be newly covered (e.g., copayments and deductibles) are estimated to increase by \$32,342,000 or 0.54%.
- Total premiums expenditures for private employers purchasing group insurance are estimated to increase by \$4,380,000 or 0.01%.
- Total premiums expenditures for enrollees in the group market are estimated to increase by \$1,355,000 or 0.01%.

- Total premium expenditures for individuals purchasing individual insurance are estimated to increase by \$127,949,000 or 2.14%.
- Out-of-pocket expenditures for noncovered benefits for enrollees in policies subject to SB 890 will be reduced by \$116,951,000, or 100%.

Other Cost Impacts

- SB 890 would prohibit lifetime and annual dollar limits on BHCS. Responses to CHBRP's SB 890 Coverage Survey suggest that few policies currently have significant annual or lifetime limits.
 - In terms of annual benefit limits, about 0.6% of the group market and 0.1% of the individual market are estimated to have annual benefit limits. The annual average dollar limits for this proportion of policies with limits are \$70,000 for group policies and \$100,000 for individual policies.
 - In terms of lifetime benefit limits, responses to CHBRP's SB 890 Coverage Survey indicated that all policies had lifetime benefit limits that were close to \$5 million (group policies have an average lifetime dollar limit of approximately \$4.900 million, and individual policies have an average lifetime dollar limit of approximately \$5.200 million).
 - It is possible that carriers with a smaller proportion of market share that are not captured by CHBRP's survey have more stringent annual or lifetime limits, however these survey responses capture 79% of the CDI-regulated market.
 - Eliminating annual and lifetime benefit limits has the following effect: removing annual dollar limits would increase per member per month (PMPM) covered claim costs by about \$0.63-\$0.68 in the large-group plans, \$0.05-\$0.06 in the small-group plans, and \$0.00-\$0.02 in the individual plans.
- CHBRP estimates the impact on the number of insured when the premium increase (or decrease) faced by any segment of the population is at least a 1% increase. Using CHBRP's standard methodology, premium changes associated with SB 890 are projected to lead to a net *increase* of uninsured of approximately 9,629, of which 9,335 are due to the addition of maternity coverage, and 294 are due to other BHCS. Since the premium increases for large group and small group were less than 1%, CHBRP does not estimate an increase in the number of uninsured persons in these markets.

Public Health Impacts

- Comprehensive preventive care is associated with preventing a myriad of conditions that can lead to premature death. Immunizations protect against infectious diseases that can result in death, and health education counseling can lead to a reduction in risky behaviors that can affect mortality rates. It is estimated that as a result of SB 890, there will be an increase in adult preventive services in 10,763 more physical examinations, 12,380 immunizations, 4,427 vision exams, and 2,615 hearing/speech exams. Although CHBRP is unable to estimate

precisely the impact these services will have on public health, some improvement in public health would be expected.

- It is estimated that as a result of SB 890, there will be an increase in pediatric preventive services in 3,058 more physical examinations, 4,440 well baby exams, and 1,618 hearing screening exams. Although CHBRP is unable to estimate precisely the impact these services will have on public health, some improvement in public health would be expected.
- CHBRP estimates that as a result of SB 890, utilization of physical, occupational, and speech therapy will increase by 4,489 visits. Some public health benefit would be expected from this increased utilization.
- CHBRP estimates that 8,300 pregnancies would be newly covered as a result of SB 890. CHBRP is not able to predict exactly what the impact of SB 890 would be on the utilization of effective prenatal services would be, but it stands to reason that some reduction in pregnant women smoking, low-birth weight births, hepatitis B transmissions, HIV transmissions, cases of preeclampsia, and cases of respiratory distress syndrome would be expected.
- CHBRP estimates that as a result of SB 890, utilization will increase by 2,772 home health visits, and a corresponding decrease in the number of hospitalizations would be expected. No increase in utilization of hospice care is expected as a result of SB 890.
- Although females use basic health care services at higher rates compared to males, the literature on the impact of coverage of basic health care services on utilization by gender is ambiguous. Therefore, the impact of SB 890 by gender is unknown.
- Research suggests that there could be a differential impact of coverage for basic health care services on utilization by race/ethnicity. These findings suggest that SB 890 could have a differential effect on utilization of basic health care services by racial and ethnic group, although the exact impact is unknown.
- Comprehensive preventive care is associated with preventing a myriad of conditions that can lead to premature death. Immunizations protect against infectious diseases that can result in death; health education counseling can lead to a reduction in risky behaviors that can affect mortality rates; and routine health care check-ups are important to improve screening rates for cancers which can be effectively treated if caught in the early stages. CHBRP estimates that utilization of specific BHCS will increase by 1.8%-2.5%. Although CHBRP is unable to determine precisely the impact of SB 980 on premature death, over time, SB 890 could potentially contribute to the reduction in premature death in California.

Table 1. SB 890 Impacts on Benefit Coverage, Utilization, and Cost, 2010

	Before Mandate	After Mandate	Increase/ Decrease	Change After Mandate
Coverage				
Total enrollees with health insurance subject to state regulation (a)	19,487,000	19,487,000	0	0.00%
Total enrollees with health insurance subject to SB 890				
In large- and small-group policies	1,259,000	1,259,000	0	0.00%
In individual policies	1,179,000	1,179,000	0	0.00%
Total	2,438,000	2,438,000	0	0.00%
Coverage of BHCS (Except Maternity)				
Number of individuals with adult preventative coverage				
In large- and small-group policies	1,227,000	1,259,000	32,000	2.61%
In individual policies	1,037,000	1,179,000	142,000	13.69%
Total	2,264,000	2,438,000	174,000	7.69%
Percentage of individuals with adult preventative coverage				
In large- and small-group policies	97.5%	100.0%	2.5%	2.61%
In individual policies	88.0%	100.0%	12.0%	13.69%
Total	92.9%	100.0%	7.1%	7.69%
Number of individuals with child immunology coverage				
In large- and small-group policies	1,259,000	1,259,000	0	0.00%
In individual policies	1,038,000	1,179,000	141,000	13.58%
Total	2,297,000	2,438,000	141,000	6.14%
Percentage of individuals with child immunology coverage				
In large- and small-group policies	100.0%	100.0%	0.0%	0.00%
In individual policies	88.0%	100.0%	12.0%	13.58%
Total	94.2%	100.0%	5.8%	6.14%
Number of individuals with child preventative coverage				
In large and small-group policies	1,259,000	1,259,000	0	0.00%
In individual policies	1,038,000	1,179,000	141,000	13.58%
Total	2,297,000	2,438,000	141,000	6.14%
Percentage of individuals with child preventative coverage				
In large- and small-group policies	100.0%	100.0%	0.0%	0.00%
In individual policies	88.0%	100.0%	12.0%	13.58%
Total	94.2%	100.0%	5.8%	6.14%

Table 1. SB 890 Impacts on Benefit Coverage, Utilization, and Cost, 2010 (cont'd)

	Before Mandate	After Mandate	Increase/ Decrease	Change After Mandate
Coverage of BHCS (Except Maternity) (con't.)				
Number of individuals with PT/OT/ST coverage				
In large- and small-group policies	1,256,000	1,259,000	3,000	0.24%
In Individual policies	1,006,000	1,179,000	173,000	17.20%
Total	2,262,000	2,438,000	176,000	7.78%
Percentage of individuals with PT/OT/ST coverage				
In large- and small-group policies	99.8%	100.0%	0.2%	0.24%
In individual policies	85.3%	100.0%	14.7%	17.20%
Total	92.8%	100.0%	7.2%	7.78%
Number of individuals with Hospice coverage				
In large- and small-group policies	1,258,000	1,259,000	1,000	0.08%
In Individual policies	1,039,000	1,179,000	140,000	13.47%
Total	2,297,000	2,438,000	141,000	6.14%
Percentage of individuals with Hospice coverage				
In large- and small-group policies	99.9%	100.0%	0.1%	0.08%
In Individual policies	88.1%	100.0%	11.9%	13.47%
Total	94.2%	100.0%	5.8%	6.14%
Number of individuals with home health coverage				
In large- and small-group policies	1,259,000	1,259,000	0	0.00%
In individual policies	1,040,000	1,179,000	139,000	13.37%
Total	2,299,000	2,438,000	139,000	6.05%
Percentage of individuals with home health coverage				
In large- and small-group policies	100.0%	100.0%	0.0%	0.00%
In individual policies	88.2%	100.0%	11.8%	13.37%
Total	94.3%	100.0%	5.7%	6.05%
Coverage of Maternity Services				
Number of individuals with maternity coverage				
In large- and small-group policies	1,259,000	1,259,000	0	0.00%
In individual policies	216,000	1,179,000	963,000	445.83%
Total	1,475,000	2,438,000	963,000	65.29%
Percentage of individuals with maternity coverage				
In large- and small-group policies	100.0%	100.0%	0.0%	0.00%
In individual policies	18.3%	100.0%	81.7%	445.83%
Total	60.5%	100.0%	39.5%	65.29%

Table 1. SB 890 Impacts on Benefit Coverage, Utilization, and Cost, 2010 (cont'd)

	Before Mandate	After Mandate	Increase/ Decrease	Change After Mandate
Coverage in Terms of Annual/Lifetime Dollar Benefit Limits				
Number of individuals in policies with lifetime dollar benefit limits				
In large- and small-group policies	1,256,000	—	-1,256,000	-100.0%
In individual policies	1,179,000	—	-1,179,000	-100.0%
Total	2,435,000	—	-2,435,000	-100.0%
Percentage of individuals in policies with lifetime dollar benefit limits				
In large- and small-group policies	99.8%	0.0%	-99.8%	-100.0%
In individual policies	100.0%	0.0%	-100.0%	-100.0%
Total	99.9%	0.0%	-99.9%	-100.0%
Average lifetime dollar benefit limit for individuals with a limit				
In large- and small-group policies	\$4,900,000	N/A		
In individual policies	\$5,200,000	N/A		
Total	\$5,000,000	N/A		
Number of individuals in policies with annual dollar benefit limits				
In large- and small-group policies	8,000	0	-8,000	-100%
In individual policies	1,000	0	-1,000	-100%
Total	9,000	0	-9,000	-100%
Percentage of individuals in policies with annual dollar benefit limits				
In large- and small-group policies	0.6%	0.0%	-0.6%	-100.0%
In individual policies	0.1%	0.0%	-0.1%	-100.0%
Total	0.4%	0.0%	-0.4%	-100.0%
Average annual dollar benefit limit for individuals with a limit				
In large- and small-group policies	\$70,000	N/A		
In individual policies	\$100,000	N/A		
Total	\$73,000	N/A		
Utilization and Cost				
Number of adult physical exams	450,779	461,542	10,763	2.39%
Number of child physical exams	361,425	368,923	7,498	2.07%
Number of PT/OT/ST visits	192,495	196,984	4,489	2.33%
Number of home health visits	151,681	154,453	2,772	1.83%
Number of child immunology procedures	1,491,173	1,491,173	0	0.00%
Number of members with uncomplicated pregnancies				
Covered by insurance	19,041	27,339	8,298	43.58%
Covered by AIM or Medi-Cal	3,483	3,483	0	0.00%
Not covered by insurance	8,298	0	-8,298	-100.00%
Total	30,822	30,822	0	0.00%
Average cost per uncomplicated delivery	\$12,959	\$12,959	\$0	0.00%

Table 1. SB 890 Impacts on Benefit Coverage, Utilization, and Cost, 2010 (cont'd)

	Before Mandate	After Mandate	Increase/ Decrease	Change After Mandate
Expenditures				
Premium expenditures by private employers for group insurance	\$43,519,324,000	\$43,523,704,000	\$4,380,000	0.01%
Premium expenditures for individually purchased insurance	\$5,992,795,000	\$6,120,744,000	\$127,949,000	2.14%
Premium expenditures by individuals with group insurance, CalPERS, Healthy Families, AIM or MRMIP (b)	\$12,820,614,000	\$12,821,969,000	\$1,355,000	0.01%
CalPERS employer expenditures (c)	\$3,267,842,000	\$3,267,842,000	\$0	0.00%
Medi-Cal state expenditures (d)	\$4,015,596,000	\$4,015,596,000	\$0	0.00%
Healthy Families state expenditures	\$910,306,000	\$910,306,000	\$0	0.00%
Individual out-of-pocket expenditures for covered benefits (deductibles, copayments, etc.)	\$5,961,186,000	\$5,993,528,000	\$32,342,000	0.54%
Out-of-pocket expenditures for noncovered benefits (e)	\$116,951,000	\$0	-\$116,951,000	-100.00%
Total Annual Expenditures	\$76,604,614,000	\$76,653,689,000	\$49,075,000	0.06%

Source: California Health Benefits Review Program, 2010.

Notes: (a) This population includes privately insured (group and individual) and publicly insured (e.g., CalPERS HMOs, Medi-Cal HMOs, Healthy Families Program, AIM, MRMIP) individuals enrolled in health insurance products regulated by DMHC or CDI. Population includes enrollees aged 0-64 years and enrollees 65 years or older covered by employment sponsored insurance.

(b) Premium expenditures by individuals include employee contributions to employer-sponsored health insurance and member contributions to public insurance.

(c) Of the CalPERS employer expenditures, about 58% would be state expenditures for CalPERS members who are state employees. However, given that SB 890 would not affect CalPERS the increase is attributed to premiums expenditures by individuals with CDI-regulated group policies.

(d) Healthy Families Program state expenditures include expenditures for approximately 7,000 enrollees covered by the Major Risk Medical Insurance Program (MRMIP) and 7,000 enrollees covered by the Access for Infants and Mothers (AIM) program. SB 890 would not affect these publicly purchased programs.

(e) This includes those expenditures for enrollees who do not have coverage for the mandated services but who obtain the mandated benefit either by self-pay or through other sources. For example, for enrollees who do not have coverage for adult vision exams through their health insurance, some may obtain vision exams by self-pay or through coverage through an employer sponsored vision-only policy.

Key: AIM=Access for Infants and Mothers; CalPERS HMOs=California Public Employees' Retirement System health maintenance organizations; CDI=California Department of Insurance; DMHC=Department of Managed Health Care; OT=occupational therapy; PT=physical therapy; ST=speech therapy.

INTRODUCTION AND BACKGROUND

The California Senate Committee on Health requested on February 22, 2010, that the California Health Benefits Review Program (CHBRP) conduct an evidence-based assessment of the medical, financial, and public health impacts of a proposed Senate Bill (SB) 890, that would require health policies regulated by the California Department of Insurance (CDI) to cover medically necessary “basic health care services.” CHBRP undertook this analysis pursuant to the provisions of the program’s authorizing statute.

Provisions and Legislative Intent of Senate Bill 890

The relevant provisions of SB 890 may be found in Appendix A.²

SB 890 would make the four following changes to the CDI-regulated health insurance market:

1. Create a benefits floor or minimum benefits standard by requiring CDI-regulated health insurance policies to provide coverage for “basic health care services” (BHCS). The definition of BHCS would be the same as that used for plans regulated by the Department of Managed Health Care (DMHC) as specified in Sections 1345 Health & Safety Code and Section 1300.67 of Title 28 of the Code of California Regulations.
2. Prohibit such policies from having an annual limit or lifetime limit on coverage for BHCS.
3. Establish that BHCS must be covered per medical necessity, and thus create a medical necessity standard for these services for CDI-regulated health insurance policies.
4. Provide the commissioner the authority to approve copayments, deductibles or coverage limitations (for example, limitations in the number of physician visits or in the dollar amount of coverage).

SB 890 would *not* prohibit policies “from charging subscribers or insureds a copayment or a deductible for a basic health care service or from setting forth, by contract, limitations on maximum coverage of basic health care services, provided that the copayments, deductibles, or limitations are reported to, and held unobjectionable by, the commissioner and set forth to the subscriber or insured.”

According to the bill author this legislation would establish consistent benefit coverage requirements, irrespective of regulator. Current law permits CDI-licensed health insurers to have annual and lifetime limits in coverage whereas DMHC-regulated HMOs do not (although “grandfathered” Blue Cross and Blue Shield preferred provider organization (PPO) products regulated under DMHC are permitted to have such limits). SB 890 would prohibit such annual

² On February 22, 2010 CHBRP was requested to analyze bill language that was intended to be included in a gutted/amended version of SB 890. That language may be found in Appendix A. SB 890 was subsequently amended on April 6, 2010 to include the provisions related to BHCS. On April 13, 2010, SB 890 was further amended to include a number of provisions related to health care coverage and individual market reform. CHBRP’s analysis is limited to the provision that adds Section 10112.56 is added to the Insurance Code.

and lifetime benefit limits. CDI-regulated policies have benefit mandates as do DMHC-regulated plans, but CDI-regulated policies have no minimum benefit floor, which DMHC-regulated plans have under “basic health care services.” Thus SB 890 would require CDI-regulated policies to cover medically necessary basic health care services in the same manner as plans regulated by the DMHC. Establishing consistent benefit mandate laws and regulations would “level the playing field” cross both DMHC- and CDI- regulated markets and would prevent plans and insurers from “regulator shopping” where different requirements incentivize plans (and the market) to move towards CDI-regulated policies. CDI-regulated policies have statutory benefit standards that allow for less comprehensive health insurance products that have historically lower medical loss ratios (proportion of premium spent on medical care) and higher administrative costs than DMHC-regulated plans (CHCF, 2009). The bill author seeks to reverse this trend out of concern about the growing proportion of the CDI-regulated policies in the market, especially in the individual market.³

The Portion of the Insured Market Subject to SB 890

Approximately 19.5 million Californians (51%) have health insurance that may be subject to a state health benefit mandate law (CHBRP, 2010). Of the remainder of the population, a portion is uninsured, and therefore not affected by health insurance benefit mandate laws. Others have health insurance not subject to health insurance benefit mandate laws. As will be further discussed in “Background on the Health Insurance Regulatory Framework in California,” the state is unique in that it has a bifurcated system of regulation for health insurance subject to state law. The California Department of Managed Health Care (DMHC) regulates health care service plans, which offer coverage for benefits to their enrollees through health plan contracts. The California Department of Insurance (CDI) regulates health insurers, which offer coverage for benefits to their enrollees through health insurance policies.

CDI-regulated health insurance policies are a subset of disability insurance products that provide “reimbursement for hospital, surgical or medical benefits” by definition. Section 106(b) of the Insurance Code further clarifies that the following types of insurance products are not considered “health insurance”:

- Accidental death and accidental death and dismemberment.
- Disability insurance, including hospital indemnity, accident-only, and specified disease insurance that pays benefits on a fixed benefit, cash payment only basis.

Therefore SB 890 would affect 2,438,000 Californians enrolled in CDI-regulated health insurance policies.

³ Personal communication

Potential Effects of Health Care Reform

On March 23, 2010, the federal government enacted the federal Patient Protection and Affordable Care Act (P.L.111-148), which was amended by the Health Care and Education Reconciliation Act (H.R.4872) that the President signed into law on March 30, 2010. These laws (referred to as P.L. 111-148) came into effect after CHBRP received a request for analysis for SB 890.

Provisions that go into effect in by 2014 or after

There are provisions in P.L.111-148 that go into effect by 2014 that would dramatically affect the California health insurance market and its regulatory environment. These major long-term provisions of P.L.111-148 would require that most U.S. citizens and qualified legal residents have health insurance and that large employers offer health insurance coverage or a tax-free credit to their employees. It would establish state-based health insurance exchanges, with minimum benefit standards, for the small group and individual markets. Subsidies for low-income individuals would be available to purchase into the exchanges. How these provisions are implemented in California would largely depend on regulations to be promulgated by federal agencies, and statutory and regulatory actions to be undertaken by the California state government.

P.L.111-148 contains provisions that would interact with state mandates that set minimum benefit floors. Specifically, “essential health benefits” would be required to be covered by qualified health plans that provide health insurance in the small-group and individual markets through the state-based insurance exchanges, effective 2014. Section 1302 defines essential health benefits as emergency services, hospitalization, maternity and newborn care, mental health and substance use disorder services, prescription drugs, preventive and wellness services and chronic disease management, and pediatric services, including oral and vision care. It would also require that the scope of the essential health benefits be equal to the scope of benefits provided under a typical employer plan. Therefore, it is possible that effects of SB 890, following 2014, would be diminished by the P.L.111-148 requirements. However, as noted, the effects are dependent the details of pending federal regulations and state statutory and regulatory actions.

Provisions that go into effect in less than 1 year

There are also provisions in P.L.111-148 that go into effect within the short term or within 6 months of enactment that would potentially expand the number of Californians obtaining health insurance and their sources of health insurance. For example:

- Children and young adults up to age 26 years of age would be allowed to enroll in their parent’s health plan or policy (effective 6 months following enactment). This provision may decrease the number of uninsured and/or potentially shift those enrolled with individually purchased insurance to group-purchased insurance.

- A temporary high-risk pool for those with pre-existing conditions would be established (effective 90 days following enactment). How California chooses to implement this provision would have implications for health insurance coverage for those high-risk individuals who are currently without health insurance and/or are on California’s Major Risk Medical Insurance Plan (MRMIP).

Given the uncertainty surrounding implementation of these provisions and given that P.L.111-148 was only recently enacted, the potential effects of these short-term provisions are not taken into account in the baseline estimates presented in this report.

CHBRP’s analysis of specific mandate bills typically address the marginal effects of the mandate bill—specifically how the state mandate would impact coverage, utilization, costs, and the public health, holding all other factors constant. There are specific requirements under P.L.111-148 that would affect the marginal impacts of SB 890 as estimated in this report:

- P.L. 111-148 would require plans and policies to cover certain preventive services at first dollar—with no copayments and with preventive services being exempt from deductibles (effective 6 months after enactment). Required preventive services would include preventive services rated A or B by the U.S. Preventive Services Task Force, recommended immunizations, preventive care for infants, children, and adolescents, and additional preventive care and screenings for women. Since these would be covered, the marginal cost impact and public health impacts presented in this analysis may be diminished due to recently enacted federal health care reform.
- P.L.111-148 would prohibit California plans and policies from imposing lifetime limits on coverage (effective 6 months following enactment.). Therefore SB 890’s provisions to prohibit lifetime limits would be superseded by the federal legislation and would have no effect on cost. Further, as will be discussed in the *Utilization, Cost, and Coverage Impacts* section, CHBRP estimated that that provision would have no measurable effect since most policies have limits at around \$5million, and this limit is rarely reached. So, P.L.111-148 would not alter the conclusion regarding the effects of prohibiting lifetime limits.
- P.L.111-148 would prohibit California plans and policies from imposing restrictive annual limits on coverage (effective 6 months after enactment.). The U.S. Secretary of the Department of Health and Human Services is to define what “restrictive” means before the effective date. Beginning 2014, use of annual limits is prohibited for all plans. The potential effects of SB 890 as presented in this report, could be altered, depending on the level at which the Secretary determines annual limits to be “restrictive.”

Benefits to Be Newly Mandated Under SB 890

SB 890 refers to Sections 1345 Health & Safety Code and Section 1300.67 of Title 28 of the Code of California Regulations to define BHCS (See Appendix A for the corresponding text). BHCS includes a broad set of services and includes all of the following: (1) physician services, including consultation and referral, (2) hospital inpatient services and ambulatory care services,

(3) diagnostic laboratory, and diagnostic and therapeutic radiologic services, (4) home health services, (5) preventive health services, (6) emergency health care services, including ambulance and ambulance transport services and out-of-area coverage, and (7) hospice care.

In addition, there are several mandates that currently exist in the Insurance Code that could be considered a subset of BHCS. In order to determine which benefits would be considered newly mandated for CDI-regulated policies, CHBRP reviewed the details of BHCS code and corresponding regulations. There are 41 existing mandates in the Insurance Code, as well as existing federal health benefit mandates, that are applicable to CDI-regulated health insurance policies. Table 2 below summarizes the categories of benefits that were considered to be newly mandated if they were required under BHCS and not currently required to be covered under existing Insurance Code or existing federal law. For example, although the current Insurance Code requires insurers to *offer coverage* of home health services, insurers are not required to *provide coverage*. Because home health services are required to be covered under BHCS, they would be considered a newly mandated benefit category for CDI-regulated policies under the provisions of SB 890.

Table 2. Medically Necessary Benefits That Would Be Newly Mandated for CDI-Regulated Health Insurance Policies Under SB 890

<p>For Group and Individual Policies:</p> <ol style="list-style-type: none"> 1. Outpatient doctor’s office visits, ambulatory services (a) 2. Emergency department services (a) 3. Inpatient hospitalizations (a) 4. Preventive benefits for adults, aged 17 and older (except currently mandated: HIV testing, cancer screening) including, <ol style="list-style-type: none"> a. Vision and hearing test b. Immunizations for adults c. Health education 5. Physical, occupational and speech therapy 6. Diagnostic, imaging, and laboratory tests (except those currently mandated services for cancer screening, diabetes management, osteoporosis diagnosis) (a) 7. Home health services 8. Hospice services
<p>For Individual Policies: <i>In addition</i> to those mentioned above,</p> <ol style="list-style-type: none"> 1. Maternity services 2. Preventive benefits for children, aged 0-16 years <ol style="list-style-type: none"> a. Vision and hearing test b. Immunizations c. Health education

Source: CHBRP, 2010. See Appendix B for details.

