



CALIFORNIA
HEALTH BENEFITS REVIEW PROGRAM

Executive Summary
Analysis of Assembly Bill 171:
Autism

A Report to the 2011-2012 California Legislature
March 26, 2011

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EXECUTIVE SUMMARY

California Health Benefits Review Program Analysis of Assembly Bill 171

The California Assembly Committee on Health requested on January 25, 2011, that the California Health Benefits Review Program (CHBRP) conduct an evidence-based assessment of the medical, financial, and public health impacts of Assembly Bill (AB) 171: Autism. In response to this request, CHBRP undertook this analysis pursuant to the provisions of the program's authorizing statute.¹

State-Level Health Insurance Benefit Mandates

Approximately 21.9 million Californians (59%) have health insurance that may be subject to a health benefit mandate law passed at the state level.² Of the rest of the state's population, a portion is uninsured (and so has no health insurance subject to any benefit mandate), and another portion has health insurance subject to other state laws or only to federal laws.

Uniquely, California has a bifurcated system of regulation for health insurance subject to state-level benefit mandates. The California Department of Managed Health Care (DMHC)³ regulates health care service plans, which offer benefit coverage to their enrollees through health plan contracts. The California Department of Insurance (CDI) regulates health insurers,⁴ which offer benefit coverage to their enrollees through health insurance policies.

DMHC-regulated plans and/or CDI-regulated policies would be subject to AB 171. Therefore, the mandate would affect the health insurance of approximately 21.9 million Californians (59%), and this report focuses on that population.⁵

Existing State and Federal Requirements Relevant to AB 171

Current mental health parity law in California⁶ requires coverage for diagnosis and medically necessary treatment of severe mental illnesses (including PDD/A) for persons of any age. Applicable federal law⁷ also addresses parity for mental health benefits.

¹ CHBRP's authorizing statute is available at: www.chbrp.org/documents/authorizing_statute.pdf.

² CHBRP's estimates are available at: http://www.chbrp.org/other_publications/index.php.

³ DMHC was established in 2000 to enforce the Knox-Keene Health Care Service Plan of 1975; see Health and Safety Code, Section 1340.

⁴ CDI licenses "disability insurers." Disability insurers may offer forms of insurance that are not health insurance. This report considers only the impact of the benefit mandate on health insurance policies, as defined in Insurance Code, Section 106(b) or subdivision (a) of Section 10198.6.

⁵ Although CHBRP has no further information, it is possible that AB 171 could have impacts beyond this population, because mental health only plans regulated by DMHC or CDI may be subject to AB 171.

⁶ California Health & Safety Code Section 1374.72 and California Insurance Code Section 10144.5 (also known as AB 88).

⁷ Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA); any relevant State Children's Health Insurance Law (SCHIP), as Healthy Families Program would be subject to AB 171.

Background on Disorders Relevant to AB 171

AB 171 defines autism spectrum disorders (ASD) as neurobiological conditions inclusive of five conditions/disorders: Asperger's Disorder, Autistic Disorder, Childhood Disintegrative Disorder, Pervasive Developmental Disorder Not Otherwise Specified [PPD-NOS], and Rett's Disorder. These five conditions/disorders are referred to in current mental health parity law in California⁸ and DMHC regulation⁹ as pervasive developmental disorders or autism (PDD/A).

This report uses PDD/A as the aggregate term for conditions/disorders relevant to the AB 171 because ASD is not always understood to include two generally less severe disorders (Asperger's Disorder and PDD-NOS) and two less common disorders (Rett's Disorder and Childhood Disintegrative Disorder). AB 171 would affect benefit coverage relevant to all five disorders, and so this report uses the term PDD/A.

PDD/A are neurodevelopmental disorders that typically become symptomatic in children aged 2 to 3 years, but may not be diagnosed until age 5 or older. PDD/A is a chronic condition characterized by impairments in social interactions, communication, sensory processing, stereotypic (repetitive) behaviors or interests, and sometimes impaired cognitive function. Symptoms of PDD/A range from mild to severe. The cause of PDD/A is unknown, and there is no cure. PDD/A is associated with other comorbidities, such as epilepsy, and mental retardation.

Analysis of AB 171

For enrollees with PDD/A, AB 171 is similar to but would expand coverage as currently required under California's current mental health parity law. This section describes the number of enrollees who have health insurance subject to AB 171, the services and treatments mandated by AB 171 and the terms and conditions of the benefit coverage mandated by the bill. Throughout, comparisons are made to California's current mental health parity law (hereafter referred to as "the current mandate") to clarify where the bill is similar to and where bill's requirements expands coverage beyond the current mandate. In addition, assumptions CHBRP made in order to complete this analysis are described.

Enrollees with health insurance that would be subject to AB 171

AB 171 would be applicable to all DMHC-regulated plans and CDI-regulated policies. The current mandate is not applicable to benefit coverage provided by DMHC-regulated plans to Medi-Cal beneficiaries. Therefore, a greater number of enrollees would have health insurance subject to AB 171 than have health insurance subject to the current mandate.

Requirements regarding terms and conditions of benefit coverage

AB 171 would require that benefit coverage be provided under terms and conditions no less favorable than the terms and conditions for benefit coverage provided by the plan or policy for "physical illness." The current mandate makes a similar requirement, but as the current mandate requires a narrower set of benefits to be covered, AB 171 would apply the parity requirement

⁸ California Health & Safety Code Section 1374.72 and California Insurance Code Section 10144.5 (also known as AB 88).

