MANDATED BENEFIT REVIEW OF HOUSE BILL 1084

AND SENATE BILL 617

SUBMITTED TO THE 193RD GENERAL COURT:

AN ACT RELATIVE TO APPLIED BEHAVIORAL ANALYSIS THERAPY

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CHIA

Mandated Benefit Review of House Bill (H.B.) 1084 and Senate Bill (S.B.) 617 Submitted to the 193rd General Court

An Act Relative to Applied Behavioral Analysis Therapy

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1.0 Benefit Mandate Overview: H.B. 1084 and S.B. 617; Both Entitled "An Act Relative to Applied Behavioral Analysis Therapy"

1.1 History of the Bill

The Massachusetts Legislature's Committee on Financial Services referred House Bill (H.B.) 1084 and Senate Bill (S.B.) 617, both entitled "An Act Relative to Applied Behavioral Analysis Therapy,"[1] to the Massachusetts Center for Health Information and Analysis (CHIA) for review. Massachusetts General Law (MGL) Chapter 3 §38C requires CHIA to review the medical efficacy of treatments or services included in each mandated benefit bill referred to the agency by a legislative committee, should it become law. CHIA must also estimate each bill's fiscal impact, including changes to premiums and administrative expenses. H.B. 1084 and S.B. 617 are identical and will be collectively referenced as "the bill."

This report is not intended to determine whether the bill would constitute a health insurance benefit mandate for purposes of Commonwealth of Massachusetts (Commonwealth) defrayal under the Affordable Care Act (ACA), nor is it intended to assist with Commonwealth defrayal calculations if it is determined to be a health insurance mandate requiring Commonwealth defrayal.

1.2 What Does the Bill Propose?

As submitted to the 193rd General Court of the Commonwealth, the bill requires health insurers to provide coverage for the treatment of Down syndrome through speech therapy (ST), occupational therapy (OT), physical therapy (PT), and Applied Behavior Analysis (ABA) therapy. The bill defines Down syndrome as a "chromosomal condition caused by an error in cell division that results in the presence of an extra whole or partial copy of chromosome 21."[2]

ST, OT, and PT are already covered by carriers in the Commonwealth for members with a Down syndrome diagnosis, but ABA therapy is not. ABA therapy is, however, covered for individuals who are dually diagnosed with Down syndrome and autism spectrum disorder[i] (ASD). Therefore, the effect of the bill, if it were to pass, would be to require coverage of ABA therapy services for individuals with a singular diagnosis of Down syndrome.

1.3 Medical Efficacy of the Bill

Down syndrome results from having an extra chromosome[ii,3] 21 or an extra piece of that chromosome.[4] Down syndrome is often referred to as Trisomy 21[5] and is the most common chromosomal cause of mild to moderate intellectual disabilities.[6] Down syndrome is a lifelong condition that results in a greater risk for developing a number of health problems, some of which present at birth, including: heart defects, vision problems, hearing loss, infections, hypothyroidism, blood disorders, hypotonia, problems with the upper part of the spine, sleep disorders, gum and

[i] State law mandates coverage of ABA for ASD, which would include members with a dual ASD/Down syndrome diagnosis.
[ii] Chromosomes are small "packages" of genes in the body and determine how a baby forms and functions as it grows during pregnancy and after birth.

dental problems, epilepsy, celiac disease, as well as mental health and emotional problems.[7] Therefore, individuals with Down syndrome often receive services from a team of providers. Services provided early in life[8,iii] often help children with Down syndrome improve their physical and intellectual abilities.[9] These services often include ST, OT, and PT, which are typically offered through early intervention (EI) programs.[iv,v,10,11,12,13]

About 16% – 18% of individuals with Down syndrome also have ASD;[14,15] ASD is a neurodevelopmental disorder characterized by social communication difficulties, restricted interests, and repetitive behaviors.[16] ABA therapy, which is often used to treat individuals with ASD, is a comprehensive treatment approach that is individually designed to meet the needs of each child based on their age, level of functioning, and specific needs.[17] The goals of ABA therapy are to decrease problem behaviors and increase skills.[18]

1.4 Current Coverage

Massachusetts EI Program

For children under three years of age who have developmental delays or who are at risk of developmental delays,[vi,19] ST, OT, and PT services are covered by the Massachusetts EI program.[20,21] These services are available for all families in the Commonwealth with a child under three years of age who is not reaching age-appropriate milestones, is diagnosed with certain applicable conditions (e.g., ASD), or has a medical or social history that might put the child at risk for developmental delays. Early intensive behavior intervention (EIBI), including ABA therapy, is covered for children up to three years of age with a diagnosis of ASD but not Down syndrome. However, ABA therapy services are provided for children with a diagnosis of Down syndrome if they also have a dual diagnosis of ASD. [22]

Insurance Carrier Coverage

ST, OT, and PT are included in the ACA's 10 essential health benefits (EHBs) as "rehabilitative and habilitative services and devices,"[23] for which non-exempted health plans in the individual and small group markets must provide coverage. EHBs are defined by the Massachusetts Benchmark Plan, which provides coverage, without cost-sharing, of EI services (including medically necessary ST, OT, and PT) through age two. Once a child is three years of age, ST, OT, and PT are covered as short-term rehabilitation therapy.[24]

Current Massachusetts state law[vii] requires carriers to provide coverage of ABA therapy for individuals with a diagnosis of ASD[25] but does not require coverage for individuals with a singular diagnosis of Down syndrome. Accordingly, carriers must cover ABA therapy services for a child with a dual diagnosis of Down syndrome and ASD.

