California Health Benefits Review Program

Analysis of California Senate Bill 399
Pervasive Developmental Disorder or Autism

A Report to the 2017–2018 California State Legislature

April 20, 2017

CALIFORNIA
HEALTH BENEFITS REVIEW PROGRAM

Key Findings:

Analysis of California Senate Bill 399 Pervasive Developmental Disorder or Autism

Summary to the 2017–2018 California State Legislature, April 20, 2017

AT A GLANCE

Senate Bill 399 would alter a current law that requires coverage of behavioral health treatment (BHT) for autistic spectrum disorder (ASD). SB 399 would alter adequate provider network definitions, define BHT as inclusive of case management/supervision, prohibit denial of BHT coverage based on lack of parental/caregiver involvement or treatment setting, and limit plan/insurer review of treatments plans. In 2018, as many as 24 million enrollees in plans or policies regulated by DMHC or CDI will have health insurance that could be subject to SB 399.

1. **Benefit coverage.** Postmandate, 67% of enrollees could no longer be denied BHT coverage due to lack of parental involvement, and 55% could no longer be denied BHT coverage due to setting.
2. **Utilization.** Average annual hours of BHT per 1,000 enrollees with ASD would increase from 85.07 to 86.60 hours.
3. **Expenditures.** Average annual expenditures (premiums and enrollee expenses for covered and noncovered benefits) would increase by $4,684,000 (0.0032%).
4. **Medical effectiveness.** There is a *preponderance* of evidence that intensive BHT can improve cognitive functioning, language, social functioning, and adaptive behaviors. There is *insufficient* evidence to evaluate the impact of prohibiting denial of BHT claims due to a lack of parental/caregiver involvement. There is a preponderance of evidence that BHT can be delivered effectively in multiple settings, including schools.
5. **Public health.** The expected increase in BHT hours may improve some health outcomes, among some users.

Medi-Cal – The interaction of the bill, the current Health & Safety Code benefit mandate it would alter, and the Welfare & Institutions Code are unclear. It is possible that SB 399 could be relevant to the benefit coverage of Med-Cal beneficiaries enrolled in a DMHC-regulated plans (impacts addressed in bullets, above) as well as those associated with the Medi-Cal FFS program or COHS managed care.

CONTEXT

A current benefit mandate in California law,[1] one that SB 399 would alter, requires coverage of behavioral health treatment (BHT) for autistic spectrum disorder (ASD). [2] The current law:

- Requires plan/policy networks to include qualified autism service (QAS) providers, supervising/ employing QAS professionals, or QAS paraprofessionals, and provides definitions for all three; and
- Exempts from compliance the health insurance of enrollees associated with the California Public Employees' Retirement System (CalPERS) or Medi-Cal.

Although SB 399 would not alter the current mandate's explicit exemption from compliance for DMHC-regulated plans enrolling persons associated with CalPERS, the impact of changes to the current mandates and CalPERS' enrollees benefit coverage is complex. See further discussion regarding CalPERS on the following pages.

Although SB 399 would not alter the current mandate's explicit exemption from compliance for DMHC-regulated plans enrolling Medi-Cal beneficiaries, the impact of changes to the current mandate and Medi-Cal beneficiaries' benefit coverage is unclear. See further discussion regarding Medi-Cal on the following pages.

Bill Language

SB 399 would alter the current benefit mandate law (BHT for ASD) in a number of ways. SB 399 would:

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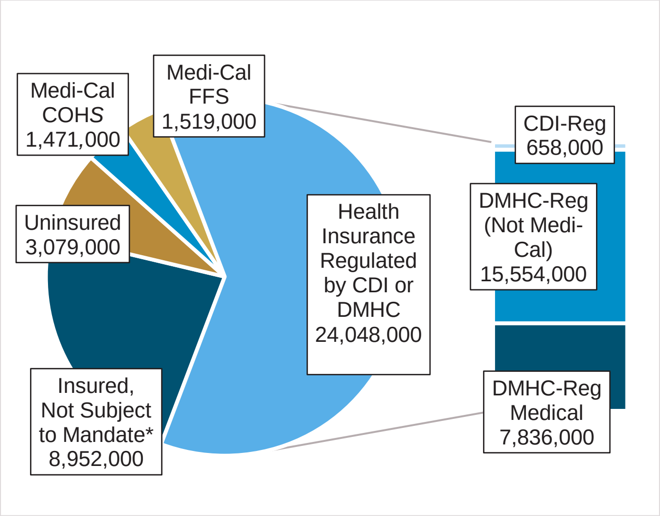
[1] Health and Safety Code 1374.73 and Insurance Code 10144.51.

[2] Previously referred to as "pervasive developmental disorder / autism (PDD/A)," CHBRP now uses "ASD" to align with the most current clinical diagnostic designation in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and ICD-10 classification systems.

- Make a number of technical alterations to the definitions of QAS providers, QAS professionals, and QAS paraprofessionals;
- Include as aspects of BHT, clinical case management and case supervision;
- Prohibit denial of coverage for BHT based on:
    - Lack of parental involvement;
    - Setting, location, or time of treatment — though the bill indicates that coverage does not include services delivered by school personnel pursuant to a child's individualized education program (IEP); and
- Prohibit review of treatment plans more than once every 6 months, unless recommended by the QAS provider.

Figure 1. Health Insurance in CA and SB 399



Source: CHBRP, 2017.
Notes: *Includes Medicare beneficiaries and enrollees in self-funded products.

Benefit Coverage, Utilization, and Cost Impacts

CHBRP estimates no measurable change in benefit coverage among enrollees with health insurance that would be subject to SB 399 in regard to: 1) case management and care supervision; 2) limitation of review of treatment plans to no less than 6 months; and 3) definitions of qualified providers. Case management and care supervision are both currently included as covered aspects of BHT for ASD and 6-month review of treatment plans seems common, so CHBRP anticipates no measurable change in related benefit coverage. Provider networks are compliant with the current mandate, and though SB 399 would make possible change in provider networks, CHBRP does not anticipate measurable change within the first year of implementation.

Benefit Coverage

Currently, 33% of enrollees with health insurance that would be subject to SB 399 have coverage for BHT regardless of parent/caregiver involvement. Additionally, 45% of enrollees currently have coverage for BHT regardless of the setting for the BHT. Postmandate, 100% of enrollees would have SB 399–compliant benefit coverage.

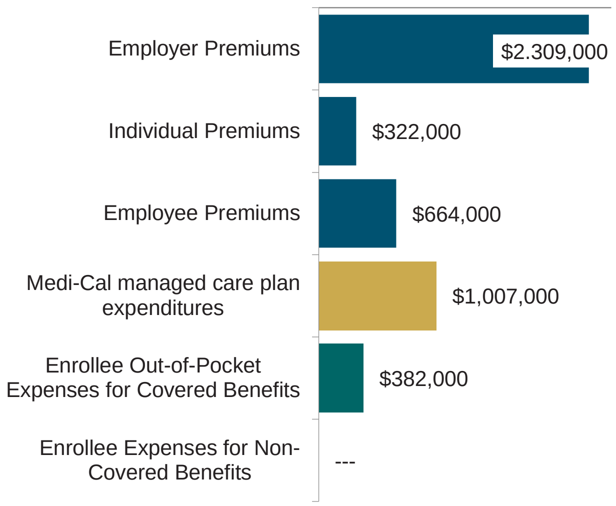
Utilization

Currently, the average annual hours of BHT per 1,000 enrollees is 85.07 hours. CHBRP projects an increase with the change in coverage for BHT that lifts two previous restrictions (denial based on lack of parental involvement and restrictions on setting for BHT). Because BHT is most commonly used by children with ASD who are under 8 years old, CHBRP projects that the increase in average annual number of hours of BHT will derive from an increase in the moderate users of BHT in that age range. Each provision will separately increase the overall usage hours of BHT among enrollees with ASD under 8 years old, Combined, this 6% increase will raise the overall average annual hours of BHT per 1,000 enrollees to 86.60 hours.

Expenditures

As noted in Figure 2, SB 399 would increase total net annual expenditures (premiums and enrollee expenses for covered and noncovered benefits) would increase by $4,684,000 (0.0032%) for enrollees with DMHC-regulated plans and CDI-regulated policies.

Figure 2. Expenditure Impacts of SB 399



Source: CHBRP, 2017.

Medi-Cal

Although SB 399 would not alter the current benefit mandate's explicit exemption from compliance for DMHC-regulated plans enrolling Medi-Cal beneficiaries, the interaction of the current mandate with the Welfare and Institutions Code is unclear. The Welfare and Institutions Code references the current mandate as the source of the definition of BHT for ASD. Therefore, changes to the current mandate could impact the benefit coverage of the Medi-Cal beneficiaries enrolled in DMHC-regulated plans as well as the Medi-Cal beneficiaries enrolled in either County Organized Health System (COHS) managed care or attached to the fee-for-service (FFS) program. For this analysis, CHBRP has included potential impacts on related to Medi-Cal beneficiaries. In addition to the expected increase of $1,007,000 in premiums CHBRP is estimating for the 7.8 million Medi-Cal beneficiaries enrolled in DMHC-regulated plans (a figure that represents a 0.0036% increase in premiums), it seems reasonable to assume that a population proportional increase of $89,000 would occur for the 1.5 million beneficiaries enrolled in COHS managed care. It seems likely that a similar impact would occur for the 1.5 million beneficiaries with health insurance through the FFS program (though the exact amount is unknown).

CalPERS

Although SB 399 would not alter the current benefit mandate's explicit exemption for DMHC-regulated plans regarding the benefit coverage of enrollees associated with CalPERS, the interaction of the current benefit mandate, California's separate Mental Health Parity benefit mandate,[3] and case law[4] are complex. For this analysis, CHBRP assumed that alterations to the current mandate would impact the benefit coverage of the 884,000 CalPERS enrollees in DMHC-plans.[5] CHBRP estimates that SB 399 could increase CalPERS premiums by $166,000 in the first year postmandate.

Number of Uninsured in California

Because the change in average premiums does not exceed 1% for any market segment, CHBRP would expect no measurable change in the number of uninsured persons due to the enactment of SB 399.

Medical Effectiveness

There is a *preponderance* of evidence that intensive behavioral health therapies are effective in improving outcomes including cognitive functioning, language, social functioning, and adaptive behaviors.

There is *limited* evidence that low-intensity behavioral health therapies are more effective in improving outcomes than usual care.

There is a *preponderance* of evidence that behavioral health therapies delivered by persons with training similar to QAS professionals and paraprofessionals, as well as a variety of other specialized and nonspecialist types of personnel, are effective when carried out under the training and supervision of a QAS provider.

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[3] Health and Safety Code 1374.72 and Insurance Code10144.5.

[4] Consumer Watchdog v. DMHC (2014).

[5] Of the increase in CalPERS employer expenditures, about 56.7% would be state expenditures for CalPERS members who are state employees or their dependents. It should be noted, however, that should CalPERS choose to make similar adjustments for consistency to the benefit coverage of enrollees associated with CalPERS' self-insured products, the fiscal impact on CalPERS could be greater.

There is *limited* evidence that the inclusion of clinical management and case supervision in BHT can improve outcomes such as intellectual ability, learning objectives, and overall treatment fidelity.

There is *insufficient* evidence to assess the impact of reviewing treatment plans no more frequently than every 6 months.

Parents are often trained to help generalize skills in the home and other settings, it stands to reason that parent/caregiver involvement in a child's treatment would equate to more overall BHT for the child, and thus greater improvements. Yet, there is *insufficient* evidence to evaluate the impact of prohibiting denial of BHT claims due to a lack of parental/caregiver involvement.

There is a *preponderance* of evidence that BHT can be delivered effectively in multiple settings, including schools.

Public Health

CHBRP projects that the 14,000 enrollees with ASD who already use BHT would increase their utilization by an *average* of 7.8 hours per year per BHT user in 2018. Based on the evidence, CHBRP finds that such an increase would not likely have a public health impact in the first year, postmandate. However, the increase in BHT hours may improve BHT outcomes such as intelligence quotient (IQ), language skills, socialization, and adaptive behaviors on an individual basis for some persons with ASD.

Long-Term Impacts

After the increase in utilization in the first 12 months, there is no indication in the research literature that the trends will change much over time. CHBRP, therefore, does not estimate any change in long-term impacts in utilization, because the rate of using BHT will also remain generally consistent over time.

Over the long term, the first-year cost increase findings would apply annually thereafter. However, the research literature has shown that BHT in children with autism improves their overall health and functioning over time, including gains made for adolescents. Therefore, it is likely that gains in BHT in younger children with ASD will result in overall lower health care costs over their lifetimes, although this cannot be quantified.

Because more BHT is generally associated with better outcomes, it stands to reason that long-term outcomes of cognitive functioning, language, social functioning, and adaptive behaviors may be improved, on an individual basis, for those enrollees who make use of additional BHT hours due to the removal of alternative setting and parent participation barriers; however, CHBRP projects no public health impact in the long term due to the marginal increase in new hours of BHT per year.

Essential Health Benefits and the Affordable Care Act

For two reasons, SB 399 would not trigger financial costs to the state for exceeding essential health benefits (EHBs). First, SB 399 alters the terms and conditions of an existing benefit mandate, but does not require an additional benefit to be covered. Second, the current law that SB 399 would alter expressly indicates that it ceases to function if it exceeds EHBs, and SB 399 does not eliminate this clause of the current law.