⁹ California Code of Regulations 1300.74.72(e).

more broadly. However, AB 171 also contains language that would prohibit limits regarding “age, number of visits, dollar amounts.” For this analysis, CHBRP assumes that benefit coverage would be required to be in parity with terms and conditions applicable to other (medical and mental health) benefits provided by DMHC-regulated plans and CDI-regulated policies.

AB 171 would require that benefit coverage be extended to “all medically necessary services.” The bill repeats the term “medically necessary” and uses the phrases “evidence-based research,” “necessary equipment,” and “best practices.” However, the bill would prohibit denial of coverage based on the treatment being habilitative, nonrestorative, educational, academic, or custodial in nature and would prohibit more than an annual review of treatments. The current mandate requires coverage of medically necessary treatment for PDD/A. For this analysis, CHBRP assumes the mandated benefits would be subject to medical necessity review by plans and insurers and the Independent Medical Review (IMR) process.

Mandated benefit coverage

AB 171 would require coverage for “screening” and “diagnosis” relevant to PDD/A. The current mandate does not require provision of coverage for screening for PDD/A, though it does require that coverage be provided for diagnosis of PDD/A. Therefore, AB 171’s requirement to cover screening would expand coverage beyond the current mandate.

AB 171 would require coverage for treatments relevant to PDD/A. AB 171 defines treatment for PDD/A as inclusive of:

- “Behavioral health treatment,” which the bill defines as including “behavioral intervention therapy, applied behavioral analysis, and other intensive behavioral programs” and which this analysis refers to as intensive behavioral intervention therapy. The current mandate requires medically necessary outpatient treatment but does not specify that coverage is required for intensive behavioral intervention therapy as treatment for PDD/A. Therefore, AB 171 could be viewed as exceeding the current mandate.
- Pharmacy care, which AB 171 defines as medications prescribed by a licensed or certified provider. The current mandate explicitly exempts plans and policies that do not provide coverage for prescription drugs from providing coverage for medications relevant to mental health. Any plan or policy that provides coverage for inpatient care provides coverage for prescription medications (when provided in an inpatient setting), since the cost of prescription medications is regularly bundled into inpatient services. For this analysis, because AB 171 makes no explicit exemption, CHBRP assumes that AB 171 would prohibit a currently allowed exclusion (outpatient medications), instead requiring all subject plans and policies to cover outpatient medications relevant to PDD/A.
- Psychiatric care, which the bill defines as direct or consultative services provided by a licensed or certified provider. The current mandate requires medically necessary outpatient treatment but does not specify that coverage is required for psychiatric care as treatment for PDD/A. Therefore, by specifying psychiatric care as a treatment for PDD/A, AB 171 could be viewed as an expansion, in terms of mandated benefit coverage.
- Psychological care, which the bill defines as direct or consultative services provided by a licensed or certified provider. The current mandate requires medically necessary outpatient

treatment but does not specify that coverage is required for psychological care as treatment for PDD/A. Therefore, by specifying psychological care as treatments for PDD/A, AB 171 could be viewed as an expansion, in terms of mandated benefit coverage.

- Therapeutic care, which the bill defines as inclusive of:
 - Occupational therapy provided by a licensed or certified provider;
 - Physical therapy provided by a licensed or certified provider;
 - Speech therapy provided by a licensed or certified provider.

The current mandate requires medically necessary outpatient treatment but does not specify that coverage is required for therapeutic care as treatment for PDD/A. Therefore, by specifying these therapies as treatments for PDD/A, AB 171 could be viewed as an expansion, in terms of mandated benefit coverage.

- Equipment, which AB 171 defines as equipment ordered by a licensed or certified provider. For this analysis, CHBRP refers to such equipment as durable medical equipment (DME). The current mandate is silent in regard to DME for the treatment of PDD/A. Therefore, AB 171's requirements may have the effect of expanding coverage for DME that is relevant for the treatment of PDD/A.

Payors Other Than Health Plans and Insurers

Payment for screening, diagnosis, and treatment for PDD/A for persons enrolled in DMHC-regulated plans or CDI-regulated policies may come from other sources—a situation that may be more common than is the case for persons with other disorders. Patients (or their families) often pay directly for care not covered by health insurance. Charities may also become involved. In addition, regional centers contracting with the California Department of Developmental Services (DDS)¹⁰ may pay, as may schools affiliated with the California Department of Education (CDE).¹¹ However, although the population served by DDS and/or CDE would be expected to overlap with enrollees whose health insurance would be subject to AB 171, the populations would not be identical. DDS does not collect¹² information about the sources of health insurance that would allow clients to be identified as having health insurance subject to AB 171, and regional centers may serve persons without health insurance. Similarly, CDE-affiliated schools may serve persons without health insurance, and CDE does not collect information on the health insurance status of public school students.¹³ To further complicate matters, some enrollees with health insurance subject to AB 171 may not seek assistance from a regional center or school or may not meet the severity thresholds to qualify for assistance per these programs' eligibility

¹⁰ Services provided by regional centers are related to the Federal Lanterman Developmental Disabilities Services Act (1969) and Part C of the Federal Individuals with Disabilities Education Act (2004).

¹¹ Services provided by public schools are related to Part B of the federal Individuals with Disabilities Education Act (2004).