[iii] Based on the U.S. Centers for Disease Control and Prevention (CDC) "Learn the Signs. Act Early."[iii] guidelines, tracking a child's development early by monitoring their milestones in how they play, learn, speak, act, and move, from birth to five years, can make a real difference for both the child and caregivers.

[iv] As defined by the CDC, "Early Intervention" is the term used to describe services and supports that are available to babies and young children with developmental delays and disabilities and their families. The services provided are based on the needs of the child and their family.

[v] EI services are funded through a complex blend of federal, state, and local sources and are part of the Individuals with Disabilities Education Act (IDEA), originally enacted by Congress in 1975.

[vi] EI coverage, as defined in the Massachusetts Benchmark Plan, includes medically necessary physical, speech/language, and occupational therapy, nursing care, and psychological counseling.

[vii] M.G.L. c. 175 §47AA, M.G.L. c. 176A §8DD, M.G.L. c. 176G §4V, M.G.L. c. 176B §4DD.

Special Education Services Through Local Education Agency (LEA)

Special education services are available to eligible children from age three up until their 22nd birthday who 1) have a disability and 2) as a result of their disability, require specially designated instruction or one or more related services (e.g., ST) to "access and make progress in the general curriculum."[26] Children who qualify for special education can receive ST, OT, and PT, as well as ABA therapy,[viii] and the services are paid for and provided through their LEA.[ix,27] To access these services, children must have an Individualized Education Program (IEP)[28] in place with their public or charter[29] school.

BerryDunn surveyed 10 insurance carriers in the Commonwealth, and five responded. All the responding carriers cover ST, OT, and PT for members with Down syndrome; for children under the age of three, the coverage falls under the benefit classification of EI. None of the responding carriers listed ABA therapy as being included as an EI benefit or covered benefit in the absence of an accompanying ASD diagnosis. All responding carriers cover ABA therapy for individuals with an ASD diagnosis.

1.5 Cost of Implementing the Bill

The estimated impact of the proposed requirement on medical expense and premiums appears below. The analysis includes development of a best estimate "mid-level" scenario, a low-level scenario, and a high-level scenario using more conservative assumptions. The cost of the bill is driven by requiring coverage of ABA services for members with a Down syndrome diagnosis without an accompanying ASD diagnosis.

Requiring coverage for this benefit by fully insured health plans would result in an average annual increase, over five years, to the typical member's health insurance premium, of between $0.006 to $0.015 per member per month (PMPM) or between 0.0010% to 0.0025% of premium.

Since ST, OT, and PT are already covered for members with a Down syndrome diagnosis without an accompanying ASD diagnosis, there is no additional cost estimated for the provision of ST, OT, and PT as set forth in the bill.

[viii] ABA therapy is provided by the LEA based on individual needs rather than by diagnosis. Therefore, MA students may access ABA therapy with several diagnoses, including, but not limited to, ASD and Down syndrome.

[ix] As defined by the U.S. Department of Education, an LEA is a public board of education or other public authority legally instituted within a state for either administrative control or direction of, or to perform a service function for, public elementary schools or secondary schools in a city, county, township, school district, or other political subdivision of a state, or for a combination of school districts or counties as are recognized in a state as an administrative agency for its public elementary schools or secondary schools.

1.6 Plans Affected by the Proposed Benefit Mandate

The bill amends statutes that regulate health insurance carriers in the Commonwealth. It includes the following sections, each of which addresses statutes regarding a particular type of health insurance policy when issued, delivered, or renewed in the Commonwealth after the assumed effective date of January 1, 2024:[30]

- Chapter 32A – Plans Operated by the Group Insurance Commission (GIC) for the Benefit of Public Employees
- Chapter 175 – Commercial Health Insurance Companies
- Chapter 176A – Hospital Service Corporations
- Chapter 176B – Medical Service Corporations
- Chapter 176G – Health Maintenance Organizations (HMOs)

The bill, as written, amends Chapter 118E of the General Laws. However, estimating the bill's impact to MassHealth membership is outside the scope of this report.