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

An analytic staff in the University of California's Office of the President supports a task force of faculty and research staff from several campuses of the University of California 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, and 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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Table 1. SB 399 Impacts on Benefit Coverage, Utilization, and Cost Among Persons With Health Insurance Regulated by the CA Department of Managed Health Care (DMHC) or the California Department of Insurance (CDI), 2018

	Baseline	Postmandate	Increase/ Decrease	Percentage Change
Benefit coverage among enrollees in plans and policies regulated by DMHC or CDI				
Total enrollees in DMHC/CDI plans/policies (a)	24,048,000	24,048,000	0	0%
Total enrollees in DMHC/CDI plans/policies with health insurance subject to SB 399	24,048,000	24,048,000	0	0%
Percent of enrollees in DMHC/CDI plans/policies with coverage for BHT for ASD	100%	100%	0%	0%
Percent of enrollees in DMHC/CDI plans/policies with coverage for BHT for ASD that includes case supervision and clinical management	100%	100%	0%	0%
Percent of enrollees in DMHC/CDI plans/policies with coverage for BHT for ASD regardless of parental involvement	33%	100%	67%	201%
Percent of enrollees in DMHC/CDI plans/policies with coverage for BHT for ASD regardless of setting/time/location	45%	100%	55%	122%
Utilization and unit cost among enrollees in plans and policies regulated by DMHC or CDI				
Number of enrollees with ASD	69,000	69,000	0	0%
Number of enrollees with ASD using BHT	14,000	14,000	0	0%
Average annual hours of BHT per 1,000 enrollees	85.07	86.60	1.5	2%
Average annual hours of BHT per user	170.95	178.79	7.8	5%
Average unit cost (per hour BHT for ASD)	$98	$98	$0	0%
Expenditures related to enrollees in plans and policies regulated by DMHC or CDI				
Premium expenditures by payer				
Private employers for group insurance	$64,820,615,000	$64,822,758,000	$2,143,000	0.0033%
CalPERS HMO employer expenditures (c)	$4,884,262,000	$4,884,428,000	$166,000	0.0034%
Medi-Cal Managed Care Plan expenditures for DMHC-regulated plans (d) (g)	$27,983,856,000	$27,984,863,000	$1,007,000	0.0036%
Enrollees for individually purchased insurance	$14,608,214,000	$14,608,536,000	$322,000	0.0022%
Enrollees with group insurance, CalPERS HMOs, Covered California, and Medi-Cal Managed Care (b) (e)	$20,387,090,000	$20,387,754,000	$664,000	0.0033%
Enrollee expenses				
For covered benefits (deductibles, copayments, etc.)	$13,565,623,000	$13,566,005,000	$382,000	0.0028%
For noncovered benefits (f)	—	—	—	—
Total expenditures	$146,249,660,000	$146,254,344,000	$4,684,000	0.0032%

Source: California Health Benefits Review Program, 2017.

Notes: (a) This population includes persons with privately funded (including Covered California) and publicly funded (e.g., CalPERS HMOs, Medi-Cal Managed Care Plans) health insurance products regulated by DMHC or CDI. Population includes enrollees aged 0 to 64 years and enrollees 65 years or older covered by employer-sponsored health insurance.

(b) Premium expenditures by enrollees include employee contributions to employer-sponsored health insurance and enrollee contributions for publicly purchased insurance.

(c) Of the increase in CalPERS employer expenditures, about 56.7% would be state expenditures for CalPERS members who are state employees or their dependents. It should be noted, however, that should CalPERS choose to make similar adjustments for consistency to the benefit coverage of enrollees associated with CalPERS' self-insured products, the fiscal impact on CalPERS could be greater.

(d) Does not include enrollees in COHS.

(e) Enrollee premium expenditures include contributions to employer-sponsored health insurance, health insurance purchased through Covered California, and contributions to Medi-Cal Managed Care.

(f) Not measurable. Includes only those expenses that are paid directly by enrollees or other sources to providers for services related to the mandated benefit that are not currently covered by insurance. Although enrollees with newly compliant benefit coverage may have paid for some treatments before SB 399, CHBRP cannot estimate the frequency with which such situations may have occurred and, therefore, cannot estimate the total noncovered expenses. Postmandate, such expenses would be gone, though enrollees with newly compliant benefit coverage might pay for some treatments for which coverage is denied. Again, CHBRP cannot estimate the frequency with which such situations might occur, and/or the total expense.

(g) In addition to the estimated $1,007,000 increase in premiums for the 7.8 million Medi-Cal beneficiaries enrolled in DMHC-regulated plans, CHBRP assumes that a proportional premium increase of $89,000 would occur for the 1.5 million beneficiaries enrolled in COHS managed care. It seems likely that there would also be an additional premium increase for the 1.5 million beneficiaries with health insurance through the FFS program (though the exact amount is unknown).

Key: ASD = autism spectrum disorder; BHT = behavioral health treatment; CalPERS HMOs = California Public Employees' Retirement System Health Maintenance Organizations; CDI = California Department of Insurance; DMHC = Department of Managed Health Care.

POLICY CONTEXT

The California Senate Committee on Health has requested that the California Health Benefits Review Program (CHBRP)[6] conduct an evidence-based assessment of the medical, financial, and public health impacts of SB 399, Pervasive Developmental Disorder or Autism.

If enacted, SB 399 could affect the health insurance of approximately 24 million Californians who will have health insurance regulated by the California Department of Managed Health Care (DMHC) or the California Department of Insurance (CDI) in 2018. This figure includes 7.8 million Medi-Cal beneficiaries enrolled in DMHC-regulated plans. In addition, SB 399 could be relevant to the benefit coverage of 1.5 million beneficiaries enrolled in County Organized Health System (COHS) managed care and another 1.5 million beneficiaries associated with Medi-Cal's fee-for-service (FFS) program. The full 27.1 million represent 69% of Californians.

Bill-Specific Analysis of SB 399 Autism

A current benefit mandate in California law,[7] one that SB 399 would alter, requires coverage of behavioral health treatment (BHT) for autistic spectrum disorder (ASD).[8] The current law:

- Requires coverage for BHT for ASD and specifies that BHT is inclusive of evidence-based, intensive behavioral intervention treatments such as applied behavioral analysis (ABA);
- Requires plan/policy networks to include qualified autism service (QAS) providers, supervising/employing QAS professionals, or QAS paraprofessionals; and
- Exempts from compliance the health insurance of enrollees associated with Medi-Cal or the California Public Employees' Retirement System (CalPERS).

The mandate that SB 399 would alter is referenced in California's Welfare and Institutions Code as the source of the definition of BHT for ASD, in terms of the benefit coverage available to all Medi-Cal beneficiaries.[9]

Bill Language

SB 399 would alter the current benefit mandate law (BHT for ASD) law in a number of ways.

SB 399 would make a number of technical alterations to the definitions of QAS providers, QAS professionals, and QAS paraprofessionals, including:

- Elimination of the requirement for QAS professionals to be vendors of regional centers associated with the California Department of Developmental Services; and
- Specification that QAS paraprofessionals can be supervised by QAS professionals.

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[6] CHBRP's authorizing statute is available at http://chbrp.org/faqs.php.

[7] Health & Safety Code 1374.73 and Insurance Code 10144.51.

[8] Previously referred to as "pervasive developmental disorder / autism (PDD/A)," CHBRP now uses "ASD" to align with the most current clinical diagnostic designation in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and ICD-10 classification systems.

[9] Welfare & Institutions Code 14132.56(a)(1).

SB 399 would explicitly include clinical case management and case supervision as aspects of BHT

SB 399 would prohibit plan/insurer review of treatment plans more than every 6 months (unless otherwise recommended by the QAS provider).

SB 399 would also prohibit denials of coverage for BHT based on:

- Lack of parental involvement; or
- Setting and location, or time of treatment — though the bill indicates that coverage does not include services delivered by school personnel pursuant to a child's independent educational program (IEP).

The full text of SB 399 can be found in Appendix A.

Analytic Approach and Key Assumptions

Although the current law requires an adequate network that includes QAS providers, it does not require that such networks include QAS professionals or QAS paraprofessionals. Because the law is permissive in regard to exact composition, for this analysis, CHBRP assumes that altering the definitions would not impact choices already made to establish adequate provider networks.

Although SB 399 would not alter the current benefit mandate's explicit exemption for DMHC-regulated plans enrolling Medi-Cal beneficiaries, the interaction of the current mandate with the Welfare and Institutions Code is unclear. The Welfare and Institutions Code references the current mandate as the source of the definition of BHT for ASD. Therefore, changes to the current mandate could impact the benefit coverage of the 7.8 million Medi-Cal beneficiaries enrolled in DMHC-regulated plans as well as the additional 3.0 million Medi-Cal beneficiaries enrolled in either County Organized Health System (COHS) managed care or attached to the fee-for-service (FFS) program. For this analysis, CHBRP has assumed so and projected relevant impacts.

Although SB 399 would not alter the current benefit mandate's explicit exemption for DMHC-regulated plans regarding the benefit coverage of enrollees associated with CalPERS, the interaction of the current benefit mandate, California's separate Mental Health Parity benefit mandate,[10] and case law[11] are complex. It is possible that SB 399 could be relevant to the health insurance of the 884,000 enrollees in DMHC-regulated plans associated with CalPERS. For this analysis, CHBRP has assumed so and projected relevant impacts.

General Caveat for All CHBRP Analyses

It is important to note that CHBRP's analysis of proposed benefit mandate bills addresses the incremental effects — how the proposed legislation would impact benefit coverage, utilization, costs, and public health. CHBRP's estimates of these incremental effects are presented in this report.

Interaction With Existing Requirements

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

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[10] Health and Safety Code 1374.72 and Insurance Code10144.5.

[11] Consumer Watchdog v. DMHC (2014)

State Requirements

California law and regulations

As noted, SB 399 would amend the current benefit mandate law[12] that addresses BHT for ASD.

In addition to the current law that SB 399 would alter, another state-level health insurance benefit mandate, the current California mental health parity law,[13] requires coverage for BHT for ASD.

Similar requirements in other states

At least 39 states and the District of Columbia (BCBSA, 2016) implemented health insurance benefit mandates related to treatment for ASD. Some states identify treatments for which coverage is specifically required. Over half of the states with health insurance benefit mandates related to autism specifically require coverage for applied behavioral analysis (ABA).

CHBRP is unaware of any state with a mandate that defines QAS providers, QAS professionals, and QAS paraprofessionals.

CHBRP is also unaware of any state with a mandate that references coverage for clinical case management or case supervision.

CHBRP is also unaware of any state with a mandate that speaks to parent/caregiver enrollment, speaks to the setting, location, or time of treatment or that specifies the timing of plan/insurer review of treatment plans. CHBRP is aware of a court decision in Pennsylvania[14] that requires plan/insurer coverage of behavioral health treatment for ASD in schools, but the outcome of the ruling, which could be relevant to treatment setting, is not yet clear because the decision has been appealed.

Federal Requirements

Federal Mental Health Parity and Addiction Equity Act

Although neither the current law nor SB 399 would interact directly with it, it is worth noting that the federal Mental Health Parity and Addiction Equity Act (MHPAEA) addresses parity for mental health benefits.[15] The MHPAEA requires that if mental health or substance use disorder services are covered, cost-sharing terms and treatment limits be no more restrictive than the predominant terms or limits applied to medical/surgical benefits. The MHPAEA applies to the large group, but the ACA requires small-group and individual market plans and policies purchased through a state health insurance marketplace to comply with the MHPAEA. This federal requirement is similar to the California mental health parity law,[16] although the state law applies to some plans and policies not captured in the MHPAEA.

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[12] Health & Safety Code 1374.73 and Insurance Code 10144.51.

[13] H&SC Section 1374.72 and IC Section 10144.5.

[14] Burke et al. v. Independence Blue Cross, case number 2299 EDA 2011, in the Superior Court of the State of Pennsylvania.

[15] Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA), as amended by the ACA.

[16] H&SC Section 1374.72; IC Section 10144.5 and 10123.15.

Affordable Care Act

A number of Affordable Care Act (ACA) provisions have the potential to or do interact with state benefit mandates. Below is an analysis of how SB 399 may interact with requirements of the ACA as presently exists in federal law, including the requirement for certain health insurance to cover essential health benefits (EHBs).[17]

Any changes at the federal level may impact the analysis or implementation of this bill, were it to pass into law. However, CHBRP analyzes bills in the current environment given current law.

Essential Health Benefits

State health insurance marketplaces, such as Covered California, are responsible for certifying and selling qualified health plans (QHPs) in the small-group and individual markets. QHPs are required to meet a minimum standard of benefits as defined by the ACA as essential health benefits (EHBs). In California, EHBs are related to the benefit coverage available in the Kaiser Foundation Health Plan Small Group Health Maintenance Organization (HMO) 30 plan, the state's benchmark plan for federal EHBs.[18,19]

States may require QHPs to offer benefits that exceed EHBs.[20] However, a state that chooses to do so must make payments to defray the cost of those additionally mandated benefits, either by paying the purchaser directly or by paying the QHP.[21,22] State rules related to provider types, cost-sharing, or reimbursement methods would *not meet* the definition of state benefit mandates that could exceed EHBs.[23]

For two reasons, SB 399 would not trigger financial costs to the state for exceeding EHBs. First, SB 399 alters the terms and conditions of an existing benefit mandate, but does not require an additional benefit to be covered. Second, the current law that SB 399 would alter expressly indicates that it ceases to function if it exceeds EHBs and SB 399 does not eliminate this clause of the current law. Thus, neither the current law nor the version that SB 399 would create would function if deemed to exceed EHBs.

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[17] The ACA requires nongrandfathered small-group and individual market health insurance — including, but not limited to, QHPs sold in Covered California — to cover 10 specified categories of EHBs. Resources on EHBs and other ACA impacts are available on the CHBRP website: http://www.chbrp.org/other_publications/index.php.

[18] The U.S. Department of Health and Human Services (HHS) has allowed each state to define its own EHBs for 2014 and 2015 by selecting one of a set of specified benchmark plan options. CCIIO, Essential Health Benefits Bulletin. Available at: cciio.cms.gov/resources/files/Files2/12162011/essential_health_benefits_bulletin.pdf.

[19] H&SC Section 1367.005; IC Section 10112.27.

[20] ACA Section 1311(d)(3).

[21] State benefit mandates enacted on or before December 31, 2011, may be included in a state's EHBs, according to the U.S. Department of Health and Human Services (HHS). Patient Protection and Affordable Care Act: Standards Related to Essential Health Benefits, Actuarial Value, and Accreditation. Final Rule. Federal Register, Vol. 78, No. 37. February 25, 2013. Available at: www.gpo.gov\fdsys\pkg\FR-2013-02-25\pdf\2013-04084.pdf.

[22] However, as laid out in the Final Rule on EHBs HHS released in February 2013, state benefit mandates enacted on or before December 31, 2011, would be included in the state's EHBs and there would be no requirement that the state defray the costs of those state mandated benefits. For state benefit mandates enacted after December 31, 2011, that are identified as exceeding EHBs, the state would be required to defray the cost.

[23] Essential Health Benefits. Final Rule. A state's health insurance marketplace would be responsible for determining when a state benefit mandate exceeds EHBs, and QHP issuers would be responsible for calculating the cost that must be defrayed.

BACKGROUND ON AUTISM SPECTRUM DISORDER

Autism spectrum disorder (ASD)[24] is a developmental disability characterized by deficits in social interactions and communication, sensory processing, stereotypic (repetitive) behaviors or interests, and sometimes cognitive function (APA, 2013). As reflected by the phrase "autism spectrum disorder," the symptoms of ASD fall along a continuum, ranging from mild impairment to profound disability.