¹² Personal communication, J Mullen, California Department of Developmental Services, March 2011.

¹³ Personal communication, P Skelton, California Department of Education, March 2011.

rules. Therefore, the overlap between the populations with PDD/A—persons served by DDS and/or CDE and enrollees with health insurance that would be subject to AB 171—is not clear.

Requirement in Other States

At least 26 states and the District of Columbia have passed health insurance benefit mandates related to autism.

Medical Effectiveness

Multiple tests have been developed to screen or diagnose children with PDD/A. A national guideline recommends that diagnosis of PDD/A be made by a multidisciplinary team of professionals with expertise in these disorders. Major treatments for PDD/A include behavioral intervention therapies, occupational therapy, physical therapy, speech therapy, psychiatric care, psychological care, and prescription drugs. Persons with Rett's Disorder may also need durable medical equipment to cope with the physical manifestations of their disorder.

Screening and Diagnostic Tests

Universal screening of children at unknown risk for PDD/A

- The preponderance of evidence suggests that the Modified Checklist for Autism in Toddlers (M-CHAT) has high sensitivity (i.e., low false-negative rate) for screening toddlers at unknown risk for PDD/A disorders and that supplementing the M-CHAT with a follow-up telephone call increases the positive predictive value (i.e., the likelihood that a person with a positive test result has a PDD/A disorder).
- The preponderance of evidence from two studies suggests that the Checklist for Autism in Toddlers (CHAT) has high specificity (i.e., low false-positive rate) for screening toddlers at unknown risk for PDD/A.
- Evidence from a single study suggests that the Childhood Asperger's Syndrome Test (CAST) and the Social Communication Questionnaire (SCQ) have high specificity (i.e., low false-positive rate) for identifying Asperger's Disorder and related disorders among children at unknown risk for these disorders.

Diagnostic testing for children at risk for or suspected of having a developmental disability

- Findings from a single study suggest that the Autism Diagnostic Observational Schedule–Generic (ADOS-G) has high sensitivity (i.e., low false-positive rate) for diagnosis of toddlers suspected of developmental delay but only fair specificity. The Autism Diagnostic Interview–Revised (ADI-R) had only fair sensitivity and specificity for diagnosis of toddlers. Findings from a study that assessed the joint accuracy of the ADOS-G and the ADI-R for diagnosis of toddlers and preschoolers suspected of PDD/A suggest that joint scores on the ADOS-G and the ADI-R are correlated with clinical diagnosis for Autistic Disorder but not with clinical diagnoses of other PDD/A disorders.

- The preponderance of evidence from three studies suggests that the Childhood Autism Rating Scale (CARS) has a high rate of sensitivity and specificity for diagnosis of PDD/A in children suspected of having a developmental disability.
- Findings from studies that have assessed the accuracy of the M-CHAT for diagnosing children suspected of having PDD/A suggest that the M-CHAT has high sensitivity (i.e., low false-negative rate) but poor sensitivity and that supplementing the M-CHAT with a follow-up telephone call increases the positive predictive value.
- Evidence from single studies suggests that the Baby and Infant Screen for Children with Autism Traits (BISCUIT) has a high rate of sensitivity and specificity for diagnostic evaluation of toddlers at risk for developmental delay for PDD/A, and that the Autism Behavior Checklist (ABC) and the Social Communication Questionnaire (SCQ) have fair sensitivity for diagnosing children suspected of having a PDD/A disorder or another developmental disability.

Protocols for early detection of PDD/A disorders

- Evidence from a single study suggests that an early detection program that combined screening by primary care providers with a standardized protocol for referring children suspected of PDD/A to a multidisciplinary team for diagnosis decreases the age at which children with PDD/A are diagnosed.

Behavioral Intervention Therapy

Many children with PDD/A are treated with intensive (e.g., 25 or more hours per week) interventions based on applied behavioral analysis (ABA) and/or other theories of behavior (hereafter referred to as intensive behavioral intervention therapy) that are aimed at improving behavior and reducing deficits in cognitive function, language, and social skills. The medical effectiveness review focuses on intensive behavioral therapies because AB 171 would specifically require coverage for these and other behavioral intervention therapies.

Methodological Considerations

The literature on the effectiveness of intensive behavioral intervention therapies for PDD/A is difficult to synthesize. ***Most studies compared intensive behavioral intervention therapies of differing duration and intensity or compared interventions based on different theories of behavior.*** Thus, most studies of intensive behavioral intervention therapy cannot answer the question of whether behavioral intervention therapy improves outcomes relative to no treatment. They can only answer the question of whether some behavioral intervention therapies are more effective than others. Even this question is difficult to answer because the characteristics of treatments provided to both intervention and comparison groups vary widely across studies. The outcomes examined by studies of intensive behavioral intervention therapies also differ considerably across studies. Only four outcomes, which are described in greater depth in the *Medical Effectiveness* section of the report, have been measured by a plurality of studies: adaptive behavior, intelligence quotient, language, and academic placement. Findings for these

outcomes cannot be easily combined across studies because authors have used different instruments to collect information on these outcomes.

An important limitation of the literature on the effectiveness of intensive behavioral intervention therapies for PDD/A is that most studies do not randomize participants to intervention and comparison groups. In nonrandomized studies, it is possible that differences between groups are due to differences in the characteristics of persons in the two groups rather than differences in the interventions studied.