Notes: Boldface type indicates the categories of benefits analyzed by CHBRP (see “Analytic Approach for SB 890).

(a) Health insurance policies, by definition, provide reimbursement for hospital, surgical, and medical benefits. SB 890 specifically defines “health insurance” as that defined under Subdivision B of Section 106 of the Insurance Code. By definition, that means insurance policies that provide reimbursement for hospital, surgical, and medical benefits. These benefit categories may be covered under those broad definitions; however, specific exclusions may apply.

Analytic Approach for SB 890

As discussed, SB 890 would make four changes to the CDI-regulated health insurance market. CHBRP's Medical Effectiveness, Cost Impact, and Public Health Impact analyses focus on the effects of the first two: setting BHCS as the minimum benefit floor and prohibiting policies from setting annual or lifetime benefit limits. In the case of the benefit floor, since outpatient doctors' office visits, ambulatory services, diagnostic services, and inpatient hospitalizations are broad categories of coverage for which, by definition, health insurance policies provide reimbursement, CHBRP analysis will focus on those categories of benefits **bolded** in Table 2.

The third change—requiring that BHCS be covered per medical necessity criteria—would affect the way in which coverage determinations are made for BHCS for CDI-regulated policies. Because the adjudication of claims based on medical necessity by insurers cannot be predicted and because regulator behavior in dealing with those coverage determinations through the independent medical review (IMR) process cannot be predicted, CHBRP is not able to assess the effects of this specific provision for this analysis. Instead, the section below, “Background on the Use of ‘Medical Necessity,’” provides contextual information regarding the current regulatory framework for enforcing medical necessity determinations and how insurers use medical necessity criteria for coverage determinations. Potential implications of this provision are also discussed.

The fourth change—providing the Insurance Commissioner authority to determine appropriate cost-sharing and benefit limitation levels—would affect the types of policies and products available in the market depending on the regulations that may be promulgated, and the way in which the Commission decides to enforce the provisions of SB 890. Because future regulator behavior cannot be predicted, the effects of this provision are not able to be addressed for this analysis. Instead, the following provides contextual information regarding the comparative size and available products of CDI-regulated health insurance policies in California. In addition, historical information and background regarding the two agencies that oversee health insurance in California are provided. Potential implications of this provision are also discussed.

Background on the Health Insurance Regulatory Framework in California

The DMHC was established in 2000 by AB 78 (Gallegos). The intent of that legislation was to address concerns regarding the regulatory environment of health insurance and to establish a regulator “dedicated to consumer protection and quality of care.” The author of the legislation contended that the dually regulated system—where both the Department of Corporations and the CDI played a role in overseeing health plans and health insurance respectively was, “inefficient and confusing for consumers” (Assembly Health Committee, April 20, 1999). The CDI at the time maintained that there was an “appropriate and effective regulatory framework” for indemnity insurers whose products are “distinctly different from a managed care plan.” Specifically, managed care plans are designed to manage health care use by capitated arrangements, whereas indemnity insurers strictly serve as a carrier that reimburses on the basis of health care service use. It was decided that there was no “compelling reason at this time to

disrupt the current regulatory scheme for indemnity insurers.” Therefore, the responsibilities of the Department of Corporations was transferred to the newly established DMHC to oversee the provisions of the Knox-Keene Act of 1975 and regulate health care service plans, while the CDI continued to separately regulate indemnity insurers that sold health insurance products (Senate Health Committee, June 2, 1999).

For these historical and market-based reasons, CDI and DMHC possess different types of legal authority in the regulation of health insurance. Both departments are empowered to enforce rules on financial solvency, consumer rights, and disclosure requirements, and oversee complaint resolution. However, CDI authority is focused on guaranteeing the timely payment of claims, whereas DMHC authority is to ensure that managed care organizations provide coverage and ensure access to quality health care while using appropriate, clinically based utilization management techniques. This includes mechanisms for ensuring the accessibility and adequacy of provider networks, internal quality assurance systems, complaint resolution related to the adequacy of care provided, and performance of onsite medical surveys (Roth and Kelch, 2001). The CDI complaint resolution process is primarily related to the payment of claims, similar to its process for other types of insurance. Examples of problems that can be submitted to the CDI for resolution include: improper denial or delay in payment of a claim (and other claims handling issues), Dispute Resolution Mechanism difficulties, and misconduct of the health insurer.⁴ As discussed in the “Background on the Use of ‘Medical Necessity’” section below, both CDI and DMHC maintain independent medical review (IMR) processes, allowing enrollees to appeal denials by the plan or insurer to an independent group of medical professionals.

As mentioned, California is unique in that it is the only state with a bifurcated regulatory system. In some states, multiple agencies are responsible for different aspects of health insurance regulation. For example, Florida’s commercial HMOs are dually regulated by the Agency for Health Care Administration—which monitors quality of care—related issues—and the Department of Financial Services—which monitors financial and contractual issues—and commercial carriers must have certification from both agencies.⁵ It is difficult to separate the impact of bifurcated regulatory authority on insurer behavior from impacts attributable to underlying differences in product structure and legal standards under each regulator. The arrangement does allow carriers to tailor products to fit within the regulatory structure most conducive to their business needs (Roth and Kelch, 2001). This allows a wider range of available insurance products to be sold with some products subject to a set of mandates and requirements, while others are not. The effect, however, is that policies available in the market have substantially more variation in actuarial value (along with varying out-of-pocket costs, coinsurance and deductibles). One major recent difference across the two regulatory environments is that revenue growth has been faster among CDI-regulated insurers than DMHC-regulated plans. In 2007 for the same carrier, revenue grew faster in CDI-regulated policies than in their DMHC-regulated plans: Blue Shield revenues grew 58% for its CDI-regulated policies

⁴ See www.insurance.ca.gov/0100-consumers/0060-information-guides/0050-health/healthcareguidecomplaintprocess.cfm for more information.

⁵ http://ahca.myflorida.com/MCHQ/Managed_Health_Care/CHMO/index.shtml.

(versus 3% under its DMHC-regulated plans; Anthem Blue Cross revenues grew 20% for its CDI-regulated policies versus 2% under its DMHC-regulated plans) (CHCF, 2009).⁶

DMHC and CDI regulate disparate shares of the group and non-group (individual) marketplaces. DMHC oversees most of the group market (see Table 3), whereas CDI oversees a majority of the much smaller individual market.⁷ DMHC regulates 97% of the large-group and 72% of the small-group markets (90% of both markets) by enrollees. By contrast, CDI regulates 3% of the large-group market and 28% of the small-group market. CDI, however, regulates 60% of the individual market (CHBRP, 2010).

Table 3. Covered Lives in Privately Funded Insurance Subject to California Law, by Regulator and Market Segment, 2010

Market	DMHC	CDI
Large group	9,445,000 (62.7%)	324,000 (2.2%)
Small group	2,394,000 (15.9%)	935,000 (6.2%)
Individual	785,000 (5.2%)	1,179,000 (7.8%)

Source: California Health Benefits Review Program, 2010.

Key: CDI=California Department of Insurance; DMHC=Department of Managed Health Care.

CDI-regulated policies, although a small portion of the overall market, have outpaced DMHC-regulated plans in enrollment growth in recent years, particularly in the individual market. In the period of 2003-2007, the average annual change in enrollment was a 22.1% rise in CDI-regulated policies as compared with an average annual 0.9% fall in DMHC-regulated plans (CHCF, 2009). Table 4 presents CHBRP’s estimates of market share of covered lives by market segment and regulator for 2007-2010. Much of the growth in CDI-regulated policies is concentrated in the individual market. The share of the individual market regulated by CDI has risen from 39% in 2007 to 60% in 2010 (CHBRP, 2010).

⁶ This study does not examine differences in product design for these companies’ two lines of business. There may be differences in covered benefits due to the differences in mandated benefits across the two regulatory environments. There may also be other factors, such as the relative risk of the enrolled population and other factors such as health status and socioeconomic factors, affecting health care utilization and cost.

⁷ “Market” is used here as privately funded health insurance subject to California regulation.

Table 4. Market Share of Covered Lives for Privately Funded Insurance Subject to State Regulation, 2007-2010

Market	Regulator	2007	2008	2009	2010
Large group	DMHC	62.6%	64.6%	64.2%	62.7%
	CDI	2.2%	1.9%	2.3%	2.2%
Small group	DMHC	18.7%	17.9%	16.5%	15.9%
	CDI	4.1%	4.0%	5.4%	6.2%
Individual	DMHC	7.7%	7.2%	5.6%	5.2%
	CDI	4.8%	4.5%	6.0%	7.8%

Source: California Health Benefits Review Program, 2010.

Key: CDI=California Department of Insurance; DMHC=Department of Managed Health Care.

The large-group, small-group, and individual market segments have varying characteristics and are subject to different requirements (e.g., consumer protection laws). Given that each regulator oversees various proportions of these three market segments, it is important to understand the varying characteristics and legal requirements. Large groups (groups of 51+), by virtue of their size and high take-up rates among eligible members, have larger pools than small groups or individuals, and therefore, the risk of adverse selection (where only those that expect to have high health care use select to buy it) is lower for the large-group market. (CHCF/NORC, 2009). Large groups are also subject to federal laws from which individuals and small groups are exempt. Examples include federally mandated coverage for postmastectomy breast reconstruction and parity for covered mental health and substance use treatment.

The small group market, with smaller risk pools and more varied take-up rates face a greater risk for adverse selection. Regulations attempt to mitigate the market’s incentive to select “good” or low-use/low-cost risk. Current law provides small groups guaranteed issue and renewal (the right to buy and renew regardless of the group’s risk factors), rating protections (limiting how much carriers may vary rates based on risk factors, such as members’ health status), and portability allowing continuous coverage of existing health conditions for enrollees changing insurance (CHCF, 2003).

The individual market does not currently have such regulatory protections. There is no guaranteed issue or restriction on rates, although there is guaranteed renewal as well as some portability for those switching from the group market (CHCF, 2005). Currently, preexisting medical conditions may also be excluded from coverage for a period up to 12 months. (Note that newly enacted federal health care reform would prohibit denial of health insurance coverage due to preexisting conditions.)

Table 5. Estimated Average Monthly Premiums for Privately Funded Insurance Subject to State Regulation, 2010

Market	DMHC	CDI
Large group	\$363.07	\$451.77
Small group	\$316.14	\$326.08
Individual	\$364.68	\$180.77

Source: California Health Benefits Review Program, 2007-2010.

Key: CDI=California Department of Insurance; DMHC=Department of Managed Health Care.

Table 5 illustrates CHBRP’s estimated average monthly premiums for each market segment by regulator. Average premiums are more similar across the three market segments for DMHC-regulated plans than for CDI-regulated policies, where the difference between the segments is larger. Part of this difference in premiums-by-market between the two regulators is attributable to the underlying difference between managed care organizations (broadly called HMOs, regulated by DMHC) and reimbursement-based PPOs or indemnity insurance (split among regulators, but representing all of the CDI-regulated market).

HMOs are designed to manage costs more strictly and uniformly through utilization management strategies such as capitated provider payments, use of network providers, and requirements for primary care referrals to specialists. PPOs and other plan types regulated by the CDI are designed to reimburse providers based on claims and use increased cost-sharing (e.g., coinsurance, deductibles) as the primary mechanism to control costs associated with health care use. The premium gap in the large-group market may partly reflect these different forms of cost control.

The relatively low price of CDI-regulated individual policies can be explained in part by lower coverage levels (in terms of benefits covered and out-of-pocket costs associated with those benefits). In 2007, researchers found that in the California individual market, enrollees receive lower premiums in exchange for lower coverage levels. On average, individual insurance covered 54.6% of a consumer’s medical bills as compared with 83.3% coverage obtained in the small-group market (CHCF/NORC, 2007). The long-term national trend of the diminishing affordability of health insurance (measured by average premiums as a portion of average income)⁸ may cause individuals to either drop insurance entirely or move to lower cost, lower benefit level insurance. As the increasing take up of lower premium CDI-regulated individual policies evidences, individuals may be opting for these policies rather than dropping insurance outright.

The impact of SB 890’s provisions to provide the Insurance Commissioner explicit authority to ensure cost-sharing and benefit limitations for BHCS are “held unobjectionable” is contingent upon the extent to which the Insurance Commissioner has the ability, resources, and willingness to exercise that enforcement authority. Given that most CDI-regulated policies fall in the individual market, the commission could choose to allow insurers to market product offerings

⁸ See Gilmer and Kronick (2009) for more detail on affordability measurement and trends.

with a range cost-sharing levels and limitations for specific benefits (e.g., for physical therapy). These regulatory decisions would have implications for the availability of health insurance policies, the costs of those policies, the limitations for specific benefits included in those policies, and consequently, the take-up rates of those policies by individuals.

Background on the Use of “Medical Necessity”

SB 890 would require coverage for “medically necessary” BHCS. It also points to Section 1300.67 of Title 28 of the California Code of Regulations that further stipulates that BHCS are to be provided “where medically necessary.”

In the past decade, health services researchers have reviewed the ways in which health plans have used “medical necessity” criteria to make coverage determinations. In 1999, the California HealthCare Foundation funded Stanford University’s Center for Health Policy to identify the variation in how coverage determinations are made based on various definitions of medical necessity in California (Singer et al., 1999). Researchers found that:

- Most plans make coverage determinations after an initial review of the member’s benefits, eligibility, the plans’ coverage policies and guidelines, and the effectiveness and appropriateness of treatment.
- Lack of a standard, clear, and specific definition of medical necessity (and benefit coverage guidelines) has led to disputes among treating physicians and plans.
- The process in which a service or treatment is considered medically necessary and subsequently covered or denied is important to all stakeholders, including the plan, the treating provider, and the patient. Transparency in the process, opportunities for input, and clear communications are important components to ensure a functioning process (Singer, et al., 2001).
- There is variation among medical directors’ determinations regarding whether treatments are effective or appropriate and should be considered medically necessary.

Further research, funded by the Robert Wood Johnson Foundation and conducted by Stanford University’s Center for Health Policy in 2000 and 2001 on a national level among health plan medical directors and state regulators, indicated a lack of consistent definition and application of the terms *medical necessity* and *coverage*. This resulted in variation from state to state in the manner in which coverage determinations were made and the way in which “medical necessity” was applied. The same research indicated that among health plan medical directors, there was a strong preference to rely on technology assessment reports, followed by randomized controlled clinical trials, and guidelines from professional societies in determining whether a health care service is medically necessary. Medical directors preferred to rely less on expert opinion or prevailing community standards of care (HCFO, 2003).

The California Insurance Code does not explicitly require reimbursement for hospital, medical, or surgical benefits on the basis of medical necessity. However, there are provisions that place requirements on insurers in terms of what they must do when denying, delaying, or modifying coverage based on a decision of medical necessity, and the Insurance Code specifies that medical necessity criteria must be based on information consistent with clinical guidelines and processes.

Section 10123.135 of the Insurance Code specifies that insurers:

- Have written policies and procedures establishing the process by which the insurer prospectively, retrospectively, or concurrently reviews and approves, modifies, delays, or denies, based in whole or in part on medical necessity.
- Ensure that those policies and procedures make clear how decisions based on the medical necessity are consistent with criteria or guidelines that are supported by clinical principles and processes
- File the written policies with the Insurance Commissioner, and be prepared to disclose the policies and procedures to enrollees and providers and to the public upon request.
- Ensure that the medical necessity criteria or guidelines used by an insurer (or a contracting entity) be:
 - developed with involvement from actively practicing health care providers.
 - consistent with sound clinical principles and processes.
 - evaluated, and updated if necessary, at least annually.
 - disclosed to the provider and the policyholder in a specified case, if used as the basis of a decision to modify, delay, or deny services in a specified case under review, and
 - available to the public upon request.

As mentioned, current requirements on health insurance policies do not explicitly require reimbursement for hospital, medical, or surgical benefits on the basis of medical necessity. Instead enforcement of medical necessity criteria is dictated by what is included in the enrollee's policy and what is currently included in benefit mandates as specified by current law. For example, if a policy states that hospitalization is covered according to medical necessity, and if an enrollee is denied reimbursement for a hospitalization, then the enrollee may appeal the denial using the independent medical review (IMR) process. To determine whether the service is medically necessary, IMR reviewers are to use clinical considerations, specifically, any of the following (Ins. Code Section 10169-10169.5):

- Peer-reviewed scientific and medical evidence regarding the effectiveness of the disputed service
- Nationally recognized professional standards

- Expert opinion
- Generally accepted standards of medical practice
- Treatments likely to provide a benefit to a patient for conditions for which other treatments are not clinically efficacious

The IMR process is available to enrollees in the CDI-regulated market (as well as the DMHC-regulated market). However, not all coverage determinations or claims denials are eligible for the IMR process. A case may be referred to the IMR process only for those benefits for which the enrollee has coverage. For example, if a policy has coverage for hospitalization, but the policy explicitly excludes maternity services, hospitalization for uncomplicated labor and delivery would not be covered and therefore, not eligible for the IMR process.

SB 890 would have the effect of expanding the number of services that would be considered covered benefits and thus considered eligible for the IMR process. In addition, because medically necessary BHCS services must be covered, policies may no longer be permitted to include benefit limitations (such as office visits or hospital length of stay) that are not based on medical necessity, if the Insurance Commissioner deems those limits objectionable.

MEDICAL EFFECTIVENESS

SB 890 would require health insurance policies regulated by the California Department of Insurance (CDI) to provide coverage for medically necessary basic health care services (BHCS) and prohibit the use of annual and lifetime limitations for BHCS. As summarized in Table 2 of the *Introduction*, taking into account existing state and federal mandates already in place, SB 890 would newly mandate coverage for a broad range of services, specifically: (1) preventive benefits for adults and children (physical exams, immunizations, health education, vision screenings, and hearing screenings), (2) physical, occupational, and speech therapy, (3) home health care, (4) hospice services, and (5) maternity services.

Literature Search

To address the broad range of services affected by SB 890, the *Medical Effectiveness* section draws upon findings from previous CHBRP reports, reports issued by the United States Preventive Services Task Force (USPSTF), and the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (CDC ACIP). The Cochrane Library of Systematic Reviews was searched to identify systematic reviews regarding the effectiveness of physical therapy, occupational therapy, and speech therapy.

Findings for all services are presented in the text. Additional information regarding health education and immunization is presented in Table 8 at the end of this section and in Tables D-1 and D-2 in Appendix D. Greater detail is provided regarding preventive services because demand for preventive services tends to be more price sensitive than demand for other types of health care services (Ringel, et al., 2002). Maternity services are discussed in the text but not in the tables because previous CHBRP reports on maternity services present extensive information regarding the effectiveness of prenatal care services in both text and tabular form (CHBRP 2008, 2009a, 2010).

Study Findings

Preventive Benefits for Adults

Physical exams

A systematic review commissioned by the Agency for Healthcare Research and Quality summarized findings from studies that have assessed the impact of providing periodic health evaluations (i.e., physical examinations) to adults (Boulware et al., 2006). The authors found consistent evidence from randomized controlled trials (RCTs) and observational studies included in their systematic review that adults who obtained periodic health evaluations were more likely to receive three screening tests for which there is evidence of effectiveness: cholesterol screening, fecal occult blood testing for colorectal cancer, gynecological examinations/Pap tests for cervical cancer.⁹ Findings from studies of the impact of obtaining periodic health evaluations

⁹ There is clear and convincing evidence that fecal occult blood testing for colon cancer and Pap tests for cervical cancer reduce morbidity and mortality associated with these cancers (USPSTF, 2003b, 2008b). There is also

on the receipt of immunizations, mammography, and counseling regarding health behaviors were inconsistent. No studies of the impact of periodic health evaluations on receipt of other preventive services were identified (Boulware et al., 2006).

The systematic review also assessed studies of the effects of periodic health evaluations on a variety of health outcomes, including blood pressure, serum cholesterol, body mass index, disease detection (e.g., diagnosis of high blood pressure), health habits (e.g., smoking), general health status, hospitalization, disability, mortality. Findings from these studies were inconsistent. The authors of the systematic review note that it is difficult to isolate the impact of periodic health evaluations on markers of high blood pressure and other diseases that require ongoing management, and on long-term outcomes, such as mortality (Boulware et al., 2006).

The generalizability of findings from the studies included in the systematic review to the population affected by SB 890 is limited. The strongest evidence is from RCTs that enrolled senior citizens, veterans receiving care in Department of Veterans' Affairs facilities, and persons living in the United Kingdom. One large RCT assessed persons living in the San Francisco Bay area who were enrolled in Kaiser Permanente, but it was conducted in the 1960s. Findings from studies completed 40 years ago or on populations other than adults enrolled in privately funded health insurance plans similar to those regulated by CDI may not be applicable to adults currently enrolled in CDI-regulated health insurance policies.

Immunizations

The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (CDC ACIP) issues recommendations regarding vaccination. These recommendations are based on reviews of RCTs conducted by manufacturers prior to the U.S. Food and Drug Administration's (FDA) approval of vaccines, as well as postmarketing studies to the extent available. The FDA requires manufacturers to demonstrate that vaccines are more effective than a placebo and noninferior to other vaccines on the market for the same disease. The CDC ACIP recommends administering some vaccines to all persons in specific age groups and administering others only to persons at increased risk of contracting infectious diseases.

Table 6 lists the vaccines the CDC ACIP recommends that adults receive and the populations of adults for whom vaccination is recommended. Findings from the studies upon which these recommendations are based are summarized in Table D-2 in Appendix D.

evidence that screening men age 35 or older and women age 45 or older for lipid disorders (e.g., high cholesterol) accurately identifies persons who would benefit from medication to lower cholesterol (USPSTF, 2008c).

Table 6. Vaccines Recommended for Adults by the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices

Vaccine	Population(s) for Whom Vaccination Is Recommended
Hepatitis A	Adults of all ages who are at increased risk
Hepatitis B	Adults of all ages who are at increased risk
Human papillomavirus	Females aged 11 to 26 years
Influenza (seasonal)	All adults age 50 or older and younger adults at increased risk
Measles-mumps-rubella vaccine	All adults aged 19 to 49 years and older adults at increased risk
Meningococcal conjugant vaccine	Adults of all ages who are at increased risk
Pneumococcal polysaccharide vaccine	All elderly adults plus non-elderly adults at increased risk
Tetanus and diphtheria toxoid and pertussis vaccine	Booster every 10 years for adults of all ages
Varicella (i.e., chicken pox) vaccine	Adults of all ages who lack immunity
Zoster (i.e., shingles) vaccine	All adults age 60 years or older

Sources: ACIP, 2006; Bilukha et al., 2005; CDC, 1997; CHBRP, 2009b; Fiore et al., 2009; Harpaz et al., 2008; Kretsinger et al., 2006; Marin et al., 2007; Mast et al., 2005; Watson et al., 1998.

Health education

Prevention

The USPSTF recommends that adults receive five types of health education services to encourage behaviors associated with prevention of illness or injury.

Alcohol misuse. The USPSTF recommends screening and counseling to reduce the misuse of alcohol (USPSTF, 2004a). The recommendation is based on a systematic review of RCTs that compared counseling regarding alcohol misuse to usual care. The systematic review concluded that brief, multi-session counseling interventions that can be delivered as part of primary care visits are associated with a reduction of three to nine drinks per week in the average number of drinks consumed. Interventions found to be effective included advice, feedback, goal setting, and contact information for sources of further assistance and support (USPSTF, 2004a).

Tobacco use. The US Public Health Service and the USPSTF recommend screening for tobacco use and the provision of tobacco cessation interventions to smokers (Fiore et al., 2008; USPSTF, 2009a). The recommendation was based on findings from systematic reviews of tobacco cessation interventions conducted by the United States Public Health Service. Findings from these systematic reviews indicate that smoking cessation counseling, including brief (<10 minutes) counseling during primary care visits is associated with an increase in the percentage of smokers who quit and the percentage who abstain from smoking for at least 1 year. More intensive forms of group and individual counseling have also been found to be effective. Smokers who receive more and longer counseling sessions are more likely to quit (USPSTF, 2009a). The medical effectiveness of tobacco cessation counseling and the health benefits of

quitting smoking are discussed in greater detail in CHBRP reports on bills that would have mandated coverage for tobacco cessation services. (CHBRP, 2005, 2007b).