To receive an ASD diagnosis, individuals must demonstrate symptoms from early childhood, with children typically becoming symptomatic as early as age 1 year (CDC, 2017a). The Centers for Disease Control and Prevention (CDC) supports the Autism and Developmental Disabilities Monitoring (ADDM) Network, an ongoing autism surveillance program of 11 sites across the United States, According to its 2012 findings, about 43% of U.S. children diagnosed with ASD were evaluated for developmental concerns by age 3 years. Those diagnosed with *autistic disorder* tended to be formally diagnosed at an earlier age (3 years, 10 months) than those with *pervasive developmental disorder not-otherwise-specified* and *Asperger's syndrome* (~4 years and ~6 years, respectively). Note that individuals whose symptoms do not manifest until later in life may receive a retroactive diagnosis, but may not receive critical early interventions (APA, 2013).

The cause (or causes) of ASD is unknown, and research into genetic etiology, as well as environmental factors, continues to be explored. There is no cure for ASD; however, there is some evidence that treatment, including behavioral health treatment, may improve some symptoms (see the *Medical Effectiveness* section).

Prevalence of Autism Spectrum Disorders in California

Ascertaining the true prevalence of ASD in California is challenging without a registry system. Counts of persons diagnosed with ASD may be obtained from a variety of sources such as private insurance claims data, Medi-Cal (including Medi-Cal managed care plans) reports or claims and encounter data, the public school system, and Department of Developmental Services (DDS). Counts from these sources likely overlap, but it is unknown to what degree.

CHBRP's following statewide estimate of ASD prevalence is based on data from the California Department of Developmental Services (DDS). DDS frequently provides the initial ASD diagnosis and treatment referrals for those children meeting certain disability criteria (including ASD), regardless of income level (DDS, 2017a). This estimate may be an undercount since families of children with ASD may access care through private insurance or payment out of pocket; thus, they may not have interacted with DDS.

CHBRP estimates that in 2016, the prevalence of ASD in California children (aged 0 to 9 years) is about 160 in 10,000. This figure is close to the 2012 national prevalence estimates of 146 in 10,000 children aged 8 years (CDC, 2017b; CHBRP, 2015).

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[24] Previously referred to as "pervasive developmental disorder / autism (PDD/A)," CHBRP now uses "ASD" to align with the most current clinical diagnostic designation in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and ICD-10 classification systems.

Social Determinants of Health[25] and Disparities[26] in Autism Spectrum Disorder

CHBRP includes a discussion of disparities under the broader umbrella of social determinants of health (SDoH). Although SDoH generally occur prior to or outside of the health care system and are highly correlated with downstream events such as avoidable illnesses and premature death, the relationship between SDoH and health status/outcomes is complex, and periodically, health insurance can influence SDoH.[27] In the case of SB 399, CHBRP found a dearth of literature discussing the effects of gender, race, and income on parent use of BHT.

Differences and Disparities in ASD Prevalence

Gender differences

In 2016, the CDC reported that the ASD prevalence rate among 8-year-old males in the 11 ADDM network sites was four and a half times higher than in females (CDC, 2017b), which comports with the California rate. The California DDS reported in 2016, the same ratio of males to females with autism (4.5:1) (DDS, 2017b). DDS also reported that the male-dominated prevalence crossed all races and geographic regions in California (DDS, 2009). Gender differences in ASD are not attributable to social causes, and so are not considered disparities.

Race/ethnicity differences

Although U.S. surveys report a greater prevalence of ASD among white children than among black children and Hispanic children, these estimates are known to be influenced by disparities in access to health care for diagnosis, data source (e.g., self-report, medical record review, etc.), and patient geographic location (Christensen et al., 2016; Hill et al., 2016). For example, in California, among those with ASD served by DDS (the largest California-specific dataset for ASD), Hispanics outnumbered whites. Specifically, DDS reported that among those receiving DDS services for ASD, Hispanics accounted for 35% of recipients, followed by whites (32%), Asians (9%), and blacks (7%) (DDS, 2017b). The racial/ethnic distribution of children with ASD within the privately insured population is unknown.

Disparities in Access to Behavioral Health Treatment for ASD

Studies of children with ASD consistently show that children from low-income and less educated families are less likely to receive behavioral health treatment than their higher income, better educated counterparts. One study revealed that parents with a lower educational level accessed less intensive therapies compared to parents with higher educational levels who accessed higher intensity services, even when provided in a school setting (Siller et al., 2014). Another study using data from the 2009/2010 National Survey of Children with Special Health Care Needs indicated that parents of Latino and black

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[25] 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). See SDoH white paper for further information.

[26] Several competing definitions of "health disparities" exist. CHBRP relies on the following definition:
"Health disparities are potentially avoidable differences in health (or health risks that policy can influence) between groups of people who are more or less advantaged socially; these differences systematically place socially disadvantaged groups" at risk for worse health outcomes (Braveman, 2006).

[27] For more about SDoH, see *Incorporating Relevant Social Determinants of Health into CHBRP Benefit Mandate Analyses*, available at http://www.chbrp.org/analysis_methodology/public_health_analysis.php.

children with ASD were 45% less likely than whites to report that providers spent adequate time with their children, and were about 40% less likely to feel that their child's special needs provider was sensitive to their values and customs (Magana et al., 2015).

Qualified autism spectrum (QAS) provider shortages are less well documented, but literature suggests that provider shortages create unique barriers to behavioral health treatment for low-income and rural families. For example, interviews with stakeholders in five states with autism insurance mandates, including California, reported that families were better able to access treatment services after the mandates were enacted, but that both consumer advocates and insurance companies reported shortages of licensed providers (Baller et al., 2016). To further complicate matters, stakeholders reported that low insurance reimbursement rates discourage QAS providers from accepting private insurance (Baller et al., 2016). A recent literature review found three of six studies on geographic variation in age of autism diagnosis (the start of autism treatment services) identified barriers for rural compared to urban families (Daniels and Mandell, 2014). Additionally, two qualitative studies (with sample sizes of 96 and 35 respondents, respectively) also found rural families had more difficulty than urban families in accessing ASD providers for timely diagnosis and treatment of ASD (Elder et al., 2016; Murphy and Ruble, 2012).

MEDICAL EFFECTIVENESS

As discussed in the *Policy Context* section, SB 399 would alter an existing mandate that requires DMHC-regulated health plans and CDI-regulated policies to cover behavioral health treatment (BHT) enrollees with an autism spectrum disorder (ASD) such as:

- Change provider descriptions for behavioral health treatment (BHT);
- Add clinical case management and case supervision as covered elements of BHT;
- Limit carrier review of treatment plans to no more than once every 6 months;
- Require coverage of behavioral health treatment (BHT) without parental involvement; and
- Require coverage of BHT in all settings, except for services delivered by school personnel for an enrollee's educational program.

BHT is defined in SB 399 by current Health and Safety Code Section 1374.73 as "professional services and treatment programs, including applied behavior analysis and evidence-based behavior intervention programs that develop or restore, to the maximum extent practicable, the functioning of an individual with pervasive developmental disorder or autism." Most forms of BHT aim to modify the behavior of an individual with autism through the process of assessing environmental stimuli and reinforcing appropriate responses. These services are generally delivered by QAS professionals and paraprofessionals with the goals of improving cognitive, language, and social functioning through interventions including, but not limited to, occupational, speech, and physical therapy. It is evident in the literature that BHT treatment can be described on a spectrum ranging from intensive to less intensive. Intensive is generally characterized by a greater number of treatment hours and focused interventions for specific outcomes such as cognitive, language, and adaptive skills. Models for intensive BHT are largely based upon Applied Behavioral Analysis (ABA), among others. Less intensive interventions involve fewer treatment hours and more generalized therapies to address social functioning deficits, for example the Developmental, Individual Differences, Relationship-Based model (DIR®/Floortime™).

This medical effectiveness review summarizes findings from literature on intensive and less intensive BHT for ASD. The literature review focused on the impact of the terms and conditions for coverage of BHT as listed above, rather than the effectiveness of the treatment itself, though effectiveness of the treatment is also evaluated to provide added context.

Research Approach and Methods

Studies were identified through searches of MEDLINE (PubMed), the Cochrane Database of Systematic Reviews, the Cochrane Register of Controlled Clinical Trials, PsycInfo, Web of Science, and EconLit. Because CHBRP's medical effectiveness review had previously conducted thorough literature searches on this topic in 2011, 2013, 2014, 2015, and 2016 for reports on bills relevant to ASDs, the search was limited to studies published from 2015 to present. The more recent literature reported findings consistent with previous medical effectiveness reviews. Of the 588 articles found in the literature review, 30 were reviewed for potential inclusion in this report, and 5 new studies were included in the medical effectiveness review for this report. The medical effectiveness review also presents findings from the studies that were included in CHBRP's earlier reports on bills relevant to SB 399. 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: Literature Review Methods.

Methodological Considerations

Although there is a large body of literature evaluating different aspects of treatments related to ASD, there is limited literature on the provisions directly relevant to SB 399. The relevant literature found is presented for consideration.

Outcomes Assessed

The outcomes assessed by studies included in this review included measures of cognitive functioning (such as IQ), as well as language, social functioning, treatment fidelity, and changes in symptomatology.

Study Findings

Effectiveness of Intensive Behavioral Health Therapy for ASD

Intensive behavioral health treatments are usually comprehensive intervention based programs given for 25 to 40 hours per week for 1 to 3 years (BACB, 2014; Peters-Scheffer et al., 2011). Results from a large number of studies with moderately strong research designs and meta-analyses have shown that intensive behavioral health treatment is effective in improving cognitive, language, academic, and adaptive skills outcomes and that younger age is typically associated with greater improvements (Peters-Scheffer et al., 2013; Warren et al., 2011; Weitlauf et al., 2014).[28] However, the magnitude of effectiveness varies in the literature, and current evidence of which children would gain the most from which intervention is limited, especially for very young and very older children (Vivanti et al., 2014). The intensive behavioral health treatments are most often targeted to preschool aged children from three to five years old, but have been shown to be effective across the lifespan (BACB, 2014; Peters-Scheffer et al., 2013). Intensive behavioral health interventions for ASD could include, but are not limited to, ABA-based approaches, discrete trial training, pivotal response training, parent training, and Early Start Denver Model approaches.

There is a *preponderance* of evidence that intensive behavioral health therapies are effective in improving outcomes including cognitive functioning, language, social functioning, and adaptive behaviors.

Effectiveness of Low-Intensity Behavioral Health Therapy for ASD

Low-intensity treatments are another treatment option for individuals with ASD, which often means fewer hours of any intensive-based therapy or more supplemental or specific deficit-focused treatments. These low intensity treatments may be a beneficial treatment option for higher functioning children or older children who could benefit from a more social skills based service. Studies on the effects of lower-intensity treatment (in terms of hours of one-to-one treatment) suggest that even low-intensity behavioral treatment can be effective in young children with ASD, though gains may be smaller than in studies on intensive treatments (Eldewik et al., 2006; Peters-Scheffer et al., 2013). The Eldevik et al. 2006 non-

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[28] For more information, please see CHBRP's reports 2016 and 2015 reports on autism-related bills, which also report on the effectiveness of BHT for ASD. The reports are available at http://www.chbrp.org/completed_analyses/index.php.

randomized control study (N = 28) was the first study found to evaluate the effectiveness of low-intensity BHT treatments for ASD and found that children receiving the low-intensity BHT treatment for 12.5 hours per week made significantly greater improvements in cognitive function, language, and communication outcomes. In another example, a nonrandomized pretest-posttest control group design study of a low-intensity (on average 6.5 hours per week) discrete trial training treatment was given to 12 children with ASD, with 12 children in a usual treatment control. Children in the treatment group displayed significantly greater gains in cognitive development and adaptive behaviors compared to the control group (Peters-Scheffer et al., 2010). Some examples of types less-intensive behavioral health interventions for ASD include traditional intensive programs but with fewer hours, Developmental, Individual Differences, Relationship-Based Approach (DIR®/Floortime™), Treatment and Education of Autistic and related Communication-handicapped Children (TEACCH), Occupational Therapy; Sensory Integration Therapy, Speech Therapy, use of The Picture Exchange Communication System (PECS), social clubs, or inclusion intervention programs.

A variety of low-intensity therapies are often used to supplement or in combination with other therapies and often target-specific outcomes. Though there is some evidence that these interventions are effective, there is little high-quality evidence on whether low-intensity therapies alone are effective. There is *limited evidence* from two moderately strong non-randomized control studies (N = 52) that low-intensity behavioral health therapies are more effective in improving outcomes than usual care.

Effectiveness of Clinical Management and Case Supervision

Most BHT, especially ABA-based, treatment programs involve a tiered service model in which an autism service professional designs and supervises a treatment program delivered by assistant service professionals or paraprofessionals. The role of this service professional includes clinical, supervisory, and case management activities. Clinical management and case supervision are often used interchangeably to describe activities such as creating the original treatment program as well as supervising and reviewing a case to make any necessary adjustments to the plan and to ensure that goals are met. It should be noted that the *Medical Effectiveness* section is specifically addressing the clinical management and case supervision that would be provided on individual treatment plans; not general training and supervision of QAS providers, as that is assumed to already be provided by employers to ensure proper fidelity of a given treatment. Clinical management and case supervision is typically provided by a clinician who is required to have knowledge of advanced learning and behavior principles, extensive clinical experience of BHT programs, and certified through a certification board (e.g., the Behavior Analysis Certification Board Examination). Next to treatment intensity and duration of the treatment program, intensity and quality of clinical management and case supervision is thought to be an important element to successful BHT. One relevant correlational study (N = 20) evaluated the effect of intensity of supervision hours on outcomes for children receiving an early intensive behavioral intervention. The intensity, measured in hours, ranged from about 2 to 8 hours per month. Results showed a significant correlation between intensity of supervision and improvement in IQ (Eikeseth et al., 2009). Another retrospective study with data from an archival database (N = 638) on children with ASD receiving community-based ABA treatment found that supervision hours accounted for a slight increase in outcomes, measured as learning objectives; however, this increase was not statistically significant independently of overall treatment hours (Dixon et al., 2016). However, it should be noted that supervision hours are typically provided in correlation with treatment hours, thus making it difficult to isolate the effects of clinical management and/or case supervision alone.

Treatment for autism often requires care from multiple health care and service providers to address different needs, especially for intensive users. Therefore, the need for management and coordination among treatment providers is high in this population (Shattuck et al., 2011). The role of a clinical manager/case supervisor is also to ensure that the all of the different treatments that a child may receive overlap properly to improve specific target outcomes. Although clinical management/case supervision may not impact the effectiveness of any one particular treatment in isolation, it may increase the effectiveness of the overall treatment plan by increasing continuity and efficiency. [29]

Based on two studies including 658 individuals, there is *limited evidence* that the inclusion of clinical management and case supervision in BHT can improve outcomes such as intellectual ability, learning objectives, and overall treatment fidelity.