Many studies of intensive behavioral intervention therapies do not assess outcomes over sufficiently long periods of time to determine whether use of these therapies is associated with long-term benefits.

Study Findings

- Six recent meta-analyses and one individual randomized controlled trial (RCT) have assessed the effectiveness of intensive behavioral intervention therapies. Most children enrolled in these studies were treated for 1 to 2 years.
- Studies of intensive behavioral intervention therapies have enrolled children who ranged in age from 18 months to 9 years. Most of the children enrolled had Autistic Disorder or PDD-NOS and had intelligence quotients (IQs) within the ranges for Mild or Moderate Mental Retardation.
- CHBRP identified no studies regarding effectiveness of intensive behavioral intervention therapy in children younger than 18 months and persons older than 9 years, nor was there direct evidence about this therapy's effectiveness for persons diagnosed with Asperger's Disorder, Rett's Disorder, or Childhood Disintegrative Disorder. *The absence of evidence is not evidence of no effect.* These therapies or less intensive behavioral therapies may be appropriate for some persons with PDD/A who fall outside the study populations.
- Outcomes for individual children enrolled in studies of intensive behavioral therapies varied widely. Several meta-analyses have attempted to identify the characteristics of children who are most likely to benefit from early intensive behavioral therapies. Findings from these studies suggest that children who are younger at initiation of treatment and who have higher IQs and greater adaptive behavior skills (e.g., communication, daily living, motor, and social skills) derive greater benefit from treatment.

Adaptive behavior

- The preponderance of evidence from six meta-analyses of RCTs and nonrandomized studies suggests that intensive behavioral intervention therapy based on ABA is more effective than therapies based on other theories of behavior or less intensive ABA-based therapies in improving adaptive behavior (e.g., communication, daily living, motor, and social skills). However, two RCTs that compared two different types of intensive behavioral intervention therapies based on ABA found no differences in effects on adaptive behavior in the intervention and control groups.

- A single RCT of the Early Start Denver Model, an intensive behavioral intervention therapy that integrates ABA-based and developmental and relationship-based approaches to treating PDD/A, found that the Early Start Denver Model was associated with greater improvement in adaptive behavior relative to other interventions available in the community.
- One meta-analysis found that the intensive behavioral intervention therapies of longer duration had more impact on adaptive behavior.

Intelligence quotient

- The preponderance of evidence from six meta-analyses suggests that intensive behavioral intervention therapies based on ABA are more effective than therapies based on other theories of behavior or less intensive ABA-based therapies in increasing intelligence quotient (IQ). Two randomized controlled trials (RCTs) of intensive behavioral intervention therapies based on ABA reached opposite conclusions regarding the impact of these interventions on IQ. The discrepancy between the conclusions of these RCTs may be due to differences in the intensity and duration of the interventions provided to the control groups.
- A single RCT of the Early Start Denver Model found that receipt of this intensive behavioral intervention therapy was associated with greater improvement in IQ relative to other interventions available in the community.
- ***Most studies found that the changes in intelligence were not sufficiently large to enable children to achieve levels of intellectual and educational functioning similar to peers without PDD/A.***

Language

- Findings from four meta-analyses that included studies that compared the effects of intensive behavioral intervention therapies based on ABA to therapies based on other theories of behavior or less intensive ABA-based therapies on general language skills and receptive language (i.e., ability to respond to requests from others) are ambiguous.
- The preponderance of evidence from three meta-analyses suggests that intensive behavioral intervention therapies based on ABA are no more effective than therapies based on other theories of behavior or less intensive ABA-based interventions for improving expressive language (i.e., ability to verbally express one's needs and wishes).
- One meta-analysis found that intensive behavioral intervention therapies that provided more total hours of treatment had larger effects on language skills.

Academic placement

- Findings from a systematic review that assessed studies that compared the effects of intensive behavioral intervention therapies based on ABA to therapies based on other theories of behavior or less intensive ABA-based interventions on academic placement are ambiguous.

Prescription Drugs

Prescription drugs are prescribed to persons with PDD/A primarily to treat behaviors associated with PDD/A, such as aggression, hyperactivity, and irritability. Risperdal (Risperidone) and Abilify (Aripiprazole), two atypical antipsychotic medications, are the only prescription drugs approved by the U.S. Food and Drug Administration (FDA) for treatment of behavioral symptoms of PDD/A in children and adolescents. Several other classes of prescription drugs are used “off label” to treat behavioral symptoms of PDD/A including selective serotonin reuptake inhibitors (SSRIs, a type of antidepressant), antiepileptic medications, and medications used to treat Attention Deficit/Hyperactivity Disorder.

Evidence regarding the effectiveness of prescription drugs for treatment of behavioral symptoms of PDD/A is limited because only a few RCTs of these medications have been conducted and most of these trials had small sample sizes. Risperdal (Risperidone) is the only medication for which findings from more than two RCTs have been published.

