

California Health Benefits Review Program

Analysis of California Assembly Bill 166 Violence Preventive Services

A Report to the 2019–2020 California State Legislature

April 21, 2019



Key Findings:

Analysis of California Assembly Bill 166 Violence Preventive Services

Summary to the 2019–2020 California State Legislature, April 21, 2019



AT A GLANCE

The version of California Assembly Bill 166 analyzed by CHBRP would require DHCS to “develop and implement services targeted at reducing injury recidivism among violently injured Medi-Cal beneficiaries, and provide direct reimbursement to qualified violence prevention professionals for violence preventive services.”

1. CHBRP estimates that, as of July 1, 2020, all 10.5 million Medi-Cal beneficiaries (27% of all Californians) will have insurance subject to AB 166.
2. **Benefit coverage.** Currently, 0% of Medi-Cal beneficiaries have coverage for violence prevention services provided by prevention professionals as defined in AB 166. Coverage would increase to 100% postmandate.
3. **Utilization.** Baseline utilization is estimated at 700 enrollees per year. Due to constraints on the supply of qualified violence prevention professionals (QVPPs) and the time needed to develop reimbursement mechanisms for a new Medi-Cal benefit, no increase in utilization is projected in the first 12 months postmandate.
4. **Expenditures.** The estimated increase in expenditures is \$525,000, or about 0.001% of all Medi-Cal expenditures, in Year 1 postmandate.
5. **Medical effectiveness.** There is limited evidence showing that violence prevention services decrease reinjury, prevent retaliation or future perpetration of violence, and may impact other related outcomes.
6. **Public health.** No short-term public health impact is anticipated due to no change in utilization in the first 12 months postmandate.
7. **Long-term impacts.** Utilization of violence prevention services is projected to increase gradually over time as the number of QVPPs increases, but cost impacts cannot be estimated. The long-term public health impact is unknown, but there may be reductions in violent injuries and reinjuries, and impacts on other related outcomes for some Medi-Cal beneficiaries who successfully complete a violence prevention program.

Refer to CHBRP’s full report for full citations and references.

CONTEXT

About 115,000 Californians are treated annually for violent injury, with approximately 2,000 cases resulting in death in 2017.¹ Data from 2014 show that Medi-Cal beneficiaries under age 65 years had 48,261 emergency department, trauma center, or hospital visits for these types of injuries. Among the under age 65 cohort, about half of the violent injuries treated were in those aged 10–30 years. About twice as many Medi-Cal beneficiaries aged 10–65 years are treated for violent injury than in the privately insured population.

A substantial portion of individuals who experience a violent injury experience a violent reinjury; 10% to 25% of those with an initial violent injury have one or more violent reinjuries, and up to 20% of reinjuries result in death.

The primary intent of violence prevention programs is to prevent injury, reduce violent reinjury, and improve victim/perpetrator physical and mental health. Under AB 166, a licensed health care provider would be responsible for identifying patients with violent injuries and referring them to a qualified violence prevention professional (QVPP) if the patient is deemed to be at high risk for reinjury and/or retaliation.

Programs that currently provide the type of services identified in the bill are (1) *hospital-based* violence intervention programs (HVIPs), or (2) *hospital-linked* programs led by community-based organizations (CBOs), some of which employ violence prevention specialists.

AB 166 uses the term “*interpersonal* violence.” However, for several reasons, CHBRP’s analysis focuses on injuries from *community* violence, a subset of interpersonal violence that excludes other types of violence such as self-harm, domestic violence, and elder and child abuse.

BILL SUMMARY

AB 166 requires “violence preventive services” provided by a “qualified violence prevention professional” (QVPP) to be a covered Medi-Cal benefit by July 1, 2020, if:

“The beneficiary has received medical treatment for a violent injury, including, but not limited to, a gunshot wound, stabbing injury, or any other form of violent injury; and

A licensed health care provider has determined that the beneficiary is at elevated risk of violent reinjury or retaliation and has referred them to participate in a violence preventive services program.”

The bill describes these services as “evidence-based, trauma-informed, supportive, and nonpsychotherapeutic services provided by a prevention professional for the purpose of promoting improved health outcomes and positive behavioral change, preventing injury recidivism, and reducing the likelihood that violently injured individuals will commit or promote violence themselves.” The bill identifies a variety of services including peer support and counseling, mentorship, conflict mediation, crisis intervention, targeted case management, referrals, patient education, and screening services that are provided to “victims of *interpersonal violence*.”

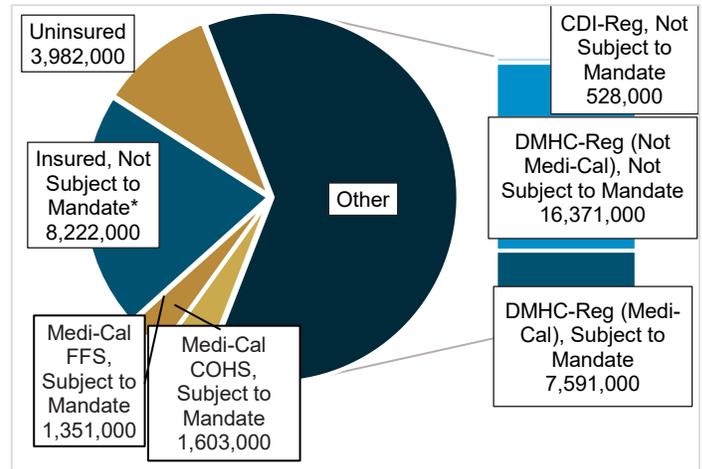
QVPPs are a new category of health care professionals as identified by AB 166. The bill outlines criteria that QVPPs must meet to be eligible for reimbursement, including specified training and certification, continuing education, and experience with providing violence prevention services.

Last, the bill requires the California Department of Health Care Services (DHCS) to “approve at least one governmental or nongovernmental accrediting body with expertise in violence preventive services to review and approve training and certification programs.” AB 166 recognizes the National Network of Hospital-Based Violence Intervention Programs (NNHVIP) as an organization certifying violence prevention professionals.

The violence prevention services described in AB 166 would be a covered benefit for all Medi-Cal enrollees through an addition to the Welfare and Institutions Code. AB 166 does not apply to commercial or CalPERS plans.

Figure A shows how many Californians have health insurance that would be subject to AB 166.

Figure A. Health Insurance in CA and AB 166



IMPACTS

Benefit Coverage, Utilization, and Cost

The impacts that CHBRP projects AB 166 to have on Medi-Cal beneficiaries are described below.

Benefit Coverage

Currently, 0% of enrollees with health insurance that would be subject to AB 166 have coverage for violence prevention services provided by a QVPP as described by the bill. Medi-Cal already covers some services listed in AB 166, such as targeted case management or crisis counseling, but does not cover these services when provided by QVPPs, as this is not currently a category of providers that can bill Medi-Cal for services. Coverage would increase to 100% postmandate.

Utilization

Baseline: CHBRP estimates that 700 Medi-Cal enrollees will receive 50 hours of violence prevention services per year from QVPPs.

Year 1 Postmandate: Due to constraints on QVPP supply and the time needed to develop reimbursement mechanisms for the new Medi-Cal violence prevention services benefit, no increase in utilization is projected in the first 12 months postmandate.

Year 2 Postmandate: CHBRP estimates that utilization of violence prevention services would increase by 20%.

Expenditures

Year 1 Postmandate: Although CHBRP projects no increase in utilization from baseline to postmandate, the cost of violence prevention services provided by QVPPs are expected to shift to Medi-Cal under AB 166. Thus, Medi-Cal expenditures for these services are expected to increase by \$525,000 (0.001%) in Year 1 postmandate.

Year 2 Postmandate: Due to increased utilization in Year 2, CHBRP projects total Medi-Cal expenditures of \$626,000 (0.001%) attributable to expenses for covered benefits, minus offsets for reductions in treatment for reinjuries.

Number of Uninsured in California

No measurable change in the number of uninsured persons is expected due to the enactment of AB 166.

Medical Effectiveness

CHBRP's literature review results show the difficulties that HVIPs face with regard to rigorous evaluation, such as that provided by a randomized controlled trial (RCT). Most RCTs reviewed suffered from issues such as high attrition rates, small sample sizes, and low occurrence of events required to assess outcomes. As a consequence, many studies of existing programs are observational in nature and lack adequate comparison groups and statistical analysis.

CHBRP found *limited* evidence that violence prevention services lead to desired outcomes, including reducing reinjury, preventing retaliation or likelihood of perpetrating violence, and impacting other related outcomes and determinants of violent behavior.

Public Health

Continued exposure to violence is a known contributor to poor health status such as increased rates of cardiovascular disease, cancer, diabetes, sexually transmitted infections, mental health, and substance use disorders.

However, CHBRP concludes that AB 166 would have no short-term public health impact due to no change in utilization. This is based on a constrained supply of QVPPs in the first year postmandate and likely administrative delays associated with DHCS identifying an appropriate QVPP training and certification program.

Long-Term Impacts

CHBRP anticipates that following the establishment of the certification and training requirements by DHCS, existing HVIPs will increase the number of QVPP positions, community and health care organizations will develop new programs, and the overall number of QVPPs will increase in response to demand. CHBRP also anticipates that health care providers will develop increasing knowledge about community violence screening and referrals, as well as familiarity with violence prevention services. CHBRP thus projects that utilization of violence prevention services will increase in the long-term but is unable to quantify the long-term cost attributable to AB 166.

The long-term public health impact of AB 166 is unknown, but if effective violence prevention programs are expanded and replicated throughout California, CHBRP anticipates a reduction in community violence-related injuries, reinjuries, retaliation, and future perpetration of violence among some Medi-Cal beneficiaries who successfully complete a violence prevention program.

CHBRP is unable to estimate any reductions in existing health disparities. However, because violent injury disproportionately impacts young boys and men of color, any reduction in premature deaths and poor secondary health outcomes could help close the overall mortality rate disparity among males aged 10–30 years in California.

Essential Health Benefits and the Affordable Care Act

As AB 166 is relevant only to the benefit coverage of Medi-Cal beneficiaries, it seems unlikely that the bill, which would require a set of violence prevention services provided by QVPPs to be a covered benefit, would exceed the definition of essential health benefits (EHBs) in California.

A Report to the California State Legislature

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Violence Preventive Services

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California Health Benefits Review Program
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ABOUT CHBRP

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

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

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

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POLICY CONTEXT

The California Assembly Committee on Health has requested that the California Health Benefits Review Program (CHBRP)² conduct an evidence-based assessment of the medical, financial, and public health impacts of Assembly Bill (AB) 166, Violence Preventive Services.

Bill-Specific Analysis of AB 166, Violence Preventive Services

Bill Language

AB 166 would require that the California Department of Health Care Services (DHCS) “develop and implement services targeted at reducing injury recidivism among violently injured Medi-Cal beneficiaries, and provide direct reimbursement to qualified violence prevention professionals for violence preventive services.”

The bill lists a set of conditions that qualified violence prevention professionals (QVPPs) must meet (see below) and provides a definition of “violence preventive services.” It requires such services provided by a QVPP to be a covered benefit beginning July 1, 2020, for Medi-Cal beneficiaries who meet the following criteria:

1. “The beneficiary has received medical treatment for a violent injury, including, but not limited to, a gunshot wound, stabbing injury, or any other form of violent injury; and
2. A licensed health care provider has determined that the beneficiary is at elevated risk of violent reinjury or retaliation and has referred them to participate in a violence preventive services program.”

AB 166 specifies that DHCS provide direct reimbursement to a newly created type of provider (“qualified violence prevention professionals”), which the bill classifies as a “prevention professional”, as defined by the National Uniform Claim Committee (NUCC) Code Number 405300000X.³ AB 166 specifies that QVPPs must meet the following conditions:

“(A) Possesses at least six months of full-time equivalent experience in providing violence preventive services through employment, volunteer work, or as part of an internship experience.

(B) Has successfully completed an accredited training and certification program for violence prevention professionals, in accordance with subdivision (D), or has been certified as a violence prevention professional by the National Network of Hospital-Based Violence Intervention Programs prior to the effective date of this section.

(C) Successfully completes at least four hours of continuing education annually in the field of violence preventive services.

² CHBRP’s authorizing statute is available at <http://chbrp.org/faqs.php>.

³ National Uniform Claim Committee, 2015: “Prevention Professionals work in programs aimed to address specific patient needs, such as suicide prevention, violence prevention, alcohol avoidance, drug avoidance, and tobacco prevention. The goal of the program is to reduce the risk of relapse, injury, or reinjury of the patient. Prevention Professionals work in a variety of settings and provide appropriate case management, meditation, referral, and mentorship services. Individuals complete prevention professionals training for the population of patients with whom they work.”