Impact of Frequency of Treatment Plan Review

Frequency of treatment plan review by the insurance carrier refers to how often the carrier requires that a patient's treatment plan and progress be reviewed for continued coverage of the treatment. This is important within the context of BHT treatment for ASD because of the relative intensity (hours) and duration (length of treatment) of patients' treatment plans. One of the largest certification boards, the Behavior Analyst Certification Board (BACB), recommends that treatment plan reviews should occur no more than once every 6 months. They state that "If there is a question as to the appropriateness or effectiveness of ABA for a particular client, a review of treatment data by their clinician may be conducted more frequently (e.g., 3 months), in order to adjust the treatment appropriately." It should be noted, however, that many of the available behavioral health therapies for autism have a recommended time for treatment. For example, many traditional ABA-based therapies are given for 25 to 40 hours per week for 1 to 3 years (BACB, 2014; Peters-Scheffer et al., 2011). Several empirical studies have been conducted with a variety of treatment hours per week and have found more intensive treatment (up to approximately 3 years for 40 hours per week) to be associated with the best results (e.g., Eikeseth et al., 2002; Eldevik et al., 2006; Sallows et al., 2005; Smith et al., 1997). Given these findings, carrier review of treatment more frequently than every 6 months may possibly not allow for enough time to allow for full effectiveness of the current treatment to be demonstrated. However, these studies do not directly address the impact of more or less frequent review periods on treatment regimens and their outcomes directly, and thus, the impact of potentially shortened treatment duration must be inferred.

CHBRP found no literature reporting on recommendations of a timeframe for insurance carriers to review treatment plans for behavioral health therapies and no studies addressing the medical effectiveness impact of requiring health plans to review treatment plans no frequently than every 6 months. The frequency of review of treatment plans by carriers varies from monthly to annually, with higher-intensity cases reviewed more frequently.[30,31] The ABA model builds in a quarterly review of the treatment plan by the provider. Additionally, it should be noted that in many cases, it can take up to 6 weeks for treatment to begin after writing the initial treatment plan due to the time it takes to complete the assessment, treatment plan and authorization of intervention, thus limiting the treatment timeframe.[32]

There is *insufficient evidence* to assess the impact of reviewing treatment plans no more frequently than every 6 months. CHBRP notes that the absence of evidence does not mean there is no effect; it means that the effect is unknown.

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[29] Personal communication, D. Mandell, March 2017.
[30] Personal communication, D. Mandell, March 2017.
[31] Personal communication, C. Corsello, March 2017.
[32] Personal communication, C. Corsello, March 2017.

Impact of BHT Provider Description Alterations

As described in the *Policy Context* section, SB 399 would alter the definitions of qualified autism service (QAS) providers, QAS professionals, and QAS paraprofessionals. Studies of behavioral health treatments for patients with ASD have evaluated treatments provided by a wide range of personnel, including: certified applied behavioral therapists, child care workers, counselors, early childhood educators, nurses, occupational therapists, psychologists, speech and language therapists, students, teachers, teachers' aides/paraprofessionals, and parents. A recent systematic review which included 34 articles describing 29 studies (15 randomized controlled trials and 14 prospective non-randomized controlled studies) concluded that behavioral health treatments based on ABA that were delivered by "nonspecialized" personnel (e.g., nurse practitioner, teacher, teacher's aide, parent) who were trained and supervised by persons with expertise in ABA improved IQ, language, daily living skills, and motor skills among lower functioning children with autism relative to usual care (Reichow et al., 2013). Another recent systematic review summarized the evidence of Train the Trainer (TTT) trials of behavioral interventions for children with ASD. TTT requires that community clinicians experienced in the interventions (e.g., clinic supervisor) train the personnel who deliver the services in the community (e.g., home interventionist). Of the 12 articles included in the review, one was a randomized controlled trial, whereas the others had moderate-to-low-quality experimental designs, such as a pre-post design. Overall, the authors report that these treatments delivered by the trained community personnel result in positive outcomes in cognition, language, and autism symptoms, particularly among higher-functioning children (Shire and Kasari, 2014). Most studies included in these systematic reviews have moderate-to-low research designs.

The literature described above has limitations with regard to some specifics that would be impacted by the bill. Persons who did not have graduate degrees in behavior analysis or a related field were typically supervised by personnel with graduate degrees. Descriptions of the credentials of personnel providing behavioral health treatments were inconsistent across studies, which limits the ability to determine which treatments utilized personnel similar to QAS professionals or QAS paraprofessionals. Additionally, CHBRP did not identify any studies of the impact of allowing QAS professionals and QAS paraprofessionals to be supervised by but not necessarily employed by QAS providers.

Based on two systematic reviews describing 41 studies of varying design quality with 2,169 participants, there is a *preponderance of evidence* that behavioral health therapies delivered by persons with training similar to QAS professionals and paraprofessionals, as well as a variety of other specialized and nonspecialist types of personnel is effective when carried out under the training and supervision of a QAS provider.

Impact of Parent or Caregiver Involvement

SB 399 prohibits denial of health insurance coverage for BHT in the case of a lack of parental involvement. The current impact of denying coverage based on parent involvement is unknown. Parental involvement is an original and integral component of both intensive and less intensive ABA-based treatment. Degrees of involvement can vary greatly from transportation support, to presence during treatment by a qualified autism service (QAS) professional, to completion of parent training and delivering treatment. The level of parental involvement in therapy also varies by treatment type, and children with ASD often receive more than one type at any given time, but the general purpose of parent involvement is to increase treatment continuity and the generalization of skills. Parents and family members are able to provide important history and background on their child, and parental involvement further provides contextual information that guides appropriate treatment to reflect the family dynamics, increases continuity of treatment outside of treatment hours, and leads to greater generalization of treatment across multiple settings (BACB, 2014). Recommendations for best practices in behavioral health treatment for children with ASD call for parents/caregivers to be actively engaged in providing treatment, especially for young children (National Research Council, 2001; Volkmar at el., 2014; Zwaigenbaum et al., 2015).

To assess the impact of this provision, the Medical Effectiveness review searched for two types of literature: 1) literature comparing outcomes of BHT with parental involvement to usual care; and 2) literature comparing outcomes of BHT with parental involvement to outcomes of equivalent BHT without parental involvement. No literature was identified that directly addressed either of these research questions. Literature was identified that addressed parental involvement in BHT, but did not compare outcomes of involvement with equivalent BHT programs, and the results of this are discussed here. It should be noted that the sparseness of literature regarding lack of parent involvement is reasonable, given that the target population is children and thus there is inherent involvement of parents in many aspects of the overall treatment plan.

A synthesis of six meta-analyses (including a total of 21 retrospective, prospective, and experimental studies, N = 894) of varying early intensive behavioral health treatments that were published between 2009 and 2011 concluded that interventions that involved parents in providing treatment were more effective than interventions that were provided solely by professionals and/or paraprofessionals (Strauss et al., 2013). However, this finding is a result of comparative effectiveness between nonequivalent BHT programs. The meta-analysis also reported favorable effects on outcome measures across all comparable studies. The results showed that early intensive behavioral health treatments still had a positive effect on outcome measures, including intellectual functioning, language skills, and adaptive behaviors, regardless of variations in the intervention variables (e.g., inclusion or amount of parent involvement, specific treatment characteristics, and child characteristics). It should be noted that most of the studies included in the synthesis were not RCTs, which limits the strength of their findings about the effects of treatment. In addition, few studies have directly assessed the impact of adding parent/caregiver treatment to a behavioral health treatment provided by professionals and/or paraprofessionals. Perhaps the most relevant study is a RCT that compared a behavioral health treatment replicating the parameters of the UCLA intensive behavioral treatment (Lovaas, 1987) directed by professionals and paraprofessionals to a treatment directed by parents in which professionals and paraprofessionals did not provide as many hours of treatment. Parents were involved in both groups and instructed to practice treatment strategies at home with their child. The authors found that cognitive function, language use, and adaptive behavior improved for children with ASD in both groups (Sallows et al., 2005). These findings of improved outcomes in both groups, with fixed treatment times, suggest that behavioral health treatments are still effective in improving outcomes withstanding variations in the amount of parent involvement.

Parents are often trained to help generalize skills in the home and other settings, it stands to reason that parent/caregiver involvement in a child’s treatment would equate to more overall BHT for the child, and thus greater improvements. Yet, there is *insufficient evidence* to evaluate the impact of prohibiting denial of BHT claims due to a lack of parental involvement.

Effectiveness of Behavioral Health Treatment Delivery in Different Settings

BHT can be delivered in a variety of settings such as in the home, hospitals or other inpatient facilities, outpatient clinics (e.g., autism treatment centers, other provider offices), in schools of all levels, or in other community settings. The importance of generalizability in ASD therapies, the principle that learned behaviors are transferrable to multiple social settings, requires flexibility to treat in locations where behaviors are most likely to occur and to practice these skills in a variety of places. Additionally, once children enter school, the available hours during which to engage in BHT are limited unless some therapy is conducted in locations outside the home. The setting for the BHT prescribed will be driven in large part by treatment intensity, the combination of treatment goals, and accessibility.[33]

CHBRP did not identify any studies that compared the same treatment across different settings; however, there is a preponderance of evidence from high-quality studies that intensive BHT is effective in improving outcomes for cognitive and social functioning across the various settings studied (Anagnostou et al., 2014). Not only does varying the setting promote generalization of treatment and help to maintain progress (BACB, 2014; Peters-Scheffer et al., 2013), it enables those who require more intensive treatment to receive the necessary hours of prescribed ABA without being limited to one treatment location. Effectiveness for intensive BHT settings may be more closely correlated with the settings in which the child will use the skills acquired. This theory has led to the development of a set of interventions called Naturalistic Developmental Behavioral Interventions (NDBI) (Schreibman et al., 2015). According to Schreibman and colleagues, this approach benefits the recipient by teaching social and behavioral skills as they arise in a naturally occurring environment, which increases generalizability and allows for a wide range of stimuli and acceptable responses tailored to that individual's typical experiences. Additionally, it is recommended that treatment be delivered in a setting where there will be frequent interactions with typically developing children for purposes of modelling behavior and allowing the child to practice learned skills (Camargo et al., 2014; National Research Council, 2001). Finally, treatment setting may also benefit from variation due to co-occurring conditions such as anxiety. Desensitization to certain stimuli may be an appropriate treatment goal and require some sessions to occur in naturalistic environments outside of a typical treatment center. Therefore, CHBRP concludes that treatment is both effective and instructive across different settings, though the lack of research on relative effectiveness in different settings does not allow for determination of whether the same treatment would be more effective in one setting than another.

One effect of SB 399 would be that health care service plans would not be required to reimburse for services delivered by school personnel as part of an enrollee's individualized educational program, despite the provision in the same bill to not restrict coverage of treatment regardless of setting. In essence, services already delivered as part of a school's existing BHT program would not be eligible for reimbursement by health care service plans unless required by law. There is a preponderance of evidence that school-based interventions are effective for treatment of symptoms related ASD such as social communication and engagement, due in large part to the opportunity to engage with typically developing children (Chang and Locke, 2016; Kamps et al., 2015; Tanet et al., 2016). This provision is expected to have no impact on the effectiveness of ASD treatment, as the school-based intervention would not change.

Based on the results of seven recent studies of 430 participants, there is a *preponderance of evidence* from studies with moderately strong research designs (six RCTs and one pre- and post-test design) that behavioral health treatments can be delivered effectively in multiple settings, including schools.

Summary of Findings

The charts in this section summarize CHBRP's findings regarding the strength of the evidence for the effects of specific tests, treatments, and services addressed by SB 399. Separate charts are presented for each test, treatment, or service for which the bill would mandate coverage and for each outcome for which evidence of the effectiveness of a treatment is available. The title of the chart indicates the test, treatment, or service for which evidence is summarized. The statement under the heading "Conclusion"

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[33] Personal communication, D. Mandell, March 2017.

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. For tests, treatments, and services for which CHBRP concludes that there is clear and convincing, preponderance, limited, or conflicting evidence, the placement of the vertical bar indicates the strength of the evidence. If CHBRP concludes that evidence is insufficient, a graph that states "Insufficient evidence" will be presented.

The figures in this section summarize the strength of evidence regarding the effectiveness of the test, treatment or service in question. The body of evidence about a particular test, treatment, or service is categorized as clear and convincing, preponderance, limited, conflicting, or insufficient evidence. One graphic template is used for bodies of evidence for which there is clear and convincing, preponderance, limited, or conflicting evidence, and another is used when there is insufficient evidence.

Figure 3. Effectiveness of Intensive Behavioral Health Therapy for ASD

Conclusion

There is a *preponderance of evidence* that intensive behavioral health therapies are effective in improving outcomes including cognitive functioning, language, social functioning, and adaptive behaviors.[34]

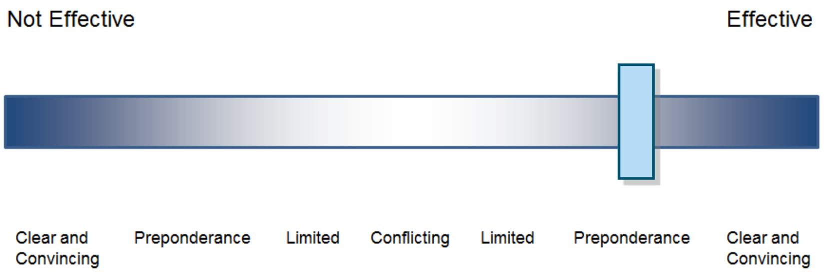
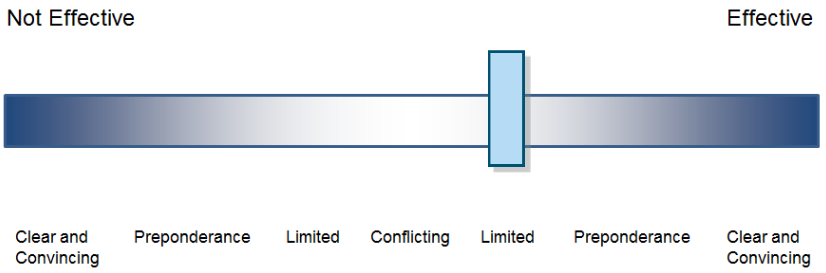


Figure 4. Effectiveness of Low Intensity Behavioral Health Therapy for ASD

Conclusion

There is *limited evidence* from two moderately strong non-randomized control studies (N = 52) that low-intensity behavioral health therapies are more effective in improving outcomes than usual care.



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[34] For more information, please see CHBRP's 2015 report on autism, which also concluded that there is a *preponderance* of evidence for the effectiveness of BHT for ASD. The report is available at http://www.chbrp.org/completed_analyses/index.php.