Atypical antipsychotics

- The preponderance of evidence from five RCTs suggests that among children with Asperger’s Disorder, Autistic Disorder, and PDD-NOS, relative to a placebo, Risperdal (Risperidone):
 - Reduces behavioral symptoms (e.g., hyperactivity, inappropriate speech, irritability, lethargy/social withdrawal, obsessive/compulsive behavior);
 - Is associated with significant side effects, the most prominent of which are tardive dyskinesia (i.e., involuntary movement of parts of the body) and weight gain;
 - Is more effective than Haldol (Haloperidol) in reducing behavioral symptoms; and
 - Is more effective for reducing behavioral symptoms when administered in combination with Topamax (Topiramate), an antiepileptic medication, than when administered alone.
- Evidence from a single RCT suggests that for children and adolescents with Autistic Disorder, Abilify (Aripiprazole) reduces maladaptive behavior relative to a placebo.
- Evidence from a single RCT suggests that Zyprexa (Olanzapine) does not affect behavioral symptoms of Asperger’s Disorder, Autistic Disorder, or PDD-NOS among children and adolescents.

Selective serotonin reuptake inhibitors

- Evidence regarding the effectiveness of SSRIs relative to a placebo differs for children and adults with PDD/A. An RCT that enrolled adults with Autistic Disorder found that Luvox (Fluvoxamine) improves core behaviors associated with PDD/A. In contrast, two RCTs that enrolled children with Asperger’s Disorder, Autistic Disorder, or PDD-NOS suggest that Celexa (Citalopram) and Prozac (Fluoxetine) do not improve core behaviors associated with PDD/A.

- Evidence from a single RCT suggests that for children with Asperger’s Disorder, Autistic Disorder, or PDD-NOS combining an SSRI with Depakote (Valproate), an antiepileptic medication, reduces irritability relative to an SSRI alone.

Medications used to treat Attention Deficit/Hyperactivity Disorder

- Evidence from two RCTs suggests that for children and adolescents with Autistic Disorder, Ritalin (Methylphenidate) and Strattera (Atomoxetine) reduce hyperactivity, impulsivity, stereotypic behaviors, and inappropriate speech relative to a placebo.

Antiepileptic medications

- Evidence from three RCTs that assessed the effectiveness of antiepileptic medications on maladaptive behaviors associated with Asperger’s Disorder, Autistic Disorder, or PDD-NOS is ambiguous. Two RCTs that compared Depakote (Valproate) to a placebo reported reductions in maladaptive behavior, whereas another RCT found no difference. RCTs that compared Keppra (Levetiracetem) and Lamictal (Lamotrogine), respectively, to a placebo also found no difference in maladaptive behavior.

Psychiatric and Psychological Care

- No studies of the effectiveness of psychiatric care or psychological care for PDD/A were identified.
- The lack of studies on psychiatric care and psychological care for PDD/A does not indicate that these treatments are not effective. Psychologists have expertise in assessment of behavior, cognitive function, and social skills that can be helpful in diagnosing PDD/A disorders. Psychiatrists have expertise in prescribing and monitoring psychotropic medications that may be helpful for treating behavioral symptoms of PDD/A disorders.

Occupational Therapy, Physical Therapy, Speech Therapy

- No studies of the effectiveness of occupational therapy, physical therapy, and speech therapy for PDD/A were identified.
- The lack of studies on occupational therapy, physical therapy, or speech therapy for PDD/A does not indicate that these treatments are not effective. Rather, it indicates that there is insufficient evidence to determine whether they are effective.

Durable Medical Equipment

- No studies of the effectiveness of durable medical equipment for PDD/A were identified.
- The lack of studies on durable medical equipment for PDD/A does not indicate that these treatments are not effective. Rather, it indicates that there is insufficient evidence to determine whether they are effective.

Benefit Coverage, Utilization, and Cost Impacts

Approximately 101,000 enrollees in DMHC-regulated plans and/or CDI-regulated policies subject to AB 171 are diagnosed with PDD/A. Table 1 summarizes the expected benefit coverage, cost, and utilization impacts for AB 171.

Critical Caveats, Estimates, and Assumptions

- Although studies on the effectiveness of intensive behavioral intervention therapies is focused on Autistic Disorder and PDD-NOS in preschool- and elementary-aged children, as evaluated in the *Medical Effectiveness* section, this analysis models benefit coverage, utilization, and cost impacts for all five PDD/A subtypes and for all ages. The cost model makes weighted adjustments for age-specific and PDD/A subtype utilization: for example, literature reviewed in the *Medical Effectiveness* section and expert opinion indicate that intensive behavioral intervention utilization is rare for children under age 2 years, less common for adults, and less common for some PDD/A subtypes, for example Asperger's Disorder.
- Due to variations in severity of PDD/A, circumstances, and/or preferences, not all would get intensive behavioral intervention therapies, even if diagnosed and enrolled in a plan or policy that covers intensive behavioral intervention therapies. Also, treatment, which typically spans 1 to 3 years,¹⁴ may be discontinued if shown to be ineffective for that person.
- In California, intensive behavioral intervention therapies not covered by health plans or insurers may be purchased by other payors, including families, charities, the California Department of Developmental Services (DDS), the California Department of Education (CDE), or other payors.
- CHBRP estimates that the mandate would affect intensive behavioral intervention therapy utilization in two ways: it would add new users of intensive behavioral intervention therapies, and, among newly covered users, the hours per week of intensive behavioral intervention therapy would increase.
 - CHBRP estimates that the mandate would add new users of intensive behavioral intervention therapies in the under 3 age group, but for all other age groups, the number of users of intensive behavioral intervention therapies are assumed to be the same pre- and postmandate. This is because some children under the age of 3 years may not qualify for services paid for by DDS (because they have milder forms of PDD/A) and would be too young to receive school-based services paid by CDE. School-aged children and young adults who may not qualify for DDS services (because they have milder forms of PDD/A) could still access services paid for by CDE. Therefore, families of children under age 3 years may not be using services since they would have to find another payor or self-pay. CHBRP assumes that utilization in this group would increase, postmandate.