(D) Satisfies any other requirements necessary to maintain certification as a violence prevention professional.”

The bill also requires DHCS to “approve at least one governmental or nongovernmental accrediting body with expertise in violence preventive services to review and approve training and certification programs.”

The full text of AB 166 can be found in Appendix A.

Definition of Terms Used in the Analysis of AB 166

AB 166 defines “**violence preventive services**” (also commonly referred to in the literature, and hereafter in this report, as violence *prevention* services) as “evidence-based, trauma-informed, supportive, and nonpsychotherapeutic services provided by a prevention professional for the purpose of promoting improved health outcomes and positive behavioral change, preventing injury recidivism, and reducing the likelihood that violently injured individuals will commit or promote violence themselves. Those services may be provided within or outside of a clinical setting and may include the provision of peer support and counseling, mentorship, conflict mediation, crisis intervention, targeted case management, referrals, patient education, or screening services to victims of interpersonal violence.”

The World Health Organization (WHO) definition of *interpersonal violence* includes both *family and intimate partner violence* and *community violence* (WHO, 2019). Traumatic injuries sustained through community violence include blunt force trauma (e.g., through hitting, punching, pushing), gunshot wounds, and stabbings. Also known as street violence or youth violence, community violence may be perpetrated by groups of people (including gangs) or by individuals, and it usually excludes other forms of violence such as child or elder abuse and self-harm.

CHBRP’s analysis focuses on injuries from *community violence*, a subset of interpersonal violence, as defined in *Key Assumptions and Analytic Approach* below.

“**Violence prevention program**” (also “**violence intervention program**”): violence prevention services described in AB 166 currently may be initiated through two types of programs. Both are dedicated to engaging patients with a violent injury during the “window of opportunity” to reduce the chance of retaliation and reinjury. Although the goals are the same, the administrative structure varies between the two program types: (1) *hospital-based* violence intervention programs (HVIPs), and (2) *hospital-linked* programs led by community-based organizations (CBOs).

1. **Hospital-based violence intervention program (HVIP):** these programs are administered through the hospital and staffed by hospital personnel.
2. **CBO-led, hospital-linked violence prevention program:** these programs are led by a CBO that has established a partnership with a hospital. The CBO violence intervention specialists deliver services equivalent to those delivered by their counterparts in HVIPs. The hospital-linked violence prevention programs discussed in this report may be a subset of a larger swath of programs administered by CBOs (e.g., anti-bullying campaigns, anti-delinquency programs, conflict resolution training); however those services and programs are not relevant to the coverage mandated by AB 166.

Relevant Populations

If enacted, AB 166 would affect the health insurance coverage of all Medi-Cal beneficiaries, approximately 10.5 million enrollees (27% of all Californians). AB 166 applies to all Medi-Cal market

segments – Medi-Cal Managed Care Plans (MCPs), County-Organized Health Systems, and Medi-Cal Fee-for-Service.

Interaction With Existing Requirements

Health benefit mandates may interact and align with the following state and federal mandates or provisions.

Federal Rules

Federal rules regarding the provision of preventive services were changed as of January 1, 2014 (CMS, 2013). Previously, federal regulations required preventive services to be *provided* by a physician or other licensed practitioner. Current federal rules require that physicians or other licensed practitioners *recommend* these services but indicate that “preventive services may be provided, at state option, by practitioners other than physicians or other licensed practitioners” (CMS, 2013).

Effective April 1, 2016 the National Uniform Claim Committee (NUCC) approved a new billing code for “prevention professionals,” as described in *Bill Language* above, for standard use in medical claims billing.

California Policy Landscape

California law and regulations

CHBRP is unaware of any laws or regulations in California regarding the training or certification of qualified violence prevention professionals (QVPPs). To CHBRP’s knowledge, this is an undefined provider group. CHBRP is unaware of any laws or regulations regarding violence prevention services.

Similar requirements in other states

New Jersey introduced Assembly Bill 4804⁴ (pending as of publication of this report) in December 2018. The bill would require Medicaid to cover professional violence prevention counseling services for persons who have incurred a gunshot or stabbing injury and are determined by a licensed health care professional who refers them to be at a high risk of reinjury or retaliation. The bill does not further specify the types of services that would be included nor the training requirements those providing the services must meet.

Federal Policy Landscape

Affordable Care Act

A number of Affordable Care Act (ACA) provisions have the potential to or do interact with state benefit mandates. However, as AB 166 is relevant only to the benefit coverage of Medi-Cal beneficiaries, it is unlikely that AB 166, which would require a set of violence prevention services provided by a QVPP to be a covered benefit, would interact with requirements of the ACA as presently exists in federal law.⁶ CHBRP does not anticipate that AB 166 would exceed the definition of essential health benefits (EHBs) in California.

⁴ https://www.njleg.state.nj.us/2018/Bills/A5000/4804_11.PDF.

Key Assumptions and Analytic Approach

AB 166 focuses on providing coverage for violence prevention services delivered to Medi-Cal beneficiaries who experience violent injuries due to interpersonal violence and are at risk of reinjury, retaliation, and/or future perpetration of violence.

Assumptions

- AB 166 requires reimbursement for QVPP services delivered to Medi-Cal beneficiaries only; the bill does not apply to privately insured Californians.
- **Although AB 166 uses “interpersonal violence”, CHBRP focuses its analysis on community violence, a subset of interpersonal violence, and on those aged 10–30 years.** This approach is based on content expert input, literature reviews, and CHBRP’s interpretation of the bill, as a whole. Rationales for this focus include:
 - Peer-reviewed and grey literature describe the target audience of violence prevention programs (as described in AB 166) as those who experience community violence. Most community violence is perpetrated and experienced by youth and young adults aged 10–30 years (Cunningham et al., 2009; Decker et al., 2018; Fein et al., 2013;); thus, the violence prevention programs and services focus on this age cohort (NNHVIP, 2019b; Smith et al., 2013).
 - AB 166 specifically identifies the National Network of Hospital-based Violence Intervention Programs (NNHVIP) as the only organization currently eligible to certify violence prevention professionals, until DHCS has designated a body to review and approve training and certification programs. NNHVIP does not focus on other types of violence perpetration such as child abuse, domestic violence, or self-harm.
 - California HVIPs that are members of NNHVIP focus on community violence, with a target population of youth and young adults aged 10–30 years.
 - While it is possible that violence involving self-harm, elders, children, and intimate partners may lead to their evaluation by hospital personnel, these groups are not the target population served by HVIPs so would likely be referred to resources other than the HVIP (e.g., Child Protective Services, domestic violence shelters).
- CHBRP notes that the literature uses violence intervention specialist, violence prevention professional, case manager, etc. This report will use those terms as proxies for the bill-defined QVPP.
- CHBRP assumes AB 166 would require reimbursement for specified services provided by QVPPs who are employed through *hospital-based* violence prevention programs (referred to HVIPs), and community-based programs, which may be *hospital-linked* (see the *Background* section for detailed descriptions of these types of programs).
- Furthermore, CHBRP assumes services not directly provided by the QVPP, such as employment assistance or counseling received via referral to an outside organization, would not be a covered benefit under AB 166.
- All currently practicing violence prevention providers meeting the definition set forth in AB 166 would receive reimbursement as grandfathered entities, but all new providers would be required to meet training and certification criteria, as yet undetermined by DHCS. CHBRP assumes that there will be a delay in training and certifying QVPPs while DHCS analyzes and selects an

appropriate training and certification program; thus, QVPP supply will be limited for some time. See the *Benefit Coverage, Utilization, and Cost Impacts* section for more discussion about the impact of a delayed provider pipeline.

- CHBRP assumes that AB 166 applies to all Medi-Cal beneficiaries, including enrollees in MCPs, County-Organized Health Systems, and Fee-For-Service.
- The following analysis applies to all Medi-Cal market segments. However, to the extent that the target population of current violence prevention programs consists of youth and young adults ages 10–30 years who are victims of community violence, the approach focuses on this subset of the Medi-Cal population.

BACKGROUND ON VIOLENCE PREVENTION SERVICES

Incidence of Violent Injury in California

According to the California Department of Public Health (CDPH) injury surveillance program, about 115,000 Californians are treated annually for violent injury,⁵ with approximately 2,000 cases resulting in death in 2017 (CDPH, 2014). Based on the most recent publicly available data (2014) from CDPH EpiCenter, CHBRP finds that Medi-Cal beneficiaries under age 65 had 48,261 emergency department (ED), trauma center, or hospital visits for these types of injuries. Among the under age 65 cohort, those aged 10–30 years comprised about half (24,912) of the violent injuries treated. Additionally, about twice as many Medi-Cal beneficiaries (aged 10–65 years) are treated for violent injury than in the privately insured population (CDPH, 2014).

According to the California Department of Justice, of all aggravated assaults in 2017, 18% were due to firearms; 16% involved knives or cutting instruments; and 66% involved a dangerous or personal (i.e., hands, fists, feet) weapon (CalDOJ, 2017).

Recurrent Injury and Retaliation, and Perpetration

Ascertaining recurrent violent injury is challenging, and it is unknown what proportion of the injuries cited above represent the initial injury compared with reinjury. Using national data to estimate population level rates of violent reinjury, Kaufman et al. (2016) estimated that about 11% of those with an initial violent injury also had one or more violent reinjuries. Published estimates from smaller study cohorts estimated that 10% to 25% of victims experience violent reinjury within 2–5 years of the initial injury; up to 20% of those recurrent injuries result in death (Kaufman et al., 2016; Smith et al., 2013).

Research demonstrates a high correlation between victimization and retaliation or future perpetration of violence. Although not all victims of crime become offenders, most offenders have been victims (DeLong and Reichart, 2019; Fein et al., 2013). Retaliatory behavior is justifiable from the victim’s perspective, and qualitative research has identified multifactorial reasons for revenge such as lack of trust or faith in the justice system, deterring future injustice, restoring self-worth or self-respect, and deterring future violence (Copeland-Linder et al., 2012). Wiebe et al. (2011) reported survey results for patients aged 12–18 years treated in an urban ED for assault injuries and followed up 4 and 8 weeks after treatment to ascertain retaliatory behavior. Of those who agreed to participate, 31.4% of those intending to retaliate reported that they had “beaten up someone” compared with 14.5% of those who had no intent to retaliate. Additionally, 31.3% of those intending to retaliate had been “beaten up” in an incident related to the initial injury compared with 21.8% of those with no intent. The authors noted that simply asking patients about intended retaliation was an effective tool to identify those who are at high risk of carrying a weapon, threatening someone, or being victimized (Wiebe et al., 2011).

Risk Factors for Violent Injury

Numerous factors contribute to risk of violent injury. Mental health issues, substance use disorder, Medicaid or uninsured status, homelessness, exposure to violence, economic adversity, (Black) race, and low social capital are primary risk factors for both the initial and recurrent injury (Decker et al., 2018; Kaufman et al., 2016). See *Social Determinants of Health* below for further discussion.

⁵ Causes of violent injury defined as blunt object, cut/pierce, unarmed fight, firearm, and other. Excludes neglect/abuse.

Violence Prevention Specialists, Services, and Programs

The primary intent of violence prevention programs is to prevent injury from community violence, reduce violent reinjury, and improve victim/perpetrator physical and mental health. Most community violence is perpetrated and experienced by youth aged 10–30 years (Cunningham et al., 2009; Decker et al., 2018; Fein et al., 2013); thus, the violence prevention programs and services focus on this age cohort (NNHVIP, 2019a; Smith et al., 2013).

Violence Prevention Services and Violence Prevention/Intervention Specialists

Different types of providers can be trained as violence prevention/intervention specialists including, but not limited to, hospital social workers, trauma outreach coordinators (usually housed in the department of trauma surgery), community injury prevention coordinators, or paraprofessionals or peer navigators (NNHVIP, 2019a). Generally, violence prevention or intervention specialists provide the following types of patient/client services (NNHVIP, 2019a; Smith et al., 2013):

- One or more bedside visits to the injured person, preferably within 24 hours of an ED visit or hospital admission, to build rapport and conduct: de-escalation, assessment of reinjury and/retaliation risk, and discharge planning; and
- One or more hours of visits per week over 6–18 months with the enrollee, in home and community settings, to navigate services to reduce the risk of reinjury post-discharge.
- Examples of service provision or navigation includes contacting patient/client networks to assess safety as part of the hospital discharge plan, peer support and counseling, mentorship, advocacy (attending patient/client medical or justice-related appointments), conflict mediation, crisis intervention, patient education, targeted case management, screening services, and referrals for additional services, such as tattoo removal, legal advocacy, mental health services, substance use treatment, employment, and housing. Frequency and duration of care will vary by client.⁶

Violence prevention/intervention specialists may also maintain relationships with hospital providers and administrators and establish relationships with reliable community resources such as immigration services, the juvenile/criminal justice system, and schools (NNHVIP, 2019a; Smith et al., 2013).