Sexually transmitted infections. The recommends that adults at increased risk of contracting a sexually transmitted infection receive intensive behavioral counseling to reduce their risk (USPSTF, 2008a). The recommendation is based on a systematic review of studies of the effectiveness of counseling and other interventions. The systematic review found that counseling interventions that consisted of multiple sessions were associated with a small decrease in sexually transmitted infections among adults at increased risk (USPSTF, 2008a).

Weight loss. The USPSTF recommends screening all adults for obesity and providing intensive behavioral interventions and counseling to obese adults (USPSTF, 2003c). The recommendation is based on a systematic review of nonrandomized studies of weight loss interventions. (No RCTs were identified). Obesity was defined as a body mass index of 30 kg/m² or higher. The systematic review concluded that interventions that combined counseling regarding diet, exercise, or both with behavioral interventions aimed at fostering skill development, motivation, and support for weight loss were associated with small, sustained reductions in weight (3 to 5 kilograms for 1 year or more) (USPSTF, 2003c).

Healthy diet. The USPSTF recommends providing adults who have hyperlipidemia (i.e., high cholesterol) and/or other risk factors for cardiovascular disease or other chronic conditions for which poor diet is a risk factor with counseling and behavioral interventions to promote a healthy diet (USPSTF, 2003a). The recommendation was based on a systematic review of the impact of counseling and behavioral interventions on diet. The systematic review concluded that medium-to high-intensity counseling and behavioral interventions are associated with medium-to-large improvements in diet among persons with diet-related chronic conditions, such as a decrease in consumption of saturated fat and an increase in consumption of fiber, fruit, and vegetables (USPSTF, 2003a).

Disease Management

There is also evidence that health education which focuses on teaching persons with chronic disease how to manage their illness improves health outcomes.

Arthritis. A meta-analysis of studies of arthritis self-management education programs found that adults who received self-management education experienced small reductions in pain and disability (Warsi et al., 2003).

Asthma. A meta-analysis of RCTs that compared asthma self-management education to usual care reported that adults who received self-management education had higher quality of life and were less likely to experience nocturnal asthma and miss work or school. Adults who received self-management education were also less likely to be hospitalized, visit the emergency department, or have unscheduled physician visits (Gibson et al., 2002).

Diabetes. Multiple RCTs have evaluated the effectiveness of diabetes self-management education. Recent RCTs include the Look AHEAD Trial, a multisite study enrolling over 5,000

adults age 45 to 74 years who are overweight and have type 2 diabetes. The study compared adults receiving an intensive counseling intervention aimed at decreasing caloric intake and increasing physical activity to usual care. Persons who participated in the intensive counseling intervention lost more weight and were more physically fit than persons who received usual care. Receipt of intensive counseling was also associated with greater reductions in blood sugar, blood pressure, and cholesterol (Look AHEAD Research Group, 2007).

Vision screening

No studies of the effectiveness of screening adults for refractive error (i.e., nearsightedness, farsightedness, and astigmatism) were identified.

Two systematic reviews regarding the effectiveness of screening adults for glaucoma have been completed (Burr et al., 2007; USPSTF, 2005). Glaucoma is a group of eye diseases that affect the eye's optic nerve and can lead to vision loss and blindness. These diseases occur when intraocular pressure (i.e., fluid pressure inside the eye) rises. The authors of both systematic reviews concluded that there is insufficient evidence to assess the effectiveness of screening adults for glaucoma. They stated there is evidence that screening can detect increased intraocular pressure (IOP) and early primary open-angle glaucoma (POAG). (POAG is the most common type of glaucoma). The authors also concluded that there is evidence that treatment of IOP and POAG slows the rate of progression of POAG, but that there is insufficient evidence to determine whether treatment reduces visual impairment over the long-term or improves quality of life. One systematic review also noted that there is no universally agreed upon reference standard for diagnosis of open-angle glaucoma (Burr et al., 2007). The other systematic review stated that treatment of IOP and POAG is associated with harms such as increased risk of cataracts (USPSTF, 2005).

A guideline issued by the American Academy of Ophthalmology (AAO) (AAO, 2005). AAO recommends screening all adults for eye disease and recommends screening older adults and adults with risk factors for eye disease (e.g., diabetes, family history of glaucoma) more frequently than younger adults and adults with no risk factors. This recommendation is based on evidence from studies that have found that treatment of eye disease improves physical functioning (e.g., prevents falls, ability to perform household tasks) and quality of life (e.g., increases social activity).

The lack of evidence for the effectiveness of glaucoma screening is not evidence that screening provides no benefit. Rather, it means that the available evidence is not sufficient to determine whether screening is beneficial.

Hearing screening

Most hearing loss in adults is due to age, injury, ear disease, medications (e.g., certain antibiotics and anticancer medications), and occupational exposures (i.e., working in settings with high levels of noise).

No studies that compared hearing outcomes in screened and unscreened adults were identified.

However, there is indirect evidence that older adults may benefit from hearing screening. A multicomponent study was conducted in the United Kingdom to assess the accuracy of screening tests for hearing loss and the effectiveness of hearing aids. The study enrolled adults aged 55 to 74 years because adults often begin experiencing hearing loss when they reach this age. The authors concluded that questionnaires regarding hearing loss and pure tone audiometry are accurate tests for identifying adults with hearing loss. Adults with hearing loss who used hearing aids were more likely to experience improvement in hearing and quality of life than adults with hearing loss who did not use them. The study also found that adults who began using hearing aids at a younger age had better hearing than adults who began using hearing aids at an older age, and reported that hearing loss was associated with fewer adverse effects (Davis et al., 2007).

Preventive Benefits for Children

Physical Exams

No studies of the effectiveness of periodic physical examinations for children and adolescents were identified. A guideline for the provision of preventive services for children has been issued by the American Academy of Pediatrics (AAP). Based on expert opinion, the guideline recommends that all children and adolescents receive periodic physical examinations (AAP, 2000). The recommended frequency and content of examinations varies depending on a child's age. More frequent visits are recommended for infants and toddlers than for older children and adolescents.

The lack of evidence for the effectiveness of periodic physical examinations for children is not evidence that such examinations are not beneficial. As noted previously, there is consistent evidence that adults who obtain periodic physical examinations are more likely to receive some effective preventive services (Boulware et al., 2006). Children and adolescents who obtain periodic physical examinations may also be more likely to receive effective services. For example, they may be more likely to be immunized for infectious diseases.

Immunizations

As noted in the section regarding the effectiveness of immunizations for adults, the CDC ACIP issues recommendations regarding vaccination. These recommendations are based on reviews of RCTs conducted by manufacturers prior to the FDA's approval of vaccines, as well as postmarketing studies to the extent available. The FDA requires manufacturers to demonstrate that vaccines are more effective than a placebo and noninferior to other vaccines on the market for the same disease.

Table 7 lists the vaccines the CDC ACIP recommends for children and the populations for whom vaccination is recommended. Findings from the studies upon which these recommendations are based are summarized in Table D-2 in Appendix D.

Table 7. Vaccines Recommended for Children by the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices

Vaccine	Population(s) for Whom Vaccination Is Recommended
Haemophilus influenza B	All children
Hepatitis A	All children
Hepatitis B	All children
Human papillomavirus	Females aged 11 to 26 years
Influenza (seasonal)	Annually for all children age 6 months to 18 years
Measles-mumps-rubella vaccine	All children
Meningococcal conjugant vaccine	All children age 11 to 12 years plus younger children at increased risk
Pneumococcal conjugant vaccine	All children
Pneumococcal polysaccharide vaccine	Children at increased risk
Inactivated poliovirus vaccine	All children
Rotavirus vaccine	All children
Tetanus and diphtheria toxoid and pertussis vaccine	All children plus booster every 10 years for adolescents
Varicella (i.e., chicken pox) vaccine	All children

Sources: ACIP, 2000, 2006; Bilukha et al., 2005; CDC, 1997; CHBRP, 2009b; Cortese and Parashar, 2009; Fiore et al., 2009; Kretsinger et al., 2006; Marin et al., 2007; Mast et al., 2005; Prevots et al., 2000; USPSTF, 1996; Watson et al., 1998.

Health education

Prevention

The USPSTF has evaluated the effectiveness of four types of health education for encouraging behaviors that reduce the risk of illness or injury.

Sexually transmitted infections: The USPSTF recommends that sexually active adolescents receive intensive behavioral counseling to reduce their risk (USPSTF, 2008a). The recommendation is based on a systematic review of studies of the effectiveness of counseling and other interventions aimed at reducing the likelihood of contracting sexually transmitted infections. The systematic review found that counseling interventions that consisted of multiple sessions were associated with a small decrease in sexually transmitted infections among sexually active adolescents. The USPSTF also concluded that there is insufficient evidence to ascertain whether counseling reduces the risk that adolescents who are not sexually active at the time they receive counseling will contract a sexually transmitted infection (USPSTF, 2008a).

Weight loss counseling: The USPST recommends multicomponent weight loss counseling and behavioral interventions for children age 6 years or older (USPSTF, 2010). This recommendation was based on a systematic review of studies of weight loss interventions provided to children. The systematic review found that obese children who participate in multicomponent counseling and behavioral interventions of high-to-moderate intensity (>25 hours of contact over 6 months) were more likely to experience a reduction in body mass index than obese children who received less intensive interventions or no intervention.

Tobacco use: The US Public Health Service’s guideline regarding tobacco cessation services recommends that adolescent smokers receive smoking cessation counseling (Fiore et al., 2008). This recommendation is based on a meta-analysis of studies of tobacco cessation counseling interventions for adolescents. The systematic review found that adolescent smokers who received counseling were almost twice as likely to abstain from smoking as adolescents who received usual care.

Alcohol use: The USPSTF has concluded that there is insufficient evidence to determine whether brief advice and counseling can prevent or reduce alcohol use among adolescents (USPSTF, 2004a). A systematic review conducted for the USPSTF found that few studies have assessed the effectiveness of providing advice and counseling regarding alcohol use to adolescents. Findings from the few studies that have been published are inconsistent.

The lack of evidence of the effectiveness of providing adolescents brief advice and counseling regarding alcohol use is not evidence that counseling regarding alcohol use is not effective. Rather, it indicates that few studies have been conducted to determine whether or not such counseling is effective.

Disease Management

Asthma is the most common chronic disease among children and adolescents. A previous CHBRP report found evidence from multiple RCTs and nonrandomized studies with comparison groups that pediatric asthma self-management education is associated with improvement in health outcomes (e.g., days without symptoms) and reduction in hospital and emergency department use (CHBRP, 2006). A subsequent meta-analysis reported similar findings (Bravata et al, 2009).

Vision screening

The USPSTF recommends screening and early treatment to detect vision disorders among children under age 5 (USPSTF, 2004b). According to statistics cited by the USPSTF, 5% to 10% of preschoolers have impaired vision. The most common disorders are refractive error (i.e., nearsightedness, farsightedness, and astigmatism) that can be treated with corrective lenses. Amblyopia, often referred to as “lazy eye,” is a vision disorder caused by conditions that interfere with normal binocular vision, such as strabismus (ocular misalignment), anisometropia (a large difference in refractive power between the two eyes), and cataracts (lens opacity). Depending on the cause, amblyopia is treated with vision training, corrective lenses, and/or surgery.

Two systematic reviews have been conducted to identify RCTs that compared the prevalence of amblyopia and refractive error among screened and unscreened children (Powell and Hatt, 2009; Powell et al., 2004). The systematic reviews identified no RCTs on this topic. The authors noted that *the lack of evidence regarding the effectiveness of screening for amblyopia and refractive error is not evidence that screening is not beneficial*. A systematic review commissioned by the USPSTF identified an RCT that compared the effectiveness of more versus less intensive screening on rates of amblyopia. The RCT compared an intervention in which vision professionals provided six screening exams to children age 8 to 37 months to one-time screening at age 37 months. The RCT found that children who participate in the more intensive eye screening program were less likely to have amblyopia (i.e., lazy eye) at age 7.5 years (USPSTF, 2004b).

Hearing screening

The USPSTF recommends universal hearing screening for newborns and early intervention services for newborns who test positive for permanent congenital hearing loss (USPSTF, 2008d). This recommendation was based on a systematic review of nonrandomized studies with comparison groups on the effectiveness of universal newborn hearing screening programs, as well as studies of the impact of early intervention to address permanent congenital hearing loss. No randomized controlled trials (RCTs) were identified because universal screening has been implemented in a nonrandom manner.

The systematic review concluded that findings from nonrandomized studies with comparison groups suggest that participation in a universal newborn screening program increases the likelihood that a child with permanent congenital hearing loss will be diagnosed by age 9 months. Universal screening facilitates early diagnosis of permanent congenital hearing loss and enables children to begin receiving intervention at an earlier age. Studies included in the systematic review found that children whose hearing loss is diagnosed and treated at an earlier age had higher scores on tests of receptive and expressive language skills when tested during elementary school than children whose hearing loss was diagnosed at an older age (USPSTF, 2008d).

Physical, Occupational, and Speech Therapy

Physical, occupational, and speech therapy are used to help persons recover from many types of injuries or illnesses and to cope with multiple chronic conditions. Physical therapy involves the diagnosis and treatment of disorders of the musculoskeletal system. Occupational therapy assists individuals in engaging or re-engaging in purposeful activity. Examples include teaching persons who have rheumatoid arthritis how to perform activities of daily living with less pain or teaching persons who have limited motor function due to stroke how to perform tasks. Speech therapy is used to treat speech, voice, and language disorders.

Most studies of the effectiveness of physical, occupational, and speech therapy focus on their impact on persons with specific injuries, illnesses, and conditions. Findings from studies that enrolled persons with one condition may not generalize to persons with other conditions. A review of abstracts of systematic reviews contained in the Cochrane Library of Systematic Reviews illustrates the lack of consistency in findings from studies of physical, occupational, and speech therapy interventions. For example, a recent Cochrane review found that exercise

programs improve spinal movement and physical functioning among persons with ankylosing spondylitis (Dagfinrud et al., 2008), whereas another Cochrane review found no evidence of benefit or harm associated with the provision of physical therapy to persons with Bell's palsy (Teixeira et al., 2008). Similarly, one Cochrane review found that persons recovering from stroke who had occupational therapy were more likely to perform activities of daily living independently (Legg et al., 2006), whereas another Cochrane review concluded that there is insufficient evidence to determine whether occupational therapy is helpful to persons with Parkinson's Disease (Dixon et al., 2007). Last, a Cochrane review found that speech and language therapy is an effective treatment for children with expressive language disorders (Law et al., 2003), but that there is insufficient evidence to ascertain whether speech and language therapy improves intelligibility of speech among children and adolescents with acquired brain injury (Morgan and Vogel, 2008).

Home Health Services

CHBRP reviewed meta-analyses and systematic reviews on the effectiveness of home health services for its report on AB 1214 (CHBRP, 2007a). One additional meta-analysis was identified from the literature review for SB 890 (Shepperd et al., 2009). Findings from these meta-analyses and systematic reviews suggest that the literature on home health services is not easily generalizable to the population to which SB 890 would apply. Most studies of home health services have evaluated the impact of these services on elderly persons, whereas the vast majority of persons whose coverage would be affected by SB 890 are children and non-elderly adults. In addition, many studies were conducted in countries other than the United States. The role of home health services may differ in countries with different types of health care systems.

Two meta-analyses have synthesized findings from studies of home health services published from the 1970s through the 1990s. One meta-analysis found that receipt of home care services was associated with a statistically significant reduction in nursing home placement and a nonsignificant decrease in mortality relative to receipt of usual care (Hedrick et al., 1989). The other meta-analysis found that persons who received home care services were hospitalized for fewer days than persons who received usual care (Hughes et al., 1997).

Studies conducted primarily outside the United States have compared the effectiveness of home-based versus inpatient rehabilitation services for persons recovering from major injury or illness (e.g., hip fracture, stroke). A meta-analysis of RCTs that enrolled persons recovering from stroke found that persons who received home-based rehabilitation services had lower rates of institutionalization and dependency than persons who received inpatient rehabilitation services. Persons recovering from stroke who received home-based rehabilitation also had higher scores on instruments measuring ability to perform instrumental activities of daily living, such as preparing meals and managing money (Early Supported Discharge Trialists, 2005). No differences were found in psychological functioning or perceived health status. Other RCTs of home-based rehabilitation for stroke and studies of home-based rehabilitation for hip fracture have reported similar findings (Giusti et al., 2006; Kuisma, 2002; Langhorne and Widen-Holmqvist, 2007). A meta-analysis of RCTs that enrolled persons with a wide range of health conditions found that home-based rehabilitation was associated with a reduction in the risk of

institutionalization but was also associated with an increased risk of hospital readmission (Shepperd et al., 2009).

Few studies have assessed the effectiveness of home care services for children. One systematic review synthesized findings from studies of the provision of home care services to children with very low birth weight, genetic disorders, or chronic conditions, such as cerebral palsy and cystic fibrosis (Parker et al., 2002). The findings of this systematic review suggest that there is *insufficient evidence* to determine whether home care improves physical or mental health outcomes for children with these conditions. *Insufficient evidence indicates a lack of evidence regarding the medical effectiveness of a health care service. It is not the same as evidence of no effect.*

Hospice Care Services

CHBRP reviewed literature on the effectiveness of hospice care services for its report on AB 1214 (CHBRP, 2007a). One additional meta-analysis (Zimmermann et al., 2008) was identified through the literature search for SB 890. As with the literature on home health services, the literature on hospice care services may not generalize well to the population that would be affected by SB 890. Most studies of hospice care that have strong research designs were published in the 1980s. Standards of care for persons with terminal illnesses may have changed since then. For example, newer classes of opioid analgesics have been introduced. In addition, most studies of hospice care have only evaluated effects on persons with terminal cancers. Findings from studies of persons with cancer may not generalize to persons who receive hospice care for other conditions, such as chronic obstructive pulmonary disease or congestive heart failure.

Most systematic reviews of the literature on the effectiveness of hospice care services combine studies of hospice care with studies of other forms of palliative care, such as hospital-based palliative care teams. Findings from studies of hospice care included in these systematic reviews suggest that hospice care *reduces* some symptoms associated with terminal illness, such as anxiety, diarrhea, and nausea. However, findings regarding effects on pain and quality of life were inconsistent (Harding et al., 2005; Higginson et al., 2003; NICE, 2004; Zimmermann et al., 2008).

Maternity Services

CHBRP has completed three reports on the effectiveness of prenatal care services (CHBRP, 2008, 2009a, 2010). These reports have concluded that many prenatal care services reduce the likelihood of poor birth outcomes for mothers and newborns. These services include

- Counseling regarding behavioral risk factors
 - Smoking
 - Domestic violence
- Use of ultrasound to determine gestational age

- Screening for fetal abnormalities
 - Down syndrome
 - Hemoglobinopathies
 - Tay-Sachs disease
 - Neural tube defects
 - Other structural abnormalities
- Screening and treatment for infectious disease
 - Asymptomatic bacteriuria
 - Hepatitis B
 - Human immunodeficiency virus
 - Sexually transmitted infections—Chlamydia, gonorrhea, syphilis
 - Group B streptococcus
- Screening and treatment for metabolic, nutritional, and endocrine disorders
 - Gestational diabetes
 - Iron deficiency anemia
- Screening for hypertensive disorders and treatment to prevent preeclampsia and eclamptic seizures
- Screening and treatment for Rh(D) incompatibility
- Screening for placenta previa
- Use of progestational agents to prevent preterm delivery
- Use of medications to prevent neurological and respiratory impairment in fetuses at risk for preterm delivery
- Use of external cephalic version (application of pressure to a pregnant woman’s abdomen to encourage the fetus to turn to the head-first position)
- Membrane sweeping or pharmaceutical agents to induce labor and prevent perinatal death.

Descriptions of these services and summaries of meta-analyses and systematic reviews that address the effectiveness of these services may be found in the three previous CHBRP reports on maternity services (CHBRP, 2008; CHBRP, 2009a; CHBRP, 2010).

Annual or lifetime benefit limits

No studies were found that assessed the effects of annual or lifetime limits on benefits for all types of health care services.¹⁰

¹⁰ Studies have examined the impact of caps on benefits for pharmaceuticals in the Medicaid and Medicare programs, but the findings of those studies are not relevant to SB 890 because the bill would not require coverage for pharmaceuticals.

Table 8. Summary of Evidence of the Effectiveness of Services for Which SB 890 Would Mandate Coverage

Description	Clear and Convincing Evidence that Test(s) and/or Treatment(s) Are Effective	Preponderance of Evidence that Test(s) and/or Treatment(s) Are Effective	Evidence of the Effectiveness of Test(s) and/or Treatment(s) Is Ambiguous	Insufficient Evidence to Determine whether Test(s) and/or Treatment(s) Are Effective	Preponderance of Evidence that Test(s) and/or Treatment(s) Are Not Effective
Preventive Services for Adults					
Physical exams	X, some recommended preventive services ¹¹			X, health outcomes	
Immunization	X ¹²				
Health education – prevention	X				
Health education – chronic disease management	X				
Vision screening				X	
Hearing screening		X, adults 55-74 years ¹³			

¹¹ A systematic review completed for the Agency for Health Care Research and Quality found that adults who received periodic physical examinations were more likely to receive cholesterol screening, fecal occult blood screening, and gynecological examinations/Pap tests (Boulware et al., 2006).

¹² The Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices (CDC ACIP) recommends that adults receive the following vaccines: hepatitis a vaccine, hepatitis b vaccine, human papillomavirus vaccine, influenza vaccine, measles-mumps-rubella vaccine, meningococcal vaccine, pneumococcal vaccine, tetanus-diphtheria-pertussis vaccine, varicella vaccine, and zoster vaccine. The specific age groups for which vaccination is recommended vary across vaccines. Some vaccines are recommended only for adults at increased risk of contracting the infectious diseases against which the vaccines provide protection. The human papillomavirus vaccine is recommended only for females age 11 to 26 years.

¹³ A study of adults aged 55 to 74 years that included both randomized and nonrandomized components found that there are accurate tests for screening adults in this age group for hearing loss, that using hearing aids improves hearing and quality of life, and that persons with hearing loss who begin using hearing aids at a younger age have better hearing and experience fewer adverse effects of hearing loss than persons who begin using hearing aids at a younger age (Davis et al., 2007).

Table 8. Summary of Evidence of the Effectiveness of Services for Which SB 890 Would Mandate Coverage (cont'd.)

Description	Clear and Convincing Evidence that Test(s) and/or Treatment(s) Are Effective	Preponderance of Evidence that Test(s) and/or Treatment(s) Are Effective	Evidence of the Effectiveness of Test(s) and/or Treatment(s) Is Ambiguous	Insufficient Evidence to Determine whether Test(s) and/or Treatment(s) Are Effective	Preponderance of Evidence that Test(s) and/or Treatment(s) Are Not Effective
Preventive Services for Children					
Physical exams				X	
Immunizations	X ¹⁴				
Health education – prevention	X, some conditions ¹⁵			X, alcohol misuse	
Health education – chronic disease management	X, asthma				
Vision screening				X	
Hearing screening		X			

¹⁴ The CDC ACIP recommends that children and adolescents receive the following vaccines: haemophilus influenza type b vaccine, hepatitis a vaccine, hepatitis b vaccine, human papillomavirus vaccine, influenza vaccine, measles-mumps-rubella vaccine, meningococcal vaccine, pneumococcal conjugant vaccine, pneumococcal polysaccharide vaccine, inactivated poliovirus vaccine, rotavirus vaccine, tetanus-diphtheria-pertussis vaccine, and varicella vaccine. The specific age groups for which vaccination is recommended vary across vaccines. Some vaccines are recommended only for children and adolescents at increased risk of contracting the infectious diseases against which the vaccines provide protection. The human papillomavirus vaccine is recommended only for females age 11 to 26 years.

¹⁵ The US Preventive Services Task Force (USPSTF) has determined that there is sufficient evidence to recommend providing counseling to sexually active adolescents to prevent sexually transmitted infections (USPSTF, 2008a) and to recommend weight loss counseling and behavioral interventions for obese children age 6 years or older (USPSTF, 2010). A systematic review conducted for the US Public Health Service concluded that counseling reduces the likelihood that adolescents will begin smoking and the likelihood that adolescent smokers will quit (Fiore et al., 2008).

Table 8. Summary of Evidence of the Effectiveness of Services for Which SB 890 Would Mandate Coverage (cont'd.)