¹⁴ Personal communication, report content expert N. Akshoomoff, February 2011. Additionally, as reviewed in the *Medical Effectiveness* section, of the 28 studies that reported the duration of intervention studied, the duration ranged from 3 months to 4 years, with a median of 16 months and a mode of 2 years.

- CHBRP also estimates that, premandate, enrollees without benefit coverage currently utilizing intensive behavioral intervention therapies are not receiving the full recommended hours per week. Postmandate, CHBRP estimates that these users would increase their number of hours per week up to the typical recommended hours per week for the user's age and PDD/A disease subtype.

Benefit Coverage Impacts

- If AB 171 were enacted, CHBRP estimates that the percent of enrollees with health insurance that would be subject to AB 171 with benefit coverage for PDD/A relevant intensive behavioral intervention therapies, DME, and prescription drugs would increase to 100%.
 - The number of enrollees covered for intensive behavioral intervention therapies would increase from 3.5 million to 21.9 million: a 520% increase.
 - The number of enrollees covered for DME would increase from 20.6 million to 21.9 million: a 6% increase.
 - The number of enrollees covered for prescription drugs would increase from 21.6 million to 21.9 million: a 1% increase.
- If AB 171 were enacted, CHBRP estimates that there would be no measurable change in benefit coverage for enrollees with health insurance subject to AB 171 for PDD/A relevant speech therapy, physical therapy, occupational therapy, psychological care, or psychiatric care.

Utilization Impacts

- Were AB 171 to be enacted, CHBRP estimates that the mandate would increase the number of enrollees receiving PDD/A-relevant intensive behavioral intervention therapies through their insurance from approximately 1,400 premandate to 12,100 postmandate: a 764% increase. The mandate would be expected to result in 400 new users of intensive behavioral intervention therapies and would prompt 10,300 current users of intensive behavioral intervention therapies to obtain intensive behavioral intervention therapies through their insurance. Premandate, CHBRP estimates that the 10,300 enrollees received intensive behavioral intervention therapy paid for by a source other than health insurance (e.g., families, charities, CDE, and DDS, other).
- Were AB 171 to be enacted,
 - CHBRP would estimate no measurable utilization impact for PDD/A-relevant screening, diagnosis, speech therapy, physical therapy, occupational therapy, psychological care, or psychiatric care.
 - CHBRP would estimate no measurable utilization impact for PDD/A relevant DME.
 - CHBRP would estimate a 1% increase in utilization of PDD/A relevant prescription drugs.

Cost Impacts

- Postmandate, the entirety of the estimated cost impact would result from altered benefit coverage for (and utilization of) PDD/A relevant prescription drugs and intensive behavioral intervention therapies, with intensive behavioral intervention therapies accounting for the vast majority of the mandate's estimated cost impact.¹⁵
- AB 171 would increase total annual expenditures by \$137.9 million, or 0.14%, for plans and policies subject to AB 171. This increase in expenditures results from a \$338.0 million increase in health insurance premiums, a \$17.4 million increase in out-of-pocket expenses for enrollees with PDD/A with newly covered benefits, and a \$217.6 million decrease in expenses for noncovered benefits.
 - The premium impact would range by category from 0.14% to 0.24% for privately funded health insurance.
 - The premium impact would range by category from 0.26% to 3.54% for publicly funded health insurance.
- The \$217.6 million reduction in expenses for noncovered benefits would be a reduction in expenditures for payors other than health plans/insurers. Costs related to intensive behavioral intervention therapies for PDD/A overwhelmingly account for this shift: such therapies comprise approximately \$216.5 million of the \$217.6 million reduction in expenses for noncovered benefits. Prescription drugs comprise the remaining \$1.1 million decrease in expenses for noncovered benefits.
- AB 171 would be expected to shift costs to DMHC-regulated plans and CDI-regulated insurers. However, as discussed in the *Introduction*, the extent of population overlap is unclear, and so it is not possible to calculate what portion of such costs would be shifted from families, charities, DDS, CDE, or other payors.

Impact on Number of Uninsured

As CHBRP estimates premium increases of less than 1% for privately funded health insurance subject to AB 171, no measurable impact on the number of persons who are uninsured would be expected.

Public Health Impacts

- CHBRP estimates that AB 171 would increase benefit coverage for prescription drugs, DME, and intensive behavioral intervention therapies for enrollees with PDD/A, and finds a preponderance of evidence for some effectiveness of prescription drugs and intensive behavioral intervention therapies. Therefore, CHBRP estimates improved outcomes for some

¹⁵ For comparison, see CHBRP's report on SB TBD 1 (2011), a bill which would not mandate coverage for prescription drugs, available at: http://www.chbrp.org/completed_analyses/index.php.

PDD/A symptoms (e.g., improved IQ, adaptive behavior, stereotypic or aggressive behavior, etc.) for some enrollees using these treatments.