Training for Violence Prevention Specialists

Under AB 166, a licensed health care provider would be responsible for identifying patients with injuries from community violence and referring them to a “qualified violence prevention professional” (QVPP) if the patient is deemed to be at high risk for reinjury and/or retaliation. CHBRP is unaware of QVPP as a formally recognized provider type; however, there are other providers (e.g., trained health care, social service, and community peer providers) that provide QVPP services as outlined in AB 166.

CHBRP estimates that there are currently about 40 trained violence prevention professionals who meet the standards outlined in AB 166.⁷ The bill would permit these professionals to continue practicing without meeting the standards eventually approved by DHCS.

⁶ Personal communication with content expert Nicole Kravitz-Wirtz, PhD, MPH, UC Davis Health, Violence Prevention Research Program, March 20, 2019.

⁷ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors, March 29, 2019.

Postmandate, individuals seeking to become a QVPP would need to complete a training and certification program, as yet unidentified by DHCS. The NNHVIP hosted its first professional certification training in February 2019 in which about 40 people reportedly sought certification.⁸ The three-day training covered the following topics:

- Trauma-informed care⁹ (understanding trauma and trauma-informed care basics);
- Effective management of vicarious trauma and secondary traumatic stress;
- Hospital visits (before getting to the hospital room, de-escalation, retaliation assessment, and discharge);
- Assessments;
- Personal safety (protocols and healthy boundaries); and
- Case management and advocacy.

Services provided by violence prevention/intervention specialists are currently delivered through: 1) hospital-based violence intervention programs (HVIPs) or 2) hospital-linked programs led by community-based organizations (CBOs), some of which employ violence prevention specialists.

Hospital-Based Violence Intervention Programs (HVIPs)

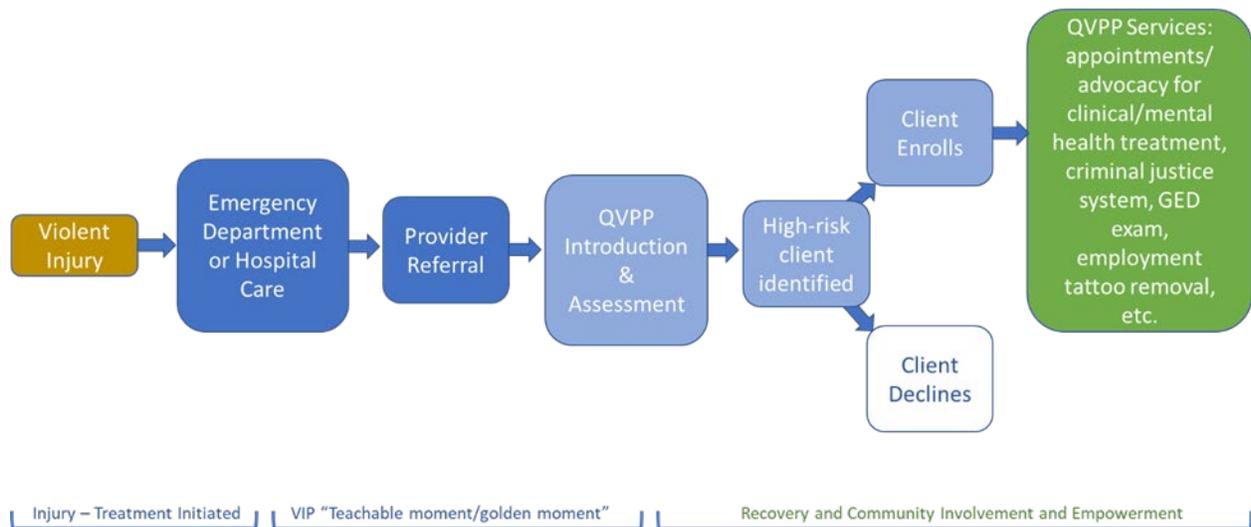
The violence prevention field identifies an ED visit or hospitalization as the “golden moment,” “teachable moment,” or “window of opportunity” to connect with trauma patients who are at risk of reinjury or violence perpetration (NNHVIP, 2019a). The NNHVIP is a formal network of hospital systems that works to “connect and support hospital-based, community-linked violence intervention and prevention programs” and to establish contact with patients during that “golden moment.”

HVIPs may accomplish their mission and goals by using different tiers of services, frequencies of client contact, and duration of services. Some HVIPs focus on brief interventions in the ED while other programs focus on more comprehensive services administered during inpatient hospitalizations (e.g., through a trauma surgery department) (see Figure 1). Fein et al. (2013) discuss the role that emergency medicine can play in reducing risk factors for violent injury, including screening for risk of reinjury, brief interventions in the ED, and partnerships with CBOs. They cite several HVIPs that use “outreach workers” (chosen for their personal experience and “street credibility”) to connect clients to appropriate services and provide continued social support following hospital discharge in order to reverse negative outcomes associated with violence exposure. See the *Medical Effectiveness* section for evidence of brief and comprehensive HVIPs.

⁸ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors. March 29, 2019.

⁹ Providers of violence prevention services note that trauma-informed care is critical to effective care and positive outcomes and requires training staff to understand the emotional, physical, and psychological responses by victims and care for them in a way that does not retraumatize the patient (Decker et al., 2018; Fein et al., 2013).

Figure 1. HVIP Framework Under AB 166



Source: California Health Benefits Review Program, 2019. Based on Smith et al., 2013.

Key: GED = general education diploma; QVPP = qualified violence prevention professional; VIP: violence intervention program.

Table 1 describes the short-term and long-term goals of HVIPs. Attaining these goals helps clients to improve self-sufficiency and self-agency and contributes to reductions in reinjury (Bell et al., 2018; Smith et al., 2013).

Table 1. Hospital-Based Violence Intervention Program Goals

Short-Term Goals	Long-Term Goals
<ul style="list-style-type: none"> • Completing clinical treatment • Facilitating uptake of mental health services • Securing housing • Improving school attendance 	<ul style="list-style-type: none"> • Job skills training to secure employment • Completing a GED • Securing permanent housing • Establishing social supports

Source: California Health Benefits Review Program, 2019. Based on Martin-Mallard and Becker, 2009.

Key: GED = general education diploma.

The NNHVIP reports that HVIPs across the United States receive funding from a variety of sources such as hospitals, community-based grants, and foundation grants. Local, state, and federal public health or criminal justice government dollars may also support some programs, as well as individual donations and hospital fundraising (NNHVIP, 2019b; Smith et al., 2013).

HVIPs in California

There are eight HVIPs in California that are members of NNHVIP, with the earliest established in 1994 (Hagen, 2019; NNHVIP, 2019b) (see Table 2). Five additional organizations have “emerging” programs but do not yet meet the criteria for NNHVIP membership (i.e., program must be active for at least 1 full year and have worked with no less than 20 clients).¹⁰ NNHVIP estimates that there are between one to

¹⁰ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors, March 29, 2019.

five providers filling the role of QVPP at each HVIP and one to two providers filling the role of QVPP at each “emerging” program.¹¹ NNHVIP does not publicly report the number of clients served annually.

Table 2. HVIPs in California by City, Program Title, and Founding Date, 2019

California HVIPs
1. Los Angeles: Caught in the Crossfire (1994)
2. Oakland: Caught in the Crossfire* (1994)
3. Richmond: Beyond Violence (2010)
4. Sacramento: Sacramento Violence Intervention Program (2010)
5. Salinas: CHOICE (2015)
6. San Francisco: Wraparound Project* (2003)
7. San Jose: Trauma to Triumph (2012)
8. Ventura: Emergency Entry to Exit (2014)

Source: California Health Benefits Review Program, 2019. Based on Hagen, 2019, and NNHVIP, 2019b.

Note: *Denotes NNHVIP founding member program.

Key: HVIP = hospital-based violence intervention program.

Community-Based Organizations (CBOs)

In addition to HVIPs, some community-based organizations (CBOs) offer violence prevention or intervention training and/or hospital-linked violence intervention programs. The CBO violence intervention specialists deliver many services equivalent to those delivered by their counterparts in the hospital-based programs. In California, some HVIPs partner with CBOs to use their trained intervention specialists in the hospital setting. These specialists are usually community members with personal violent injury experience who maintain a relationship with the patient/client who has returned to the community (HJA, 2018).

Because there is no umbrella organization that tracks CBO-led violence intervention programs, CHBRP may not have identified all that currently operate in California. The Cure Violence organization identifies seven California cities that have a hospital-based and/or a hospital-linked violence prevention program. Richmond, Los Angeles, and San Francisco use both types of programs, and Sacramento, Oakland, San Jose, and Ventura use only the hospital-based program (Cure Violence, 2019). The Healing Justice Alliance provides trauma-informed training and technical assistance to organizations including NNHVIP and the national network of partners associated with Cure Violence.

Oakland-based Youth ALIVE! is one example of a larger CBO that provides a number of prevention programs, including supporting violence intervention specialists. This organization maintains a close alliance with the NNHVIP as a founding member. Other local California organizations that provide services in their communities include Young Men’s Empowerment Collaborative (Richmond), Advance Peace (Richmond and Sacramento), and Gang Reduction and Youth Development (GRYD) programs (Los Angeles).

¹¹ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors, March 29, 2019.

Disparities and Social Determinants of Health¹² in Violent Injuries

Per statute, CHBRP includes discussion of disparities and social determinants of health (SDoH). CHBRP found literature identifying disparities by race, gender, and age. The disparities discussed below are focused on Californians aged 10–30 years because this is the highest-risk cohort and the group for which violence prevention or intervention programs are designed.

Disparities

Race or ethnicity

Nationally, Blacks experience the highest rates of homicide, with those aged 15–34 years experiencing the highest rates of any group (Sumner et al., 2015). Sheats et al. (2018) studied disparities in violent injuries and related comorbidities among various demographic categories including age, gender, and race. Using four data sets, they analyzed rates of homicide, assault, injury from a physical fight, bullying victimization, and missing school because of safety concerns for Blacks and Whites aged 10–34 years between 2010 and 2015. Similar to findings by other studies, Sheats et al. (2018) found that Black adolescents and young adults are at higher risk for violence (e.g., homicides, fights with injuries, aggravated assaults) compared with Whites.

Disparities in the rate of violent injuries and associated mortality also exist among racial/ethnic groups in California (Smith et al., 2013). In 2014, the California population was approximately 39% White, 39% Hispanic, 13% Asian/Pacific Islander, 6% Black, and less than 1% Native American (Lopez, 2014). Based on the racial/ethnic composition of California, Black and Hispanic Californians aged 10–30 years experienced a disproportionate rate of assaults/homicides resulting in injuries serious enough to require an ED visit or hospitalization (see Table 3).

Table 3. Assaults/Homicides Resulting in ED Visits and Hospitalizations Among Californians Aged 10–30 Years by Racial/Ethnic Composition, 2014

Race/Ethnicity	ED Visits (n = 54,169)	Hospitalizations (n = 4,867)
Hispanic	42%	48%
Whites	30%	23%
Black	19%	22%
Asian/Pacific Islanders/American Indians/Unknown	3%	7%

Source: California Health Benefits Review Program, 2019. Based on CDPH, 2014.

Key: ED = emergency department.

¹² CHBRP defines social determinants of health as conditions in which people are born, grow, live, work, learn, and age. These social determinants of health (economic factors, social factors, education, physical environment) are shaped by the distribution of money, power, and resources and impacted by policy (adapted from Healthy People 2020, 2015; CDC, 2014). See CHBRP’s SDoH white paper for further information: http://chbrp.com/analysis_methodology/public_health_impact_analysis.php.

Gender

Males are more likely than females to be perpetrators and victims of community violence (Decker et al., 2018). In California, males aged 10–30 years were two times more likely to be treated in the ED for assault injuries and four times more likely to be hospitalized than females. Males accounted for 66% of the 54,169 ED visits related to violent injury and 88% of the 4,876 hospitalizations in 2014 (CDPH, 2014).

Age

National findings in published literature cite a disproportionate share of violent injuries and deaths occurring in adolescents and young adults (Decker et al., 2018; Sumner et al., 2015), and surveillance programs have identified high rates of physical fighting and weapon carrying in people aged 10–30 years (Luo and Florence, 2017).