Description	Clear and Convincing Evidence that Test(s) and/or Treatment(s) Are Effective	Preponderance of Evidence that Test(s) and/or Treatment(s) Are Effective	Evidence of the Effectiveness of Test(s) and/or Treatment(s) Is Ambiguous	Insufficient Evidence to Determine whether Test(s) and/or Treatment(s) Are Effective	Preponderance of Evidence that Test(s) and/or Treatment(s) Are Not Effective
Other Services					
Physical therapy			X, varies across conditions		
Occupational therapy			X, varies across conditions		
Speech therapy			X, varies across conditions		
Home health care	X, elderly and disabled adults			X, children	
Hospice care			X		
Maternity services	X, some services ¹⁶	X, some services ¹⁷			

¹⁶ CHBRP’s reports on bills that would mandate coverage for maternity services have concluded that there is *clear and convincing evidence* that the following services provided to pregnant women in the prenatal period are effective: smoking cessation counseling, ultrasound to identify structural abnormalities and determine gestational age, folic acid to prevent neural tube defects, screening and treatment for asymptomatic bacteriuria, screening for hepatitis b, screening and treatment for human immunodeficiency virus, calcium supplements and aspirin for prevention of preeclampsia, magnesium sulfate to prevent eclamptic seizures in women with preeclampsia and to prevent neurological impairment in fetuses at risk for preterm delivery, screening and prophylactic treatment for Rh(D) incompatibility, progestational agents to prevent preterm delivery, corticosteroids to promote lung maturation in fetuses scheduled for preterm delivery due to complications, external cephalic version for breech presentation at term, membrane sweeping and induction of labor to prevent postterm pregnancies (CHBRP, 2008, 2009a, 2010).

¹⁷ CHBRP’s reports on bills that would mandate coverage for maternity services have concluded that there is a *preponderance of evidence* that the following services provided to pregnant women in the prenatal period are effective: screening for domestic violence, screening for certain genetic disorders, screening and treatment for certain sexually transmitted diseases, screening for group B streptococcus, screening and treatment for gestational diabetes, screening and treatment for bacterial vaginosis, screening and treatment for candida infection, iron supplements for iron deficiency anemia, blood pressure screening for hypertensive disorders, screening for atypical red blood cell alloantibodies other than Rh(D) incompatibility, ultrasound to diagnose placenta previa (CHBRP, 2008, 2009a, 2010).

UTILIZATION, COST, AND COVERAGE IMPACTS

SB 890 would require policies regulated by the California Department of Insurance (CDI) to provide coverage for medically necessary basic health care services (BHCS) and prohibit policies from having an annual limit or lifetime limit on basic health care services. SB 890 would not apply to plans regulated by the Department of Managed Health Care (DMHC), CalPERS HMO, Medi-Cal Managed Care, or Managed Risk Medical Insurance Board (MRMIB) programs. Thus, SB 890 would affect the 2,438,000 persons enrolled in CDI-regulated policies.

Taking into account existing state and federal mandates already in place, SB 890 would newly mandate coverage for (1) preventive benefits for adults (physical exams, immunizations, health education, vision screenings, and hearing screenings), (2) preventive benefits for children (physical exams, immunizations, health education, well baby exams, vision screenings, and hearing screenings), (3) maternity coverage, (4) physical, occupational, and speech therapy, (5) home health care, and (6) hospice services.

This section first presents the current, or baseline costs and coverage related to these newly mandated BHCS services and then details the estimated utilization, cost and coverage impacts of SB 890. Further details on the underlying data sources and methods are given in Appendix E.

Baseline Cost and Benefit Coverage

Current Coverage of the Mandated Benefit

SB 890 would affect 2,438,000 people enrolled in CDI-regulated policies. SB 890 does not directly affect privately purchased plans regulated by Department of Managed Healthcare (DMHC) nor would it directly affect publicly purchased DMHC-regulated plans, CalPERS HMO, Medi-Cal Managed Care, or Healthy Families.

Coverage for BHCS (except maternity services)

- Coverage for **adult preventive services** is estimated to be approximately 97% in the group market and 88% in the individual market.
- Coverage for **preventive services for children** is estimated to be approximately 100% in the group market and 88% in the individual market.
- Coverage for **physical, occupation, and speech therapy** are estimated to be approximately 100% in the group market and 85% in the individual market.
- Coverage for **home health services** is estimated to be approximately 100% in the group markets and 88% in the individual market.
- Coverage for **hospice services** is estimated to be approximately 100% in the group market and 88% in the individual market. In the individual market use of hospice care prior to age 65 was assumed to be near 0 and should not affect total costs.

Coverage for maternity services

Coverage for maternity services is estimated to be 100% in the group market (due to existing federal requirements) and 18% in the individual market. Table 9 summarizes the group most sensitive to this mandate. It shows the percentage of female and male enrollees in the CDI-regulated individual market who have maternity coverage, broken down by age. Currently 20% of women under age 65 are covered for maternity services in the individual market. The percentage of women covered for maternity services increases after the age of reproductive eligibility.

Table 9. Percentage of Individual Enrollees in the CDI-Regulated Market With Maternity Coverage

Age of Covered Individual (years)	Male	Female	Total
0-19	20%	21%	21%
20-24	10%	16%	13%
25-29	8%	17%	13%
30-34	12%	21%	16%
35-39	15%	21%	18%
40-44	18%	20%	19%
45-49	20%	20%	20%
50-54	22%	21%	22%
55-59	26%	24%	25%
60-64	30%	28%	29%
Under 65 Total	17%	20%	18%

Source: California Health Benefits Review Program, 2010.

Coverage in terms of annual/lifetime benefit limits

Costs can be capped in three different ways. First, there can be lifetime benefit limits. Second, there can be annual benefit limits. Third, there can be caps on specific benefits.

SB 890 would prohibit lifetime and annual limits on BHCS. One potential point of confusion is the difference between limits on basic health care services versus limits on *all* covered benefits included in the plan or policy. Responses to CHBRP's SB 890 Coverage Survey suggest that few policies currently have significant annual or lifetime limits for the entire policy. A prohibition on limits on BHCS is effectively a prohibition on aggregate limits on all services, since BHCS includes a broad range of benefits and services and because a member could reach that limit even if they only received BHCS.

It is possible that CDI-regulated policies could continue to implement limits on *specific* services that are not considered to be BHCS: for example, benefits for durable medical equipment.

In terms of annual limits, about 0.6% of the group market and 0.1% of the individual market is estimated to have annual limits. The annual average dollar limits for this small proportion of

policies with limits are \$70,000 for group policies and \$100,000 for individual policies. In terms of lifetime benefit limits, responses to CHBRP's SB 890 Coverage Survey indicated that all policies with lifetime benefit limits applied ceilings that were close to \$5 million (group policies had an average lifetime dollar limits of approximately \$4.900 million, and individual policies had average lifetime dollar limits of approximately \$5.200 million). In addition, those policies with annual benefit limits were primarily marketed to students and for those who were waiting for their employer-sponsored policies to become effective. Given that these populations would be expected to have low health care utilization as compared to the average enrollee with a CDI-regulated policy, it is unlikely that they would hit their annual benefit limit.

It is possible that small carriers that are not captured by CHBRP's SB 890 Coverage Survey have more stringent annual or lifetime limits; however, these survey responses capture 79% of the CDI-regulated market.

Current Utilization Levels and Costs of the Mandated Benefit

Current (premandate) utilization

For enrollees without coverage for specific BHCS services (except maternity services), CHBRP relied on the RAND Health Insurance Experiment (HIE). For this population, CHBRP assumes that utilization is 50% of those with full coverage (first-dollar) for BHCS. For enrollees with coverage for specific services, CHBRP relied on the Milliman Health Cost Guidelines (HCGs) to obtain current utilization rates of BHCS.

As summarized in Table 1 in the Executive Summary, current utilization rates for those enrollees who are currently covered for these services are summarized below:

- An estimated 450,779 **adult physical exams** occur per year on average across all markets.
- An estimated 361,425 **child physical exams** occur per year on average across all markets.
- An estimated 192,495 visits for **physical, occupational and speech** therapy occur each year on average across all markets.
- An estimated 151,681 visits for **home health services** occur each year on average across all markets. Although younger people do use hospice services, actuarial data suggest that there is very low utilization of hospice services among those below the age threshold for Medicare eligibility. Annual utilization for **hospice services** per 1,000 members is estimated to about zero for this population since enrollees in the CDI-regulated market are generally under 65 years of age.
- Annual utilization for **maternity services** as measured by the number of births on average across all markets is estimated to be 30,822.

Current (premandate) costs

Milliman HCGs are used to estimate the average per-unit cost for services that would be mandated by SB 890.

Table 10 summarizes per member per month (PMPM) premiums and expenditures for CDI-regulated plans prior to the mandate. Prior to the mandate, total expenditures PMPM are \$511 in large-group plans, \$443 in small-group plans, and \$233 in individual plans. The final column in Table 10 gives the total annual PMPM for all DMHC-regulated plans and CDI regulated policies, even though only CDI-regulated policies are affected by this mandate.

Table 10. Baseline (Premandate) Per Member Per Month Premium and Expenditures by Market Segment, California, 2010

	DMHC-Regulated							CDI-Regulated			Total Annual
	Privately Funded			CalPERS HMOs(b)	Medi-Cal HMOs		Healthy Families Program HMOs (d)	Privately Funded			
	Large Group	Small Group	Individual		65 and Over (c)	Under 65		Large Group	Small Group	Individual	
Total enrollees in plans/policies subject to state mandates (a)	9,445,000	2,394,000	785,000	820,000	175,000	2,616,000	814,000	324,000	935,000	1,179,000	19,487,000
Total enrollees in plans/policies subject to SB 890	0	0	0	0	0	0	0	324,000	935,000	1,179,000	2,438,000
Average portion of premium paid by employer	\$290.96	\$223.84	\$0.00	\$332.10	\$223.00	\$113.00	\$93.19	\$346.40	\$246.40	\$0.00	\$51,713,067,000
Average portion of premium paid by employee	\$72.11	\$92.31	\$364.68	\$58.61	\$0.00	\$0.00	\$11.78	\$105.37	\$79.68	\$180.77	\$18,813,408,000
Total Premium	\$363.07	\$316.14	\$364.68	\$390.70	\$223.00	\$113.00	\$104.97	\$451.77	\$326.08	\$180.77	\$70,526,476,000
Enrollee expenses for covered benefits (deductibles, copays, etc)	\$19.77	\$25.74	\$64.43	\$20.15	\$0.00	\$0.00	\$1.52	\$58.78	\$116.51	\$44.19	\$5,961,186,000
Enrollee expenses for benefits not covered	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.39	\$0.09	\$8.09	\$116,951,000
Total Expenditures	\$382.84	\$341.88	\$429.11	\$410.85	\$223.00	\$113.00	\$106.50	\$510.95	\$442.68	\$233.04	\$76,604,613,000

Source: California Health Benefits Review Program, 2010.

Note: (a) This population includes persons insured with private funds (group and individual) and insured with public funds (e.g., CalPERS HMOs, Medi-Cal HMOs, Healthy Families Program, AIM, MRMIP) enrolled in health plans or policies regulated by DMHC or CDI. This population includes enrollees aged 0-64 years and enrollees 65 years or older covered by employment-sponsored insurance.

(b) Of these CalPERS HMO members, about 58% or 475,600 are state employees.

(c) Medi-Cal HMO state expenditures for members over 65 years of age include those who also have Medicare coverage.

(d) Healthy Families Program state expenditures include expenditures for the Major Risk Medical Insurance Program (MRMIP) and the Access for Infants and Mothers (AIM) program.

The Extent to Which Costs Resulting From Lack of Benefit Coverage Would Be Shifted to Other Payers, Including Both Public and Private Entities

Currently, there may be some cost shifting for those services that would newly mandated by SB 890 to publicly purchased insurance programs, especially for maternity services, as summarized in *Analysis of AB 1825: Maternity Services*: “Based on data from AIM, there is evidence of current cost-shifting to that program. As of 2009, 1,433 or 9% of the women enrolled in AIM were simultaneously enrolled in private health insurance policies that did not cover maternity services. Another 1,741 or 10% of AIM enrollees were enrolled in private insurance policies that did cover maternity services.”

According to the Department of Health Care Services, approximately 222,700 Medi-Cal beneficiaries are *also* currently enrolled in preferred provider organization (PPO) plans.¹⁸ To the extent that some of these beneficiaries are receiving coverage for services that are not covered by their CDI-regulated policy, there may be some cost shifts to the insurer if SB 890 were to be enacted.

Public Demand for Coverage

As a way to determine whether public demand exists for the proposed mandate (based on criteria specified by the program’s authorizing statute), CHBRP reports on the extent to which collective bargaining entities negotiate for, and the extent to which self-insured plans currently have coverage for the benefits specified under the proposed mandate. Currently, the largest public self-insured plans are the preferred provider organization (PPO) plans offered by CalPERS. These plans provide coverage similar to that of the private self-insured plans. These plans universally cover basic health care services. Large collective bargaining agents in California coverage also mirror those plans offered in the large-group market and cover basic health care services.¹⁹

Impacts of Mandated Benefit Coverage

How Would Changes in Coverage Related to the Mandate Affect the Benefit of the Newly Covered Service and the Per-Unit Cost?

Coverage impacts

The enactment of SB 890 would require all CDI-regulated policies to cover BHCS. As summarized in Table 1 in the *Executive Summary*, coverage would be expanded in the following manner:

¹⁸ Personal communication with Cindy Macklin, Legislative Coordinator, Department of Health Care Services, March 10, 2010.

¹⁹ Personal communication with the California Labor Federation, March, 2010.

- 174,000 enrollees would be newly covered for adult preventive services (across all CDI-regulated markets).
- 141,000 enrollees would be newly covered for preventive services for children (all of these enrollees would be in the CDI-regulated individual market).
- 176,000 enrollees would be newly covered for physical therapy, occupational therapy, and speech therapy (across all CDI-regulated markets)
- 139,000 enrollees would be newly covered for home health services (all of these enrollees would be in the CDI-regulated individual market)
- 141,000 enrollees would be newly covered for hospice services (across all CDI-regulated markets), and
- 963,000 would be newly covered for maternity services (all of these enrollees would be in the CDI-regulated individual market.)

Impacts on per-unit costs

CHBRP estimates that SB 890 will have little effect on the supply of the newly covered services. As noted above, most BHCS are already covered in the large- and small-group markets. In the individual market, the biggest effect is for maternity services. In the *Analysis of AB 1825: Maternity Services*, CHBRP found that most women are able to get these services when necessary. Mandating coverage for maternity service affects who pays, but should not put a large additional strain on service providers. CHBRP assumes that SB 890 would not affect per-unit costs as a result of possible supply constraints.

How Would Utilization Change as a Result of the Mandate?

Utilization rate impacts for BHCS (except maternity services)

CHBRP relied on the Milliman Health Cost Guidelines (HCG)s to model the effects of cost sharing on health care utilization. As summarized in Table 1, utilization for specific BHCS is estimated to increase by a range of 1.8% to 2.4%, depending on the service.

CHBRP considered three estimates of demand. Using the RAND Health Insurance Experiment (HIE), the base case assumed that nonmaternity basic service use doubles when enrollees go from no coverage to a policy with first-dollar coverage (“full coverage”). In the second case, CHBRP used the Milliman Health Cost Guidelines (HCGs) to consider the estimated utilization of services for people who go from no coverage to a policy having a 20% copayment and \$100 deductible payments. For this case, CHBRP estimated that utilization of most basic health care services will be 18% less than for those with full coverage. The third case considered the decrease in utilization for policies that are common in the CDI-regulated market: those that have 20% coinsurance but also have higher deductibles.

Therefore the estimated utilization for most BHCS associated with policies with 20% coinsurance and a \$750 deductible is estimated to be about 25% less than for policies with no

cost sharing. As an example, the expected utilization of adult immunizations under the various plan provisions was estimated as follows

- For enrollees without coverage for adult immunization, it was estimated that about 97/1000 enrollees get adult immunizations
- For enrollees with a \$100 deductible and a 20% coinsurance, the rate is estimated to be 176/1000.
- For an enrollee in a CDI-regulated policy with a \$750 deductible and a 20% coinsurance, it was estimated that the utilization rate would be 151/1000.
- So, an increase of 97 to 151 is expected when coverage is added, and when the coverage is subject to the policy's deductible and coinsurance.

CHBRP recognizes some uncertainty in the RAND estimates of elasticity of demand. For example, it is not known whether the elasticity of demand is constant across all services, ages and income, nor is it known whether elasticity is symmetric around plans with increasing as opposed to decreasing costs. Thus, CHBRP advises some caution in the interpretation of utilization rates. Given these caveats the impact of SB 890 on utilization of different BHCS is expected to range from an increase of approximately 1.8% to 2.4%.

An exception is childhood immunizations: CHBRP estimates no increase in utilization of these services since children are generally required to have immunizations before enrolling in schools and enrollees without coverage can obtain immunizations through the Vaccine for Children program.

Another exception is vision exams. Although many enrollees in the CDI-regulated market currently do not have coverage for routine vision exams under their health insurance policy, many employers offer separate vision plans to cover these services. Thus, in many cases the addition of vision exam coverage in a CDI-regulated policy may just cost a shift in utilization from the vision plan to the CDI-regulated policy. Limited data were available on the prevalence of these separate vision plans. CHBRP assumed that all group enrollees without vision exam coverage through their CDI-regulated policy would have access to either discounted or partially covered vision exams through other sources. Thus, CHBRP assumed no increase in utilization for enrollees in the small- and large-group markets newly covered for vision exams under the mandate. In the individual market, CHBRP assumed an increase in utilization for vision exams for adults but not for children since responses the SB 890 Coverage Survey indicated that an estimated 100% of children in the individual market currently have coverage for this service.

CHBRP also estimates no increase in utilization for hospice services since the baseline utilization rate is estimated be approximately zero.

Utilization rate impacts for maternity services

Maternity utilization was considered separately. To estimate the impact on utilization of SB 890 on maternity services, CHBRP relied on our *Analysis of AB 1825: Maternity Services*. CHBRP estimates no increase in utilization for maternity services as result of coverage since (1) most women deliver in a hospital so utilization for maternity-related hospitalization is not estimated to change, and (2) since most women are likely to continue to face large out-of-pocket expenditures for maternity services (including prenatal care) regardless of whether or not their insurance policy includes maternity benefits. This is because about 70% of the women in CDI-regulated individual policies are currently in high-deductible health plans (HDHPs).

To What Extent Would the Mandate Affect Administrative and Other Expenses?

Health insurers include a component for administrative and profit in their premiums. In estimating the impact of this mandate on premiums, CHBRP assumes that health insurers would apply their existing administrative and profit loads to the marginal increase in health care costs resulting from the mandate itself. The mandate would therefore increase the administrative expense for health insurers proportionate to the increase in health care costs. Short term administrative costs include, changes in contracting, claims and other systems; changes in member materials, provider contracts, and policies filed with the CDI.

Impact of the Mandate on Total Health Care Costs

Changes in total expenditures

As summarized in Table 1, the total net annual expenditures are estimated to increase by \$49,075,000, or 0.06%, for the year following implementation of the mandate. Although some costs are due to expansion of preventive services, most of the costs are due to the costs associated with providing maternity care coverage to persons in the individual markets who do not currently have it.

The effect of SB 890 on total expenditures and total premiums is shown in Table 1. Note that the increase in total expenditures for the entire market subject to state regulation is an aggregate of:

- Total premiums expenditures for private employers purchasing group insurance are estimated to increase by \$4,380,000 or 0.01%.
- Total premiums expenditures for enrollees in the group market are estimated to increase by \$1,355,000 or 0.01%.
- Total premium expenditures for individuals purchasing individual insurance are estimated to increase by \$127,949,000 or 2.14%.
- The increase in out-of-pocket expenditures for benefits newly covered by insurance (e.g., copayments and deductibles): \$32,342,000 or 0.54%

- The reduction in out-of-pocket expenditures for benefits not currently covered by insurance: \$116,951,000 or 100%. This change represents a total cost shift from individual to the plan when an uncovered service becomes covered under the mandate.
- Individual out-of-pocket expenditures for covered benefits (deductibles, copayments) across all DMHC- and CDI-regulated market segments are expected to increase by 0.54% and of this increase, 89% can be attributed to added coverage for maternity services in the CDI-regulated individual market. The model assumes that maternity service utilization does not increase, so costs are shifted from the patient to the insurer. For maternity, the only net increase in expenditures is due to the increase in administrative load due to added coverage, not to the use of services.

Table 11 gives the impact of SB 870 on the PMPM and total expenditures by market segment. For the CDI-regulated market, total expenditures are expected to increase by about 0.16% for the large-group policies, 0.02% for the small-group policies, and 1.36% for the individual policies. In terms of premium increases, the largest change will occur for individual policies (5.00%). The premium increase will be less than 1% in the large-group (0.24%) and small-group (0.04%) plans.

For the 5.00% increase in premiums for individually purchased CDI-regulated policies, CHBRP estimates that 94% is attributable to maternity benefits while only about 6% is attributable to other BHCS.

Table 11. Impacts of the Mandate on Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2010

	DMHC-Regulated							CDI-Regulated			Total Annual
	Privately Funded			CalPERS HMOs(b)	Medi-Cal HMOs		Healthy Families Program HMOs (d)	Privately Funded			
	Large Group	Small Group	Individual		65 and Over (c)	Under 65		Large Group	Small Group	Individual	
Total enrollees in plans/policies subject to state mandates (a)	9,445,000	2,394,000	785,000	820,000	175,000	2,616,000	814,000	324,000	935,000	1,179,000	19,487,000
Total enrollees in plans/policies subject to SB 890	0	0	0	0	0	0	0	324,000	935,000	1,179,000	2,438,000
Average portion of premium paid by employer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.83	\$0.10	\$0.00	\$4,381,000
Average portion of premium paid by employee	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.25	\$0.03	\$9.04	\$129,305,000
Total Premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1.08	\$0.14	\$9.04	\$133,686,000
Enrollee expenses for covered benefits (deductibles, copays, etc.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.14	\$0.05	\$2.21	\$32,343,000
Enrollee expenses for benefits not covered	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	-\$0.39	-\$0.09	-\$8.09	-\$116,951,000
Total Expenditures	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.83	\$0.09	\$3.17	\$49,078,000
Percentage Impact of Mandate											
Insured Premiums	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.24%	0.04%	5.00%	0.19%
Total Expenditures	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.16%	0.02%	1.36%	0.06%

Source: California Health Benefits Review Program, 2010.

Note: (a) This population includes persons insured with private funds (group and individual) and insured with public funds (e.g., CalPERS HMOs, Medi-Cal HMOs, Healthy Families Program, AIM, MRMIP) enrolled in health plans or policies regulated by DMHC or CDI. This population includes enrollees aged 0-64 years and enrollees 65 years or older covered by employment-sponsored insurance.

(b) Of these CalPERS members, about 58% or 475,600 are state employees.

(c) Medi-Cal HMO state expenditures for members over 65 years of age include those who also have Medicare coverage.

(d) Healthy Families Program state expenditures include expenditures for the Major Risk Medical Insurance Program (MRMIP) and the Access for Infants and Mothers (AIM) program.

Impact on long-term cost

The long term impact of SB 890 is related to the expected health benefits of basic health care services and maternity services. If, for example, women with maternity benefits receive high quality prenatal care, and this care results in a reduction in adverse outcomes and downstream health care costs, then the long-term beneficial cost consequences could be considerable. Similarly, if basic health care services, including preventive care, physical therapy, occupational and speech therapy, and hospice care has powerful effects on future costs, the long term impact could be substantial. However, the long term cost effects are speculative since CHBRP has not identified firm evidence to support long range cost projections.

The evidence for the long term of effect of preventive services has been evaluated by a variety of groups. As noted in the *Medical Effectiveness* section, virtually all clinical guideline groups advocate for the inclusion of basic preventive services as part of a core benefit package (see USPSTF, 2009b). These services include screening tests, immunizations, and counseling. Most groups follow the recommendations of the U.S. Preventive Services Task Force. Virtually all groups suggest that core benefits include screening for high blood pressure, high blood cholesterol, obesity, and certain cancers. They further include childhood immunizations and the other services included in SB 890 (Woolf et al, 2008).

Cost/effectiveness analyses have compared the benefit of these services against other services that are already covered in most plans. For example, angioplasty costs more than \$100,000 to produce one quality-adjusted life year (QALY). Certain basic health care services produce QALYs at a much lower cost. Colonoscopy, for instance, produces a QALY for less than \$25,000 (Mark, 2007). The National Commission on Prevention Priorities (Maciosek et al., 2006, NCPP, 2007) evaluated 25 basic services in 2006. They found that the cost/QALY was less than \$35,000 for 15 of these services. For the other 10, the cost/QALY was less than \$14,000. Not all basic health care services offer value for money. However, current consensus suggests that the long run impact of most basic health care services is associated with comparatively lower cost and better health outcomes.

Impacts for Each Category of Payer Resulting From the Benefit Mandate

Changes in expenditures and PMPM amounts by payer category

The effect of SB 890 on PMPM is shown in Table 11. In the CDI-regulated market, SB 890 is estimated to increase premiums by

- \$0.25 (0.24%) for large-group enrollees
- \$0.03 (0.04%) for small-group enrollees, and
- \$9.04 (5.00%) for enrollees with individual policies.