- No literature or data are available regarding the possible differential use or outcomes by gender or race regarding tests and treatments defined in AB 171. Therefore, the impact of AB 171 on reducing possible gender, racial, or ethnic disparities of symptoms associated with PDD/A is unknown.
- Although an increased risk of premature death is associated with PDD, there is no evidence that tests and treatments defined by AB 171 would reduce premature death for the PDD/A population; therefore, the impact of AB 171 on premature death is unknown.
- CHBRP estimates that the postmandate, net decrease in noncovered benefit expenses for the estimated 10,700 newly covered enrollees with PDD/A who use intensive behavioral intervention therapies is about \$217.6 million. The extent of the reduction in financial burden for enrollees with PDD/A and their families is unknown, as some portion of the shift may be from charities, DDS, CDE, or other payors. The majority of these savings would be attributable to use of intensive behavioral intervention therapies (about \$215.5 million).

Potential Effects of the Federal Affordable Care Act

The federal “Patient Protection and Affordable Care Act” (P.L.111-148) and the “Health Care and Education Reconciliation Act” (H.R.4872) were enacted in March 2010. These laws (together referred to as the “Affordable Care Act” [ACA]) are expected to dramatically affect the California health insurance market and its regulatory environment, with most changes becoming effective in 2014. How these provisions are implemented in California will largely depend on pending legal actions, funding decisions, regulations to be promulgated by federal agencies, and statutory and regulatory actions to be taken by California state government. The provisions that go into effect during these transitional years would affect the baseline, or current enrollment, expenditures, and premiums. It is important to note that CHBRP’s analysis of specific mandate bills typically addresses the marginal effects of the mandate bill—specifically, how the proposed mandate would impact benefit coverage, utilization, costs, and public health, holding all other factors constant. CHBRP’s estimates of these marginal effects are presented in this report.¹⁶

Essential health benefits offered by qualified health plans in the Exchange and potential interactions with AB 171

As mentioned, EHBs explicitly include “[m]ental health and substance use disorder services, including behavioral health treatment” and “rehabilitative and habilitative services and devices.”¹⁷ The provisions also require that the scope of the EHBs be equal to the scope of benefits provided under a typical employer plan. The ACA requires in 2014 that states “make

¹⁶ For further discussion on EHBs and potential interaction with state mandates, please see, *California’s State Benefit Mandates and the Affordable Care Act’s “Essential Health Benefits”* available here: http://www.chbrp.org/other_publications/index.php.

¹⁷ Affordable Care Act, Section 1302(b)(1)(E) and (G).

payments...to defray the cost of any additional benefits” required of Qualified Health Plans (QHPs) sold in the Exchange.¹⁸ AB 171 explicitly states that health plans and policies that are offered through the Exchange would not be required to cover those benefits that are considered to exceed EHBs. Therefore, because of this provision, AB 171 is not expected to incur a fiscal liability for the state as it relates to the QHPs sold in the Exchange.

Whether or not the benefits required by AB 171 would exceed EHBs depends on three factors:

- differences in the scope of mental health and rehabilitative/habilitative benefits in the final EHB package and the scope of mandated benefits in AB 171;
- the number of enrollees in QHPs; and,
- the methods used to define and calculate the cost of additional benefits.

For example, it is unclear whether there will be differences between the mental health and rehabilitative/habilitative benefits included in the EHBs and the benefits required under AB 171. “Behavioral health treatment” may be considered to include forms of “behavioral intervention treatment,” as specified AB 171. “Habilitative” services may be determined to include forms of therapy that enhance a child’s ability to function.

How these factors relate to the QHPs and the Exchange is unknown at this time, and is dependent upon the details of pending federal regulations, state legislative and regulatory actions, and enrollment into QHPs after the Exchange is operational.

It is important to note that AB 171 explicitly states that, if any benefits are considered to exceed EHBs, “those specific benefits are required to be provided if offered by a health care service plan contract outside of the Exchange.” Therefore, plans and policies offered outside the Exchange, including those publicly-purchased health plans, would continue to see cost and public health impacts resulting from AB 171.

¹⁸ Affordable Care Act, 1311(d)(3)(B).

Table 1. AB 171 Autism Impacts on Benefit Coverage, Utilization, and Cost, 2011

	Before Mandate	After Mandate	Increase/ Decrease	Change After Mandate
Benefit Coverage				
Total enrollees with health insurance subject to state-level benefit mandates (a)	21,902,000	21,902,000	0	0.00%
Total enrollees with health insurance subject to AB 171	21,902,000	21,902,000	0	0.00%
Number of enrollees with health insurance coverage subject to AB 171 and having PDD/A	101,000	101,000	0	0.00%
Percentage of enrollees with coverage for the mandated benefit				
Screenings	100.00%	100.00%	0.00%	0.00%
Diagnostics	100.00%	100.00%	0.00%	0.00%
Intensive behavioral intervention therapies	16.13%	100.00%	83.87%	519.93%
Therapies other than intensive behavioral intervention therapies (b)	100.00%	100.00%	0.00%	0.00%
Prescription drugs (c)	98.78%	100.00%	1.22%	1.23%
DME	94.16%	100.00%	5.84%	6.21%
Number of enrollees with coverage for the mandated benefit				
Screenings	21,902,000	21,902,000	0	0.00%
Diagnostics	21,902,000	21,902,000	0	0.00%
Intensive behavioral intervention therapies	3,533,000	21,902,000	18,369,000	519.93%
Therapies other than intensive behavioral intervention therapies	21,902,000	21,902,000	0	0.00%
Prescription drugs	21,635,000	21,902,000	267,000	1.23%
DME	20,622,000	21,902,000	1,280,000	6.21%
Utilization and cost				
Number of enrollees using outpatient prescription drugs to treat PDD/A				
Benefit covered	52,400	53,000	600	1.15%
Benefit not covered	600	0	-600	
Average annual prescription drug cost for treatment of PDD/A per member using prescription drugs	\$1,850	\$1,850	\$0	0.00%
Number of enrollees using intensive behavioral intervention benefit				
Benefit covered (d)	1,400	12,100	10,700	764.29%
Benefit not covered	10,300	0	-10,300	-100.00%
Average annual intensive behavioral intervention cost per member receiving intensive behavioral intervention	\$44,000	\$50,000	\$6,000	13.64%