Social Determinants of Health (SDoH)

SDoH include factors outside of the traditional medical care system that influence health status and health outcomes (e.g., income, education, geography). Community violence in urban areas is responsible for the majority of violent injuries. It is predominantly perpetrated by younger people (aged 10–30 years) in neighborhoods experiencing disproportionate levels of poverty that also have low levels of social capital (i.e., supportive resources and networks) (Chong et al., 2015; DeLong and Reichart, 2019).

Within and across these levels, the literature shows that witnessing and experiencing violence, having a substance use disorder, living in a high crime area, high unemployment, low educational attainment, and poor law enforcement put individuals at increased risk of being a victim and/or perpetrator of violent injury (CDC, 2019; Decker et al., 2018; Musci et al., 2018). Physical and environmental stressors such as poor housing conditions or instability can be triggers for violence and mental health conditions (Decker et al., 2018; Sumner et al., 2015). Exposure to violence is also linked with adverse social and health outcomes. Musci et al. (2018) studied adulthood outcomes (e.g., post-high school suicide attempt; having a criminal justice record; and having a diagnosis of substance use disorder, major depressive disorder, or antisocial personality disorder) for those who were exposed to severe violent events (e.g., shootings, stabbings). They found that those with exposure were significantly more likely to have feelings of low control and to experience adverse health and social outcomes in early adulthood as compared with those who had little to no exposure.

Additionally, Sheats et al. (2018) note that adverse childhood events (ACEs) have been positively associated with increased odds of secondary health outcomes (e.g., self-reported coronary heart disease, fair or poor physical health, frequent mental distress), heavy drinking, and smoking. In their study, Black adults reported a higher number of ACEs than Whites.

Historically, care of violent injury victims has not been well coordinated with community services. As part of the “Whole Person Care” movement and health care payment reform, various pilot programs are investigating the effectiveness of “warm hand-offs” from health care providers who treat medical conditions to CBO staff who assist with addressing long-term social determinants of health (e.g., a provider’s “prescription” for healthier foods, housing assistance, attaining a GED). In addition to the CBO approach, HVIPs provide an alternative system that focuses on treating the whole person through a coordinated, continuing system of care between clinical providers and social service agencies (or other CBOs). Compensation for violence prevention/intervention services through health insurance would be a new program financing approach.

Societal Impact of Violent Injury in California

The presence of violent injury in the U.S. and California creates a societal impact. In dollar terms, the societal impact can be indirect (e.g., lost wages, absenteeism), as well as direct (medical care) (Luo et al., 2014). Using 2000–2010 ED visit data from the National Hospital Ambulatory Medical Care Survey, Monuteaux et al. estimated that violent injury costs the U.S. \$49.5 billion in medical and work-loss costs annually (Monuteaux et al., 2017).

MEDICAL EFFECTIVENESS

As discussed in the *Policy Context* section, AB 166 would make violence prevention services provided by a QVPP a covered benefit under the Medi-Cal program. Additional information on violence prevention services is included in the *Background* section. The medical effectiveness review summarizes findings from evidence¹³ on the effectiveness of violence prevention services provided as part of a violence prevention program.

Research Approach and Methods

Studies of violence prevention programs and services were identified through searches of PubMed, the Cochrane Library, Web of Science, EconLit, and Business Source Complete, the Cumulative Index of Nursing and Allied Health Literature, and PsycINFO. Websites maintained by the following organizations that produce and/or index meta-analyses and systematic reviews were also searched: the Agency for Healthcare Research and Quality (AHRQ), the International Network of Agencies for Health Technology Assessment (INAHTA), the National Health Service (NHS) Centre for Reviews and Dissemination, the National Institute for Health and Clinical Excellence (NICE), and the Scottish Intercollegiate Guideline Network.

The search was limited to abstracts of studies published in English. The search was limited to studies published from 2010 to present. CHBRP relied on systematic reviews published in 2016 for findings from studies published prior to 2010. Of the 534 articles found in the literature review, 37 were reviewed for potential inclusion in this report on AB 166, and a total of 19 studies were included in the medical effectiveness review. The other articles were eliminated because they did not report the results of studies on violence intervention programs, were of poor quality, or did not focus on community violence. A more thorough description of the methods used to conduct the medical effectiveness review and the process used to grade the evidence for each outcome measure is presented in Appendix B.

The conclusions below are based on the best available published evidence from peer-reviewed and grey literature.

Key Questions

1. Are violence prevention services effective at reducing injury recidivism (reinjury)?
2. Are violence prevention services effective at reducing retaliation or reducing the likelihood of perpetrating violence?
3. Are violence prevention services effective at impacting violence-related behavior and other related outcomes?

Methodological Considerations

The primary focus of this review and analysis will be on hospital, health care, or trauma center-based violence prevention programs (referred to as HVIPs), as these represent the primary model and delivery

¹³ Much of the discussion below is focused on reviews of available literature. However, as noted on page 11 of the Medical Effectiveness analysis and research approach document (posted [here](#)), in the absence of “fully-applicable to the analysis” peer-reviewed literature on well-designed randomized controlled trials (RCTs), CHBRP’s hierarchy of evidence allows for the inclusion of other evidence.

method for community-based violence prevention services. According to the National Network of Hospital-based Violence Intervention Programs (NNHVIP), HVIPs are "...dedicated to engaging patients during the window of opportunity when they are recovering in the hospital after a violent injury, to reduce the chance of retaliation and recurrence" (NNHVIP, 2019a).

The studies described in this section all have the goal of evaluating the effectiveness of various violence intervention programs. However, it should be noted that both the delivery method of the intervention as well as the background and training of the intervention specialist can vary widely across programs.

Randomized controlled trials (RCTs) are the preferred methodology for studying the medical effectiveness of interventions; however, CHBRP's literature review results demonstrate the difficulties the HVIPs face with regard to rigorous evaluation, such as that provided by a RCT. Most RCTs reviewed in the following analysis suffered from such methodological threats to validity as high attrition rates, small sample sizes, and low occurrence of events required to assess outcomes. As a consequence, many studies of existing programs are observational in nature and lack adequate comparison groups and statistical analysis.

The primary outcome of interest is injury recidivism (reinjury). Secondary outcomes include retaliation and perpetration of violence, as well as arrests/contact with the judicial system, employment and education, substance abuse, attitudes towards violence, and service utilization.

Study Findings¹⁴

The following sections address each of the individual research questions listed above. The narrative for each research question is accompanied by a figure. The title of the figure indicates the test, treatment, or service for which evidence is summarized. The statement in the box above the figure presents CHBRP's conclusion regarding the strength of evidence about the effect of a particular test, treatment, or service on a specific relevant outcome and the number of studies on which CHBRP's conclusion is based.

CHBRP's analysis relies largely on three systematic reviews published in 2016 (Affinati et al., 2016; Mikhail and Nemeth, 2016; Strong et al., 2016). Strong and colleagues (2016) specifically focused on studies of HVIPs that had reinjury as a primary outcome. Of the six RCTs included in the analysis, two showed a significant reduction in reinjury. Of the six observational studies, two reported significant reductions. They reported that all of the included studies with reinjury as an outcome that showed no significant reduction in reinjury rates were either underpowered (i.e., did not have enough subjects) or did not provide numbers to compute power statistics. Several of the included studies showed positive secondary outcomes, such as service utilization, future victimization of violence, and conflict avoidance. They concluded "Additional well-executed studies are needed to establish their role as an evidence-based practice. The optimal study would have a focus on a high-risk population, an adequate sample size with power calculation, an appropriate control group, intensive participant tracking to minimize losses to follow-up with a minimum 6-month follow-up time, and objective outcomes" (Strong et al., p. 969).

The systematic review by Affinati and colleagues (Affinati et al., 2016) was largely redundant with Strong with regard to study selection, with 8 of the 10 studies included in both reviews; the remaining 2 were

¹⁴ The following figures in this section summarize CHBRP's findings regarding the strength of the evidence for the effects violence prevention services addressed by AB 166. For tests, treatments, and services for which CHBRP concludes that there is clear and convincing, preponderance, limited, or inconclusive evidence, the placement of the highlighted box indicates the strength of the evidence. If CHBRP concludes that evidence is insufficient, a figure that states "Insufficient Evidence" will be presented.

cost-effectiveness analyses and not specifically targeting the outcomes analyzed here. However, given the overlap of reviewed studies, their overall conclusions and recommendations are worth noting. They concluded that “the limited data available preclude any empirical evaluation of HVIP impact on adult populations injured by intentional violence” (p. 5), and further, “while multiple hospital-based programs have been implemented, the weak quality of aggregate data prohibits either the validation or invalidation of HVIP efficacy on a population level. Therefore, ongoing, rigorous evaluation methods will be necessary to substantiate the hypothesis that HVIPs are, in fact, efficacious and cost-effective” (p. 6).

The systematic review by Mikhail and Nemeth (Mikhail and Nemeth, 2016) reported on 10 studies. Of these, 8 were included in the previous two systematic reviews described above, and the remaining 2 did not include reinjury as an outcome. Regardless of this overlap, they came to more definitive conclusions regarding the efficacy of HVIPs stating, “this review demonstrates that trauma centers can offer effective tertiary violence prevention to the highest risk group, the trauma recidivist, and make an impact” (p. 514). However, they agree that further high-quality research with direct outcome measures is needed to fully evaluate the HVIP model.

1. Are violence prevention services effective at reducing reinjury?

Table 4 provides a list of the applicable studies with reinjury as a primary outcome. As shown, of the six RCTs, two showed a significant decrease in reinjury rates (Borowski et al., 2004; Cooper et al., 2006). The remaining four RCTs either showed no differences in reinjury rates between intervention and comparison groups (Cheng et al., 2008a; Cheng et al., 2008b; Aboutanos et al., 2011) or had conflicting outcomes with regard to reinjury (Zun et al., 2006). When effects of violence interventions were evident, they were consistently in the desired direction with the intervention group showing less likelihood of reinjury than the comparison or control group.

Table 4 additionally lists six observational studies that had reinjury as a primary outcome. Two of these studies showed a lower reinjury rate for intervention groups than for comparison groups (Gomez et al., 2012; Smith et al., 2013). The other four studies either showed no differences between groups or provided no comparison group.

Table 4. Summary of Findings for Reinjury

Author	Study Design	N	Finding (Reinjury)	p Value	Limitations
Borowsky et al. (2004)	RCT	224	Intervention group lower fight-related injuries requiring medical care.	p < 0.01	Wide variability in services provided to subjects.
Cheng et al. (2008a)	RCT	166	Lower risk of injuries requiring medical treatment. Not significant.	Not significant	Low enrollment rate. High losses to follow-up.
Cheng et al. (2008b)	RCT	88	No difference in fight-related injuries in past 30 days.	Not significant	Lack of statistical power due to low sample size.
Zun et al. (2006)	RCT	188	Self-reported reinjury 8.1% in Intervention group and 20.3% in control. ED records reinjury rates 6.5% intervention group and 7.4% control.	p < 0.05 (self-reported injury)	Conflicting reinjury rates from ED and self-report data. Small sample size. High attrition.
Cooper et al. (2006)	RCT	100	Reinjury 5% in intervention group and 36% in control.*	p < 0.01	Did not report how outcomes were assessed. No statistical analysis results provided for this outcome (calculated by CHBRP).
Aboutanos et al. (2011)	RCT	75	Reinjury: 6% in intervention with case management and 6% in control.	Not significant	High attrition rates. Lack of a true control group.
Gomez et al. (2012)	Retrospective cohort	64	Reinjury 3.2% in intervention group and 8.7% historical 1-year rate.	N/A	Small sample size. Historical comparison group.
Smith et al. (2013)	Retrospective cohort	254	Reinjury 4.5% in intervention group and 16% historical 1-year rate.	N/A	Only active participants were included in the analysis. Historical comparison group.
Marcelle and Melzer-Lange (2001)	Retrospective cohort	218	Reinjury rate of 1% (no comparison group)	N/A	No comparison data provided.
Becker et al. (2004)	Retrospective cohort	112	No difference between intervention and comparison groups for reinjury.	N/A	Low frequency of tracked events.
Shibru et al. (2007)	Retrospective cohort	154	No difference between intervention and comparison groups for reinjury.	Not significant	Lack of statistical power due to low sample size
Bell et al. (2018)	Retrospective cohort	317	No difference between intervention and comparison groups for reinjury.	N/A	Statewide historical comparison group.

Source: California Health Benefits Review Program, 2019

Key: ED = emergency department; N/A = Not calculated due to no or historical comparison group.

Summary of findings regarding the effectiveness of violence prevention services on reinjury: CHBRP found limited evidence¹⁵ based on 6 RCTs and 6 quasi-experimental studies that violence prevention services decrease reinjury.