Figure 5. Effectiveness of Clinical Management and Case Supervision

Conclusion

Based on two studies including 658 individuals, there is *limited* evidence that the inclusion of clinical management and case supervision in BHT can improve outcomes such as intellectual ability, learning objectives, and overall treatment fidelity.

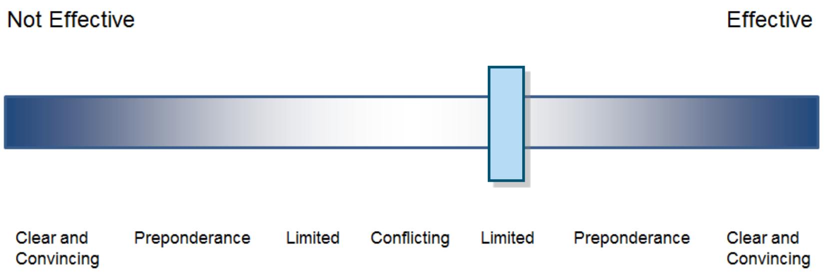


Figure 6. Impact of Frequency of Review

Conclusion

There is *insufficient evidence* to assess the impact of reviewing treatment plans no more frequently than every 6 months. CHBRP notes that the absence of evidence does not mean there is no effect; it means that the effect is unknown.

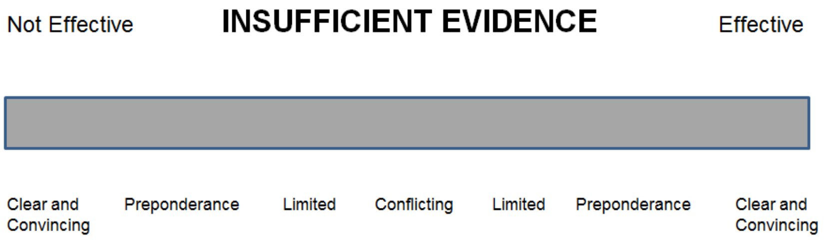


Figure 7. Impact of Provider Description Alterations

Conclusion

Based on two systematic reviews describing 41 studies of varying design quality with 2,169 participants, there is a *preponderance of evidence* that behavioral health therapies delivered by persons with training similar to QAS professionals and paraprofessionals, as well as a variety of other specialized and nonspecialist types of personnel, are effective when carried out under the training and supervision of a QAS provider.

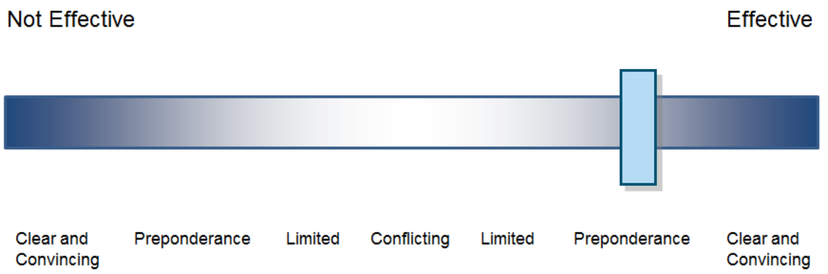


Figure 8. Impact of Parent or Caregiver Involvement

Conclusion

Parents are often trained to help generalize skills in the home and other settings; it stands to reason that parent/caregiver involvement in a child's treatment would equate to more overall BHT for the child, and thus greater improvements. Yet, there is *insufficient evidence* to evaluate the impact of prohibiting denial of BHT claims due to a lack of parental involvement.

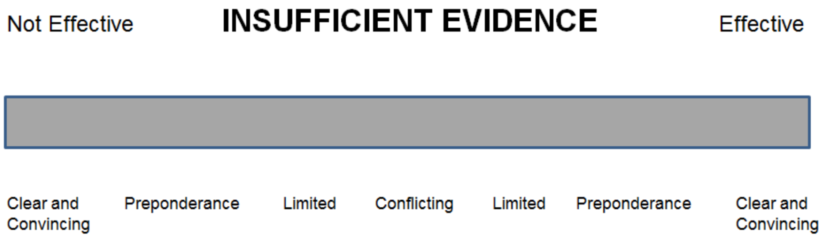
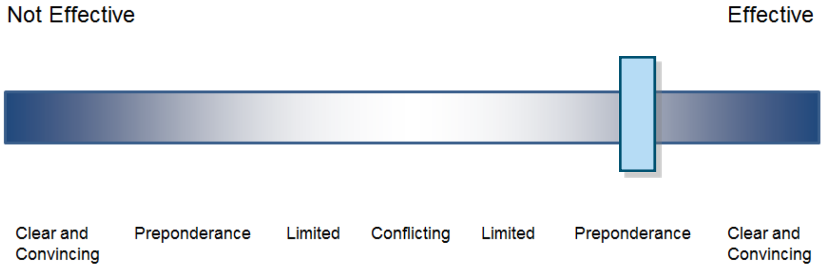


Figure 9. Effectiveness of BHT Delivery in All Settings

Conclusion

Based on the results of seven recent studies of 430 participants, there is a *preponderance of evidence* from studies with moderately strong research designs (six RCTs and one pre- and post- test design) that behavioral health treatments can be delivered effectively in multiple settings, including schools.



BENEFIT COVERAGE, UTILIZATION, AND COST IMPACTS

SB 399 would alter an existing mandate that requires DMHC-regulated health plans and CDI-regulated policies to cover behavioral health treatment (BHT) for enrollees with an autism spectrum disorder (ASD), in that it would add provisions to require clinical case management and case supervision, as well as prohibiting denial of coverage due to lack of parental involvement or treatment setting. SB 399 would also alter the technical definition of qualified providers for BHT, and limit case review for at least 6 months after the start of treatment.

Analytic Approach

This section reports the potential incremental impacts of SB 399 on estimated baseline benefit coverage, utilization, and overall cost. After consultation with content experts,[35] CHBRP developed a logic model that assumes that the potential increase in utilization would be among children with ASD under age 8 years, as this is the age range of the population that uses BHT at a high number of hours per week. CHBRP assumes that enrollees who use BHT are most often limited in their number of hours by medical necessity, and therefore neither the low-end users of BHT nor the highest users of BHT will increase their usage; the former because of lack of medical appropriateness and the latter because of having their medical needs already addressed. Any pent-up demand that would drive an increase in utilization when obtaining an increase in coverage would be concentrated among the moderate-users of BHT, under 8 years old.

As noted in the *Policy Context* section, CHBRP has assumed for this analysis that the changes SB 399 would make would be relevant to Medi-Cal beneficiaries enrolled in DMHC-regulated plans as well as enrollees in DMHC-regulated plans associated with CalPERS.

The following discussion of benefit coverage, utilization, and unit cost focuses on the health insurance of all enrollees in DMHC-regulated plans and CDI-regulated policies.

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

Baseline and Postmandate Benefit Coverage

Current benefit coverage was determined by a survey of the largest (by enrollment) providers of health insurance in California. Responses to this survey represent 66% of enrollees with private market health insurance that can be subject to state mandates. In addition, CHBRP queried the regulators and CalPERS regarding current benefit coverage.

Having considered these responses, CHBRP estimates no measurable change in benefit coverage among enrollees with health insurance that would be subject to SB 399 in regard to: 1) case management and care supervision; 2) limitation of review of treatment plans to no less than 6 months; and 3) definitions of qualified providers. Case management and care supervision are both currently included as covered aspects of BHT for ASD for all enrollees and the six month timeline for review of treatment plans appears common, so CHBRP anticipates no measurable change in related benefit coverage. Provider networks are compliant with the current mandate and though the bill's provisions could make possible change in provider networks (due to the alterations in QAS definitions), CHBRP does not anticipate measurable change within the first year of implementation.

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[35] Personal communications, D. Mandel and C Corsello, March 2017.

Currently, 33% of enrollees with health insurance that would be subject to SB 399 have coverage for BHT that does not deny coverage for BHT based on lack of parental involvement. Additionally, 45% of enrollees currently have coverage for BHT regardless of the setting for the BHT (see Table 1).

Postmandate, mandate-compliant benefit coverage would increase to 100%. All enrollees would have benefit coverage that could not be denied because of lack of parental involvement or because of setting in which BHT is provided.

Baseline and Postmandate Utilization

Using MarketScan 2015 data for prevalence of ASD in the insured population and utilization of BHT among enrollees with ASD, CHBRP estimates that 14,000 enrollees with ASD in DMHC-regulated plans and CDI-regulated policies have health insurance that would be subject to SB 399 and currently use BHT (see Table 1). Postmandate, CHBRP assumes the number of enrollees with ASD using BHT will not increase, because the use of this type of treatment overall is based on clinical diagnosis and determination that BHT is medically necessary.[36]

Currently, the average annual number of hours of BHT per 1,000 enrollees with ASD is 85.07 hours (see Table 1). CHBRP projects that the average annual number of hours of BHT per 1,000 enrollees will increase with the change in coverage for BHT that lifts two previous restrictions (denial based on lack of parental involvement and restrictions on setting for BHT). Because BHT is most commonly used by children with ASD who are under 8 years old, CHBRP projects that the increase in average annual number of hours of BHT will derive from an increase in the moderate users of BHT in that age range, after consultation with the content experts.[37] Each provision will separately increase the overall usage hours of BHT among enrollees with ASD under 8 years old by 3%. Combined, this will average out to an overall 6% increase, raising the overall average annual number of hours of BHT per 1,000 enrollees with ASD to 86.6 hours (see Table 1).

Note that this estimate of average utilization spreads the impact over all enrollees with ASD for purposes of estimating the societal impact in this report. However, the increase in utilization will be actually concentrated among enrollees with ASD under age 8 years old in DMHC-regulated plans or CDI-regulated policies who did not previously have mandate-compliant coverage prior to SB 399.

Baseline and Postmandate Per-Unit Cost

CHBRP estimates that the current average per hour cost of BHT ASD is $98, a figure derived from the MarketScan 2015 data trended forward to 2018 dollars. For this analysis, CHBRP assumed that Medi-Cal per-unit costs, which would primarily be paid through DMHC-regulated plans, is the same as private market DMHC-regulated plans. Postmandate, CHBRP estimates that this per-unit cost will remain constant, because the projected increase in utilization is not enough to cause a change in unit cost prices.

Baseline and Postmandate Expenditures

Table 2 and Table 3 present baseline and postmandate expenditures by market segment for DMHC-regulated plans and CDI-regulated policies. The tables present per member per month (PMPM)

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[36] Personal communications, D. Mandell and C. Corsello. March 2017

[37] Personal communications, D. Mandell and C. Corsello. March 2017

premiums, enrollee expenses for both covered and noncovered benefits, and total expenditures (premiums as well as enrollee expenses).

SB 399 would increase total net annual expenditures by $4,684,000 (0.0032%) for enrollees with DMHC-regulated plans and CDI-regulated policies. This is due to a $4,302,000 increase in total health insurance premiums paid by employers and enrollees for newly covered benefits, adjusted by an increase of $382,000 in enrollee expenses for covered benefits.

Premiums

Changes in premiums as a result of SB 399 would vary by market segment. Note that such changes are related to the number of enrollees (see Table 1, Table 2, and Table 3), with health insurance that would be subject to SB 399. Increases in private insurance premiums range from a high of $0.02 PMPM among DMHC-regulated large-group plans to a low of $0.0013 among CDI-regulated large-group policies.

In addition to the expected $1,007,000 increase in premiums CHBRP is estimating for the 7.8 million Medi-Cal beneficiaries enrolled in DMHC-regulated plans, it seems reasonable to assume that a proportional increase of $194,000 would occur for the 1.5 million beneficiaries enrolled in COHS managed care. CHBRP assumes the two populations to be relatively similar and to have relatively similar benefit coverage. In addition, it seems likely that there would also be some additional increase for the 1.5 million Medi-Cal beneficiaries associated with the FFS program. However, the similarity of this population with the group enrolled in DMHC-regulated plans is unknown and their benefit coverage may differ, so the exact amount of such an increase is unknown.

Enrollee Expenses

SB 399–related changes in enrollee expenses for covered benefits (deductibles, copays, etc.) would vary by market segment. Note that such changes are related to the number of enrollees (see Table 1, Table 2, and Table 3), with health insurance that would be subject to SB 399 who are expected to increase their use of BHT during the year after enactment. Enrollee expenses for covered benefits are expected to increase by a high of $0.0031 PMPM among CDI-regulated small-group policies. At the low end, CHBRP estimates that enrollee expenses for covered benefits will increase by $0.0002 among CDI-regulated large-group policies.

Among publicly funded DMHC-regulated health plans, there would be no impact on enrollee expenses in Medi-Cal plans. CalPERS enrollees are estimated to see an increase in enrollee expenses of $0.0011 PMPM.

Although enrollees with newly compliant benefit coverage may have paid for some treatments prior to enactment of SB 399, CHBRP cannot estimate the frequency with which such situations may have occurred and so cannot estimate the total expense such situations might have incurred. Postmandate, such expenses would be gone, though enrollees with newly compliant benefit coverage might, postmandate, pay for some treatments for which coverage is denied. Again, CHBRP cannot estimate the frequency with which such situations might occur, and or the total expense such situations might incur.

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

CHBRP did not find any cost offsets or savings in health care that would result because of the enactment of provisions in SB 399. However, the research literature indicates that children with ASD who undergo BHT in a school setting benefit in other ways, including increased standardized test scores and improvement of communication skills (Atkins et al., 2010; Grindle et al., 2012; Radley et al., 2014). These issues will be discussed more fully in the *Long-Term Impacts* section.

Postmandate Administrative Expenses and Other Expenses

CHBRP estimates that the increase in administrative costs of DMHC-regulated plans and/or CDI-regulated policies will remain proportional to the increase in premiums. CHBRP assumes that if health care costs increase as a result of increased utilization or changes in unit costs, there is a corresponding proportional increase in administrative costs. CHBRP assumes that the administrative cost portion of premiums is unchanged. All health plans and insurers include a component for administration and profit in their premiums.

Other Considerations for Policymakers

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

Postmandate Changes in the Number of Uninsured Persons[38]

As the change in average premiums does not exceed 1% for any market segment (see Table 2), CHBRP would expect no measurable change in the number of uninsured persons due to the enactment of SB 399.

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 SB 399. Additionally, the research literature has shown that enrollees with ASD in publicly funded programs are significantly less likely to have out-of-pocket costs, and more likely to have benefit coverage that meets their child's needs (Zhang and Baranek, 2016). These factors will remain in place, and make any movement of children with ASD from public to private coverage unlikely.