Table 1. AB 171 Autism Impacts on Benefit Coverage, Utilization, and Cost, 2011 (Cont'd)

	Before Mandate	After Mandate	Increase/ Decrease	Change After Mandate
Expenditures				
Premium expenditures by private employers for group insurance	\$52,713,266,000	\$52,839,390,000	\$126,124,000	0.24%
Premium expenditures for individually purchased insurance	\$6,724,851,000	\$6,734,813,000	\$9,962,000	0.15%
Premium expenditures by persons with group insurance, CalPERS HMOs, Healthy Families Program, AIM, or MRMIP (e)	\$15,173,472,000	\$15,214,817,000	\$41,345,000	0.27%
CalPERS HMO employer expenditures (f)	\$3,465,785,000	\$3,474,645,000	\$8,860,000	0.26%
Medi-Cal Managed Care Plan expenditures	\$8,657,688,000	\$8,772,338,000	\$114,650,000	1.32%
MRMIB Plan expenditures (g)	\$1,050,631,000	\$1,087,780,000	\$37,149,000	3.54%
Enrollee out-of-pocket expenses for covered benefits (deductibles, copayments, etc.)	\$7,548,415,000	\$7,565,845,000	\$17,430,000	0.23%
Enrollee expenses for noncovered benefits (h)	\$471,358,000	\$253,716,000	-\$217,642,000	-46.17%
Total Expenditures	\$95,805,466,000	\$95,943,344,000	\$137,878,000	0.14%

Source: California Health Benefits Review Program, 2011.

Notes: (a) This population includes persons with privately funded and publicly funded (e.g., CalPERS HMOs, Medi-Cal Managed Care plans, Healthy Families Program, AIM, MRMIP) 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 insurance.

(b) PT/OT/ST are estimated at 100% coverage based on responses from carrier survey, but with a qualification from some carriers that habilitative services are not covered.

(c) Prescription drugs are estimated at 100% coverage: enrollees of large-group health plans with stand-alone drug plans are assumed to already have PDD/A prescription drugs through their stand-alone plan.

(d) The postmandate estimate includes three groups of enrollees: users who had premandate benefit coverage (approximately 1,400), new users (approximately 400), and users who had, premandate, accessed the treatment without benefit coverage (approximately 10,300).

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

(f) Of the increase in CalPERS employer expenditures, about 58%, or \$5,139,000, would be state expenditures for CalPERS members who are state employees or their dependents.

(g) MRMIB Plan expenditures include expenditures for 874,000 enrollees of the Healthy Families Program, 8,000 enrollees of MRMIP, and 7,000 enrollees of the AIM program.

(h) 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: AIM=Access for Infants and Mothers; CalPERS HMOs=California Public Employees' Retirement System Health Maintenance Organizations; CDI=California Department of Insurance; DME=Durable Medical Equipment; DMHC=Department of Managed Health Care; MRMIB=Managed Risk Medical Insurance Board; MRMIP=Major Risk Medical Insurance Program; OT=occupational therapy; PT=physical therapy; ST=speech therapy.

Acknowledgments

This report provides an analysis of the medical, financial, and public health impacts of Assembly Bill 171. In response to a request from the California Assembly Committee on Health on January 25, 2011, the California Health Benefits Review Program (CHBRP) undertook this analysis pursuant to the program's authorizing statute.

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

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California Health Benefits Review Program Committees and Staff

A group of faculty and staff undertakes most of the analysis that informs reports by the California Health Benefits Review Program (CHBRP). The CHBRP **Faculty Task Force** comprises rotating representatives from six University of California (UC) campuses and three private universities in California. In addition to these representatives, there are other ongoing contributors to CHBRP from UC. This larger group provides advice to the CHBRP staff on the overall administration of the program and conducts much of the analysis. The **CHBRP staff** coordinates the efforts of the Faculty Task Force, works with Task Force members in preparing parts of the analysis, and coordinates all external communications, including those with the California Legislature. The level of involvement of members of the CHBRP Faculty Task Force and staff varies on each report, with individual participants more closely involved in the preparation of some reports and less involved in others. As required by CHBRP's authorizing legislation, UC contracts with a certified actuary, Milliman Inc., to assist in assessing the financial impact of each legislative proposal mandating or repealing a health insurance benefit. Milliman also helped with the initial development of CHBRP methods for assessing that impact. The **National Advisory Council** provides expert reviews of draft analyses and offers general guidance on the program to CHBRP staff and the Faculty Task Force. CHBRP is grateful for the valuable assistance and thoughtful critiques provided by the members of the National Advisory Council. However, the Council does not necessarily approve or disapprove of or endorse this report. CHBRP assumes full responsibility for the report and the accuracy of its contents.

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