Effects of prohibiting annual and lifetime benefit limits

As discussed in the “Current Coverage of the Mandated Benefit” section and in Table 1 of the *Executive Summary*, few policies have significant benefit limits in place. Therefore, eliminating annual and lifetime benefit limits has the following impact:

- Removing the lifetime benefit limits would have no measurable impacts.
- Removing annual benefit limits would increase PMPM claim costs by about \$0.63-\$0.68 in the large-group plans, \$0.55-\$0.06 in the small-group plans, and \$0.00-\$0.02 in the individual plans.
- It is worth noting that, based on the responses to CHBRP's SB 890 Coverage Survey, the annual benefit limits were for policies primarily marketed to students and for those who were waiting for their employer-sponsored policies to become effective. Given that these populations would be expected to have low-health care utilization as compared to the average enrollee with a CDI-regulated policy, it is unlikely that they would hit their annual benefit limit of \$30,000.

In order to gain a better understanding of the effects of annual benefit limits, CHBRP considered the relationship between expenditure limits and premiums using three hypothetical annual limits: \$30,000, \$100,000, and no limit. If expenditures for basic health care services were limited to \$100,000 annually, PMPM costs could be reduced by about 7% (in relation to the no benefit limit. Capping expenditures at \$30,000 might reduce PMPM by about 25%. However, the few affected individuals would incur substantial out of pocket costs. .

Premium effect of maternity services by market segment

The major impact of the mandate results from coverage for maternity services in the individual market. The major impact of the mandate is during the child bearing years of life for women. If maternity care is not part of the mandate, premiums significantly decrease during these years for those who elect to purchase policies that cover maternity services. The decrease is made possible by spreading the costs across a larger group of enrollees. If the mandate includes maternity care, premiums sharply increase during this phase of life. This effect is shown in Table 12 below.

Table 12. Estimated Impact on Individual Premiums

		Estimated Premiums				% Impact on Premiums	
		Premandate		Postmandate			
	Age	Covered w/ Maternity	Covered w/o Maternity	Covered w/ Maternity	Covered w/o Maternity	Covered w/ Maternity	Covered w/o Maternity
Child	0-1	\$291	\$291	\$291	\$291	0.00%	0.00%
Child	2-6	\$66	\$66	\$66	\$66	0.00%	0.00%
Child	7-18	\$76	\$76	\$76	\$76	-0.20%	0.66%
Child	19-22	\$106	\$104	\$106	\$106	-0.47%	1.56%
Adult	To 25	\$155	\$110	\$134	\$134	-13.82%	21.89%
Adult	25-29	\$201	\$125	\$160	\$160	-20.28%	28.00%
Adult	30-34	\$215	\$146	\$182	\$182	-15.67%	24.68%
Adult	35-39	\$205	\$170	\$190	\$190	-7.36%	11.71%
Adult	40-44	\$208	\$201	\$206	\$206	-1.36%	2.04%
Adult	45-49	\$245	\$245	\$245	\$245	0.06%	0.09%
Adult	50-54	\$311	\$311	\$311	\$311	0.13%	-0.03%
Adult	55-59	\$392	\$392	\$392	\$392	0.02%	-0.01%
Adult	60-64	\$501	\$500	\$500	\$500	-0.13%	0.05%
Total		\$213	\$177	\$204	\$190	-4.16%	7.20%

Source: California Health Benefits Review Program, 2010

Changes in the number of uninsured persons as a result of premium increases

SB 890 is estimated to lead to a net premium increase. For a small number of people in the individual market who already have coverage for maternity care, premiums could decrease because the cost of maternity services would be spread across a larger number of people. CHBRP estimates the impact on the number of insured when the premium increase (or decrease) faced by any segment of the population is at least a 1% increase.²⁰ Using CHBRP's standard methodology, premium changes associated with SB 890 are projected to lead to a net *increase* of uninsured of approximately 9,629, of which 9,335 are due to the addition of maternity coverage, and 294 are due to other BHCS. Since the premium increase for large group and small group was less than 1%, CHBRP does not estimate an increase in the number of uninsured in these markets.

²⁰ See http://www.chbrp.org/analysis_methodology/cost_impact_analysis.php for more information on CHBRP's methods for calculating the number of uninsured as a result of premium changes.

Impact on public programs

Since SB 890 affects the CDI-regulated market only, the direct effects on DMHC-regulated plans, CalPERS HMO, Medi-Cal Managed Care, and Healthy Families are estimated to be zero.

As mentioned, in “The Extent to Which Costs Resulting from Lack of Benefit Coverage Would Be Shifted to Other Payers, Including Both Public and Private Entities” section, there is some evidence that cost-shifts to AIM and Medi-Cal may be occurring currently. In terms of maternity services, the extent to which SB 890 would affect the shift of maternity costs from private policies onto AIM depends on whether pregnant CDI-regulated individual policyholders who currently have no maternity coverage and qualify for AIM would continue to qualify and enroll in AIM after they are given maternity coverage through their health policy. Since the cost of maternity services in for CDI-regulated policies (specifically high-deductible health plans) would likely still be greater than \$500 (adding up deductibles and copayments), women enrolled in AIM would still qualify for AIM following the enactment of SB 890.

It is not likely that SB 890 would affect eligibility or subsequent enrollment for Medi-Cal. However, given that there are 222,700 Medi-Cal beneficiaries who are *also* enrolled in PPO plans, there may be a shift from Medi-Cal to insurers for the costs of those services that would be newly covered by CDI-regulated policies under SB 890. CHBRP is unable to estimate this shift given lack of more detailed data regarding the underlying Medi-Cal population, services used and corresponding costs.

Impact on Access and Health Service Availability

CDI does not have readily accessible data regarding complaints and Independent Medical Review (IMR) cases that may be related to maternity services, preventive services or other BHCS. However, because the services covered under BHCS are so widely available, this mandate is estimated to have no measurable impact on availability of those services.

PUBLIC HEALTH IMPACTS

SB 890 would require CDI-regulated policies to provide coverage for medically necessary basic health care services and prohibit policies from having an annual limit or lifetime limit on basic health care services. Taking into account existing state and federal mandates already in place, SB 890 would mandate coverage for (1) preventive benefits for adults (physical exams, immunizations, health education, vision screenings, and hearing screenings), (2) preventive benefits for children (well baby exams, physical exams for children, immunizations, health education, vision screenings, and hearing screenings), (3) maternity coverage, (4) physical, occupational, and speech therapy, (5) home health care, and (6) hospice services. This section presents the overall public health impact of passage of SB 890 by examining the six newly mandated benefits listed above, including a discussion of the health risks, generally, of being underinsured. Analyses examining the potential for reduction in gender and racial/ethnic disparities in health outcomes and the potential for the mandate to reduce premature death and societal economic losses as a result of poor health are also included.

Impact of the Proposed Mandate on the Public's Health

SB 890 mandates basic health care services to prevent enrollees with health insurance from being underinsured. Underinsurance (having high out-of-pocket medical expenses even though one is insured) has been increasing in the United States and researchers have found that being underinsured is associated with having unmet health care needs and not complying with recommended treatments (Schoen et al., 2008). In California, many insured individuals forego or delay necessary medical care because of financial and insurance-related reasons. In 2001, approximately 18% of insured individuals who reported that they delayed or didn't get needed medical care stated financial and insurance-related reasons (CHIS, 2001). Additionally, approximately 23% reported delaying or not filling a prescription due to financial and insurance coverage reasons (CHIS, 2001). As presented in the *Medical Effectiveness* section, there are many basic health care services mandated by SB 890 that are effective in improving health outcomes. As indicated in Table 1, the vast majority of individuals have coverage for these basic health care services. CHBRP estimates that utilization is projected to increase by 1.8%-2.5% depending on the service. Taking the evidence reviewed in the *Medical Effectiveness* section along with the projected utilization of basic health care services presented in the *Utilization, Cost, and Coverage Impacts* section, the potential public health impact of SB 890 is presented in Table 13 and discussed for specific services below.

Preventive Benefits for Adults

Physical exams

Physical examinations typically include services such as monitoring weight and blood pressure, reviewing appropriate screening tests with the patient, and discussing health risks. Among the insured non-elderly adult population, it is estimated that 85.5% visited a doctor in the past year, 7.5% visited a doctor in the past 1-2 years, 4.9% visited a doctor between 2-5 years ago, and 1.6% visited a doctor more than 5 years ago (CHIS, 2003). CHBRP estimates that as a result of SB 890, 10,763 additional physical examinations will be conducted. The *Medical Effectiveness*

section found that adults who obtained physical exams were more likely to receive three screening tests for which there is evidence of effectiveness: cholesterol screening, fecal occult blood testing for colorectal cancer, and Pap tests for cervical cancer.

- High cholesterol in adults is usually defined as serum cholesterol levels greater than 240 mg/dL (Ayanian et al., 2003). Regular cholesterol screening is recommended for men starting at age 35 and women starting at age 45 (USPSTF, 2008c). Among insured Californians, 29.1% of men ages 35-64 and 28.1% of women ages 45-64 report that their doctor has told them that they have high cholesterol (CHIS, 2005). Among non-elderly adults with high cholesterol (diagnosed and un-diagnosed), those who are uninsured were significantly more likely to be undiagnosed (70.6% of the uninsured vs. 51.2% of the insured) (Ayanian et al., 2003). As presented in the *Medical Effectiveness* section, physical exams are associated with higher rates of cholesterol screening. This suggests that increasing insurance coverage for physical exams can increase rates of diagnosed high cholesterol, thus providing for an opportunity for physicians to help patients address this health risk.
- It is expected that there will be 14,160 cases of colorectal cancer and 5,080 colorectal cancer related deaths in California in 2010 (CCR, 2009). Screening for colorectal cancer is recommended in adults, beginning at age 50 and continuing until age 75. (USPSTF, 2008b). Among insured Californians age 50 and older, 65.9% report receiving a colorectal cancer screening in accordance with the USPSTF recommendations (CHIS, 2007). As presented in the *Medical Effectiveness* section, physical exams are associated with higher rates of colorectal cancer screening. This suggests that increasing insurance coverage for physical exams can increase rates of diagnosed colorectal cancer, thus providing for an opportunity for physicians to treat the disease at an earlier stage. Survival rates for colorectal cancer found at an earlier stage (i.e., localized) are much higher than for colorectal cancer found at later stages (i.e., regional or distant) (CCR, 2009).
- It is expected that there will be 1,430 cases of cervical cancer and 445 cervical cancer-related deaths in California in 2010 (CCR, 2009). Screening for cervical cancer using Pap smears is recommended at least every 3 years in females who are sexually active or starting at age 21 (USPSTF, 2003b). An estimated 92.3% of insured females aged 21 to 64 years have been screened for cervical cancer using a Pap smear in the past 3 years (CHIS, 2007). As presented in the *Medical Effectiveness* section, physical exams are associated with higher rates of cervical cancer screening. This suggests that increasing insurance coverage for physical exams can increase rates of diagnosed cervical cancer, thus providing for an opportunity for physicians to treat the disease at an earlier stage. Survival rates for cervical cancer found at an earlier stage (i.e., localized) are much higher than for cervical cancer found at later stages (i.e., regional or distant) (CCR, 2009).

Although CHBRP is unable to estimate precisely the impact these additional physical examinations will have on public health, based on the evidence presented in the *Medical Effectiveness* section, it stands to reason that some improvement in health as a result of cholesterol screening, fecal occult blood testing for colorectal cancer, and Pap tests for cervical cancer counseling would be expected.

Immunizations

CHBRP estimates that as a result of SB 890, 12,380 additional immunizations will be conducted each year. It is estimated that 55.1% of these will be immunizations against influenza, 27.6% of these will be immunizations against tetanus and diphtheria, and 8.3% of these will be immunizations against pneumonia. As presented in the *Medical Effectiveness* section, the CDC recommends that non-elderly adults at increased risk are immunized with influenza and pneumococcal vaccines. It is estimated that 35% of adults at increased risk for influenza are vaccinated each year (NCHS, 2009). Also presented in the *Medical Effectiveness* section was the CDC recommendations for vaccines for adults 65 and older: influenza and pneumococcal. Approximately 60% of elderly adults receive influenza vaccinations each year and 60% have ever received a pneumococcal vaccine (NCHS, 2009). Although CHBRP is unable to estimate precisely the impact these additional immunizations will have on public health, it stands to reason based on the CDC recommendations that some improvement in public health as a result of increased immunizations would be expected.

Vision exams

The National Eye Institute estimates that the most common eye disorder among 40-59 year olds is nearsightedness (myopia), impacting nearly one-third of this age group (30.8%) (NEI, 2008). Other common eye disorders among 40-59 year olds in the U.S. include farsightedness (hyperopia, 4.8%), cataracts (4.3%), and intermediate age-related macular degeneration (2.6%) (NEI, 2008). CHBRP estimates that as a result of SB 890, 4,427 additional vision exams would be conducted each year. As presented in the *Medical Effectiveness* section, no studies of the effectiveness of screening adults for refractive error (i.e., nearsightedness, farsightedness, and astigmatism) were identified. The available evidence for the effectiveness of glaucoma screening is not sufficient to determine whether screening is beneficial. Therefore the public health impact of the mandate on vision is unknown

Hearing/speech exams

It is estimated that 17% of adults have some degree of hearing loss (NIDCD, 2008). The prevalence of hearing loss increases with age with hearing loss reported among 18% of people ages 45-64, 30% of people ages 65-74, and 47% of people ages 75 and older (NIDCD, 2008). CHBRP estimates that as a result of SB 890, 2,615 additional hearing exams will be conducted each year. As presented in the *Medical Effectiveness* section, no studies were identified that compared hearing outcomes in screened versus unscreened adults, however, there is indirect evidence that older adults may benefit from hearing screening. Although CHBRP is unable to estimate precisely the impact these additional exams will have on public health, it stands to reason based on the indirect evidence that some improvement in public health as a result of increased screening would be expected.

Comprehensive preventive care is associated with preventing a myriad of conditions that can lead to premature death. Immunizations protect against infectious diseases that can result in death and health education counseling can lead to a reduction in risky behaviors that can affect mortality rates. It is estimated that as a result of SB 890, there will be an increase in adult preventive services in 10,763 more physical examinations, 12,380 immunizations, 4,427 vision exams, and 2,615 hearing/speech exams. Although CHBRP is unable to estimate precisely the impact these services will have on public health, some improvement in public health would be expected.

Preventive Benefits for Children

Annual physical exams & well baby exams

Comprehensive preventive care for children includes routine physical examinations, health education counseling, immunizations, and vision and hearing screenings. In California, the vast majority of insured children (aged 11 and under) have seen a doctor in the past year for a routine examination (94%) (CHIS, 2003). Among insured adolescents (aged 12 to 17 years), 82% reported that they went to a doctor for a routine physical exam or check-up within the past year, 13% reported a visit within 1 to 2 years, 4% reported a visit 2 or more years ago, and 1% reported no visits (CHIS, 2007). CHBRP estimates that as a result of SB 890, 3,058 additional pediatric physical examinations and 4,440 additional well baby exams will be conducted each year. The *Medical Effectiveness* section did not identify any studies of the effectiveness of periodic physical examinations for children and adolescents. Guidelines, based on expert opinion, recommend that all children and adolescents receive periodic physical examinations. It stands to reason, based on these guidelines, that an increase in pediatric physical exams will lead to public health benefit for children.

Immunizations

As presented in the *Medical Effectiveness* section, the CDC recommends the following immunizations for children: haemophilus influenza type B, hepatitis A, hepatitis B, human papillomavirus (ages 11-18), influenza, measles-mumps-rubella, meningitis, pneumonia (children at increased risk), polio, rotavirus, tetanus, diphtheria, and pertussis, and varicella (chicken pox). In California, it is estimated that 79% of children have coverage for all recommended vaccine series by 35 months of age (CDC, 2009c). CHBRP estimates that there will not be an increase in the number of children vaccinated as a result of SB 890, therefore no public health benefit is expected.

Vision exams

It is estimated that between 5% to 10% of pre-schoolers have impaired vision (USPSTF, 2004b). The most common disorders are refractive error (i.e., nearsightedness, farsightedness, and astigmatism) that can be treated with corrective lenses. Amblyopia, often referred to as “lazy eye,” is a vision disorder caused by conditions that interfere with normal binocular vision, and is found in approximately 3% of the population (Webber and Wood, 2005). CHBRP estimates that SB 890 would not result in an increase in vision exams for children. The USPSTF recommends screening and early treatment to detect vision disorders among children under age five (USPSTF,

2004b). Because utilization of vision exams is not expected to increase for children, no impact on public health is expected from this component of the mandate.

Hearing/speech exams

It is estimated that 1.7% of children have some type of hearing loss (NIDCD, 2008). It is estimated that utilization of hearing screening will increase by 1,618 exams as a result of SB 890. As presented in the *Medical Effectiveness* section, the USPSTF recommends universal hearing screening for newborns and early intervention services for newborns who test positive for permanent congenital hearing loss (USPSTF, 2008d). Universal screening facilitates early diagnosis of permanent congenital hearing loss and enables children to begin receiving intervention at an earlier age leading to improved language skills (USPSTF, 2008d). Therefore, SB 890 is expected to lead to earlier diagnosis of hearing problems and an improvement in language skills.

It is estimated that as a result of SB 890, there will be an increase in pediatric preventive services in 3,058 more physical examinations, 4,440 well baby exams, and 1,618 hearing screening exams. Although CHBRP is unable to estimate precisely the impact these services will have on public health, it stands to reason based on the available evidence, that some improvement in public health would be expected.

Maternity Services²¹

Maternity services benefits generally include prenatal care, such as office visits and screening tests; labor and delivery services, including hospitalization; care resulting from complications related to a pregnancy; and postnatal care. In 2008, there were more than 551,000 births in California, of which 3.2% were to women receiving late or no prenatal care (CDPH, 2008). The *Utilization, Cost, and Coverage Impacts* section estimates that 8,300 pregnancies would be newly covered as a result of SB 890. CHBRP is not able to predict exactly what the impact of SB 890 would be on the utilization of effective prenatal services would be, but assumes a lower bound estimate of no impact and an upper bound estimate that postmandate 100% of these women would receive effective prenatal care services that they would have otherwise forgone. As presented in the *Medical Effectiveness* section, the prenatal care services that are effective in improving health outcomes are: counseling on behavioral risks such as smoking and domestic violence; screening and counseling for genetic disorders; screening for and treating infectious diseases such as asymptomatic bacteriuria, hepatitis B, HIV, sexually transmitted infections, and group B streptococcus; screening and management of hypertensive disorders, gestational diabetes, anemia, and Rh(D) incompatibility; and screening and management of women at risk for preterm deliveries. The impact of SB 890 will most likely fall between the lower and upper bounds. Therefore, it is likely that SB 890 will have some impact on pregnant women quitting smoking, reducing low-birth weight births, preventing hepatitis B transmissions, preventing HIV transmissions, preventing preeclampsia, and preventing cases of respiratory distress syndrome (RDS).

²¹ A more detailed analysis of this topic can be found in CHBRP's *Analysis of AB 1825: Maternity Services, A Report to the California Legislature*, April 16, 2010.

Physical, Occupational, and Speech Therapy

Physical, occupational, and speech therapy are used to help persons recover from many types of injuries or illnesses and to cope with multiple chronic conditions. Physical therapy concerns the diagnosis and treatment of disorders of the musculoskeletal system. Occupational therapy assists individuals in engaging or re-engaging in purposeful activity. Speech therapy is used to treat speech, voice, and language disorders. CHBRP estimates that the rates for these therapies ranges between 7.9-8.4 visits per 100 insured individuals. CHBRP estimates that as a result of SB 890, utilization of these therapies will increase by 4,489 visits. As presented in the *Medical Effectiveness* section, there is evidence that some forms of physical, occupational, and speech therapy are effective for treatment of some injuries, illnesses, and conditions. Therefore, SB 890 is expected to positively impact health outcomes.

Home Health Care

Home health care is used to help patients who are recovering from an illness or injury to continue to receive medical care on a regular basis without having to leave their home. The most common primary diagnoses of current home health care patients are: diseases of the circulatory system (including heart disease), injury and poisoning, diseases of the musculoskeletal system and connective tissue (such as arthritis), diabetes, diseases of the nervous system, diseases of the respiratory system, and cancer (NHHCS, 2004b). The rate of current home health care use in the under-65 population across the United States is 16.4 per 100,000 (NHHCS, 2004b). This represents 29.5% of total patients. In the under-65 population, the mean length of home health care service lasts for 51 days, whereas the median length of service is 17 days (NHHCS, 2004b). CHBRP estimates that as a result of SB 890, utilization will increase by 2,722 home health visits. As presented in the *Medical Effectiveness* section, there is clear and convincing evidence that home health care leads to better outcomes for elderly and disabled adult patients, but there is little evidence for nondisabled non-elderly adults. Therefore SB 890 is expected to have a positive health impact for any elderly or disabled or elderly patients in the population impacted by the mandate.

Hospice Services

Hospice care provides physical, psychological, social, and spiritual care to dying persons and their families. Hospice care can be provided in either inpatient or at home on a part-time, full-time, or round-the-clock basis. The rate of current hospice care in the under-65 population across the United States is 8.0 per 100,000 (NHHCS, 2004a). The under-65 population represents 18.6% of total hospice patients. The rate of hospice care discharges in 2000 (including death) was 52.1 per 100,000 persons (NHHCS, 2004a). In the under-65 population, the mean length of hospice care service lasts for 163 days, whereas the median length of service is 89 days (NHHCS, 2004a). This discrepancy in rates takes into account the fact that there are many episodes of care that are extremely short in duration. CHBRP estimated that SB 890 will not affect the use of hospice services. As presented in the *Medical Effectiveness* section, the evidence of the effects of hospice care on the duration, frequency, severity of pain, and quality of life is ambiguous. However, the preponderance of evidence suggests that hospice care reduces other symptoms associated with terminal illness (e.g., anxiety, diarrhea, and nausea). Because utilization of hospice services are not expected to increase, no impact on public health is expected from this component of the mandate.

Annual and Lifetime Benefit Limits

As presented in the *Utilization, Cost, and Coverage Impacts* section, CHBRP estimates that 0.6% of group policies and 0.1% of individual policies have annual limits on coverage. The annual average dollar limits are \$70,000 in the large- and small-group policies, and \$100,000 in the individual policies. In terms of lifetime benefit limits, responses to CHBRP’s SB 890 Coverage Survey indicated that there were no policies with lifetime benefit limits that were less than \$5 million. It is possible that the portion of the California market not captured by CHBRP’s coverage survey may have more stringent annual or lifetime benefit limits. No literature was identified that evaluated the impact of annual and lifetime benefit limits on health outcomes. Therefore, the impact of this component of SB 890 is unknown.

Table 13. A Summary of the Public Health (PH) Impact of SB 890

Benefit	Increase in Utilization	Medical Effectiveness	PH Impact
Preventative benefits for adults			
Physical exams	10,763	Effective for specific screenings	Positive PH impact
Immunizations	12,380	Effective	Positive PH impact
Vision exams	4,427	Insufficient evidence	Unknown impact
Hearing/speech exams	2,615	Insufficient evidence	Unknown impact
<i>Preventative benefits for children</i>			
Physical exams	3,058	Recommended per professional guidelines	Positive PH impact
Well baby exams	4,440	Recommended per professional guidelines	Positive PH Impact
Immunizations	0	Effective	No Impact
Vision exams	0	Insufficient evidence	No Impact
Hearing/speech exams	1,618	Effective in increasing language skills	Positive PH impact
Maternity–prenatal care	Between 0-8,300	Effective for specific prenatal care services	Positive PH Impact
Physical, occupational, & speech therapy	4,489	Effective for specific conditions	Positive PH Impact
Home health	2,772	Effective for elderly and disabled	Positive PH Impact
Hospice	0	Ambiguous	No Impact

Source: CHBRP, 2010

Impact on the Health of the Community Where Gender and Racial Disparities Exist

Several competing definitions of “health disparities” exist. CHBRP relies on the following definition: *A health disparity/inequality is a particular type of difference in health or in the most important influences of health that could potentially be shaped by policies; it is a difference in which disadvantaged social groups (such as the poor, racial/ethnic minorities, women, or other groups that have persistently experienced social disadvantage or discrimination) systematically*

experience worse health or greater health risks than more advantaged groups. (Braveman, 2006).

CHBRP investigated the effect that SB 890 would have on health disparities by gender, race, and ethnicity. Evaluating the impact on racial and ethnic disparities is particularly important because racial and ethnic minorities report having poorer health status and worse health indicators (KFF, 2007). One important contributor to racial and ethnic health disparities is differential insurance rates, where minorities are more likely than whites to be uninsured; however, disparities still exist within the insured population (Kirby et al., 2006, Lillie-Blanton and Hoffman, 2005). A literature review was conducted to determine whether there are gender, racial, or ethnic disparities associated with the impact of coverage for basic health care services on health care utilization.