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

CHBRP estimates that the current lack of these specific provisions of benefit coverage under the existing BHT mandate for enrollees with ASD does not result in any measureable cost shifting to other payers.

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[38] See also CHBRP's *Criteria and Methods for Estimating the Impact of Mandates on the Number of Uninsured*, available at www.chbrp.org/analysis_methodology/cost_impact_analysis.php.

Table 2. Baseline Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2018

	DMHC-Regulated						**CDI-Regulated**			
	Privately Funded Plans (by Market) (a)			**Publicly Funded Plans**			**Privately Funded Plans (by Market) (a)**			
	Large Group	*Small Group*	*Individual*	*CalPERS HMOs (b)*	*MCMC (Under 65) (c)*	*MCMC (65+) (c))*	*Large Group*	*Small Group*	*Individual*	**Total**
Enrollee counts										
Total enrollees in plans/policies subject to state mandates (d)	9,128,000	3,163,000	2,379,000	884,000	7,192,000	644,000	276,000	145,000	237,000	24,048,000
Total enrollees in plans/policies subject to SB 399	9,128,000	3,163,000	2,379,000	0	0	0	276,000	145,000	237,000	15,328,000
Premiums										
Average portion of premium paid by employer	$456.42	$324.76	$0.00	$460.43	$257.00	$751.00	$527.06	$433.40	$0.00	$97,688,732,000
Average portion of premium paid by employee	$115.59	$149.62	$469.56	$115.11	$0.00	$0.00	$166.32	$157.88	$423.05	$34,995,304,000
Total premium	**$572.01**	**$474.38**	**$469.56**	**$575.54**	**$257.00**	**$751.00**	**$693.38**	**$591.28**	**$423.05**	**$132,684,037,000**
Enrollee expenses										
for covered benefits (deductibles, copays, etc.)	$44.11	$103.11	$126.07	$31.49	$0.00	$0.00	$115.39	$166.25	$75.74	$13,565,623,000
Enrollee expenses for noncovered benefits (e)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0
Total expenditures	**$616.12**	**$577.49**	**$595.64**	**$607.03**	**$257.00**	**$751.00**	**$808.77**	**$757.53**	**$498.79**	**$146,249,660,000**

Source: California Health Benefits Review Program, 2017.

Notes: (a) Includes enrollees with grandfathered and nongrandfathered health insurance, both on Covered California and outside the health insurance marketplace.

(b) As of June 1, 2016, 57% of CalPERS members were state retirees, state employees, or their dependents. CHBRP assumes the same ratio for 2018.

(c) Medi-Cal Managed Care Plan expenditures for members over 65 include those who are also Medicare beneficiaries. This population does not include enrollees in COHS.

(d) This population includes both persons who obtain health insurance using private funds (group and individual) and through public funds (e.g., CalPERS HMOs, Medi-Cal Managed Care Plans). Only those enrolled in health plans or policies regulated by the DMHC or CDI are included. Population includes all enrollees in state-regulated plans or policies aged 0 to 64 years, and enrollees 65 years or older covered by employer-sponsored health insurance.

(e) Includes only those expenses that are paid directly by enrollees or other sources to providers for services related to the mandated benefit that are not currently covered by insurance. This only includes those expenses that will be newly covered, postmandate. Other components of expenditures in this table include all health care services covered by insurance.

Key: CalPERS HMOs = California Public Employees' Retirement System Health Maintenance Organizations; CDI = California Department of Insurance; COHS = County Organized Health Systems; DMHC = Department of Managed Health Care; MCMC = Medi-Cal Managed Care.

Table 3. Postmandate Per Member Per Month Premiums and Total Expenditures by Market Segment, California, 2018

	DMHC-Regulated						CDI-Regulated			
	Privately Funded Plans (by Market) (a)			**Publicly Funded Plans**			**Privately Funded Plans (by Market) (a)**			
	Large Group	*Small Group*	*Individual*	*CalPERS HMOs (b)*	*MCMC (Under 65) (c)*	*MCMC (65+) (c)*	*Large Group*	*Small Group*	*Individual*	**Total**
Enrollee counts										
Total enrollees in plans/policies subject to state mandates (d)	9,128,000	3,163,000	2,379,000	884,000	7,192,000	644,000	276,000	145,000	237,000	24,048,000
Total enrollees in plans/policies subject to SB 399	9,128,000	3,163,000	2,379,000	884,000	7,192,000	644,000	276,000	145,000	237,000	24,048,000
Premiums										
Average portion of premium paid by employer	$0.0160	$0.0098	$0.0000	$0.0157	$0.0117	$0.0000	$0.0010	$0.0080	$0.0000	$3,316,000
Average portion of premium paid by employee	$0.0041	$0.0045	$0.0111	$0.0039	$0.0000	$0.0000	$0.0003	$0.0029	$0.0022	$985,000
Total premium	$0.0200	$0.0144	$0.0111	$0.0196	$0.0117	$0.0000	$0.0013	$0.0110	$0.0022	$4,302,000
Enrollee expenses										
for covered benefits (deductibles, copays, etc.)	$0.0015	$0.0030	$0.0029	$0.0011	$0.0000	$0.0000	$0.0002	$0.0031	$0.0008	$383,000
for noncovered benefits (e)	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0
Total expenditures	$0.0216	$0.0174	$0.0140	$0.0207	$0.0117	$0.0000	$0.0015	$0.0140	$0.0030	$4,684,000
Percent change										
Premiums	0.0035%	0.0030%	0.0024%	0.0034%	0.0045%	0.0000%	0.0002%	0.0019%	0.0005%	0.0032%
Total expenditures	0.0035%	0.0030%	0.0023%	0.0034%	0.0045%	0.0000%	0.0002%	0.0019%	0.0006%	0.0032%

Source: California Health Benefits Review Program, 2017.

Notes: (a) Includes enrollees with grandfathered and nongrandfathered health insurance, inside and outside the exchange.

(b) As of June 1, 2016, 58.82% of CalPERS members were state retirees, state employees, or their dependents. CHBRP assumes the same ratio for 2018.

(c) Medi-Cal Managed Care Plan expenditures for members over 65 include those who are also Medicare beneficiaries. This population does not include enrollees in COHS.

(d) This population includes both persons who obtain health insurance using private funds (group and individual) and through public funds (e.g., CalPERS HMOs, Medi-Cal Managed Care Plans). Only those enrolled in health plans or policies regulated by the DMHC or CDI are included. Population includes all enrollees in state-regulated plans or policies aged 0 to 64 years, and enrollees 65 years or older covered by employer-sponsored health insurance.

(e) Includes only those expenses that are paid directly by enrollees or other sources to providers for services related to the mandated benefit that are not currently covered by insurance. This only includes those expenses that will be newly covered, postmandate. Other components of expenditures in this table include all health care services covered by insurance.

Key: CalPERS HMOs = California Public Employees' Retirement System Health Maintenance Organizations; CDI = California Department of Insurance; COHS = County Organized Health Systems; DMHC = Department of Managed Health Care; MCMC = Medi-Cal Managed Care.

PUBLIC HEALTH IMPACTS

Autism spectrum disorder (ASD) is a developmental disability for which there is no known cure. Behavioral health treatments (BHT) for ASD focus on ameliorating a variety of symptoms common across the spectrum such as limited communication (verbal skills, eye contact, etc.), repetitive motions, and/or acute sensory sensitivity. This section estimates the impact that two of five provisions in SB 399 have on BHT outcomes, racial/ethnic disparities, and financial burden for (families of) children with ASD.

As discussed in the *Benefit Coverage, Utilization, and Cost Impacts* section, CHBRP projects no measurable change in utilization of BHT attributable three of the five provisions in SB 399 based on responses to CHBRP's SB 399 carrier survey, which indicated that plans and policies subject to the mandate are already compliant with the following provisions:

- Coverage for qualified autism service (QAS) providers, professionals and paraprofessionals, which includes persons who have specified levels of education and experience;
- A prohibition of treatment plan review by plans and insurers more than every 6 months (barring a recommendation from a QAS provider); and
- Coverage for clinical case management and case supervision.

However, not all carriers are compliant currently with the two remaining SB 399 requirements:

- Coverage of BHT in any setting, location, or time; or
- Coverage of BHT regardless of parental involvement in the delivery of behavioral health treatment for ASD.

Estimated Public Health Outcomes

As presented in the *Medical Effectiveness* section, there is convincing evidence that BHT improves cognitive functioning, language, social functioning, and adaptive behaviors. Regarding the effectiveness of parental involvement in delivering BHT, evidence shows that parental involvement is associated with greater improvements in functioning as compared with treatment provided solely by a professional. However, treatment provided solely by trained professionals is effective in producing favorable outcomes when compared with no treatment. Additionally, there is a preponderance of evidence from studies with moderately strong research designs that behavioral health treatments can be delivered effectively in any setting or location.

As presented in the *Benefit Coverage, Utilization, and Cost Impacts* section, CHBRP estimates that 33% of enrollees have baseline coverage permitting any level of parent participation in BHT and 45% have coverage for BHT in any setting/location/time, which are the only two provisions of SB 399 that would produce a quantifiable impact. CHBRP projects no new users of BHT, but estimates both of these provisions would result in a marginal average increase of 7.8 BHT hours per year per BHT user (Table 1).

CHBRP projects that the 14,000 enrollees with ASD who already use BHT would increase their utilization by an *average* of 7.8 hours per year per user in 2018. Based on the evidence, CHBRP finds that such an increase would not likely have a public health impact in the first year, postmandate. However, the increase in BHT hours may improve BHT outcomes such as intelligence quotient (IQ), language skills, socialization, and adaptive behaviors on an individual basis for some persons with ASD.

Estimated Impacts on Disparities in Children with ASD

In the case of SB 399, evidence shows that ASD occurs disproportionately among California males and Whites and Hispanics (see *Background*). In addition, children from low-income, less educated, and rural families are less likely to receive behavioral health treatment than their higher income, better educated and urban family counterparts. Racial/ethnic disparities regarding perceptions of adequate provider time have been identified with parents of Latino and Black children with ASD more likely than White parents to report inadequate provider time with their children. CHBRP identified no literature reporting disparities by BHT setting/location or parental involvement in BHT for children with ASD.

Evidence presented in the *Background* section suggests differences in the prevalence of autism spectrum disorder (ASD) by gender and race/ethnicity as well as differences in utilization of BHT by income, educational attainment, insurance status, and geographic proximity to urban areas with higher concentrations of qualified autism service providers.

Although individual children with ASD would receive more BHT hours due to the removal of restrictions on settings and parental involvement, CHBRP estimates that SB 399 would have no impact on reducing *statewide* disparities with respect to access to BHT and ASD outcomes due to the marginal increase in new hours of BHT services for existing users.

Estimated Impact on Financial Burden

When possible, CHBRP estimates the marginal impact of mandates on financial burden, defined as *uncovered medical expenses* paid by the enrollee as well as *out-of-pocket expenses* (e.g., deductibles, copayments, and coinsurance). CHBRP assumes that enrollees with ASD would not have engaged in extra hours of BHT due to high out-of-pocket *uncovered costs* ($98 per hour of BHT on average). It is possible that some families with greater financial resources may have paid for additional hours of uncovered BHT, to supplement treatments already covered; however, CHBRP found no literature estimating the number of uncovered hours a child with ASD may receive. Thus, there are no uncovered expenses for maintenance behavioral health treatment for ASD pre- or postmandate (Table 1).

In addition to the insurance-related financial burden, CHBRP also found dated information about lost productivity for parents of children with ASD. A literature review conducted by Amaral et al. (2011) reported in lost productivity of caregivers. The authors note the dearth of literature on economic loss associated with ASD, but do provide some data. According to the 2005–2006 National Survey of Children with Special Health Care Needs, 57% of U.S. families of children with ASD reported a family member quitting work because of their child's condition. The authors also reported an estimated reduction of $6,000 per year in lost wages (2003 dollars) (Amaral et al., 2011). Another study using more recent data from the same survey (2009–2010) reported that parents of children with ASD were more likely to stop working than parents of children with asthma (37.6% and 12.1%, respectively) (Leslie et al., 2017).

Due to the elimination of limitations on BHT settings/locations and parent participation requirements, CHBRP estimates that, in the first year postmandate, SB 399 would increase enrollee out-of-pocket costs by $382,000 (i.e., deductibles and copays) for up to 14,000 enrollees with ASD who would receive more hours of BHT (Table 1).

The impact of SB 399 on lost productivity of parents is unknown due to a lack of evidence concerning BHT hourly demands or other criteria for parental participation.

LONG-TERM IMPACTS

In this section, CHBRP estimates the long-term impact[39] of SB 399, 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

After the small increase in utilization in the first 12 months, there is no indication in the research literature that the trends will change much over time. Therefore, CHBRP does not estimate any change in long-term impacts in utilization, because the rate of enrollees with ASD using BHT will also remain generally consistent over time.

Cost Impacts

Over the long term, the first-year cost increase findings would apply annually thereafter. However, the research literature has shown that BHT in children with autism improves their overall health and functioning over time, including gains made for adolescents (Storch et al., 2013, 2015). Therefore, it is likely that gains in BHT in younger children with ASD will result in overall lower health care costs over their lifetimes, although this cannot be quantified.

Long-Term Public Health Impacts

Because more BHT is generally associated with better outcomes, it stands to reason that long-term outcomes of cognitive functioning, language, social functioning, and adaptive behaviors may be improved, on an individual basis, for those enrollees who make use of additional BHT hours due to the removal of alternative setting and parent participation barriers; however, CHBRP projects no overall public health impact in the long term due to the marginal increase of 7.8 hours of BHT per user per year.

Social Determinants of Health and Disparities

Per statute, CHBRP includes a discussion of disparities and social determinants of health (SDoH), when relevant. In the case of SB 399, evidence shows that ASD occurs disproportionately among California males and Whites and Hispanics. Additionally, children living in rural and low-income areas experience greater barriers in access to behavioral health treatment for autism.

CHBRP estimates no long-term impact on reducing statewide disparities or potential social determinants of health on access to BHT or ASD outcomes due to the marginal increase of 7.8 hours of BHT services per year spread across existing users.

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[39] 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.

Economic Loss

The lifetime per capita cost of supporting a person with ASD in the United States was estimated by Buescher et al. (2014) at $2.4 million for persons with ASD and an intellectual disability, and $1.4 million for individuals with ASD and no intellectual disability. Nonmedical services, including special education and behavioral therapies comprised approximately 25% of the cost, or approximately $350,000 to $600,000 depending on level of intellectual impairment (Buescher et al., 2014). Other studies estimated the average lifetime public expenditure for a person with ASD as exceeding $3.2 to $4.7 million (Ganz, 2007; Newschaffer et al., 2007).