Figure 2. Effectiveness of Violence Prevention Services on Reinjury



2. Are violence prevention services effective at reducing retaliation or reducing the likelihood of perpetrating violence?

There were no studies found that directly measure retaliation; however, there were a number of studies that had outcomes relevant to violence perpetration and criminal behavior. The outcomes are highly variable but have been grouped into two categories for the purposes of this summary: (1) involvement with justice and justice-related systems; and (2) attitudes towards conflict and violence. The studies with these outcomes are listed in Table 5. As shown, these outcomes are largely self-report. It should also be noted that only the outcomes that showed significant change or improvement are listed.

Three studies showed significant program effects with regard to justice involvement including a decreased likelihood to be arrested or convicted for any crime or violent crimes (Cooper et al., 2006), decreased likelihood of carrying a weapon (Zatzick et al., 2014), and decreased justice system involvement (Shibru et al., 2007).

Two studies showed significant changes in attitudes towards conflict and violence. Cheng et al. (2008b) reported increases in the ability to avoid conflict, and Cunningham et al. (2009) reported a reduction in violent attitudes and increased fighting avoidance.

However, these studies tended to rely on self-report data, suffered from methodological problems such as small sample size, or lacked an appropriate comparison group.

¹⁵ The “limited evidence” grading is used in cases where either the number of studies is small and/or have weak comparison groups or other flaws.

Table 5. Summary of Findings for Justice System Involvement and Violence-Related Behaviors

Author	Study Design	Category	Finding (Justice System and Violence)	p Value	Limitations
Cooper et al. (2006)	RCT	Justice	Less likely to be arrested for any crime.	p = 0.09	Focused on high-risk subjects. Self-report justice data.
		Justice	Less likely to be arrested for violent crimes.	p < 0.001	
		Justice	Less likely to be conviction of any crime.	p < 0.001	
		Justice	Less likely to be convicted for violent crime.	p < 0.001	
Cheng et al. (2008b)	RCT	Conflict and violence	Conflict avoidance self-efficacy.	p < 0.05	Lack of statistical power due to low sample size.
Cunningham et al. (2009)	RCT	Conflict and violence	Reduction in violent attitudes.	p = 0.01	Self-report.
		Conflict and violence	Increase in self-efficacy for fighting avoidance.	p = 0.04	
Zatzick et al. (2014)	RCT	Justice	Decreased likelihood of carrying a weapon (3, 5, and 12 months).	p < 0.05	Self-report. Low enrollment rate.
Shibru et al. (2007)	Retrospective cohort	Justice	Decrease in criminal justice system involvement.	p < 0.05	Lack of statistical power due to low sample size.

Source: California Health Benefits Review Program, 2019

Summary of findings regarding the effectiveness of violence prevention services on reducing retaliation or the likelihood of perpetrating violence: CHBRP found limited evidence¹⁶ based on 4 RCTs and 1 quasi-experimental study that violence prevention services are effective for reducing retaliation or the likelihood of perpetrating violence.

Figure 3. Effectiveness of HVIPs in Preventing Retaliation or Future Perpetration of Violence



¹⁶ The “limited evidence” grading is used in cases where either the number of studies is small and/or have weak comparison groups or other flaws.

3. Are violence prevention services effective at impacting other related outcomes and possible determinants of violent behavior?

The assorted studies covered in this review also included various endpoints that have been thought to have either a direct or indirect association with violent behavior. These can include service utilization, linkages to drug or mental health services, or addressing needs such as employment and education. For example, Zun et al. (2003) conducted an RCT that randomly assigned youth victims of interpersonal violence to either a 6-month intervention group or a control condition that provided a list of resources. They reported the intervention group was significantly more likely to have utilized one or more of the available services (e.g., educational, job readiness, mental health legal assistance) as compared with those in the control condition, illustrating the intervention’s ability to link needs to services ($p < .01$). Cooper et al., (2006) conducted an RCT that examined the impact of an HVIP on employment and reported the intervention group had a higher rate of employment after completing the intervention as compared to the control group (82% and 20% employment, respectively; no statistics provided by authors). Marcelle et al. (2001) conducted a retrospective observational study and reported that 72% of participants received a referral for mental health services compared with 21% historically. Not all studies that examined these types of outcomes had significant results. Cheng et al., (2008a) conducted an RCT focusing on youth ages 12–17years and found no program effect on utilization of services targeted at satisfying psychosocial needs such as mental health, addiction treatment, or anger management services.

Other studies of violence intervention programs also examined determinants of violent behavior such as those listed above, but often in the context of their relationship to project success (e.g., Smith et al., 2013) or reinjury (Juillard et al., 2016) and therefore do not speak to the effectiveness of the program at providing these services as compared to a control or comparison condition.

Summary of findings regarding the effectiveness of violence prevention services on other outcomes and determinants: CHBRP found limited evidence based on 3 RCTs and 1 quasi-experimental studies that violence prevention services are effective at impacting related outcomes and determinants of violent behavior.

Figure 4. Effectiveness of Violence Prevention Services on Other Outcomes and Determinants



BENEFIT COVERAGE, UTILIZATION, AND COST IMPACTS

As discussed in the *Policy Context* section, AB 166 would make violence prevention services provided by a qualified violence prevention professional (QVPP) a covered benefit under the Medi-Cal program. CHBRP assumes that benefit coverage would be available for all Medi-Cal beneficiaries.

This section reports the potential incremental impacts of AB 166 on estimated baseline benefit coverage, utilization, and overall Medi-Cal costs. As noted in the *Policy Context* section, CHBRP assumes that benefit coverage is limited to services provided by a QVPP and that all QVPPs are currently employed by either hospital-based violence intervention programs (HVIPs) or community-based organizations with a link to a HVIP. CHBRP notes that AB 166 would require DHCS to identify and designate an accrediting body to review and approve training and certification programs for violence prevention professionals; however, CHBRP has no reference for the costs of such efforts and thus they are not included in the estimates.¹⁷ CHBRP further notes that because violence prevention services as described in AB 166 are not an existing benefit for Medi-Cal, commercial, or Medicare enrollees, the bill would require the Medi-Cal program to develop a new reimbursement mechanism. CHBRP also has no reference for the costs of such efforts, and thus they are not included in the estimates.

Because there is no existing benefit for services provided by QVPPs, and because QVPPs would be a new provider type eligible for Medi-Cal reimbursement, CHBRP does not have an existing reference from which to draw several key assumptions that would be used to project the impacts of AB 166 on benefit coverage, utilization, and costs. Throughout this analysis, when information on the benefits and implementation of AB 166 are not available, CHBRP uses the state-mandated diabetes prevention program (DPP) to model CHBRP's assumptions for the AB 166 violence prevention services program analysis. In 2017, as part of SB 97, California required DHCS to establish a DPP for Medi-Cal beneficiaries.¹⁸ This new benefit, designed to prevent or delay the onset of type 2 diabetes in the Medi-Cal population, allows for reimbursement of services provided by an unlicensed peer coach (as supervised by an enrolled Medi-Cal provider). This benefit became effective on January 1, 2019.

CHBRP uses DPP as an analogous benefit to the benefit described in AB 166, as the DPP involves delivery of prevention services by an unlicensed peer coach, a lay provider who has received 12–24 hours of training to provide education and coaching on behavior change (CDC, 2018). Similarly, as outlined by AB 166, a QVPP may be a lay provider or a health care or social service provider who has received 35 hours or more of training in violence prevention services, and who offers education, counseling on behavior change, and peer support.

AB 166 does not specify whether benefits for violence prevention services would be included under Medi-Cal Managed Care Plan (MCP) capitated benefits, or whether such benefits would be considered supplemental to MCP benefits. In response to CHBRP surveys, neither DHCS nor the Department of Managed Health Care (DMHC) has made a determination. CHBRP draws from the DPP, where services are included under capitated benefits, to assume benefits covered under AB 166 will be included under MCP capitated benefits. As noted above, because AB 166 applies to all Medi-Cal beneficiaries, the following analysis describes projected impacts of coverage, utilization, and costs for all Medi-Cal segments.

For further details on the underlying data sources and methods used in this analysis, please see Appendix C.

¹⁷ Licensing of health care professionals is overseen by the California Department of Consumer Affairs.

¹⁸ Welfare and Institutions Code 14149.9.

Baseline and Postmandate Benefit Coverage

Currently, 0% of enrollees with health insurance that would be subject to AB 166 have coverage for violence prevention services provided by a QVPP as described in the bill. CHBRP notes that Medi-Cal already offers coverage for some of the services listed in AB 166 (see the *Policy Context* section), such as targeted case management; however, Medi-Cal does not currently offer coverage for those services when provided by QVPPs. Any coverage of preventive services may be limited to enrollees with specific conditions not secondary to community violence, such as child abuse or neglect, intimate partner violence, severe mental illness, or high medical need (Bennett, 2010).

Current coverage of violence prevention services was determined by inquiries sent to DHCS and DMHC, as well as surveys of the five largest Medi-Cal MCPs. Survey responses were received from four of the five largest MCPs that collectively represent 55% of MCP enrollees. CHBRP notes that due to a lack of response rate from a large Medi-Cal MCP, assumptions regarding baseline coverage may be underestimates. However, CHBRP notes that both DHCS and DMHC reported that violence prevention services as defined in AB 166 are not required benefits under the Medi-Cal program.

Based on responses to CHBRP inquiries, CHBRP assumes all Medi-Cal segments will be fully compliant with AB 166 benefit coverage postmandate.

As noted above, AB 166 does not specify whether benefits for violence prevention services would be included under Medi-Cal MCP capitated benefits, or whether such benefits would be considered supplemental to MCP benefits. Neither DHCS nor DMHC has made a determination.

For this analysis, CHBRP assumes that postmandate, violence prevention services will be a covered benefit under Medi-Cal as is the case with DPP services (DHCS, 2018).

Baseline and Postmandate Utilization

CHBRP used publicly available injury data from 2014 (as described in the Background section), adjusted for changes in the Medi-Cal population, to estimate that 19,192 Medi-Cal enrollees aged 10–30 years receive treatment for violence-related injuries in emergency department (ED) and hospital settings (including trauma centers) at baseline (See Appendix C for details). CHBRP recognizes that enrollees with violence-related injuries may also present and be evaluated at non-acute care settings; however, such data are not publicly available. Furthermore, because the HVIP model is based upon the acute time of injury as a “teachable moment” (Karraker et al., 2011), CHBRP assumes that the overwhelming majority of enrollees deemed eligible for violence prevention services will be referred during an ED or trauma center visit, or a hospital admission.

However, as noted in the *Policy Context* section, violence prevention services as defined by AB 166 are currently only available through existing HVIPs or CBO-led, hospital linked programs. CHBRP thus assumes a small proportion of enrollees with violence-related injuries have access to violence prevention services. CHBRP is unable to estimate the percent of enrollees with violent injury who are deemed eligible for violence prevention services, the percent who are referred, the percent who take up services upon referral, or the percent who will not complete the “full” course of violence prevention services. Prior studies have described take-up rates ranging from 73% to 100%; there is no defined standard for “completing” violence prevention services, and studies only described the duration of services provided. As described in the *Medical Effectiveness* section, study design and descriptions were severely limited; thus, evidence on take-up and completion rates is inconclusive.

Bill cosponsors indicated that HVIPs in California currently serve 800 participants per year, and participants receive about 50 hours of violence prevention services per year.¹⁹ Given the estimated annual number of enrollees with injuries from community violence is nearly 24 times higher than the number of HVIP participants, CHBRP assumes that any loss of participants due to failure to take up services or early exit will be filled by existing demand.

CHBRP estimates baseline utilization at 700 Medi-Cal enrollees per year, each receiving 50 hours of violence prevention services per year from QVPPs. To estimate the percent of participants that are Medi-Cal enrollees, CHBRP assumes that victims of violent injury who meet the criteria of “elevated risk of violent reinjury or retaliation” are from low-income and vulnerable populations, and are thus either Medi-Cal enrollees or uninsured. As noted above, current HVIPs serve 800 participants per year; CHBRP applied estimates of Medi-Cal coverage among the low-income population aged 10–30 years, and thus assumes 87% are Medi-Cal enrollees, for a total utilization of 700 enrollees per year. (See Appendix C for detailed explanation of CHBRP estimates.) At baseline, such programs are primarily funded through grants and health care organizations.

CHBRP projects no change in utilization of violence prevention services in the first 12 months postmandate. CHBRP assumes that utilization of services is constrained by the available supply of QVPPs. AB 166 defines a QVPP as one who meets the bill’s listed training and experience requirements, including at least 6 months of full-time equivalent experience providing violence prevention services *and* has either (a) been certified as a violence prevention professional by the National Network of Hospital-based Violence Intervention Programs (NNHVIP) prior to the start of benefits coverage under AB 166, or (b) successfully completed an accredited training and certification program for violence prevention professionals.