Impact on Gender Disparities

Females are more likely to visit their doctor compared to males—in California, among the non-elderly insured adult population, it is estimated that 92% of females visited a doctor in the past year compared to 79% of males (CHIS, 2003). This same trend was not seen in children, where male and females visited the doctor at similar rates (CHIS, 2003). Females report to have higher rates of home health care use (17.2 per 100,000) compared to males (15.6 per 100,000) and higher rates of hospice use (8.6 vs. 7.5 per 100,000) (NHHCS, 2004a, 2004b). The literature on the impact of coverage on utilization of basic health care services by gender is mixed. Cherkin et al (1989) found that the impact of office visit copayments on utilization was twice as large for females compared to males. Inversely, Faulkner and Schauflyer (1997) found that males were more impacted by level of coverage for basic health care services than women. Although females are higher users of basic health care services compared to males, the literature on the impact of coverage of basic health care services on utilization by gender is ambiguous. Therefore, the impact of SB 890 by gender is unknown.

Females enrolled in plans in the individual health insurance market without coverage for maternity benefits are currently paying up to \$108.8 million for out-of-pocket for noncovered maternity services. It is estimated that as a result of SB 890 a portion of these costs (up to \$28.8 million) would shift from out-of-pocket costs for noncovered maternity services to out-of-pocket costs for covered maternity services (e.g., copayments and deductibles), and that the remaining costs would be shifted to insurance policies and ultimately enrollees through higher premiums. It is estimated that there would be a \$120 million increase in premium expenditures across males and females in the individual market. Since the decrease in out-of-pocket costs would come from a population of enrollees that are entirely female and the increase in premiums would be spread across both male and female enrollees, this mandate would differentially reduce the financial burden faced by female enrollees.

Impact on Racial/Ethnic Disparities

Utilization of basic health care services varies by race/ethnicity. Among insured non-elderly adults, Hispanics and Asians were less likely to have visited the doctor in the past year compared to non-Hispanic whites and blacks (CHIS, 2003). Asian children reported having not visited the

doctor in the past year at higher rates compared to white children (15% vs. 9%) (CHIS, 2005). There were no significant differences in the rates at which children were immunized by race or ethnicity in California (OWH, 2006). In addition, blacks report higher rates of current home health care use (17.8 vs. 14.1 per 100,000) and current hospice use (14.4 vs. 6.8 per 100,000) compared to whites (NHHCS, 2004a; NHHCS, 2004b).

Research suggests that there could be a differential impact of coverage for basic health care services on utilization by race/ethnicity. Haas et al. (2002) found that even though managed care enrollees had lower cost sharing for preventive services, utilization rates for blacks and Asian enrollees in managed care were not found to be higher than under fee-for-service (FFS). Higher utilization rates were found, however, for Hispanics and whites managed care enrollees (Haas et al., 2002). Similarly, DeLaet et al. (2002) found greater managed care/FFS differences in preventive services utilization for Hispanic and whites compared to blacks. These findings suggest that SB 890 could have a differential effect on utilization of basic health care services by racial and ethnic group, although the exact impact is unknown.

The Extent to Which the Proposed Service Reduces Premature Death and the Economic Loss Associated With Disease

Both premature death and economic loss associated with disease are two measures used by economists and public health experts as a way to assess the impact of a condition or disease. Premature death, often defined as death before the age of 75 (Cox, 2006), can be measured in years of potential life lost (YYPL) (Cox, 2006; Gardner and Sanborn, 1990). Economic loss associated with disease is generally an estimation of the value of the YPLL in dollar amount (i.e., valuation of years of work life lost from premature death or lost productivity due to disease or condition).

Premature Death

It is estimated that more than 40% of all deaths in the United States are preventable (Mokdad et al., 2004). The leading cause of death in the United States is tobacco use with about 435,000 deaths annually—representing 18% of total deaths. This is followed closely by poor diet and physical inactivity, which leads to about 400,000 deaths per year and represents 17% of total deaths (Mokdad et al., 2004). Comprehensive preventive care is associated with preventing a myriad of conditions that can lead to premature death. Immunizations protect against infectious diseases that can result in death; health education counseling can lead to a reduction in risky behaviors that can affect mortality rates; and routine health care check-ups are important to improve screening rates for cancers which can be effectively treated if caught in the early stages. Increased utilization of basic health care services newly covered by SB 890 could lead to a reduction in premature death through increases in cholesterol screening, fecal occult blood testing for colorectal cancer, and Pap tests for cervical cancer. In addition, the USPSTF concluded that there is evidence that health education for the following topics is effective in reducing health risks: alcohol misuse, tobacco use, sexually transmitted infections, weight loss, and nutrition (for specified populations). Although CHBRP is unable to determine the impact of

SB 980 on premature death precisely, it stands to reason that over time, SB 890 would contribute to the reduction in premature death in California.

Economic Loss

The economic loss associated with disease is generally an estimate of the productivity losses due to a disease or condition, including productivity lost to early death, disability during illness, and caretaker time for parents with sick children. Table 14 details some of the health services expected to increase due to SB 890, some of the corresponding diseases/conditions that may be affected, and estimates of the productivity costs associated with these diseases/conditions in the United States.

There are substantial productivity costs associated with several of the diseases and conditions that could be potentially affected by SB 890, including heart disease, colorectal cancer, cervical cancer, influenza, poor pregnancy outcome, and stroke. Although Table 14 is not inclusive of all diseases/conditions potentially affected by SB 890, it lists the ones for which there is available literature on productivity and economic loss associated with the disease. The annual productivity losses detailed in Table 14 range from \$1.8 billion for cervical cancer to \$124 billion for heart disease in 2010 dollars (Bradley et al., 2008; Devol et al, 2007).

Table 14. Economic Loss Estimates Associated With Diseases/Conditions Potentially Affected by SB 890

Health Services	Corresponding Disease(s)/Conditions	Annual Productivity Loss Estimates in the United States (2010 dollars)*
Cholesterol screening	Heart disease	\$124 billion
Fecal occult blood testing	Colorectal cancer	\$12.8 billion
Pap tests and HPV vaccine	Cervical cancer	\$1.8 billion
Immunizations	Influenza	\$19.2 billion
Maternity services	Poor pregnancy outcomes (e.g., low birth-weight, preeclampsia, hepatitis B transmissions)	\$6.3 billion for preterm birth
Home care	Heart disease Stroke	\$124 billion for heart disease \$26 billion for stroke

Sources: Estimates for heart disease and stroke, Devol et al., 2007; estimates for colorectal and cervical cancers, Bradley et al., 2008; estimate for influenza, Molinari et al., 2007; estimate for preterm infants, IOM, 2006.

Note: * Costs detailed in years other than 2010 were inflated to 2010 dollars using the Consumer Price Index (CPI) inflation calculator located at www.bls.gov/data/inflation_calculator.htm.

In addition to the literature cited above, data from the California Health Interview Survey provides information regarding certain productivity measures. These include, productivity measures among those who are living with heart disease, colon or rectal cancer, cervical cancer, and stroke. Table 15 compares these productivity measures—employment status and inability to work due to health impairment among persons with these diseases/conditions compared to those without. Persons “ever diagnosed with heart disease, colon or rectal cancer, and ever had a stroke” were more likely to report being unemployed and not looking for work compared to those without these conditions. Additionally, those “ever diagnosed with heart disease, colon or rectal cancer, cervical cancer, and stroke” were more likely to report that they could not work for at least a year due to a physical/mental impairment compared to those without these conditions. These findings were statistically significant.

Table 15. California Productivity Measures for Those With Specified Diseases and Health Conditions Among Currently Insured Adults Under Age 65

	With Disease/Condition	Without Disease/Condition
Ever diagnosed with heart disease		
Unemployed and not looking for work	39.7% (35.6-43.8)	18.5% (17.7-19.2)
Could not work for at least a year due to physical/mental impairment	21.3% (18.2-24.5)	4.8% (4.5-5.1)
Ever diagnosed with colon or rectal cancers		
Unemployed and not looking for work	49.8% (36.8-62.8)	19.3% (18.6-19.9)
Could not work for at least a year due to physical/mental impairment	21.9% (10.8-33.1)	5.4% (5.0-5.7)
Ever diagnosed with cervical cancer		
Unemployed and not looking for work	33.8% (25.5-42.1)	30.6% (29.6-31.6)
Could not work for at least a year due to physical/mental impairment	14.4% (9.1-19.8)	7.4% (6.9-7.9)
Ever had a stroke		
Unemployed and not looking for work	54.6% (47.6-61.6)	18.9% (18.2-19.5)
Could not work for at least a year due to physical/mental impairment	37.5% (30.6-44.3)	5.0% (4.7-5.4)

Source: California Health Interview Survey (CHIS), 2005, 2007

There are substantial productivity costs associated with diseases and conditions related to SB 890, however, the precise quantitative impact of the increases in associated preventive services due to SB 890 is not able to be estimated. Still, it stands to reason that some improvement in health and subsequent productivity costs would be expected.

Long-Term Public Health Impacts

As presented in the *Utilization, Cost, and Coverage Impacts* section, SB 890 is expected to increase average premiums in the CDI-regulated individual market by approximately 5.0%, thus increasing the number of uninsured by approximately 9,629 people. Losing one's health insurance has many harmful consequences. Compared to those who remain insured, persons who

lose their health insurance report more reduced access to needed health care and receive fewer services (Kasper et al., 2000). Hadley's 2003 review of the literature on insurance status and health found that compared to the insured, uninsured persons obtain less preventive, diagnostic, and therapeutic care, are diagnosed at more advanced stages of illness, and have a higher risk of death. In addition to the issues of health and health care access, the loss of health insurance can also cause substantial stress and worry due to lack of health insurance as well as financial instability if health problems emerge (Lave et al., 1998).

APPENDICES

Appendix A: Text of Bill Analyzed

On February 22, 2010 CHBRP was requested to analyze bill language that was intended to be included in a gutted/amended version of SB 890. That language is included below.

SB 890 was subsequently amended on April 6, 2010 to include the provisions related to BHCS.

On April 13, 2010, SB 890 was further amended to include a number of provisions related to health care coverage and individual market reform. CHBRP's analysis is limited to the provision that adds Section 10112.56 to the Insurance Code per the original request submitted on February 22, 2010.

Below the bill language is included relevant text from referenced code.

Section __ is added to the Insurance Code, to read:

(a) A health insurance policy issued, amended, or renewed on or after January 1, 2011 , shall provide coverage for medically necessary basic health care services.

(b) A health insurance policy issued, amended or renewed on or after January 1, 2011 shall have no annual limits or lifetime limits on basic health care services.

(c) Nothing in this section shall prohibit a health insurance policy from charging subscribers or insureds a copayment or a deductible for a basic health care service or from setting forth, by contract, limitations on maximum coverage of basic health care services, provided that the copayments, deductibles, or limitations are reported to, and held unobjectionable by, the commissioner and set forth to the subscriber or insured.

(d) As used in this section "basic health care services" shall have the same meaning as used in Section 1345 of the Health and Safety Code and Section 1300.67 of Title 28 of the California Code of Regulations.

(e) This section shall not apply to specialized health insurance policies, Medicare supplement policies, CHAMPUS-supplement insurance policies, TRICARE supplement insurance policies, accident-only insurance policies, or insurance policies excluded from the definition of "health insurance" under subdivision (b) of Section 106.'

Relevant excerpts from Section 1345 of the California Health and Safety Code.

As used in this chapter:

...

(b) "Basic health care services" means all of the following:

- (1) Physician services, including consultation and referral.
- (2) Hospital inpatient services and ambulatory care services.
- (3) Diagnostic laboratory and diagnostic and therapeutic radiologic services.
- (4) Home health services.
- (5) Preventive health services.
- (6) Emergency health care services, including ambulance and ambulance transport services and out-of-area coverage. "Basic health care services" includes ambulance and ambulance transport services provided through the "911" emergency response system.
- (7) Hospice care pursuant to Section 1368.2.

Relevant excerpt from Section 1300.67 of the California Code of Regulations, "Scope of Basic Health Care Services".

The basic health care services required to be provided by a health care service plan to its enrollees shall include, where medically necessary, subject to any co-payment, deductible, or limitation of which the Director may approve:

(a) Physician services, which shall be provided by physicians licensed to practice medicine or osteopathy in accordance with applicable California law. There shall also be provided consultation with and referral by physicians to other physicians.

(1) The plan may also include, when provided by the plan, consultation and referral (physician or, if permitted by law, patient initiated) to other health professionals who are defined as dentists, nurses, podiatrists, optometrists, physician's assistants, clinical psychologists, social workers, pharmacists, nutritionists, occupational therapists, physical therapists and other professionals engaged in the delivery of health services who are licensed to practice, are certified, or practice under authority of the plan, a medical group, or individual practice association or other authority authorized by applicable California law.

(b) Inpatient hospital services, which shall mean short-term general hospital services, including room with customary furnishings and equipment, meals (including special diets as medically necessary), general nursing care, use of operating room and related facilities, intensive care unit and services, drugs, medications, biologicals, anesthesia and oxygen services, diagnostic laboratory and x-ray services, special duty nursing as medically necessary, physical therapy, respiratory therapy, administration of blood and blood products, and other diagnostic, therapeutic and rehabilitative services as appropriate, and coordinated discharge planning including the planning of such continuing care as may be necessary, both medically and as a means of preventing possible early re-hospitalization.

(c) Ambulatory care services, (outpatient hospital services) which shall include diagnostic and treatment services, physical therapy, speech therapy, occupational therapy services as appropriate, and those hospital services, which can reasonably be provided on an ambulatory basis. Such services may be provided at a hospital, any other appropriate licensed facility, or any appropriate facility which is not required by law to be licensed, if the professionals delivering such services are licensed to practice, are certified, or practice under the authority of the plan, a medical group, or individual practice association or other authority authorized by applicable California law.

(d) Diagnostic laboratory services, diagnostic and therapeutic radiological services, and other diagnostic services, which shall include, but not be limited to, electrocardiography and electroencephalography.

(e) Home health services, which shall include, where medically appropriate, health services provided at the home of an enrollee as prescribed or directed by a physician or osteopath licensed to practice in California. Such home health services shall include diagnostic and treatment services which can reasonably be provided in the home, including nursing care, performed by a registered nurse, public health nurse, licensed vocational nurse or licensed home health aide.

(1) Home health services may also include such rehabilitation, physical, occupational or other therapy, as the physician shall determine to be medically appropriate.

(f) Preventive health services (including services for the detection of asymptomatic diseases), which shall include, under a physician's supervision,

(1) reasonable health appraisal examinations on a periodic basis;

(2) a variety of voluntary family planning services;

(3) prenatal care;

(4) vision and hearing testing for persons through age 16;

(5) immunizations for children in accordance with the recommendations of the American Academy of Pediatrics and immunizations for adults as recommended by the U.S. Public Health Service;

(6) venereal disease tests;

(7) cytology examinations on a reasonable periodic basis;

(8) effective health education services, including information regarding personal health behavior and health care, and recommendations regarding the optimal use of health care services provided by the plan or health care organizations affiliated with the plan.

(g)(1) Emergency health care services which shall be available and accessible to enrollees on a twenty-four hour a day, seven days a week, basis within the health care service plan area. Emergency health care services shall include ambulance services for the area served by the plan to transport the enrollee to the nearest twenty-four hour emergency facility with physician coverage, designated by the Health Care Service Plan.

(2) Coverage and payment for out-of-area emergencies or urgently needed services involving enrollees shall be provided on a reimbursement or fee-for-service basis and instructions to enrollees must be clear regarding procedures to be followed in securing such services or benefits. Emergency services defined in section 1317.1 include active labor. "Urgently needed services" are those services necessary to prevent serious deterioration of the health of an enrollee, resulting from an unforeseen illness, injury, or complication of an existing condition, including pregnancy, for which treatment cannot be delayed until the enrollee returns to the plan's service area. "Urgently needed services" includes maternity services necessary to prevent serious deterioration of the health of the enrollee or the enrollee's fetus, based on the enrollee's reasonable belief that she has a pregnancy-related condition for which treatment cannot be delayed until the enrollee returns to the plan's service area.

(h) Hospice services as set forth in Section 1300.68.2.

Appendix B: Current Mandates and Newly Mandated Benefits Under SB 890

Table B-1: Current Mandates and Newly Mandated Benefits Under SB 890

Category of Benefit (a)	Included in H&S Definition of BHCS? (b)	Currently Mandated in Insurance Code?(c)(e)	Currently Mandated by Federal Law? (d)	New Mandate for Group Market?	New Mandate for Individual Market?	Notes
Professional Services (Doctor's Office Visits)						
Primary and specialty care visits (includes routine and urgent care appointments)	Y	N	N	Y	Y	Although the Insurance Code does not require coverage for these services, "every policy or certificate of disability insurance covering hospital, medical, or surgical expenses marketed, issued, or delivered to a resident of this state, regardless of the status of the contract or master group policyholder, shall be subject to all provisions of this code." To be considered a health insurance policy, reimbursement of hospital, medical, or surgical expenses must be made.
Preventive screening	Y	N	N	Y	Y	
Cancer Screening	Y	Y	N	N	N	
Well-child preventive care visits (0-23 months)	Y	Y	N	N	Y	Insurance Code mandate applies to group market only; individual market not mandated to cover preventive services for children.
HIV Testing	Y	Y	N	N	N	
Family planning visits	Y	N	N	Y	Y	
Scheduled prenatal care and first postpartum visit	Y	N	N	N	Y	
Eye exams for children	Y	Y	N	N	N	
Eye exams for adults	N	N	N	Y	Y	
Hearing tests for children	Y	Y	N	N	N	
Hearing tests for adults	N	N	N	N	N	
Physical, occupational, and speech therapy visits	Y	N	N	Y	Y	

Table B-1: Current Mandates and Newly Mandated Benefits Under SB 890 (cont'd.)

Category of Benefit (a)	Included in H&S Definition of BHCS? (b)	Currently Mandated in Insurance Code?(c)(e)	Currently Mandated by Federal Law? (d)	New Mandate for Group Market?	New Mandate for Individual Market?	Notes
Outpatient Services						
Outpatient surgery	Y	N	N	Y	Y	Although the Insurance Code does not require coverage for these services, “every policy or certificate of disability insurance covering hospital, medical, or surgical expenses marketed, issued, or delivered to a resident of this state, regardless of the status of the contract or master group policyholder, shall be subject to all provisions of this code.” To be considered a health insurance policy, reimbursement of hospital, medical, or surgical expenses must be made.
Childhood immunizations (a)	Y	Y	N	N	N	
Adult immunizations (a)	Y	N	N	Y	Y	
Diagnostic, imaging, and laboratory tests	Y	N	N	Y	Y	Although medically necessary diagnostic laboratory tests are not required to be covered, some services may considered covered under the various other mandates such as, cancer screening, diabetes management, treatment and management of osteoporosis, and preventive care for children.
Osteoporosis treatment and management (a)	Y**	Y	N	N	N	
Health education	Y	N	N	Y	Y	

Table B-1: Current Mandates and Newly Mandated Benefits Under SB 890 (cont'd.)

Category of Benefit (a)	Included in H&S Definition of BHCS? (b)	Currently Mandated in Insurance Code?(c)(e)	Currently Mandated by Federal Law? (d)	New Mandate for Group Market?	New Mandate for Individual Market?	Notes
Hospitalization Services						
Room and board, surgery, anesthesia, X-rays, lab tests, and drugs	Y	N	N	Y	Y	Although the Insurance Code does not require coverage for these services, “every policy or certificate of disability insurance covering hospital, medical, or surgical expenses marketed, issued, or delivered to a resident of this state, regardless of the status of the contract or master group policyholder, shall be subject to all provisions of this code.” To be considered a health insurance policy, reimbursement of hospital, medical, or surgical expenses must be made.
Reconstructive surgery (a)	N*	Y	Y	N	N	
HIV/AIDS, transplantation services for persons with HIV (a)	N*	Y	N	N	N	
Emergency department visits	Y	N	N	Y	Y	Although the Insurance Code does not require coverage for these services, “every policy or certificate of disability insurance covering hospital, medical, or surgical expenses marketed, issued, or delivered to a resident of this state, regardless of the status of the contract or master group policyholder, shall be subject to all provisions of this code.” To be considered a health insurance policy, reimbursement of hospital, medical, or surgical expenses must be made.
Labor & delivery	Y	N	Y	N	Y	
Ambulance Services	Y	Y	N	N	N	

Table B-1: Current Mandates and Newly Mandated Benefits Under SB 890 (cont'd.)

Category of Benefit (a)	Included in H&S Definition of BHCS? (b)	Currently Mandated in Insurance Code?(c)(e)	Currently Mandated by Federal Law? (d)	New Mandate for Group Market?	New Mandate for Individual Market?	Notes
Prescription Drug Coverage						
Generic	N	N	N	N	N	
Brand name	N	N	N	N	N	
Contraception drugs and devices	N*	Y	N	N	N	
Diabetes drugs and devices (a)	N*	Y	N	N	N	
Durable Medical Equipment	N	N	N	N	N	
Prosthetics and Orthotics	N	N	N	N	N	
Mental Health Services (d)						
<i>Mental Health Services: Serious Mental Illness (SMI)</i>	N*	Y	N	N	N	
Inpatient psychiatric care	N*	Y	N	N	N	
Outpatient visits	N*	Y	N	N	N	
<i>Mental Health Services: Non-SMI</i>	N	N	N	N	N	
Inpatient psychiatric care	N	N	N	N	N	
Outpatient visits	N	N	N	N	N	
Chemical Dependency Services (d)						
Inpatient detoxification	N	N	N	N	N	
Outpatient visits	N	N	N	N	N	
Home Health Services	Y	N	N	Y	Y	
Noncustodial Skilled Nursing Facility Care	N	N	N	N	N	
Hospice Care	Y	N	N	Y	Y	
Infertility Services	N	N	N	N	N	

Table B-1: Current Mandates and Newly Mandated Benefits Under SB 890 (cont'd.)

Category of Benefit (a)	Included in H&S Definition of BHCS? (b)	Currently Mandated in Insurance Code?(c)(e)	Currently Mandated by Federal Law? (d)	New Mandate for Group Market?	New Mandate for Individual Market?	Notes
Acupuncture	N	N	N	N	N	
Chiropractic	N	N	N	N	N	
Other (dental procedures, TMJ, experimental or investigational treatment, cosmetic surgery, food and dietary supplements, hearing aid, over-the-counter drugs or devices, weight reduction, sexual reassignment surgery)	N	Y	N	N	N	

Notes:

(a) “Categories of benefits” are typical category of benefits included in plans and policies summary of benefits. The subcategories marked with “(a)” highlight differences between the Insurance Code and BHCS.

(b) Determined by review of Code and supporting regulations for BHCS only. When the category of benefit is considered covered by some other mandate, but not BHCS, it is indicated by "N*". When the category of benefit is considered covered by some mandate, and is also considered part of BHCS, it is indicated by “Y**”.

(c) Determined based on review of Insurance Code. This includes a review of mandated benefits since SB 890 would add to the benefits already mandated in the Ins. Code. Note that mandates to offer coverage are not considered mandated to cover. For example, the Insurance Code requires policies to offer orthotics and prosthetics coverage to groups but policies are not mandated to cover it.

(d) Determined based on review of federal mandates: the Newborns’ and Mothers’ Health Protection Act of 1996 requires coverage for a minimum length of stay in a hospital after delivery *if* the plan covers maternity services; the Women’s Health and Cancer Rights Act of 1998 requires coverage for post-mastectomy reconstructive surgery; and, the Mental Health Parity and Addition Equity Act of 2008 requires that *if* a group plan or policy covers mental health, it must do so at parity with coverage for medical and surgical benefits.

(e) Under the Insurance Code there are a number of mandated benefits that would be considered a subcategory of the "Category of Benefits" presented here. A full list of mandated benefits is available here: http://www.chbrp.org/other_publications/index.php.

Appendix C: Literature Review Methods

Appendix C describes methods used in the medical effectiveness literature review for SB 890.

This literature search included meta-analyses, systematic reviews, randomized controlled trials, controlled clinical trials, and observational studies. The search was limited to studies that were published in English from 2005 to present.

For the Medical Effectiveness and Public Health sections of the report, the following databases that index peer-reviewed literature were searched: PubMed (MEDLINE), the Cochrane Library,²² Web of Science,²³ the Cumulative Index of Nursing and Allied Health Literature, EconLit, and Business Source Complete. Web sites maintained by the following organizations that produce “grey literature” on the medical effectiveness of health care services were also searched: Agency for Healthcare Research and Quality, International Network of Agencies for Health Technology Assessment, National Guideline Clearinghouse, National Institute for Clinical Excellence, NHS Centre for Reviews and Dissemination, Scottish Intercollegiate Guideline Network.