A handful of studies about direct medical costs associated with ASD indicate that families experience expenses greater than those without ASD. Shimabukuro et al. reported that privately insured children with ASD had average medical expenditures $4,000 to $6,000 greater, or 8.4 to 9.5 times greater, than those without ASD; however, the claims data analyzed only included covered medical claims, therefore, behavioral intervention therapies were most likely excluded from the findings (Shimabukuro et al., 2008). Amaral et al. (2011) conducted a literature review of economic loss associated with ASD, in which they noted the dearth of contemporary data, especially around lost productivity; however, they did report nonmedical costs for intensive BHT for children with ASD ranging $40,000 to $60,000 per child per year (based on studies between 1998 and 2007) and one estimate of annual (parental) productivity loss of $7,400 per child (based on one 2006 study in the U.S).

Although SB 399 would remove barriers to BHT care associated with alternative settings and parental participation, CHBRP estimates no impact on economic loss in California due to the marginal increase in new hours of BHT spread across existing users. However, on an individual basis, some families could experience increased work productivity if these barriers had reduced their ability to work premandate.

APPENDIX A TEXT OF BILL ANALYZED

On March 8, 2017, the California Senate Committee on Health requested that CHBRP analyze SB 399

CALIFORNIA LEGISLATURE— 2017–2018 REGULAR SESSION

SENATE BILL **No. 399**

Introduced by Senator Portantino

February 15, 2017

An act to amend Section 1374.73 of the Health and Safety Code, and to amend Section 10144.51 of the Insurance Code, relating to health care coverage.

LEGISLATIVE COUNSEL'S DIGEST

SB 399, as introduced, Portantino. Health care coverage: pervasive developmental disorder or autism.

Existing law, the Lanterman Developmental Disabilities Services Act, requires the State Department of Developmental Services to contract with regional centers to provide services and supports to individuals with developmental disabilities and their families. Existing law defines developmental disability for these purposes, to include, among other things, autism.

Existing law, the Knox-Keene Health Care Service Plan Act of 1975, provides for the licensure and regulation of health care service plans by the Department of Managed Health Care and makes a willful violation of the act a crime. Existing law also provides for the regulation of health insurers by the Department of Insurance. Existing law requires a health care service plan contract or a health insurance policy to provide coverage for behavioral health treatment for pervasive developmental disorder or autism, and defines “behavioral health treatment” to mean specified services provided by, among others, a qualified autism service professional supervised and employed by a qualified autism service provider. For purposes of this provision, existing law defines a “qualified autism service professional” to mean a person who, among other requirements, is a behavioral service provider approved as a vendor by a California regional center to provide services as an associate behavior analyst, behavior analyst, behavior management assistant, behavior management consultant, or behavior management program pursuant to specified regulations adopted under the Lanterman Developmental Disabilities Services Act.

This bill, among other things, would instead define a “qualified autism service professional” to mean a person who, among other requirements, is a behavioral service provider who meets the State Department of Developmental Services’ education and experience qualifications to be approved as a vendor by a California regional center to provide behavior intervention services or as an adaptive skills trainer, associate behavior analyst, behavior analyst, behavior management assistant, behavior management consultant, or behavior management program if the services are within the experience and competence of the professional.

This bill would require that the treatment plan be reviewed, as specified. The bill would specify that health care service plans and health insurers are not required to provide reimbursement for services delivered by school personnel pursuant to an enrollee's individualized educational program unless otherwise required by law, that lack of parent or caregiver participation not be used to deny or reduce medically necessary behavioral health treatment, and that the setting, location, or time of treatment not be used as a reason to deny medically necessary behavioral health treatment. Because a willful violation of the bill's provisions by a health care service plan would be a crime, it would impose a state-mandated local program.

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

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

DIGEST KEY

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

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BILL TEXT

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

SECTION 1.

The Legislature finds and declares all of the following:

(a) Autism and other pervasive developmental disorders are complex neurobehavioral disorders that include impairments in social communication and social interaction combined with rigid, repetitive behaviors, interests, and activities.

(b) Autism covers a large spectrum of symptoms and levels of impairment ranging in severity from somewhat limiting to a severe disability that may require institutional care.

(c) One in 68 children born today will be diagnosed with autism or another pervasive developmental disorder.

(d) Research has demonstrated that children diagnosed with autism can often be helped with early administration of behavioral health treatment.

(e) There are several forms of evidence-based behavioral health treatment, including, but not limited to, applied behavioral analysis.

(f) Children diagnosed with autism respond differently to behavioral health treatment.

(g) It is critical that each child diagnosed with autism receives the specific type of evidence-based behavioral health treatment best suited to him or her, as prescribed by his or her physician or developed by a psychologist.

(h) The Legislature intends that evidence-based behavioral health treatment be covered by health care service plans, pursuant to Section 1374.73 of the Health and Safety Code, and health insurance policies, pursuant to Section 10144.51 of the Insurance Code.

(i) The Legislature intends that health care service plan provider networks include qualified professionals practicing all forms of evidence-based behavioral health.

SEC. 2.

Section 1374.73 of the Health and Safety Code is amended to read:

1374.73.

(a) (1) Every health care service plan contract that provides hospital, medical, or surgical coverage shall also provide coverage for behavioral health treatment for pervasive developmental disorder or autism no later than July 1, 2012. The coverage shall be provided in the same manner and shall be subject to the same requirements as provided in Section 1374.72.

(2) Notwithstanding paragraph (1), as of the date that proposed final rulemaking for essential health benefits is issued, this section does not require any benefits to be provided that exceed the essential health benefits that all health plans will be required by federal regulations to provide under Section 1302(b) of the federal Patient Protection and Affordable Care Act (Public Law 111-148), as amended by the federal Health Care and Education Reconciliation Act of 2010 (Public Law 111-152).

(3) This section shall not affect services for which an individual is eligible pursuant to Division 4.5 (commencing with Section 4500) of the Welfare and Institutions Code or Title 14 (commencing with Section 95000) of the Government Code.

(4) This section shall not affect or reduce any obligation to provide services under an individualized education program, as defined in Section 56032 of the Education Code, or an individual service plan, as described in Section 5600.4 of the Welfare and Institutions Code, or under the federal Individuals with Disabilities Education Act (20 U.S.C. Sec. 1400 et seq.) and its implementing regulations.

(5) This section shall not be construed to require a health care service plan to provide reimbursement for services delivered by school personnel pursuant to an enrollee's individualized educational program unless otherwise required by law.

(b) Every health care service plan subject to this section shall maintain an adequate network that includes qualified autism service providers who supervise and employ qualified autism service professionals or paraprofessionals who provide and administer behavioral health treatment. Nothing shall prevent a health care service plan from selectively contracting with providers within these requirements.

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

(1) "Behavioral health treatment" means professional services and treatment programs, including applied behavior analysis and evidence-based behavior intervention programs, that develop or restore, to the maximum extent practicable, the functioning of an individual with pervasive developmental disorder or autism and that meet all of the following criteria:

(A) The treatment is prescribed by a physician and surgeon licensed pursuant to Chapter 5 (commencing with Section 2000) of, or is developed by a psychologist licensed pursuant to Chapter 6.6 (commencing with Section 2900) of, Division 2 of the Business and Professions Code.

(B) The treatment is provided under a treatment plan prescribed by a qualified autism service provider and is administered by one of the following:

(i) A qualified autism service provider.

(ii) A qualified autism service professional supervised and employed by the qualified autism service provider.

(iii) A qualified autism service paraprofessional supervised and employed by a qualified autism service provider.

(C) The treatment plan has measurable goals over a specific timeline that is developed and approved by the qualified autism service provider for the specific patient being treated. The treatment plan shall be reviewed no ~~less~~ *more* than once every six months *or less than once every*

12 months by the qualified autism service ~~provider~~ *provider, unless a shorter period is recommended by the qualified autism service provider,* and modified whenever appropriate, and shall be consistent with Section 4686.2 of the Welfare and Institutions Code pursuant to which the qualified autism service provider does all of the following:

(i) Describes the patient's behavioral health impairments or developmental challenges that are to be treated.

(ii) Designs an intervention plan that includes the service type, number of hours, and parent participation needed to achieve the plan's goal and objectives, and the frequency at which the patient's progress is evaluated and reported. *Lack of parent or caregiver participation shall not be used to deny or reduce medically necessary behavioral health treatment.*

(iii) Provides intervention plans that utilize evidence-based practices, with demonstrated clinical efficacy in treating pervasive developmental disorder or autism.

(iv) Discontinues intensive behavioral intervention services when the treatment goals and objectives are achieved or no longer appropriate.

(v) Makes the treatment plan available to the health care service plan upon request.

(D) The treatment plan is not used for purposes of providing or for the reimbursement of respite, day care, or educational services and is not used to reimburse a parent for participating in the treatment program. ~~The treatment plan shall be made available to the health care service plan upon request.~~

(E) The setting, location, or time of treatment shall not be used as a reason to deny treatment.

(2) "Pervasive developmental disorder or autism" shall have the same meaning and interpretation as used in Section 1374.72.

(3) "Qualified autism service provider" means either of the following:

(A) A person, entity, or group that is certified by a national entity, such as the Behavior Analyst Certification Board, that is accredited by the National Commission for Certifying Agencies, and who designs, supervises, or provides treatment for pervasive developmental disorder or autism, provided the services are within the experience and competence of the person, entity, or group that is nationally certified.

(B) A person licensed as a physician and surgeon, physical therapist, occupational therapist, psychologist, marriage and family therapist, educational psychologist, clinical social worker, professional clinical counselor, speech-language pathologist, or audiologist pursuant to Division 2 (commencing with Section 500) of the Business and Professions Code, who designs, supervises, or provides treatment for pervasive developmental disorder or autism, provided the services are within the experience and competence of the licensee.

(4) "Qualified autism service professional" means an individual who meets all of the following criteria:

(A) Provides behavioral health ~~treatment.~~ *treatment, which may include clinical management and case supervision under the direction and supervision of a qualified autism service provider.*

(B) Is employed and supervised by a qualified autism service provider.

(C) Provides treatment pursuant to a treatment plan developed and approved by the qualified autism service provider.

~~(D)Is a behavioral service provider approved as a vendor by a California regional center to provide services as an Associate Behavior Analyst, Behavior Analyst, Behavior Management Assistant, Behavior Management Consultant, or Behavior Management Program as defined in Section 54342 of Article 3 of Subchapter 2 of Chapter 3 of Division 2 of Title 17 of the California Code of Regulations.~~

(D) Is a behavioral service provider who meets the State Department of Developmental Services' education and experience qualifications to be approved as a vendor by a California regional center to provide behavior intervention services, including, but not limited to, interdisciplinary assessment services, client/parent support behavior intervention training, socialization training program, individual family training, or as an adaptive skills trainer, associate behavior analyst, behavior analyst, behavior management assistant, behavior management consultant, or behavior management program if the services are within the experience and competence of the professional.

(E) Has training and experience in providing services for pervasive developmental disorder or ~~autism pursuant to Division 4.5 (commencing with Section 4500) of the Welfare and Institutions Code or Title 14 (commencing with Section 95000) of the Government Code.~~ *autism.*

(5) "Qualified autism service paraprofessional" means an unlicensed and uncertified individual who meets all of the following criteria:

(A) Is~~ employed and~~ supervised by *a person, entity, or group that is* a qualified autism service ~~provider.~~ *provider or qualified autism service professional.*

(B) Provides treatment and implements services pursuant to a treatment plan developed and approved by the qualified autism service provider.

(C) Meets the criteria set forth in the regulations adopted pursuant to Section 4686.3 of the Welfare and Institutions~~ Code.~~ *Code or has adequate education, training, and experience, as certified by a qualified autism service provider.*

~~(D)Has adequate education, training, and experience, as certified by a qualified autism service provider.~~

(d) This section shall not apply to the following:

(1) A specialized health care service plan that does not deliver mental health or behavioral health services to enrollees.

(2) A health care service plan contract in the Medi-Cal program (Chapter 7 (commencing with Section 14000) of Part 3 of Division 9 of the Welfare and Institutions Code).

(3) A health care service plan contract in the Healthy Families Program (Part 6.2 (commencing with Section 12693) of Division 2 of the Insurance Code).

(4) A health care benefit plan or contract entered into with the Board of Administration of the Public Employees' Retirement System pursuant to the Public Employees' Medical and Hospital Care Act (Part 5 (commencing with Section 22750) of Division 5 of Title 2 of the Government Code).

(e) Nothing in this section shall be construed to limit the obligation to provide services under Section 1374.72.

(f) As provided in Section 1374.72 and in paragraph (1) of subdivision (a), in the provision of benefits required by this section, a health care service plan may utilize case management, network providers, utilization review techniques, prior authorization, copayments, or other cost sharing.

SEC. 3.

Section 10144.51 of the Insurance Code is amended to read:

10144.51.

(a) (1) Every health insurance policy shall also provide coverage for behavioral health treatment for pervasive developmental disorder or autism no later than July 1, 2012. The coverage shall be provided in the same manner and shall be subject to the same requirements as provided in Section 10144.5.

(2) Notwithstanding paragraph (1), as of the date that proposed final rulemaking for essential health benefits is issued, this section does not require any benefits to be provided that exceed the essential health benefits that all health insurers will be required by federal regulations to provide under Section 1302(b) of the federal Patient Protection and Affordable Care Act (Public Law 111-148), as amended by the federal Health Care and Education Reconciliation Act of 2010 (Public Law 111-152).

(3) This section shall not affect services for which an individual is eligible pursuant to Division 4.5 (commencing with Section 4500) of the Welfare and Institutions Code or Title 14 (commencing with Section 95000) of the Government Code.

(4) This section shall not affect or reduce any obligation to provide services under an individualized education program, as defined in Section 56032 of the Education Code, or an individual service plan, as described in Section 5600.4 of the Welfare and Institutions Code, or under the federal Individuals with Disabilities Education Act (20 U.S.C. Sec. 1400 et seq.) and its implementing regulations.

(5) This section shall not be construed to require a health insurer to provide reimbursement for services delivered by school personnel pursuant to an enrollee's individualized educational program unless otherwise required by law.

(b) Pursuant to Article 6 (commencing with Section 2240) of Subchapter 2 of Chapter 5 of Title 10 of the California Code of Regulations, every health insurer subject to this section shall maintain an adequate network that includes qualified autism service providers who supervise and employ qualified autism service professionals or paraprofessionals who provide and administer behavioral health treatment. Nothing shall prevent a health insurer from selectively contracting with providers within these requirements.