Relevant to condition (a), NNHVIP has conducted one training program to date, with about 40 trainees, and the attendees were violence prevention professionals already in practice.²⁰ NNHVIP plans to conduct at least one more training during the baseline period, projected also to consist primarily of currently practicing violence prevention professionals. After benefit coverage begins (July 1, 2020), NNHVIP certification will not be sufficient for newly trained violence prevention professionals to receive reimbursement unless the NNHVIP training program has been approved by the accrediting body approved by DHCS.

Under condition (b), AB 166 stipulates that DHCS must first approve an accrediting body to review and approve training/certification programs, after which violence prevention professionals may then attain the necessary certification to receive reimbursement. CHBRP assumes that the processes of identification and approval of an accrediting body, followed by review and approval of programs, will not be completed in the first 12 months postmandate.

In addition, due to the administrative requirements to obtaining Medi-Cal reimbursement for services, the bill cosponsor indicates that QVPPs will likely seek employment in existing HVIPs or hospital-linked CBOs rather than seek individual contracts with Medi-Cal MCPs.²¹ Thus, any violence prevention professionals who receive NNHVIP certification at baseline and are not already currently in practice will be constrained by the number of available positions postmandate and by the additional requirement to have 6 months of full-time equivalent experience.

Therefore, CHBRP assumes that the supply of QVPPs who will seek Medi-Cal reimbursement for violence prevention services will not increase in the first 12 months postmandate. Last, CHBRP assumes

¹⁹ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors, March 29, 2019.

²⁰ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors, March 29, 2019.

²¹ Personal communication with the Office of Assemblymember Gabriel and bill cosponsors, March 29, 2019.

that administrative requirements to develop and implement Medi-Cal reimbursement procedures for the new benefits will also delay implementation of reimbursement for violence prevention services. In contrast to a covered benefit such as the DPP, there are currently no existing Current Procedural Terminology (CPT) or Healthcare Common Procedure Coding System (HCPCS) codes for providers to bill for violence prevention services, nor existing standards for reimbursement design such as the DPP reimbursement policy for Medicare. However, as stated in the *Policy Context* section, the National Uniform Claim Committee (NUCC) approved a new billing code for “prevention professionals” effective April 1, 2016, for standard use in medical claims billing.

Thus, due to supply side constraints, and the time needed to develop reimbursement mechanisms for a new Medi-Cal benefit, CHBRP projects no increase in utilization of violence prevention services in the first 12 months postmandate.

CHBRP assumes that with the processes in place outlined by AB 166, the supply of QVPPs and HVIPs will eventually rise in accordance with the demand for services. These issues will be discussed more fully in *Second Year Impacts on Benefit Coverage, Utilization, and Cost* below and in the *Long-Term Impacts* section.

Baseline and Postmandate Per-Unit Cost

CHBRP projects no impact on per-unit cost for violence prevention services as a result of AB 166.

CHBRP estimates the baseline and postmandate unit cost of violence prevention services as \$750 per user. CHBRP assumed the cost for one hour of violence prevention services at \$15 per hour, with an estimated 50 hours of service provided per user,²² for a total estimated unit cost of \$750 for violence prevention services.

The hourly cost of violence prevention services was estimated from the average hourly Medicare reimbursement rate for DPP services provided by trained peer coaches (CMS, 2018). The total number of hours of service was based on communication from bill cosponsors.

Baseline and Postmandate Expenditures

Although CHBRP projects no increase in utilization from baseline to postmandate, CHBRP assumes that the costs of violence prevention services provided by QVPPs will be shifted to Medi-Cal under AB 166. Therefore, CHBRP projects Medi-Cal expenditures to increase as a result of providing reimbursement for violence prevention services postmandate. CHBRP projects AB 166 would increase total expenditures for Medi-Cal beneficiaries by \$525,000 in Year 1 postmandate.

Premiums

CHBRP projects no impact as from AB 166 on premiums for the beneficiaries enrolled in Medi-Cal MCPs. CHBRP notes that the projected increase in expenditures due to AB 166 reflects approximately 0.001% of all Medi-Cal expenditures. CHBRP assumes there will be no impact on premiums when the projected increase in expenditures is less than 1% of total expenditures.

²² Personal communication with the Office of Assemblymember Gabriel communication, March 28, 2019, *Estimating Costs and Cost Savings for AB 166 (Gabriel)* by Giffords Law Center to Prevent Gun Violence.

Enrollee Expenses

CHBRP projects no changes in enrollee expenses for covered benefits or noncovered benefits. Medi-Cal enrollees are not subject to cost sharing, and CHBRP assumes no cost sharing postmandate. It is possible that some enrollees will incur expenses related to treatment or other services not covered under AB 166 or Medi-Cal benefits, but CHBRP cannot estimate the frequency with which such situations occur and so cannot offer a calculation of impact.

Potential Cost Offsets or Savings in the First 12 Months After Enactment

Because CHBRP does not project changes in utilization in the first 12 months, CHBRP does not project any cost offsets or savings in health care that would result because of the enactment of provisions in AB 166.

Second Year Impacts on Benefit Coverage, Utilization, and Cost

CHBRP has considered whether continued implementation during the second year of the benefit coverage requirements of AB 166 would have a substantially different impact on utilization of either the tests, treatments, or services for which coverage was directly addressed, the utilization of any indirectly affected utilization, or both. CHBRP reviewed the literature and consulted experts about the possibility of varied second year impacts and applied what was learned to a projection of a second year of implementation.

CHBRP projects no second year changes in benefit coverage or unit cost as a result of continued implementation of AB 166.

CHBRP estimates an increase in utilization of violence prevention services by 20% in Year 2 postmandate.

As noted in the *Medical Effectiveness* section, there is limited evidence to suggest that receipt of violence prevention services reduces violent reinjury. Based on both state discharge and Medi-Cal encounter data, CHBRP estimates 13% of enrollees with a violent injury will experience a violent reinjury in the subsequent 12 months. CHBRP projects that enrollees utilizing violence prevention services will experience a 50% reduction in violence-related reinjury. As noted in the *Medical Effectiveness* section, prior estimates of reinjury reduction have ranged from 50% to 400%; however, these studies were limited in many aspects ranging from small sample size to failure to account for multiple sources of bias in the design. CHBRP thus applies a more conservative estimate of reinjury reduction at 50% following receipt of violence prevention services, with a related reduction in use of services for treatment of reinjury.

CHBRP projects AB 166 would increase total Medi-Cal expenditures in Year 2 by \$626,000 or 0.001%. This is due to an increase in expenses for covered benefits, minus offsets for reductions in treatment for reinjury. (For further details on the methods used in this analysis, please see Appendix C.)

Postmandate Administrative Expenses and Other Expenses

CHBRP is unable to project administrative costs for Medi-Cal MCPs due to the enactment of AB 166. As noted above, AB 166 does not specify whether benefits covered for violence prevention services must be provided as managed care benefits or can be billed directly to Medi-Cal. CHBRP assumes that the administrative cost portion of premiums is unchanged.

Other Considerations for Policymakers

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

Postmandate Changes in the Number of Uninsured Persons²³

CHBRP would expect no measurable change in the number of uninsured persons due to the enactment of AB 166. CHBRP assumes uninsured persons receiving treatment for violence-related injuries in health care settings are assessed for Medi-Cal eligibility at baseline and postmandate.

Changes in Public Program Enrollment

CHBRP estimates that the mandate would produce no measurable impact on enrollment in publicly funded insurance programs due to the enactment of AB 166.

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

CHBRP estimates that the lack of coverage for benefits described in AB 166 results in cost shifts to other entities such as private organizations providing grant funds for current HVIPs, health care systems²⁴ that also sponsor HVIPs, the California Department of Corrections and Rehabilitation, and the California Violence Intervention and Prevention (CalVIP) Program of the California Board of State and Community Corrections.²⁵

²³ See also CHBRP's [Uninsured: Criteria and Methods for Estimating the Impact of Mandates on the Number of Individuals Who Become Uninsured in Response to Premium Increases \(December 2015\)](http://chbrp.com/analysis_methodology/cost_impact_analysis.php), available at http://chbrp.com/analysis_methodology/cost_impact_analysis.php.

²⁴ NNHVIP, 2019b.

²⁵ California Violence Intervention and Prevention Program, 2019.

PUBLIC HEALTH IMPACTS

Estimated Public Health Outcomes

Continued exposure to violence is a known contributor to poor health status such as increased rates of cardiovascular disease, cancer, diabetes, sexually transmitted infections, mental health, and substance use disorders (Sumner et al., 2015). Some in the public health community characterize community violence as a health condition that is contagious, acquired, and processed biologically; they note that it can be prevented through disease control and behavior change strategies (HJA, 2018). Others characterize community violence as a chronic condition wherein low levels of disease may flare periodically and ultimately contribute to or cause death (Fischer et al., 2014).

CHBRP found limited evidence that violence prevention services are effective in reducing enrollee reinjury and reducing retaliation or future perpetration of violence. CHBRP also found limited evidence of take-up of services (e.g., legal assistance, mental health or substance use disorder treatment, education, employment training) provided through violence prevention programs.

CHBRP anticipates a constrained supply of violence prevention programs and QVPPs within the first year postmandate, due to likely administrative delays in identifying an appropriate QVPP training and certification program and creating a service reimbursement process for a new provider category.

CHBRP projects no change in utilization of violence prevention services during the first year postmandate; therefore, AB 166 would have no public health impact on incidence of reinjury, retaliation, or future perpetration of violence.
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See the *Long-Term Impacts* section for discussion of public health impacts including changes in rates of community violence-related reinjury, perpetration, premature death, disparities, and social determinants of health.

LONG-TERM IMPACTS

In this section, CHBRP estimates the long-term impacts²⁶ of AB 166, which CHBRP defines as impacts occurring beyond the first 12 months after implementation. These estimates are qualitative and based on the existing evidence available in the literature. CHBRP does not provide quantitative estimates of long-term impacts because of unknown improvements in clinical care, changes in prices, implementation of other complementary or conflicting policies, and other unexpected factors.

Long-Term Utilization and Cost Impacts

Utilization Impacts

CHBRP anticipates that following the establishment of the state certification and training requirements, existing HVIPs will increase the number of positions, community and health care organizations will develop new programs, and the number of QVPPs will increase in response to demand. CHBRP also anticipates that health care providers will develop increasing knowledge on community violence screening and referrals, as well as familiarity with violence prevention services. CHBRP thus projects that in the long-term, utilization of violence prevention services will increase. Long-term utilization will be contingent upon trends in community violence, availability of weapons, provider identification of individuals with high likelihood of reinjury, and take-up of services by eligible enrollees (past research suggests approximately 27% of eligible enrollees decline to receive violence prevention services) (Juillard et al., 2016.) However, based on CHBRP estimates of utilization and prevalence of violent injury, at baseline only 3% of Medi-Cal enrollees with community-violence-related injury receive violence prevention services, suggesting demand exceeds supply.

As described in the *Medical Effectiveness* section, there is limited evidence to suggest that utilization of violence prevention services will lead to decreased violence-related reinjury and utilization of associated treatment services. This may include decreases in ED and trauma center visits and hospital readmissions. Decreases in reinjury may also lead to decreased utilization of outpatient therapies and provider visits for post-injury care, as well as decreased utilization of rehabilitation and skill-nursing facilities. There is insufficient evidence to determine whether use of violence prevention services will have long-term impacts on use of mental health and substance use treatment.

Cost Impacts

CHBRP is unable to quantify long-term cost impacts due to AB 166. Limited evidence has shown that the reductions in reinjury and related ED visits and hospital admissions offset costs, with net savings after two or more years (Juillard et al., 2015; Purtle et al., 2015). These studies were conducted from the perspective of hospitals, and thus program costs (not unit of service) and higher treatment costs (hospital charges, not Medi-Cal reimbursement). These analyses also did not account for offsets related to utilization of outpatient and rehabilitation care. In a national study on total costs of care for traumatic injury for Medicaid patients, acute treatment for injury accounts for 65% of costs, with 35% for post-hospital care (Weir, 2010). Combined, both the costs and offsets associated with violence prevention services in the literature exceed the expected values for Medi-Cal. Also, the existing analyses of HVIPs have applied higher estimates of reinjury reduction that have not been supported by more rigorous evaluation.

²⁶ See also CHBRP's *Criteria and Guidelines for the Analysis of Long-Term Impacts on Healthcare Costs and Public Health*, available at http://www.chbrp.org/analysis_methodology/cost_impact_analysis.php.