The Medical Effectiveness and Public Health sections also drew upon findings from previous CHBRP reports on tobacco cessation services, asthma self-management education, maternity services, and human papillomavirus vaccination (CHBRP, 2005, 2006, 2007b, 2008, 2009a, 2009b, 2010).

Web sites maintained by the following organizations were searched to identify “grey literature” pertinent to the Introduction and Background and Utilization, Cost, and Coverage Impacts sections of the report: American Academy of Actuaries, American Enterprise Institute, America’s Health Insurance Plans, California Department of Insurance, California Department of Managed Health Care, California HealthCare Foundation, California Legislative Analyst’s Office, California Senate Office of Research, Cato Institute, Center for Studying Health System Change, Commonwealth Fund, Employee Benefits Research Institute, Heritage Foundation, Hoover Institute, International Actuarial Association – Actuarial Studies in Non-life Insurance Bulletin, Kaiser Family Foundation, Massachusetts Health Connector Authority, National Association of Health Underwriters, National Association of Insurance Commissioners, National Bureau of Economic Research, Pacific Research Institute, RAND Health, Robert Wood Johnson Foundation, Society of Actuaries, and Urban Institute.

Due to the large number of services for which SB 890 would require coverage, the medical effectiveness literature review focused on meta-analyses, systematic reviews, and evidence-based clinical practice guidelines. These syntheses of literature from multiple studies provide the strongest evidence regarding the effectiveness of health care services. Individual studies were

²² Encompasses the following databases: Cochrane Register of Controlled Clinical Trials, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects (DARE), Health Technology Assessment Database, and NHS Economic Evaluation Database.

²³ Includes the Science Citation Index Expanded and the Social Science Citation Index.

reviewed only in cases in which no meta-analyses, systematic reviews, and evidence-based clinical practice guidelines were identified.

In making a “call” for each outcome measure, the medical effectiveness team and the content expert consider the number of studies as well the strength of the evidence. To grade the evidence for each outcome measured, the team uses a grading system that has the following categories:

- Research design
- Statistical significance
- Direction of effect
- Size of effect
- Generalizability of findings

The grading system also contains an overall conclusion that encompasses findings in the five domains of research design, statistical significance, direction of effect, size of effect, and generalizability of findings. The conclusion is a statement that captures the strength and consistency of the evidence of an intervention’s effect on an outcome. The following terms are used to characterize the body of evidence regarding an outcome.

- Clear and convincing evidence
- Preponderance of evidence
- Ambiguous/conflicting evidence
- Insufficient evidence

The conclusion states that there is “clear and convincing” evidence that an intervention has a favorable effect on an outcome, if most of the studies included in a review have strong research designs and report statistically significant and clinically meaningful findings that favor the intervention.

The conclusion characterizes the evidence as “preponderance of evidence” that an intervention has a favorable effect if most, but not all five, criteria are met. For example, for some interventions the only evidence available is from nonrandomized studies. If most such studies that assess an outcome have statistically and clinically significant findings that are in a favorable direction and enroll populations similar to those covered by a mandate, the evidence would be classified as a “preponderance of evidence favoring the intervention.” In some cases, the preponderance of evidence may indicate that an intervention has no effect or an unfavorable effect.

The evidence is presented as “ambiguous/conflicting” if none of the studies of an outcome have strong research designs and/or if their findings vary widely with regard to the direction, statistical significance, and clinical significance/size of the effect.

The category “insufficient evidence” of an intervention’s effect indicates that available evidence is not sufficient to determine whether or not a health care service is effective. It is used when no research studies have been completed or when only a small number of poorly designed studies are available. It is not the same as “evidence of no effect”. A health care service for which there is insufficient evidence might or might not be found to be effective if more evidence were available.

Appendix D: Summary Findings on Medical Effectiveness

Appendix D describes the studies of the effectiveness of health care services for which SB 890 would mandate coverage that were analyzed by the medical effectiveness team. Tables D-1a through D-1 present information regarding the citation, type of study, intervention and comparison groups, population studied and the location at which a study was conducted. Table D-2 summarizes findings from studies of the effectiveness of preventive services. Findings for other types of services for which SB 890 would mandate coverage are discussed in the medical effectiveness section of the text.

Table D-1: Description of Published Studies

Intervention	Citation	Type of Trial ²⁴	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Adults					
Physical Exams	Boulware et al, 2006	Systematic review	Adults who received periodic health examinations vs. adults who did not receive periodic health examinations	Adults	N/A
Hepatitis A vaccine	ACIP, 2006	Systematic review	Hepatitis A vaccine vs. placebo; Hepatitis A vaccine vs. no vaccine	Adults age 18 or older; children age 2-18 years	N/A
Hepatitis B vaccine	Mast et al., 2005	Systematic review	Hepatitis B vaccine vs. placebo; Hepatitis B vaccine vs. no vaccine; Vaccine alone vs. vaccine plus hepatitis B immunoglobulin	Adults; children and adolescents whose mothers did not have hepatitis B at birth; newborns whose mothers had hepatitis B at birth	N/A

²⁴ Level I = Well-implemented RCTs and cluster RCTs, Level II = RCTs and cluster RCTs with major weaknesses, Level III = Nonrandomized studies that include an intervention group and one or more comparison group, time series analyses, and cross-sectional surveys, Level IV = Case series and case reports, Level V = Clinical/practice guidelines based on consensus or opinion.

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Adults (cont'd.)					
Human papillomavirus vaccine	CHBRP, 2009b	Systematic review	Human papillomavirus vaccine vs. placebo	Women and girls age 15-26 years	N/A
Influenza virus vaccine	Fiore et al., 2009	Systematic review;	Seasonal influenza vaccine vs. placebo	Children, adolescents and adults with and without chronic conditions	N/A
Measles and rubella infection and control of mumps vaccine	Watson et al., 1998	Systematic review	Measles, mumps, and rubella vaccine vs. placebo	Children, adolescents and adults with and without chronic conditions	N/A
Meningitis vaccine	Bilukha et al., 2005	Systematic review	Meningococcal conjugant vaccine or meningococcal polysaccharide vaccine vs. placebo; Meningococcal polysaccharide vaccine vs. meningococcal conjugant vaccine	School-age children and adults	N/A
Pneumonia vaccine	CDC, 1997; ACIP, 2000	Systematic review	Pneumococcal conjugant vaccine vs. placebo or vaccine used to prevent a different disease; Pneumococcal polysaccharide vaccine vs. placebo; Pneumococcal polysaccharide vaccine vs. no vaccine	Children and adults	N/A

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Adults (cont'd.)					
Tetanus, diphtheria, and pertussis infection vaccine	Kretsinger et al., 2006	Systematic review	Pertussis vaccine combined with tetanus and diphtheria toxoids vs. placebo; Pertussis, tetanus, and diphtheria vaccine with acellular form of pertussis vs. vaccine with whole-cell form of pertussis	Persons aged 18-64 years	N/A
Varicella vaccine	Marin et al., 2007	Systematic review	Varicella vaccine vs. placebo; Varicella vaccine vs. no vaccine	Children, adolescents and adults with and without chronic conditions	N/A
Zoster (shingles) vaccine	Harpaz et al., 2008	Systematic review	Zoster vaccine vs. placebo	Persons aged ≥ 60 years	US
Behavioral Counseling for Alcohol Consumption	USPSTF, 2004a	Systematic review	Drinkers receiving primary care brief, multi-contact counseling intervention vs. receiving screening and usual care.	Adults	N/A
Tobacco Cessation Advice and Counseling	USPSTF, 2009	Systematic review	Tobacco cessation counseling vs. usual care	Adults	N/A
	US PHS, 2008	Systematic review	Tobacco cessation counseling vs. usual care	Adults and adolescents	N/A

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Adults (cont'd.)					
Behavioral Counseling to Prevent Sexually Transmitted Infections	USPSTF, 2008a	Systematic review	High-intensity behavioral counseling ²⁵ vs. moderate and low-intensity interventions	Sexually active adolescents and adults at increased risk ²⁶ for sexually transmitted infections.	N/A
Screening, Counseling, and Behavioral Interventions for Obesity	USPSTF, 2003d	Systematic review	High-intensity interventions ²⁷ vs. low-intensity interventions	Obese adults	N/A
Behavioral Counseling to Promote a Healthy Diet	USPSTF, 2003a	Systematic review	High-intensity vs. medium-intensity vs. low-intensity interventions ²⁸	Adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic diseases	N/A
Self-management Education to Control Arthritis	Warsi et al., 2003	Meta-analysis	Arthritis self-management education vs. usual care	Adults with arthritis	N/A
Self-management Education to Control Asthma	Gibson et al., 2002	Meta-analysis	Asthma self-management education vs. usual care	Adults with asthma	N/A

²⁵ High-intensity interventions included one 4-hour session, three 1-hour sessions over 3 consecutive weeks, four 4-hour sessions, or a 10-session intervention.

²⁶ Adults with current sexually transmitted infection or infections in the past year and adults who have multiple current sexual partners are considered to be at increased risk.

²⁷ High-intensity interventions defined as provider to patient meeting more than once a month for at least the first three months.

²⁸ Classification of the three intensity levels were based on number and length of counseling contact, the magnitude of educational materials, and use of supplemental components such as cooking demos, printed materials, and phone calls.

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Adults (cont'd.)					
Self-management Education to Control Diabetes	Look AHEAD Research Group	Randomized controlled trial	Diabetes self-management education vs. usual care	Adults with diabetes	N/A
Vision Screening	Burr et al., 2007	Systematic review	Adults treated for increased intraocular pressure or primary open-angle glaucoma vs. adults with these conditions who were not treated	Adults with glaucoma	N/A
	USPSTF, 2005	Systematic review	Adults treated for increased intraocular pressure or primary open-angle glaucoma vs. adults with these conditions who were not treated	Adults with glaucoma	N/A
Hearing Screening	Davis et al, 2007	Multi-component study including both randomized and nonrandomized components	Comparison of different hearing screening tests; Persons with hearing loss who used hearing aids vs. persons with hearing loss who did not use hearing aids; Persons with hearing loss who began using a hearing aid in their 50s vs. persons with hearing loss who began using hearing aids in their 60s	Adults aged 55-74 years with hearing loss	United Kingdom

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Children					
Haemophilus influenza type B vaccine ²⁹	USPSTF, 1996	Systematic review	Haemophilus influenza type B conjugate vaccine vs. placebo; Haemophilus influenza type B conjugate vaccine vs. no vaccine	Children age 0-59 months	N/A
Poliovirus vaccine	Prevots et al., 2000	Systematic review	Inactivated poliovirus vaccine vs. placebo	Children	N/A
Rotavirus vaccine	Parashar et al., 2009	Systematic review	Rotavirus vaccine vs. placebo	Infants	N/A
Screening, Counseling, and Behavioral Interventions for Obesity ³⁰	USPSTF, 2010	Systematic review	High-intensity interventions vs. low-intensity interventions	Obese children age 6 years or older	N/A
Asthma self-management education	Bravata et al., 2009	Systematic review	Asthma self-management education vs. usual care	Children with asthma	N/A
	CHBRP, 2006	CHBRP report	Asthma self-management education vs. usual care	Children with asthma	N/A

²⁹ For published studies regarding vaccines recommended for children other than the haemophilus influenza type B vaccine, the poliovirus vaccine, and the rotavirus vaccine, see the section of this table on preventive services for adults.

³⁰ For published studies regarding the effectiveness of counseling adolescents regarding alcohol use, tobacco use, and prevention of sexually transmitted infections, see the section of this table on preventive services for adults.

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Preventive Services for Children (cont'd.)					
Vision Screening	Powell and Hatt, 2009	Systematic review	Screening for amblyopia vs. no screening	Children	No studies identified
	Powell et al., 2004	Systematic review	Screening for refractive error vs. no screening	School-aged children and adolescents	No studies identified
	USPSTF, 2004b	Systematic review	Intense eye screening vs. usual screening among children ages 8 and 37 months	Children	Only study identified was conducted in the United Kingdom
Hearing Screening for Infants	USPSTF, 2008e	Systematic review	Universal newborn hearing screening program vs. no hearing screening program; Children with confirmed PCHL ³¹ by age 9 months of younger vs. children confirmed with PCHL after age of 9 months	Children	Only study identified was conducted in the United Kingdom
Physical , Occupational, and Speech Therapy					
Physical Therapy	Dagrindrud et al., 2008	Systematic review	Group vs. individualized exercise program; Home-based vs. supervised exercise; Inpatient plus outpatient exercise program vs. outpatient exercise program	Persons with ankylosing spondylitis	N/A

³¹ PCHL = permanent congenital hearing loss

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Physical , Occupational, and Speech Therapy (cont'd.)					
Physical Therapy (cont'd.)	Teixeira et al., 2008	Systematic review	Electrostimulation vs. medication; Electrostimulation vs. exercise; Electrostimulation plus massage vs. massage; Exercise vs. no treatment; Exercise plus usual care vs. usual care	Persons with Bell's palsy	N/A
Occupational Therapy	Dixon et al., 2007	Systematic review	Occupational therapy vs. no intervention Occupational therapy plus physical therapy vs. physical therapy	Persons with Parkinson's disease	N/A
	Legg et al., 2006	Meta-analysis	Occupational therapy vs. usual care; Occupational therapy vs. no treatment	Persons who had experienced a stroke	N/A
Speech Therapy	Law et al., 2003	Meta-analysis	Speech and language therapy vs. no treatment; Immediate speech and language therapy vs. delayed speech and language therapy; Clinician-administered vs. parent-administered therapy Comparison of different types of speech and language therapy	Children and adolescents with primary speech and language delay/disorder	N/A
	Morgan and Vogel, 2008	Systematic review	Speech and language therapy vs. usual care	Children and adolescents with dysarthric speech due to an acquired brain injury	N/A

Table D-1: Description of Published Studies (cont'd.)

Intervention	Citation	Type of Trial	Intervention vs. Comparison Group	Population Studied	Location
Home Health Services	Early Supported Discharge Trialists, 2005	Meta-analysis	Home-based rehabilitation care vs. inpatient rehabilitation care	Adults who had experienced a stroke	N/A
	Giusti et al., 2006	Nonrandomized study with comparison group	Home-based rehabilitation care vs. inpatient rehabilitation care	Elderly adults with hip fracture	Italy
	Hedrick et al., 1989	Meta-analysis	Home care vs. usual care	Adults with multiple types of conditions	N/A
	Hughes et al., 1997	Meta-analysis	Home care vs. usual care	Adults with multiple types of conditions	N/A
	Kuisma, 2002	RCT	Home-based rehabilitation care vs. inpatient rehabilitation care	Adults with hip fracture	China
	Langhorne and Widen-Holmqvist, 2007	Meta-analysis	Home-based rehabilitation care vs. inpatient rehabilitation care	Adults who had experienced a stroke	N/A
	Parker et al., 2002	Systematic review	Home care vs. usual care	Children with asthma, diabetes, or very low birthweight	N/A
	Shepperd et al., 2009	Meta-analysis	Home-based rehabilitation care vs. inpatient rehabilitation care	Adults with multiple types of conditions	N/A
Hospice Care Services	Harding et al., 2005	Systematic review	Home-based hospice care vs. usual care	Persons with a terminal illness	N/A
	Higginson et al., 2003	Systematic review	Inpatient hospice care vs. usual care	Persons with a terminal illness	N/A
	NICE, 2004	Systematic review	Home-based and inpatient hospice care vs. usual care	Persons with a terminal illness	N/A
	Zimmermann et al., 2008	Systematic review		Persons with a terminal illness	N/A

Table D-2: Studies That Examined the Effectiveness of Preventive Services

Intervention	Outcome	Research ³² Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults						
Physical Exams	Receipt of effective screening tests	1 systematic review of Level I, II, and III studies	No formal tests of statistical significance	Favors physical exams for gynecological exam/Pap test, fecal occult blood test, and cholesterol screening Inconsistent effects for immunizations, mammography, and counseling regarding health behaviors	Cohen’s d = 0.07 for gynecological exam/Pap test; 1.19 for fecal occult blood test; 0.02 for cholesterol screening	Somewhat generalizable – most studies enrolled Medicare beneficiaries and veterans treated in VA facilities

³² Level I = Well-implemented RCTs and cluster RCTs, Level II = RCTs and cluster RCTs with major weaknesses, Level III = Nonrandomized studies that include an intervention group and one or more comparison group, time series analyses, and cross-sectional surveys, Level IV = Case series and case reports, Level V = Clinical/practice guidelines based on consensus or opinion.

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Physical Exams	Health outcomes	1 systematic review of Level I, II, and III studies	No formal tests of statistical significance	Inconsistent effects for blood pressure, serum cholesterol, body mass index, disease detection (e.g., diagnosis of high blood pressure), health habits (e.g., smoking), general health status, hospitalization, disability, mortality	N/A	Somewhat generalizable – most studies enrolled Medicare beneficiaries and veterans treated in VA facilities
Hepatitis A vaccine	Hepatitis A immunity	1 systematic review of Level I and II studies	Statistically significant	Favors vaccine	94%-100%	Somewhat generalizable
Hepatitis B vaccine	Prevention of transmission following exposure to hepatitis B	1 systematic review of Level I and II studies	No formal tests of statistical significance	Favors vaccine	Not reported	Somewhat generalizable

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Human papillomavirus (HPV) vaccination—Cervarix vaccine—women and girls with no prior exposure to HPV	Prevention of HPV related 16/18-related CIN 2/3 lesions	1 systematic review of Level I studies	Not statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 100% (95% CI=-7.7%, 100%)³³ 	Somewhat generalizable
HPV vaccination—Gardasil vaccine—women and girls with no prior exposure to HPV	Prevention of high-grade cervical lesions and AIS related to HPV 16/18	1 systematic review of Level I studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 98% (95% CI=86%, 100%) • 	Somewhat generalizable
HPV vaccination—Cervarix vaccine—women and girls regardless of prior exposure to HPV	Prevention of HPV 16/18-related CIN 2+ lesions	1 systematic review of Level I studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 90.4% (97.9% CI=53.4%, 99.3%) 	Somewhat generalizable
HPV vaccination—Gardasil vaccine—women and girls regardless of prior exposure to HPV	Prevention of high-grade cervical lesions and AIS related to HPV 16/18	1 systematic review of Level I studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 44% (95% CI=26%, 58%) 	Somewhat generalizable

³³ CI = confidence interval

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Influenza vaccine —healthy adults aged < 65 years	Reduction in rates of influenza virus	1 systematic review of 4 Level I study	Statistically significant	Favors vaccine	• 70%-90%	Somewhat generalizable
Influenza vaccine —community dwelling adults aged ≥ 65 years	Reduction in rates of influenza virus	1 systematic review of 1 Level I study	Statistically significant	Favors vaccine	• 58% (95% CI=26%-77%)	Somewhat generalizable
Measles, mumps, and rubella vaccine	<ul style="list-style-type: none"> • Measles immunity • Rubella immunity³⁴ • Mumps immunity³⁵ 	1 systematic review of 10 Level I-II studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • Measles = not reported • Rubella = >95% • Mumps = >95% 	Somewhat generalizable
Meningococcal polysaccharide vaccine	Meningitis immunity	1 systematic review of 10 Level I-II studies	No formal test of statistical significance	Favors vaccine	• ≥85%	Somewhat generalizable
Meningococcal conjugant vaccine vs. meningococcal polysaccharide vaccine	Meningitis immunity	1 systematic review of 2 Level I-II studies	No formal test of statistical significance	No difference	• No difference	Somewhat generalizable

³⁴ Efficacy of a single dose of MMR vaccine administered to persons aged ≥12 months.

³⁵ Efficacy of a single dose of MMR vaccine administered to persons aged ≥12 months.

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Pneumococcal polysaccharide vaccine	Prevention of invasive pneumococcal disease	1 systematic review of 13 Level I-III studies	No formal test of statistical significance	Favors vaccination	• 56%-81%	Somewhat generalizable
	Prevention of nonbacteremic pneumococcal disease	1 systematic review of 13 Level I-III studies	No formal test of statistical significance	No difference	• Not stated	Somewhat generalizable
Tetanus and diphtheria toxoid and pertussis vaccine ³⁶	<ul style="list-style-type: none"> • Tetanus immunity • Diphtheria immunity • Pertussis immunity³⁷ 	1 systematic review of 2 Level I-II studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 100% • 94% • 83%, 84%, 86%, and 94% (varies by pertussis antigen) 	Somewhat generalizable
Varicella vaccine	Prevention of varicella infection	1 systematic review of Level I-II studies	No formal test of statistical significance	Favors vaccine	• 80%	Somewhat generalizable
Zoster vaccine	Reduce risk for developing zoster	1 systematic review of 1 Level I study	Statistically significant	Favors vaccine	• 51% (95% CI=44%-58%)	

³⁶ Studies included in this report are on the use of ADACEL, a single dose active booster vaccination for use in persons aged 11-64 years, licensed on June 10, 2005. In randomized control trials, a single dose of ADACEL was noninferior to a single dose of U.S.–licensed Td (manufactured by sanofi pasteur).

³⁷ Efficacy for the following pertussis antigens: anti-PT, anti-FHA, anti-FIM.

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Alcohol consumption counseling — brief, multi-contact counseling intervention during primary care visits vs. screening and usual care	Reduction in alcohol consumption	1 systematic review of 7 Level II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors intervention 	<ul style="list-style-type: none"> • 13%-34% net reduction in drinks per week 	<ul style="list-style-type: none"> • Somewhat generalizable
	Increase in moderate or safe drinking	1 systematic review of 7 Level II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors intervention 	<ul style="list-style-type: none"> • 10%-19% increase in moderate or safe drinking levels 	<ul style="list-style-type: none"> • Somewhat generalizable
Tobacco cessation counseling by clinicians vs. no intervention — adults	Tobacco abstinence rates	1 systematic review of 43 Level I-II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors counseling 	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Somewhat generalizable
Tobacco cessation counseling tailored to pregnancy vs. no intervention — pregnant smokers	Tobacco abstinence rates	1 meta-analysis of 7 Level I-II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors counseling 	<ul style="list-style-type: none"> • 16.6% vs. 6.6% abstinence rates 	<ul style="list-style-type: none"> • Somewhat generalizable

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Counseling to prevent sexually transmitted infections — high-intensity behavioral counseling vs. moderate and low-intensity counseling	Risk reduction rates of confirmed sexually transmitted infections	1 systematic review of 6 Level 1-II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors high-intensity counseling 	<ul style="list-style-type: none"> • 2.6%-11.1%; range of risk reduction rate 	<ul style="list-style-type: none"> • Somewhat generalizable
Counseling and behavioral interventions for obesity —high-intensity interventions vs. low-intensity interventions	Weight loss at 12 months to more than 2 years follow-up	1 systematic review of 6 Level 1-II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors high-intensity intervention 	<ul style="list-style-type: none"> • Average weight loss: 2.7-5.5 kg 	<ul style="list-style-type: none"> • Somewhat generalizable
Behavioral counseling to promote a healthy diet —high-intensity vs. medium-intensity vs. low-intensity interventions	Decrease in total fat or saturated fat intake	1 systematic review of 13 Level 1-II studies	<ul style="list-style-type: none"> • Statistically significant 	<ul style="list-style-type: none"> • Favors high-intensity intervention 	<ul style="list-style-type: none"> • 10% or more reduction in total fat or 3% or more reduction in saturated fat 	<ul style="list-style-type: none"> • Somewhat generalizable

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Self-management education for arthritis	Disability	1 meta-analysis of 17 studies Level I, II, and III studies	Statistically significant	Favors self-management education	• ES ³⁸ = 0.07 (95% CI= 0.00, 0.15)	Somewhat generalizable
	Pain	1 meta-analysis of 17 studies	Statistically significant	Favors self-management education	• ES = 0.12 (95% CI=0.00, 0.24)	Somewhat generalizable
Self-management education for asthma	Nocturnal asthma	1 meta-analysis of 36 Level I and II studies	Statistically significant	Favors self-management education	• RR ³⁹ = 0.67 (95% CI= 0.056, 0.79)	Somewhat generalizable
	Quality of life	1 meta-analysis of 36 Level I and II studies	Statistically significant	Favors self-management education	• SMD ⁴⁰ = 0.29 (95% CI = 0.11, 0.47)	Somewhat generalizable
	Days of work or school missed	1 meta-analysis of 36 Level I and II studies	Statistically significant	Favors self-management education	• RR = 0.79 (95% CI =0.67, 0.93)	Somewhat generalizable
	Hospitalizations	1 meta-analysis of 36 Level I and II studies	Statistically significant	Favors self-management education	• RR = 0.64 (95% CI= 0.50, 0.82)	Somewhat generalizable
	Emergency department visits	1 meta-analysis of 36 Level I and II studies	Statistically significant	Favors self-management education	• RR = 0.82 (95% CI= 0.73, 0.94)	Somewhat generalizable

³⁸ ES = effect size

³⁹ RR = relative risk

⁴⁰ SMD = standardized mean difference

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	• Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Self-management education for asthma	Unscheduled physician visits	1 meta-analysis of 36 Level I and II studies	Statistically significant	Favors self-management education	• RR = 0.68 (95% CI 0.56, 0.81)	Somewhat generalizable
Self-management education for diabetes — high-intensity weight loss intervention vs. low intensity self-management education	Percent body weight lost	1 Level I study	Statistically significant	Favors high intensity weight loss intervention	• 8.6% in the intervention group vs. 0.7% in the control group	Somewhat generalizable
	Fitness (i.e., performance on submaximal exercise test)	1 Level I study	Statistically significant	Favors high intensity weight loss intervention	• + 20.9% increase in the intervention group vs. +5.8% in the control group	Somewhat generalizable
	Hemoglobin A1C % (i.e., blood sugar)	1 Level I study	Statistically significant	Favors high intensity weight loss intervention	• -0.64 in the intervention group vs. -0.14 in the control group	Somewhat generalizable

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	• Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Vision screening—glaucoma—comparison of multiple screening tests	Accuracy of glaucoma screening tests	1 systematic review of 40 Level I, II, and III studies	Statistically significant	Favors screening	• Specificity = 85% or higher for 8 tests ⁴¹	Somewhat generalizable
Vision screening—glaucoma—treatment	Prevention of progression of glaucoma ⁴²	2 systematic reviews of 2 Level I and II studies	Statistically significant	Favors treatment	• HR ⁴³ = 0.65 (95% CI=0.49, 0.87)	Somewhat generalizable
Hearing screening—comparison of multiple screening tests	Accuracy of screening tests	1 study with Level I, III, and IV modules	Not reported	Favors audiometry and questionnaires	• Not reported	Somewhat generalizable
Hearing screening—use of hearing aids	Hearing	1 study with Level I, III, and IV modules	Statistically significant	Favors hearing aids	• Clinically meaningful effects as measured by three hearing tests	Somewhat generalizable

⁴¹ The eight tests and associated specificities are as follows: ophthalmoscopy (94%), optic disc photography (89%), RNFL photography (88%), HRT II (89%), FDT C-20-1 (94%), OKP (90%), SAP suprathreshold (85%) and GAT (95%) (Burr et al., 2007).