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

(1) "Behavioral health treatment" means professional services and treatment programs, including applied behavior analysis and evidence-based behavior intervention programs, that develop or restore, to the maximum extent practicable, the functioning of an individual with pervasive developmental disorder or autism, and that meet all of the following criteria:

(A) The treatment is prescribed by a physician and surgeon licensed pursuant to Chapter 5 (commencing with Section 2000) of, or is developed by a psychologist licensed pursuant to Chapter 6.6 (commencing with Section 2900) of, Division 2 of the Business and Professions Code.

(B) The treatment is provided under a treatment plan prescribed by a qualified autism service provider and is administered by one of the following:

(i) A qualified autism service provider.

(ii) A qualified autism service professional supervised and employed by the qualified autism service provider.

(iii) A qualified autism service paraprofessional supervised and employed by a qualified autism service provider.

(C) The treatment plan has measurable goals over a specific timeline that is developed and approved by the qualified autism service provider for the specific patient being treated. The treatment plan shall be reviewed no ~~less~~ *more* than once every six months *or less than once every 12 months* by the qualified autism service ~~provider~~ *provider, unless a shorter period is recommended by the qualified autism service provider,* and modified whenever appropriate, and shall be consistent with Section 4686.2 of the Welfare and Institutions Code pursuant to which the qualified autism service provider does all of the following:

(i) Describes the patient's behavioral health impairments or developmental challenges that are to be treated.

(ii) Designs an intervention plan that includes the service type, number of hours, and parent participation needed to achieve the plan's goal and objectives, and the frequency at which the patient's progress is evaluated and reported. *Lack of parent or caregiver participation shall not be used to deny or reduce medically necessary behavioral health treatment.*

(iii) Provides intervention plans that utilize evidence-based practices, with demonstrated clinical efficacy in treating pervasive developmental disorder or autism.

(iv) Discontinues intensive behavioral intervention services when the treatment goals and objectives are achieved or no longer appropriate.

(v) Makes the treatment plan available to the health insurer upon request.

(D) The treatment plan is not used for purposes of providing or for the reimbursement of respite, day care, or educational services and is not used to reimburse a parent for participating in the treatment program. ~~The treatment plan shall be made available to the insurer upon request.~~

(E) The setting, location, or time of treatment shall not be used as a reason to deny medically necessary behavioral health treatment.

(2) "Pervasive developmental disorder or autism" shall have the same meaning and interpretation as used in Section 10144.5.

(3) "Qualified autism service provider" means either of the following:

(A) A person, entity, or group that is certified by a national entity, such as the Behavior Analyst Certification Board, that is accredited by the National Commission for Certifying Agencies, and who designs, supervises, or provides treatment for pervasive developmental disorder or autism, provided the services are within the experience and competence of the person, entity, or group that is nationally certified.

(B) A person licensed as a physician and surgeon, physical therapist, occupational therapist, psychologist, marriage and family therapist, educational psychologist, clinical social worker, professional clinical counselor, speech-language pathologist, or audiologist pursuant to Division 2 (commencing with Section 500) of the Business and Professions Code, who designs, supervises, or provides treatment for pervasive developmental disorder or autism, provided the services are within the experience and competence of the licensee.

(4) "Qualified autism service professional" means an individual who meets all of the following criteria:

(A) Provides behavioral health ~~treatment.~~ *treatment, which may include clinical management and case supervision under the direction and supervision of a qualified autism service provider.*

(B) Is employed and supervised by a qualified autism service provider.

(C) Provides treatment pursuant to a treatment plan developed and approved by the qualified autism service provider.

~~(D)Is a behavioral service provider approved as a vendor by a California regional center to provide services as an Associate Behavior Analyst, Behavior Analyst, Behavior Management Assistant, Behavior Management Consultant, or Behavior Management Program as defined in Section 54342 of Article 3 of Subchapter 2 of Chapter 3 of Division 2 of Title 17 of the California Code of Regulations.~~

(D) Is a behavioral service provider who meets the State Department of Developmental Services' education and experience qualifications to be approved as a vendor by a California regional center to provide behavior intervention services, including, but not limited to, interdisciplinary assessment services, client/parent support behavior intervention training, socialization training program, individual family training, or as an adaptive skills trainer, associate behavior analyst,

behavior analyst, behavior management assistant, behavior management consultant, or behavior management program if the services are within the experience and competence of the professional.

(E) Has training and experience in providing services for pervasive developmental disorder or ~~autism pursuant to Division 4.5 (commencing with Section 4500) of the Welfare and Institutions Code or Title 14 (commencing with Section 95000) of the Government Code.~~ *autism.*

(5) “Qualified autism service paraprofessional” means an unlicensed and uncertified individual who meets all of the following criteria:

(A) Is ~~employed and~~ supervised by a *person, entity, or group that is* qualified autism service ~~provider.~~ *provider or qualified autism service professional.*

(B) Provides treatment and implements services pursuant to a treatment plan developed and approved by the qualified autism service provider.

(C) Meets the criteria set forth in the regulations adopted pursuant to Section 4686.3 of the Welfare and Institutions ~~Code.~~ *Code or has adequate education, training, and experience, as certified by a qualified autism service provider.*

~~(D)Has adequate education, training, and experience, as certified by a qualified autism service provider.~~

(d) This section shall not apply to the following:

(1) A specialized health insurance policy that does not cover mental health or behavioral health services or an accident only, specified disease, hospital indemnity, or Medicare supplement policy.

(2) A health insurance policy in the Medi-Cal program (Chapter 7 (commencing with Section 14000) of Part 3 of Division 9 of the Welfare and Institutions Code).

(3) A health insurance policy in the Healthy Families Program (Part 6.2 (commencing with Section 12693)).

(4) A health care benefit plan or policy entered into with the Board of Administration of the Public Employees’ Retirement System pursuant to the Public Employees’ Medical and Hospital Care Act (Part 5 (commencing with Section 22750) of Division 5 of Title 2 of the Government Code).

(e) Nothing in this section shall be construed to limit the obligation to provide services under Section 10144.5.

(f) As provided in Section 10144.5 and in paragraph (1) of subdivision (a), in the provision of benefits required by this section, a health insurer may utilize case management, network providers, utilization review techniques, prior authorization, copayments, or other cost sharing.

SEC. 4.

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

APPENDIX B LITERATURE REVIEW METHODS

Appendix B describes methods used in the medical effectiveness literature review conducted for SB 399. A discussion of CHBRP's system for grading evidence, as well as lists of MeSH Terms, Publication Types, and Keywords, follows.

The literature search was limited to studies published in English, for which abstracts were available, from 2015 to present.

The following databases of peer-reviewed literature were searched: MEDLINE (PubMed), Business Sources Complete, the Cochrane Library (includes Cochrane Register of Controlled Clinical Trials, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects (DARE), Health Technology Assessment Database, and NHS Economic Evaluation Database, EconLit, Web of Science (includes Science Citation Index Expanded and the Social Science Citation Index), Embase, Cumulative Index of Nursing and Allied Health Literature, Pharmaceuticals – BIOSIS, Pharmaceuticals – International Pharmaceutical Abstracts (if available), and Pharmaceuticals – Micromedex (if available). In addition, websites maintained by the following organizations that index or publish systematic reviews and evidence-based guidelines were searched: National Institutes of Health, Institute for Clinical Systems Improvement, and the World Health Organization. Two 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. Abstracts for 588 articles were identified. Thirty-one meta-analyses, systematic reviews, narrative reviews, RCTs, and nonrandomized studies with comparison groups were retrieved and reviewed.

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[40]. To grade the evidence for each outcome measured, the team uses a grading system that has the following categories:

- Research design;
- Consistency of findings;
- Generalizability of findings to the population whose coverage would be affected by a mandate; and
- Cumulative impact of evidence.

CHBRP uses a hierarchy to classify studies' research designs by the strength of the evidence they provide regarding a treatment's effects.

CHBRP evaluates consistency of findings across three dimensions: statistical significance, direction of effect, and size of effect.

The grading system also contains an overall conclusion that encompasses findings in these five domains. The conclusion is a statement that captures the strength, consistency, and generalizability of the

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[40] Available at: www.chbrp.org/analysis_methodology/docs/medeffect_methods_detail.pdf.

evidence of an intervention's effect on an outcome. The following terms are used to characterize the body of evidence regarding an outcome:

- Clear and convincing evidence;
- Preponderance of evidence;
- Limited evidence
- Conflicting 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 have strong research designs, consistently find that the treatment is either effective or not effective, and have findings that are highly generalizable to the population whose coverage would be affected. This grade is assigned in cases in which it is unlikely that publication of additional studies would change CHBRP's conclusion about the effectiveness of a treatment.

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 and that the findings are generalizable to the population whose coverage would be affected. Bodies of evidence that are graded as preponderance of evidence are further subdivided into three categories based on the strength of their research designs: strong research designs, moderate research designs, and weak research designs.

A grade of *conflicting evidence* indicates that although some studies included in the medical effectiveness review find that a treatment is effective, a similar number of studies with equally strong research designs 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 have weak research designs. It does not indicate that a treatment is not effective.

In addition to grading the strength of evidence regarding a treatment's effect on specific outcomes, CHBRP also assigns an overall grade to the whole body of evidence included in the medical effectiveness review. A statement of the overall grade is included in the *Key Findings* and in the *Medical Effectiveness* section of the text of the report. The statement is accompanied by a graphic to help readers visualize the conclusion.

Search Terms

The search terms used to locate studies relevant to SB 399 were as follows:

Keywords used to search PubMed, Cochrane Library, Web of Science, EconLit, and other relevant websites:

Keywords:

- Behavioral Health Therapy
- Autism
- Autism Spectrum Disorder
- Autistic
- Asperger
- PDD
- Pervasive Development Disorder
- Rett
- Applied Behavioral Analysis
- Therapies or treatments
- Parental or caregiver involvement
- Treatment settings
- School and treatment
- Behavioral health therapy and certification
- Autism service provider
- Autism service professional
- Autism service paraprofessional
- Medical expenditure
- Outpatient
- Health insurance claims
- Access
- Case management
- Supervisor involvement
- All above * treatments listed above
- All above * outcomes plus those listed below

Outcomes:

- Increased function
- Increased access to care

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 firms, PricewaterhouseCoopers (PwC).[41]

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 at CHBRP's website.[42]

This appendix describes any 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 specifically to an analysis of SB 399.

CHBRP has assumed that the mandate would not impact any forms of cost sharing, such as deductibles, copays, and coinsurance. It is also assumed that the bill would not affect plan/insurer methods of utilization management that may impact the coverage of medical treatments between baseline and postmandate periods, such as use of prior authorization requirements and medical review for medical treatments.

Additionally, the following is a description of methodology and assumptions used to develop the estimates of cost impacts:

Applied Behavioral Analysis (ABA) Services procedure, ICD-9 and ICD-10 autism spectrum disorder (ASD) diagnosis codes were identified by a content expert and were additionally vetted with carrier responses. CHBRP used procedure codes that were available in the 2015 MarketScan® Commercial Claims and Encounters Database to designate the ABA Service determination.

For the ABA Service procedure codes that were found in the 2015 MarketScan® Commercial Claims and Encounters Database, external research was performed to determine the number of minutes of service associated with each procedure code. If a procedure code did not have a minute designation in the description, CHBRP made the assumption that one unit was equal to 60 minutes or 1 hour. These definitions were used to produce a field that calculated total hours of ABA Services in 2015.

CHBRP used the ASD diagnosis codes to produce a list of ASD diagnosed individuals in the 2015 MarketScan® Commercial Claims and Encounters Database. With those unique individuals, CHBRP was able to identify all individuals with an autism diagnosis using ABA services throughout the year. From the 2015 MarketScan® Commercial Claims and Encounters Database utilization, hours of service and baseline cost information were developed for those individuals with an ASD diagnosis using ABA services.

Applying the baseline cost and utilization information, continuance tables were developed that calculated a range of allowed dollars within 2015 for each person identified as having an ASD diagnosis. The data

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[41] CHBRP's authorizing statute, available at www.chbrp.org/docs/authorizing_statute.pdf, requires that CHBRP use a certified actuary or "other person with relevant knowledge and expertise" to determine financial impact.

[42] See *2017 Cost Impact Analyses: Data Sources, Caveats, and Assumptions*, available at www.chbrp.org/analysis_methodology/cost_impact_analysis.php.

were split into several age categories to allow insight into patterns of prevalence by age band: 0 to 7 years and 8 and over. Through this breakout, CHBRP determined that there was a higher prevalence of claims for individuals with an ASD diagnosis for those 0 to 7 years of age and that the level of service was higher in those age bands. See Table 4, below, for estimated ASD prevalence by age band.

Table 4. Prevalence of Autistic Spectrum Disorder Among California Enrollees With State-Regulated (Non–Medi-Cal) Health Insurance

	Age Groups		
	Age 0–7 years	Age 8+ years	Total
ASD diagnoses per 10,000 enrollees	75.7	20.9	26.3

Source: CHBRP, 2017

Based on a review of information from the California Health Interview Survey (CHIS) and responses to surveys of a number of DMHC-regulated plans enrolling Medi-Cal beneficiaries, ASD prevalence among Medi-Cal beneficiaries were assumed to be the same as what was estimated for other enrollees in plans and policies regulated by DMHC or CDI.

Determining Public Demand for the Proposed Mandate

This subsection discusses public demand for the benefits SB 399 would mandate. Considering the criteria specified by CHBRP's authorizing statute, CHBRP reviews public demand for benefits relevant to a proposed mandate in two ways. CHBRP:

- Considers the bargaining history of organized labor; and
- Compares the benefits provided by self-insured health plans or policies (which are not regulated by the DMHC or CDI and therefore not subject to state-level mandates) with the benefits that are provided by plans or policies that would be subject to the mandate.

On the basis of conversations with the largest collective bargaining agents in California, CHBRP concluded that unions currently do not include cost-sharing arrangements for description treatment or service. In general, unions negotiate for broader contract provisions such as coverage for dependents, premiums, deductibles, and broad coinsurance levels.

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

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

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CALIFORNIA HEALTH BENEFITS REVIEW PROGRAM COMMITTEES AND STAFF

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 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, PricewaterhouseCoopers, 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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A group of faculty and staff undertakes most of the analysis that informs reports by the California Health Benefits Review Program (CHBRP). The CHBRP Faculty Task Force comprises rotating representatives from multiple University of California (UC) campuses. In addition to these representatives, there are other ongoing contributors to CHBRP from UC. This larger group provides advice to the CHBRP staff on the overall administration of the program and conducts much of the analysis.

CHBRP staff coordinates the efforts of the Faculty Task Force, works with Task Force members in preparing parts of the analysis, and coordinates all external communications, including those with the California Legislature.

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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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