Long-Term Public Health Impacts

CHBRP estimates that utilization of violence prevention services would increase in Year 2 and beyond as the DHCS establishes criteria for QVPPs and establishes reimbursement for violence prevention services. CHBRP anticipates that access to standardized, bill-compliant training and certification programs would also increase, thereby removing existing training barriers. Thus, the supply of QVPPs would increase along with the capacity of violence prevention programs to treat more violent injury victims. Organizations such as the American College of Surgeons and the National Network of Hospital-based Violence Intervention Programs (NNHVIP) offer HVIP primers, video trainings, and in-person trainings to implement hospital-based and hospital-linked intervention programs. Heightened awareness of such resources would likely help establish new programs (ACS, 2019; NNHVIP, 2019b).

To the degree that particular violence intervention programs are effective and replicated throughout California, CHBRP anticipates AB 166 would contribute to reductions in community violence-related injuries, reinjuries, retaliation, and future perpetration of violence among some Medi-Cal beneficiaries who successfully complete a violence prevention program. Consequent health outcomes of violent injury such as mental health conditions, sexually transmitted infections, cardiovascular disease, and premature death may also be reduced for Medi-Cal beneficiaries successfully completing a program.

Impacts on Disparities and the Social Determinants of Health (SDoH)²⁷

There is limited evidence that violence prevention programs are effective in improving take-up of substance use disorder and mental health treatments, employment training, educational opportunities, and legal assistance. Given existing disparities and the role of SDoH in contributing to poor health outcomes, CHBRP anticipates AB 166 would contribute to improvements in long term public health outcomes for some Medi-Cal beneficiaries successfully completing a violence prevention program.

Of note, if AB 166 did reduce reinjury and perpetration of community violence, there could be a differential impact across the California population. AB 166 only mandates coverage of QVPPs for Medi-Cal beneficiaries. Although privately-insured youth aged 10–30 years bear about 33% of the violent injuries requiring hospitalization and 50% of the ED visits (CDPH, 2014), they would not receive coverage equivalent to that of Medi-Cal beneficiaries. (See *Benefit Mandate Structure and Unequal Racial/Ethnic Health Impacts* at chbrp.org for more discussion about differential benefit coverage.)

CHBRP projects that AB 166 would improve social determinants of health related to education, employment, and navigating the justice system for some Medi-Cal beneficiaries successfully completing a violence intervention program. By altering the social determinants of health, AB 166 could impact long-term health outcomes at the person-level (e.g., cardiovascular and mental health).

CHBRP is unable to estimate reductions in existing disparities. However, because violent injury disproportionately impacts young boys and men of color, any reduction in premature deaths and poor secondary health outcomes could help close the overall mortality rate disparity among males aged 10–30 years.

²⁷ For more information about SDoH, see CHBRP's publication *Incorporating Relevant Social Determinants of Health into CHBRP Benefit Mandate Analyses* at http://chbrp.com/analysis_methodology/public_health_impact_analysis.php.

APPENDIX A TEXT OF BILL ANALYZED

On February 25, 2019, the California Assembly Committee on Health requested that CHBRP analyze AB 166.

ASSEMBLY BILL

No. 166

Introduced by Assembly Member Gabriel

January 07, 2019

An act to add Section 14134.3 to the Welfare and Institutions Code, relating to Medi-Cal.

LEGISLATIVE COUNSEL'S DIGEST

AB 166, as amended, Gabriel. Medi-Cal: violence ~~prevention counseling~~ preventive services.

Existing law establishes the Medi-Cal program, which is administered by the State Department of Health Care Services and under which qualified low-income individuals receive ~~healthcare~~ health care services. The Medi-Cal program is, in part, governed and funded by federal Medicaid program provisions. Existing law establishes a schedule of benefits under the Medi-Cal program, including various mental health services. *Existing federal law authorizes, at the option of the state, preventive services, as defined, that are recommended by a physician or other licensed practitioner of the healing arts.*

~~This bill would state the intent of the Legislature to enact legislation relating to Medi-Cal reimbursement for violence prevention counseling services.~~

This bill would, no later than July 1, 2020, make violence preventive services provided by a qualified violence prevention professional, as defined, a covered benefit under the Medi-Cal program, subject to utilization controls. The bill would make the benefit available to a Medi-Cal beneficiary who has received medical treatment for a violent injury and for whom a licensed health care provider has determined that the beneficiary is at elevated risk of reinjury or retaliation and has referred the beneficiary to participate in a violence preventive services program.

The bill would require the department to approve at least one governmental or nongovernmental accrediting body with expertise in violence preventive services to review and approve training and certification programs. The bill would require an entity that employs or contracts with a qualified

violence prevention professional to maintain specified documentation on, and to ensure compliance by, that professional.

The bill would require the department to seek any federal approvals necessary to implement these provisions. The bill would be implemented only to the extent that federal financial participation is available and not otherwise jeopardized, and any necessary federal approvals have been obtained.

DIGEST KEY

Vote: majority Appropriation: no Fiscal Committee: ~~no~~ Local Program: no

BILL TEXT

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

SECTION 1.

Section 14134.3 is added to the Welfare and Institutions Code, immediately following Section 14134.25, to read:

14134.3.

(a) It is the intent of the Legislature that the State Department of Health Care Services develop and implement services targeted at reducing injury recidivism among violently injured Medi-Cal beneficiaries, and provide direct reimbursement to qualified violence prevention professionals for violence preventive services in accordance with this section.

(b) No later than July 1, 2020, violence preventive services provided by a qualified violence prevention professional are a covered benefit, subject to utilization controls, for a Medi-Cal beneficiary who meets both of the following conditions:

(1) The beneficiary has received medical treatment for a violent injury, including, but not limited to, a gunshot wound, stabbing injury, or any other form of violent injury.

(2) A licensed health care provider has determined that the beneficiary is at elevated risk of violent reinjury or retaliation and has referred the beneficiary to participate in a violence preventive services program.

(c) For the purposes of this section, the following definitions apply:

(1) "Prevention professional" has the same meaning as defined by the National Uniform Claim Committee (NUCC) under NUCC Code Number 405300000X or its successor.

(2) "Qualified violence prevention professional" means a prevention professional who meets all of the following conditions:

(A) Possesses at least six months of full-time equivalent experience in providing violence preventive services through employment, volunteer work, or as part of an internship experience.

(B) Has successfully completed an accredited training and certification program for violence prevention professionals, in accordance with subdivision (d), or has been certified as a violence prevention professional by the National Network of Hospital-Based Violence Intervention Programs prior to the effective date of this section.

(C) Successfully completes at least four hours of continuing education annually in the field of violence preventive services.

(D) Satisfies any other requirements necessary to maintain certification as a violence prevention professional.

(3) "Violence preventive services" means evidence-based, trauma-informed, supportive, and nonpsychotherapeutic services provided by a prevention professional for the purpose of promoting improved health outcomes and positive behavioral change, preventing injury recidivism, and reducing the likelihood that violently injured individuals will commit or promote violence themselves. Those services may be provided within or outside of a clinical setting and may include the provision of peer support and counseling, mentorship, conflict mediation, crisis intervention, targeted case management, referrals, patient education, or screening services to victims of interpersonal violence.

(d) The department shall approve at least one governmental or nongovernmental accrediting body with expertise in violence preventive services to review and approve training and certification programs for violence prevention professionals, if that accrediting body elects to do so. The accrediting body shall approve programs that prepare individuals to provide violence preventive services to victims of interpersonal violence, and that include at least 35 hours of training, collectively addressing all of the following:

(1) The profound effects of trauma and violence and the basics of trauma-informed care.

(2) Violence prevention strategies, including, but not limited to, conflict mediation and retaliation prevention related to interpersonal violence.

(3) Case management and advocacy practices.

(4) Patient privacy and the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

(e) An entity that employs or contracts with a qualified violence prevention professional to provide violence preventive services shall do both of the following:

(1) Maintain documentation that the qualified violence prevention professional has met all of the conditions described in paragraph (2) of subdivision (c).

(2) Ensure that the qualified violence prevention professional is providing violence preventive services consistent with paragraph (3) of subdivision (c).

(f) The department shall seek any federal approvals necessary to implement this section, including, but not limited to, any state plan amendments or federal waivers by the federal Centers for Medicare and Medicaid Services.

(g) This section shall be implemented only to the extent that federal financial participation is available and not otherwise jeopardized, and any necessary federal approvals have been obtained.

(h) This section does not alter the scope of practice for any health care professional and does not authorize the delivery of health care services in a setting or in a manner that is not authorized under any provision of the Business and Professions Code or the Health and Safety Code.

SECTION 1.

~~It is the intent of the Legislature to enact legislation relating to Medi-Cal reimbursement for violence prevention counseling services.~~

APPENDIX B LITERATURE REVIEW METHODS

This appendix describes methods used in the medical effectiveness literature review conducted for this report. A discussion of CHBRP's system for grading evidence, as well as lists of MeSH Terms, publication types, and keywords, follows.

Studies of the effects of HVIPs were identified through searches of PubMed, the Cochrane Library, Web of Science, EconLit, Business Source Complete, the Cumulative Index of Nursing and Allied Health Literature (CINAHL), and PsycINFO.

Websites maintained by the following organizations were also searched: Agency for Healthcare Research and Quality; Centers for Disease Control and Prevention Advisory Committee on Immunization Practices (CDC ACIP), World Health Organization (WHO), the International Network of Agencies for Health Technology Assessment (INAHTA), the National Health Service (NHS) Centre for Reviews and Dissemination, the National Institute for Health and Clinical Excellence (NICE).

The search was limited to abstracts of studies published in English. The medical effectiveness search was limited to studies published from 2010 to present; however, studies from earlier than 2010 are included if they were reviewed in a systematic review published after 2010.

Reviewers screened the title and abstract of each citation retrieved by the literature search to determine eligibility for inclusion. The reviewers acquired the full text of articles that were deemed eligible for inclusion in the review and reapplied the initial eligibility criteria.

The literature review returned abstracts for 534 articles, of which 37 were reviewed for inclusion in this report. A total of 19 studies were included in the medical effectiveness review for AB 166.

Evidence Grading System

In making a "call" for each outcome measure, the medical effectiveness lead and the content expert consider the number of studies as well the strength of the evidence. Further information about the criteria CHBRP uses to evaluate evidence of medical effectiveness can be found in CHBRP's *Medical Effectiveness Analysis Research Approach*.²⁸ 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; and
- Generalizability of findings.

The grading system also contains an overall conclusion that encompasses findings in these five domains. 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:

²⁸ Available at: http://chbrp.com/analysis_methodology/medical_effectiveness_analysis.php.

- *Clear and convincing evidence;*
- *Preponderance of evidence;*
- *Limited evidence*
- *Inconclusive evidence; and*
- *Insufficient evidence.*

A grade of *clear and convincing evidence* indicates that there are multiple studies of a treatment and that the large majority of studies are of high quality and consistently find that the treatment is either effective or not effective.

A grade of *preponderance of evidence* indicates that the majority of the studies reviewed are consistent in their findings that treatment is either effective or not effective.

A grade of *limited evidence* indicates that the studies had limited generalizability to the population of interest and/or the studies had a fatal flaw in research design or implementation.

A grade of *inconclusive evidence* indicates that although some studies included in the medical effectiveness review find that a treatment is effective, a similar number of studies of equal quality suggest the treatment is not effective.

A grade of *insufficient* evidence indicates that there is not enough evidence available to know whether or not a treatment is effective, either because there are too few studies of the treatment or because the available studies are not of high quality. It does not indicate that a treatment is not effective.

Search Terms (* indicates truncation of word stem)

1. Violence Prevention
2. Adult or youth * [1]*[6]
3. Services * [1]
4. Programs * [1]
5. Counseling * [1]
6. Violence Intervention Programs (VIPs)
7. Violence prevention professional
8. Hospital Based Violence Prevention programs (HVIP)
9. Community violence prevention

APPENDIX C COST IMPACT ANALYSIS: DATA SOURCES, CAVEATS, AND ASSUMPTIONS

The cost analysis in this report was prepared by the members of the cost team, which consists of CHBRP task force members and contributors from the University of California, Los Angeles, and the University of California, Davis, as well as the contracted actuarial firm, Milliman, Inc.²⁹

Information on the generally used data sources and estimation methods, as well as caveats and assumptions generally applicable to CHBRP's cost impacts analyses are available on CHBRP's website.³⁰

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

Analysis-Specific Caveats and Assumptions

This subsection discusses the caveats and assumptions relevant to specifically to an analysis of AB 166.