⁴² Progression was identified by the progression of visual field defects which may not necessarily indicate a clinically meaningful change in vision or functional impairment (USPSTF, 2005).

⁴³ HR = hazard ratio

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	• Size of Effect	Generalizability
Preventive Services for Adults (cont'd.)						
Hearing screening—use of hearing aids	Quality of life	1 study with Level I, III, and IV modules	Statistically significant	Favors hearing aids	<ul style="list-style-type: none"> Clinically meaningful effects on quality of life as measured by three instruments 	Somewhat generalizable
Preventive Services for Children⁴⁴						
Physical Exams ⁴⁵						
Haemophilus influenza type B vaccine among children	Prevention of haemophilus influenza type B infection	1 systematic review of 8 Level I and Level III studies	Statistically significant	Favors vaccine	93% for infants under age 6 months	Somewhat generalizable
Hepatitis A vaccine among children	Hepatitis A immunity	1 systematic review of Level I and II studies	Statistically significant	Favors vaccine	97%-100%	Somewhat generalizable

⁴⁴ For findings regarding the effectiveness of the human papillomavirus vaccine, the meningococcal conjugant vaccine, the meningococcal polysaccharide vaccine, the pneumococcal polysaccharide vaccine, and the tetanus and diphtheria toxoid and pertussis vaccine, see the section of this table labeled “Preventive Services for Adults.”

⁴⁵ This row is left blank because CHBRP did not identify any meta-analyses or systematic reviews on the effectiveness of periodic physical examinations for children and adolescents. A guideline issued by the American Academy of Pediatrics that is based on expert opinion recommends periodic physical examinations for children and adolescents with more frequent visits for infants and toddlers than for older children and adolescents (AAP, 2000).

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Children (cont'd.)						
Hepatitis B vaccine —children and adolescents whose mothers did not have hepatitis b at birth	Hepatitis B immunity	1 systematic review of Level I and II studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • >95% 	Somewhat generalizable
Hepatitis b vaccine plus hepatitis B immunoglobulin — newborns whose mothers have hepatitis b	Prevention of transmission of maternal hepatitis b infection	1 systematic review of Level I and II studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 85%-95% 	Somewhat generalizable
Influenza vaccine among children age 1 to 15 years	Reduction in rates of influenza virus ⁴⁶	1 systematic review of 1 Level I study	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • 77%-91% 	Somewhat generalizable
Measles, mumps, and rubella vaccine	<ul style="list-style-type: none"> • Measles immunity⁴⁷ • Rubella immunity⁴⁸ • Mumps immunity⁴⁹ 	1 systematic review of 10 Level I-II studies	Statistically significant	Favors vaccine	<ul style="list-style-type: none"> • >99% • >95% • >95% 	Somewhat generalizable

⁴⁶ Results for outcomes are based on a study conducted during five influenza seasons (1985-1009) in the United States (Fiore et al., 2009).

⁴⁷ Efficacy in children when first dose is administered no earlier than the first^t birthday and received a second dose of MMR vaccine.

⁴⁸ Efficacy of a single dose of MMR vaccine among persons aged ≥12 months.

⁴⁹ Efficacy of a single dose of MMR vaccine among persons aged ≥12 months.

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Children (cont'd.)						
Pneumococcal conjugant vaccine—healthy infants & toddlers	Prevention of invasive pneumococcal disease	1 systematic review of 4 Level I-III studies	Statistically significant	Favors vaccination	• 97.4% (95% CI=82.7%-99.9%)	Somewhat generalizable
	Prevention of pneumonia of any etiology	1 systematic review of 4 Level I-III studies	Statistically significant	Favors vaccination	• 73.1% (95% CI=3.0%-88.3%)	Somewhat generalizable
Inactivated poliovirus vaccine ⁵⁰	Poliovirus immunity	1 systematic review of 13 Level I-III studies	No formal test of statistical significance	Favors vaccination	• 90%-100%	Somewhat generalizable
Rotavirus vaccine	Prevention of rotavirus gastroenteritis of any level of severity	1 systematic review of 2 Level I-II studies	Statistically significant	Favors vaccination	• 74% (95% CI=66.8-79.9) ⁵¹	Somewhat generalizable
	Prevention of severe rotavirus gastroenteritis	Prevention of rotavirus gastroenteritis	Statistically significant	Favors vaccination	• 98.0% (CI=88.3-100.0)	Somewhat generalizable
Varicella vaccine	Varicella immunity ⁵²	1 systematic review of 10 Level I-11 studies	Statistically significant	Favors vaccine	• 99.6%	Somewhat generalizable

⁵⁰ Use of the oral poliovirus vaccine is no longer recommended in the United States because it is associated with a risk of vaccine-associated paralytic poliomyelitis (Prevots et al., 2000).

⁵¹ Results for rotavirus vaccine based on findings from an RCT in which infants aged 6 to 32 weeks received three doses of the RV5 vaccine (Cortese and Parashar, 2009).

⁵² Efficacy in children when first dose is administered no earlier than the first birthday and received a second dose at least 3 months apart (Marin et al., 2007).

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Children (cont'd.)						
Alcohol use counseling—adolescents	Likelihood of consuming alcohol	1 systematic review of Level I and II studies	Inconsistent	Inconsistent	• Inconsistent	Somewhat generalizable
	Likelihood of heavy drinking (i.e., 5 or more drinks in a row)	1 systematic review of Level I and II studies	Inconsistent	Inconsistent	• Inconsistent	Somewhat generalizable
Tobacco use counseling vs. usual care ⁵³ —adolescent smokers	Abstinence from smoking	1 meta-analysis of 7 Level I, II, and III studies	Statistically significant	Favors counseling	• OR ⁵⁴ = 1.8 (1.1–3.0)	Somewhat generalizable
Counseling regarding prevention of sexually transmitted infections—sexually active adolescents	Risk of contracting a sexually transmitted infection	1 systematic review of 3 Level I and II studies	Statistically significant	Favors counseling	• Small reduction (quantitative estimate not reported)	Somewhat generalizable

⁵³ This meta-analysis defined “usual care” as including brief advice, self-help pamphlets, reading materials, or a referral (Fiore et al., 2008).

⁵⁴ OR = Odds ratio

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Children (cont'd.)						
Counseling and behavioral interventions for obesity—moderate to high intensity interventions ⁵⁵ vs. usual care—obese children and adolescents	Body mass index	1 systematic review of 3 Level I, II, and III studies	Statistically significant	Favors moderate-to-high intensity interventions	<ul style="list-style-type: none"> • Mean BMI in the intervention group was 1.9 to 3.3 kg/m² less than in the comparison group at 12 months post treatment 	Somewhat generalizable
Asthma self-management education	Rate of symptom-free days per month	1 meta-analysis of 7 Level I, II, and III studies	Statistically significant	Favors self-management education	<ul style="list-style-type: none"> • 2.8% (95% CI= 0.6%, 5%)—approximately 0.8 days per month 	Somewhat generalizable
	Rate of school absences per month	1 meta-analysis of 7 Level I, II, and III studies	Statistically significant	Favors self-management education	<ul style="list-style-type: none"> • 0.4% (95% CI= 0%, 0.7%)—approximately 0.1 day per month 	Somewhat generalizable
Vision Screening Tests						
Intense eye screening vs. usual screening among children ages 8 and 37 months	Decrease prevalence of amblyopia at age 7.5 years	1 systematic review of 1 Level II study	Statistically significant	Favors intense screening	<ul style="list-style-type: none"> • 0.6% vs. 1.8% prevalence 	Somewhat generalizable

⁵⁵ Defined as ≥ 25 hours of contact with the child and/or the family over a 6-month period (USPSTF, 2010).

Table D-2: Studies That Examined the Effectiveness of Preventive Services (cont'd.)

Intervention	Outcome	Research Design	Statistical Significance	Direction of Effect	Size of Effect	Generalizability
Preventive Services for Children (cont'd.)						
Hearing Tests						
Universal newborn hearing screening program vs. no hearing screening program	Confirmation of PCHL by age 9 months or younger	1 systematic review of 1 Level III study	Statistically significant	Favors screening	<ul style="list-style-type: none"> • 67% vs. 27%, p < 0.0001 	<ul style="list-style-type: none"> • Somewhat generalizable
Universal newborn hearing screening program vs. no hearing screening program	Better scores on measures of receptive and expressive language	1 systematic review of 1 Level III study	Statistically significant	Favors screening	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Somewhat generalizable
Children with confirmed PCHL by age 9 months or younger vs. children confirmed with PCHL after age of 9 months	Better scores on measures of receptive and expressive language	1 systematic review of 1 Level III study	Statistically significant	Favors early screening	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Somewhat generalizable

Appendix E: Cost Impact Analysis: Data Sources, Caveats, and Assumptions

This appendix describes data sources, as well as general and mandate-specific caveats and assumptions used in conducting the cost impact analysis. For additional information on the cost model and underlying methodology, please refer to the CHBRP Web site at http://www.chbrp.org/analysis_methodology/cost_impact_analysis.php.

The cost analysis in this report was prepared by the Cost Team, which consists of CHBRP task force members and staff, specifically from the University of California, Los Angeles, and Milliman Inc. (Milliman). Milliman is an actuarial firm that provides data and analyses per the provisions of CHBRP's authorizing legislation.

Data Sources

In preparing cost estimates, the Cost Team relies on a variety of data sources as described below.

Health insurance

1. The latest (2007) California Health Interview Survey (CHIS), which is used to estimate health insurance for California's population and distribution by payer (i.e., employment-based, individually purchased, or publicly financed). The biannual CHIS is the largest state health survey conducted in the United States, collecting information from over approximately 53,000 households. More information on CHIS is available at <http://www.chis.ucla.edu>. The population estimates for both adults and children from 2007 were adjusted to reflect the following trends as of 2009 from the data sources listed: 1) the increase in the total non-institutionalized population in California, from the California Department of Finance; 2) the decrease in private market coverage (both group- and individual-level), from the CHBRP Annual Premium and Enrollment Survey, and 3) the increase in all types of public coverage, from enrollment data available from the Centers for Medicare & Medicaid Services, the California Medical Statistics Section, and the Managed Risk Medical Insurance Board. The residual population after accounting for these trends was assumed to be uninsured.
2. The latest (2009) California Employer Health Benefits Survey is used to estimate:
 - size of firm,
 - percentage of firms that are purchased/underwritten (versus self-insured),
 - premiums for health care service plans regulated by the Department of Managed Health Care (DMHC) (primarily health maintenance organizations [HMOs] and Point of Service Plans [POS]),
 - premiums for health insurance policies regulated by the California Department of Insurance (CDI) (primarily preferred provider organizations [PPOs] and fee-for-service plans [FFS]), and
 - premiums for high deductible health plans (HDHPs) for the California population with employment-based health insurance.

- This annual survey is currently released by the California Health Care Foundation/National Opinion Research Center (CHCF/NORC) and is similar to the national employer survey released annually by the Kaiser Family Foundation and the Health Research and Educational Trust. Information on the CHCF/NORC data is available at: <http://www.chcf.org/topics/healthinsurance/index.cfm?itemID=133543>.
3. Milliman data sources are relied on to estimate the premium impact of mandates. Milliman's projections derive from the Milliman Health Cost Guidelines (HCGs). The HCGs are a health care pricing tool used by many of the major health plans in the United States. See www.milliman.com/expertise/healthcare/products-tools/milliman-care-guidelines/index.php. Most of the data sources underlying the HCGs are claims databases from commercial health insurance plans. The data are supplied by health insurance companies, Blues plans, HMOs, self-funded employers, and private data vendors. The data are mostly from loosely managed healthcare plans, generally those characterized as preferred provider plans or PPOs. The HCGs currently include claims drawn from plans covering 4.6 million members. In addition to the Milliman HCGs, CHBRP's utilization and cost estimates draw on other data, including the following:
- The MarketScan Database, which includes demographic information and claim detail data for approximately 13 million members of self-insured and insured group health plans.
 - An annual survey of HMO and PPO pricing and claim experience. The most recent survey (2008 Group Health Insurance Survey) contains data from seven major California health plans regarding their 2007 experience.
 - Ingenix MDR Charge Payment System, which includes information about professional fees paid for healthcare services, based upon approximately 800 million claims from commercial insurance companies, HMOs, and self-insured health plans.
 - These data are reviewed for applicability by an extended group of experts within Milliman but are not audited externally.
4. An annual survey by CHBRP of the seven largest providers of health insurance in California (Aetna, Anthem Blue Cross of California, Blue Shield of California, CIGNA, Health Net, Kaiser Foundation Health Plan, and PacifiCare) to obtain estimates of baseline enrollment by purchaser (i.e., large and small group and individual), type of plan (i.e., DMHC- or CDI-regulated), cost-sharing arrangements with enrollees, and average premiums. Enrollment in plans or policies offered by these seven firms represents 95.9% of the persons with privately funded health insurance subject to state mandates. This figure represents 98.0% of enrollees in full service (non-specialty), privately funded DMHC-regulated health plan contracts and 85.3% of enrollees in full service (nonspecialty), privately funded CDI-regulated policies.

Publicly funded insurance subject to state benefit mandates

5. Premiums and enrollment in DMHC-regulated health plans and CDI-regulated policies by self-insured status and firm size are obtained annually from CalPERS for active state and local government public employees and their dependents who receive their benefits through CalPERS. Enrollment information is provided for DMHC-regulated health care service plans covering non-Medicare beneficiaries—about 74% of CalPERS total enrollment. CalPERS self-funded plans—approximately 26% of enrollment—are not subject to state mandates. In addition, CHBRP obtains information on current scope of benefits from evidence of coverage (EOCs) documents publicly available at www.calpers.ca.gov.
6. Enrollment in Medi-Cal Managed Care (DMHC-regulated health plans) is estimated based on CHIS and data maintained by the Department of Health Care Services (DHCS). DHCS supplies CHBRP with the statewide average premiums negotiated for the Two-Plan Model, as well as generic contracts that summarize the current scope of benefits. CHBRP assesses enrollment information online at <http://www.dhcs.ca.gov/dataandstats/statistics/Pages/BeneficiaryDataFiles.aspx>.
7. Enrollment data for other public programs—Healthy Families Program (HFP), Access for Infants and Mothers (AIM), and the Major Risk Medical Insurance Program (MRMIP)—are estimated based on CHIS and data maintained by the Managed Risk Medical Insurance Board (MRMIB). The basic minimum scope of benefits offered by participating health plans under these programs must comply with all requirements for DMHC-regulated health plans, and thus these plans are affected by state-level benefit mandates. CHBRP does not include enrollment in the Post-MRMIP Guaranteed-Issue Coverage Products as these persons are already included in the enrollment for individual market health insurance offered by DMHC-regulated plans or CDI-regulated insurers. Enrollment figures for AIM and MRMIP are included with enrollment for Medi-Cal in presentation of premium impacts. Enrollment information is obtained online at www.mrmib.ca.gov/. Average statewide premium information is provided to CHBRP by MRMIB staff.

General Caveats and Assumptions

The projected cost estimates are estimates of the costs that would result if a certain set of assumptions were exactly realized. Actual costs will differ from these estimates for a wide variety of reasons, including:

- Prevalence of mandated benefits before and after the mandate may be different from CHBRP assumptions.
- Utilization of mandated benefits (and, therefore, the services covered by the benefit) before and after the mandate may be different from CHBRP assumptions.
- Random fluctuations in the utilization and cost of health care services may occur.

Additional assumptions that underlie the cost estimates presented in this report are:

- Cost impacts are shown only for plans and policies subject to state benefit mandate laws.
- Cost impacts are only for the first year after enactment of the proposed mandate
- Employers and employees will share proportionately (on a percentage basis) in premium rate increases resulting from the mandate. In other words, the distribution of premium paid by the subscriber (or employee) and the employer will be unaffected by the mandate.
- For state-sponsored programs for the uninsured, the state share will continue to be equal to the absolute dollar amount of funds dedicated to the program.
- When cost savings are estimated, they reflect savings realized for 1 year. Potential long-term cost savings or impacts are estimated if existing data and literature sources are available and provide adequate detail for estimating long-term impacts. For more information on CHBRP's criteria for estimating long-term impacts please see: http://www.chbrp.org/analysis_methodology/cost_impact_analysis.php. Several recent studies have examined the effect of private insurance premium increases on the number of uninsured (Chernew, et al., 2005; Hadley, 2006; Glied and Jack, 2003). Chernew et al. estimate that a 10% increase in private premiums results in a 0.74 to 0.92 percentage point decrease in the number of insured, while Hadley (2006) and Glied and Jack (2003) estimate that a 10% increase in private premiums produces a 0.88 and 0.84 percentage point decrease in the number of insured, respectively. The price elasticity of demand for insurance can be calculated from these studies in the following way. First, take the average percentage point decrease in the number of insured reported in these studies in response to a 1-percent increase in premiums (about -0.088), divided by the average percentage of insured persons (about 80%), multiplied by 100%, i.e., ($\{-0.088/80\} \times 100 = -0.11$). This elasticity converts the *percentage point* decrease in the number of insured into a *percentage* decrease in the number of insured persons for every 1-percent increase in premiums. Because each of these studies reported results for the large-group, small-group, and individual insurance markets combined, CHBRP employs the simplifying assumption that the elasticity is the same across different types of markets. For more information on CHBRP's criteria for estimating impacts on the uninsured please see: http://www.chbrp.org/analysis_methodology/cost_impact_analysis.php.

There are other variables that may affect costs, but which CHBRP did not consider in the cost projections presented in this report. Such variables include, but are not limited to:

- Population shifts by type of health insurance: If a mandate increases health insurance costs, some employer groups and individuals may elect to drop their health insurance. Employers may also switch to self-funding to avoid having to comply with the mandate.
- Changes in benefit plans: To help offset the premium increase resulting from a mandate, subscribers/policyholders may elect to increase their overall plan deductibles or copayments. Such changes would have a direct impact on the distribution of costs between the health plan and policies and enrollees, and may also result in utilization

reductions (i.e., high levels of patient cost sharing result in lower utilization of health care services). CHBRP did not include the effects of such potential benefit changes in its analysis.

- Adverse selection: Theoretically, individuals or employer groups who had previously foregone health insurance may now elect to enroll in a health plan or policy, postmandate, because they perceive that it is to their economic benefit to do so.
- Medical management: Health plans and insurers may react to the mandate by tightening medical management of the mandated benefit. This would tend to dampen the CHBRP cost estimates. The dampening would be more pronounced on the plan types that previously had the least effective medical management (i.e., PPO plans).
- Geographic and delivery systems variation: Variation in existing utilization and costs, and in the impact of the mandate, by geographic area and delivery system models: Even within the health insurance types CHBRP modeled (HMO—including HMO and point of service (POS) plans—and non-HMO—including PPO and fee for service (FFS) policies), there are likely variations in utilization and costs by type. Utilization also differs within California due to differences in the health status of the local population, provider practice patterns, and the level of managed care available in each community. The average cost per service would also vary due to different underlying cost levels experienced by providers throughout California and the market dynamic in negotiations between providers and health plans or insurers. Both the baseline costs prior to the mandate and the estimated cost impact of the mandate could vary within the state due to geographic and delivery system differences. For purposes of this analysis, however, CHBRP has estimated the impact on a statewide level.
- Compliance with the mandate: For estimating the postmandate coverage levels, CHBRP typically assumes that plans and policies subject to the mandate will be in compliance with the coverage requirements of the bill. Therefore, the typical postmandate coverage rates for populations subject to the mandate are assumed to be 100%.

Bill Analysis—Specific Caveats and Assumptions

CHBRP recognizes several potential limitations in the analysis. There include:

- CHBRP recognizes that medical necessity is loosely defined. For example, services that are deemed medically necessary in one community are not necessarily replicated in other communities with similar health care demands. Wennberg (2008) and associates have shown dramatic variation in health care services across demographically homogenous communities. Kaplan (2009) has done similar analyses in California. For example, Medicare costs in some categories are 85% higher in Los Angeles than they are in San Diego, even though the epidemiology, demography, and coverage parameters in the comparison communities are similar. Havighurst (2008), Morreim and Haavi (2001), and others have also addressed these issues.
- CHBRP recognizes that elasticity of demand will vary across basic health services. To date, the best available evidence comes from the RAND HIE. That remains the only

experimental evaluation of the effects of health insurance upon utilization. The difficulty with using the RAND estimates is that few consumers have first dollar coverage. Therefore, CHBRP used the Milliman HCG to estimate utilization when coverage is associated with some cost sharing (i.e. coinsurance and deductibles) as described on p. 58 of this analysis.

- CHBRP recognizes some limitations for the cost estimates of maternity services. Female enrollees with coverage for maternity may choose more costly hospitals or choose longer stays and more services than women whose insurance excludes maternity. However, this dynamic is likely be rare and have no measurable effect on utilization post-mandate.
- Access to OB/GYN services may improve for women newly covered for maternity services due to this mandate. Even though most services may still require cost-sharing, physicians may be more willing to accept women with coverage for maternity services that those without.
- There may be residual effects of selection for maternity services. Since those enrolled today bought coverage knowing there would be no maternity coverage, these individuals may continue to have no need for maternity services. As a result, the cost impact may be slightly over-stated.

Appendix F: Information Submitted by Outside Parties

In accordance with CHBRP policy to analyze information submitted by outside parties during the first 2 weeks of the CHBRP review, the following parties chose to submit information.

No information was submitted directly by interested parties for this analysis.

For information on the processes for submitting information to CHBRP for review and consideration please visit: http://www.chbrp.org/recent_requests/index.php.

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A group of faculty and staff undertakes most of the analysis that informs reports by the California Health Benefits Review Program (CHBRP). The CHBRP **Faculty Task Force** comprises rotating representatives from six University of California (UC) campuses and three private universities in California. In addition to these representatives, there are other ongoing contributors to CHBRP from UC. This larger group provides advice to the CHBRP staff on the overall administration of the program and conducts much of the analysis. The **CHBRP staff** coordinates the efforts of the Faculty Task Force, works with Task Force members in preparing parts of the analysis, and coordinates all external communications, including those with the California Legislature. The level of involvement of members of the CHBRP Faculty Task Force and staff varies on each report, with individual participants more closely involved in the preparation of some reports and less involved in others. 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. Milliman also helped with the initial development of CHBRP methods for assessing that impact.

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. CHBRP is grateful for the valuable assistance and thoughtful critiques provided by the members of the National Advisory Council. However, the Council does not necessarily approve or disapprove of or endorse this report. CHBRP assumes full responsibility for the report and the accuracy of its contents.

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