Baseline and Postmandate Utilization

Primary Violence-Related Injuries

Estimates for Medi-Cal enrollees with conditions relevant to AB 166 and eligible for benefits covered under AB 166

The number of enrollees likely eligible for benefits under AB 166 was estimated by calculating the number of Medi-Cal enrollees, ages 10–30 years, with violent injury due to assault, without a concurrent identification of abuse, as follows:

We obtained the number of Medi-Cal enrollees with violent injury seen by a health care provider from EpiCenter, the California Injury Data Online query system maintained by the California Department of Public Health (CDPH) at <http://epicenter.cdph.ca.gov/>. These estimates are derived from the Office of Statewide Health Planning and Development (OSHPD) Patient Discharge Data and Emergency Department Data sets for 2014.

In 2014, the total number of ED visits and nonfatal hospitalizations for injuries due to assault were as follows:

- (1) Medi-Cal ED visits, all ages: 44,843
- (2) Medi-Cal Hospitalizations, all ages: 6,590

For estimates of Medi-Cal enrollees most likely eligible for violence prevention services, CHBRP estimated the number of enrollees with injury due to assault for those ages 10–30 years:

²⁹ CHBRP's authorizing statute, available at http://chbrp.com/CHBRP%20authorizing%20statute_2018_FINAL.pdf, requires that CHBRP use a certified actuary or "other person with relevant knowledge and expertise" to determine financial impact.

³⁰ See method documents posted here, http://chbrp.com/analysis_methodology/cost_impact_analysis.php; in particular, see *2019 Cost Analyses: Data Sources, Caveats, and Assumptions*.

(3) Medi-Cal ED visits, ages 10–30 years: 23,303

(4) Medi-Cal Hospitalizations, ages 10–30 years: 2,995

To estimate injuries due to community violence, CHBRP first identified enrollees with an additional diagnosis of abuse and/or neglect.

(5) Medi-Cal ED assault visits, ages 10–30 years, due to abuse/neglect: 1,299

(6) Medi-Cal Hospitalizations, ages 10–30 years, due to abuse/neglect: 87

And subtracted abuse/neglect visits from the total number of assault injury:

$$[(3) + (4)] - [(5) + (6)]$$

For an estimated total of health care visits from assault-related injuries, ages 10–30 years, attributable to community violence in 2014: 24,912

Milliman’s proprietary 2016 Consolidated Health Cost Guidelines Sources Database (CHSD), which includes Medi-Cal managed care claims and encounters for just over one million beneficiaries in 2016, was used to develop an adjustment factor to translate this number of encounters to an estimated number of Medi-Cal enrollees ages 10–30 years who received health care services for violent injuries. Finally, this was converted to a prevalence rate using 2014 population estimates. Estimates of the number of Medi-Cal enrollees with violent injury ages 10–30 years at baseline were then derived by applying this prevalence rate to Medi-Cal enrollment.

Baseline Utilization of Violence Prevention Services

CHBRP estimates baseline utilization as the total number of participants receiving violence prevention services, minus the estimated number of participants who are not eligible for Medi-Cal benefits. CHBRP assumes that victims of violent injury who are evaluated as high risk of violent reinjury or perpetration are members of low-income and vulnerable populations, and thus most likely to be uninsured or have existing Medi-Cal coverage. In 2014, uninsured individuals had 14,144 emergency department visits or hospital admissions for community violence-related injuries. When combining uninsured and Medi-Cal community violence injury visits, Medi-Cal enrollees account for 64%. However, CHBRP recognizes that uninsured individuals who receive treatment for violent injury may receive temporary Medi-Cal coverage for health care services and others will be identified as eligible for full-scope Medi-Cal benefits upon treatment. CHBRP is unable to estimate the percent of uninsured individuals who receive treatment for violent injury and then become eligible for Medi-Cal benefits. Furthermore, CHBRP assumes that QVPPs may assist the uninsured in enrolling for Medi-Cal benefits.

CHBRP thus assumes that Medi-Cal enrollees will be over-represented among the total population of participants receiving violence prevention services at baseline. In the absence of detailed information on insurance coverage and enrollment among those receiving violence prevention services, CHBRP assumes the percent of participants with Medi-Cal coverage approximates the percent of California individuals ages 10–30 years, with incomes from 0–266% Federal Poverty Level (the income limit for the Children’s Health Insurance Program, which is now managed under Medi-Cal), who were enrolled in Medi-Cal as of 2017, 87%.

Thus, the estimated baseline utilization of violence prevention services was calculated as follows:

(1) Number of individuals ages 10–30 years, incomes 0–266% FPL, who are Medi-Cal enrollees:
3,567,000

(2) Number of individuals ages 10–30 years, incomes 0–266% FPL, who are uninsured: 512,000

(3) Percentage of individuals ages 10–30 years, incomes 0–266% FPL, who are Medi-Cal enrollees:
(1)/[(1)+(2)]

(4) Number of participants receiving violence prevention services at baseline: 800

(5) Number of participants receiving violence prevention services who are Medi-Cal enrollees: (3) *
(5)

For an estimated total 700 Medi-Cal enrollees receiving violence prevention services at baseline.

Baseline and Postmandate Per-Unit Cost

Estimates for Baseline Unit Costs

Violence prevention services

CHBRP based estimates of violence prevention services unit cost on current reimbursement for the DPP (CMS, 2018).

Under the DPP, reimbursement is based on the combination of attendance at sessions, continuity of attendance, and performance benchmarks. Without performance benchmarks, total reimbursement for 12 months of participation is approximately \$15 per 60-minute session. Services are provided by certified peer coaches, who are also prevention professionals, with a specific certification, and ideally representative peers with the target patient population. CHBRP assumes that QVPPs are thus parallel in terms of time requirements for training and personal characteristics.

There were no consistent descriptions in the peer-reviewed literature on the average number of sessions, timing of sessions, or duration of violence prevention services. CHBRP used bill cosponsor responses, which are consistent with published case studies for the assumptions described above. The bill cosponsors estimated 50 hours of violence prevention services are provided per user per year.³¹ Bill cosponsor reported services lasting on average 6–12 months per user; the evaluation of the Wraparound Project at San Francisco reported patients receiving 0–6 hours of services per week, with the key interventions involving 3 or more hours per week in the first 3 months (Smith, 2013). An earlier description of *Caught in the Crossfire* reported a mean of 16 “contacts” in the first 6 months (Becker, 2004).

CHBRP notes that cost analyses in the published literature have used annual program costs, divided by number of patients served, to derive estimates of costs of violence prevention services (Chong, 2015; Juillard et al., 2015; Purtle et al., 2015). Because AB 166 mandates coverage narrowly to violence prevention services provided by QVPPs, CHBRP assumes the DPP model of reimbursement to more closely approximate that under AB 166, and consequently, unit costs.

³¹ Personal communication with the Office of Assemblymember Gabriel, March 28, 2019, *Estimating Costs and Cost Savings for AB 166 (Gabriel)* by Giffords Law Center to Prevent Gun Violence.

Second Year Impacts on Benefit Coverage, Utilization, and Cost

Benefit coverage, utilization, and costs of violence prevention services

CHBRP assumes no change in the benefit coverage for violence prevention services in the second year. CHBRP estimated a 20% increase in the capacity of violence prevention programs in the second year postmandate. CHBRP estimates that demand in the first year postmandate will substantially exceed supply, such that a 20% increase in program capacity will be met with a 20% increase in utilization of violence prevention services, for a total of 840 enrollees.

CHBRP assumes that the unit cost of violence prevention services will remain unchanged in the second year postmandate, at \$750 per user on average. Therefore, CHBRP estimates an increase to \$630,000 in Medi-Cal expenditures due to the increase in utilization of violence prevention services from the first to second year.

Potential cost offsets or savings

CHBRP notes that there is limited evidence to suggest that receipt of violence prevention services is associated with a reduction of violent reinjury. Therefore, CHBRP estimated cost offsets in the second year due to reductions treatment of violent reinjury as described below.

Violence-related reinjuries

Content expert analysis of OSHPD 2014–2015 Patient Discharge Data and Emergency Department Data found that 13% of Medi-Cal enrollees with violent injury experienced violence-related reinjury within the subsequent 12 months. Milliman’s proprietary Consolidated Health Cost Guidelines Sources Database (CHSD) shows similar rates of reinjury for the enrollees for whom one year of observations could be analyzed and was used to estimate the number of repeat violence-related injuries.

CHBRP identified claims for violence-related injuries using ICD-10 diagnosis code categories X92-X99, Y00-Y04, Y08-Y09 and Y35. CHBRP excluded claims from this analysis if the claim included either of the following types of diagnosis code categories:

- Diagnosis codes indicating the perpetrator of an assault, maltreatment, or neglect, rather than a victim
- Diagnosis codes related to abuse

Methods for identifying relevant diagnosis codes were vetted with experts.

Using Milliman’s CHSD, CHBRP estimates the average unit cost for treatment of repeat violence-related injuries is \$433/enrollee using these services. This includes visits for reinjury treatment across all acute health care settings, such as EDs and urgent care. Of note, this represents the average unit cost of care for all violence-related reinjuries, irrespective of injury severity or external source (e.g., unarmed vs. armed). Therefore, CHBRP estimates a reduction in cost of \$4,300 due to reduced reinjury.

CHBRP notes that use of violence prevention services may have other impacts on utilization and costs of other health care services, but there is insufficient evidence to project changes in utilization of services not directly related to acute treatment of the violent reinjury, such as mental health services, substance use treatment, or long-term services and supports such as skilled nursing facility care.

APPENDIX D INFORMATION SUBMITTED BY OUTSIDE PARTIES

In accordance with the California Health Benefits Review Program (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.

The following information was submitted by Assemblymember Jesse Gabriel's office (1) and the Bill Cosponsors (2,3) in March and April 2019.

1. Gabriel, Jesse. Fact Sheet: AB 166 (Medi-Cal Coverage for Violence Prevention Services Act). Office of Assemblymember Jesse Gabriel, 45th District.
2. Giffords Law Center to Prevent Gun Violence. *Medi-Cal Coverage for Violence Prevention and Intervention Services*.
3. Giffords Law Center to Prevent Gun Violence. *Estimating Costs and Cost Savings for AB 166 (Gabriel)*.

Submitted information is available upon request. For information on the processes for submitting information to CHBRP for review and consideration please visit: www.chbrp.org/requests.html.

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A group of faculty, researchers, and staff complete the analysis that informs California Health Benefits Review Program (CHBRP) reports. The CHBRP **Faculty Task Force** comprises rotating senior faculty from University of California (UC) campuses. In addition to these representatives, there are other ongoing researchers and analysts who are **Task Force Contributors** to CHBRP from UC that conduct much of the analysis. The **CHBRP staff** coordinates the efforts of the Faculty Task Force, works with Task Force members in preparing parts of the analysis, and manages all external communications, including those with the California Legislature. As required by CHBRP's authorizing legislation, UC contracts with a certified actuary, **Milliman**, to assist in assessing the financial impact of each legislative proposal mandating or repealing a health insurance benefit.

The **National Advisory Council** provides expert reviews of draft analyses and offers general guidance on the program to CHBRP staff and the Faculty Task Force. CHBRP is grateful for the valuable assistance of its National Advisory Council. CHBRP assumes full responsibility for the report and the accuracy of its contents.

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*Karen Shore, PhD, is an Independent Contractor with whom CHBRP works to support legislative analyses and other special projects on a contractual basis.

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Steven Tally, PhD, and Danielle Casteel, MA, of the University of California, San Diego, prepared the medical effectiveness analysis. Stephen L. Clancy, MLS, AHIP, of the University of California, Irvine, conducted the literature search. Dominique Ritley, MPH, and Joy Melnikow, MD, MPH, of the University of California, Davis, prepared the public health impact analysis. Michelle Ko, MD, PhD, of the University of California, Davis, prepared the cost impact analysis. Coleen Young, FSA, MAAA, Susan E. Pantely, FSA, MAAA, and Barbara Dewey, FSA, MAAA, of Milliman, provided actuarial analysis. Nicole Kravitz-Wirtz, PhD, MPH, Assistant Professional Researcher, Violence Prevention Research Program, University of California, Davis, provided technical assistance with the literature search and expert input on the analytic approach. Karen Shore, PhD, CHBRP contractor, prepared the Policy Context and synthesized the individual sections into a single report. A subcommittee of CHBRP's National Advisory Council (see final pages of this report) and members of the CHBRP Faculty Task Force, Sylvia Guendelman, PhD, LCSW, of the University of California, Berkeley, Sara McMenamin, PhD, of the University of California, San Diego, and Nadereh Pourat, PhD, of the University of California, Los Angeles, reviewed the analysis for its accuracy, completeness, clarity, and responsiveness to the Legislature's request.

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

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