1.7 Plans Not Affected by the Proposed Benefit Mandate

Self-insured plans (i.e., where the employer or policyholder retains the risk for medical expenses and uses a third-party administrator or insurer to provide only administrative functions), except for those provided by the GIC, are not subject to state-level health insurance mandates. State mandates do not apply to Medicare and Medicare Advantage plans or other federally funded plans, including TRICARE (covering military personnel and dependents), the Veterans Administration, and the Federal Employees Health Benefit Plan; the benefits for which are determined by, or under the rules set by, the federal government.

Endnotes

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[19] HMO Blue® New England $2,000 Deductible Plan Option. Accessed June 20, 2023. **https://www.mass.gov/doc/ehbbp-hmoblue-2017pdf/download**.

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[30] Chapter 118E (MassHealth) is included in the bill, but estimating the bill's impact for MassHealth is not within the scope of this report.

2.0 Medical Efficacy Assessment

House Bill (H.B.) 1084 and Senate Bill (S.B.) 617 (collectively, "the bill"), as submitted to the 193rd General Court would require coverage for the treatment of Down syndrome through speech therapy (ST), occupational therapy (OT), physical therapy (PT), and Applied Behavior Analysis (ABA) therapy. The bill defines Down syndrome as a "chromosomal condition caused by an error in cell division that results in the presence of an extra whole or partial copy of chromosome 21." The intent of the bill, as provided by the bill sponsors, is to allow access to ABA therapy services for individuals with Down syndrome.

MGL Chapter 3 §38C charges CHIA with reviewing the medical efficacy of proposed mandated health insurance benefits. Medical efficacy reviews summarize current literature on the effectiveness and use of the treatment or service and describe the potential impact of a mandated benefit on the quality of patient care and health status of the population.

This report proceeds in the following sections:

2.1 Down Syndrome

Down syndrome results from having an extra chromosome[x,1] 21 or an extra piece of that chromosome.[2] Although the physical features and behaviors of individuals with Down syndrome are similar, there are three distinct types of Down syndrome based on the chromosomal differences listed below with the respective prevalence denoted in parentheses:[3]

- Trisomy 21 (95%): each cell in the body has three separate copies of chromosome 21 instead of the two usual copies
- Translocation Down syndrome (3%): an extra part or a whole extra chromosome 21 is present, but it is attached or "trans-located" to a different chromosome rather than being a separate chromosome 21

[x] Chromosomes are small "packages" of genes in the body and determine how a baby forms and functions as it grows during pregnancy and after birth.

- Mosaic Down syndrome (2%): some of the cells have three copies of chromosome 21, but other cells have the typical two copies, which may result in having fewer features of the condition due to the presence of some cells with the typical number of chromosomes

Often referred to as Trisomy 21,[4] Down syndrome is the most common chromosomal cause of mild to moderate intellectual disabilities.[5] People with Down syndrome have distinct physical features and are at a greater risk for several other health conditions.[6,7] A number of these associated conditions may require immediate care after birth, occasional treatment through childhood and adolescence, or long-term treatments throughout life.[8] For example, some infants with Down syndrome require surgery shortly after birth to correct heart defects, or a person with Down syndrome may have digestive problems requiring a lifelong special diet.[9]

Some of the specific physical characteristics associated with Down syndrome, such as those associated with sleep disorders and a higher incidence of illness, may significantly increase the likelihood of challenging behaviors in children with Down syndrome.[10] Challenging behavior is defined as that which results "…in self-injury or injury of others, causes damage to the physical environment, interferes with the acquisition of new skills, and/or socially isolates the learner."[11] Further, about 16% – 18% of individuals with Down syndrome also have ASD,[12,13] a neurodevelopmental disorder characterized by social communication difficulties, restricted interests, and repetitive behaviors.[14] As a result of the likelihood of developing health and behavioral problems, a child with Down syndrome will likely receive care, while living at home and in the community, from a team of health professionals including, but not limited to, physicians, social workers, special educators, as well as speech, physical, and occupational therapists.[15]

Down syndrome is a lifelong condition, and services provided early in life often help children with Down syndrome improve their physical and intellectual abilities.[16] For an individual with Down syndrome, life expectancy has increased dramatically over the years from 10 years old in 1960[17] to 60 years today, with many individuals living into their 60s and 70s.[18] Down syndrome occurs in about one in every 700 babies.[19] There are approximately 5,000 individuals with Down syndrome[xi] in Massachusetts.[20,21]

2.2 Treatment for Down Syndrome

Since there is no single, standard treatment for Down syndrome, treatment is based on the individual's specific needs. Potential services include: [22]

- PT, which includes exercises and activities to help build motor skills, increase muscle strength, and improve posture and balance
- ST to help improve communication skills and language use
- OT to investigate ways to modify everyday tasks to match the individual's needs and abilities
- Emotional or behavioral therapies, like ABA therapy, to find useful responses to both desired and undesired behavior

Clinical experts consulted for this study indicated that for children with Down syndrome, at-home behavioral ABA services are necessitated most often between the ages of four to 10, and, to a lesser extent, some teenagers with Down syndrome can benefit from at-home ABA services related to behavioral dysregulation. An individual with Down

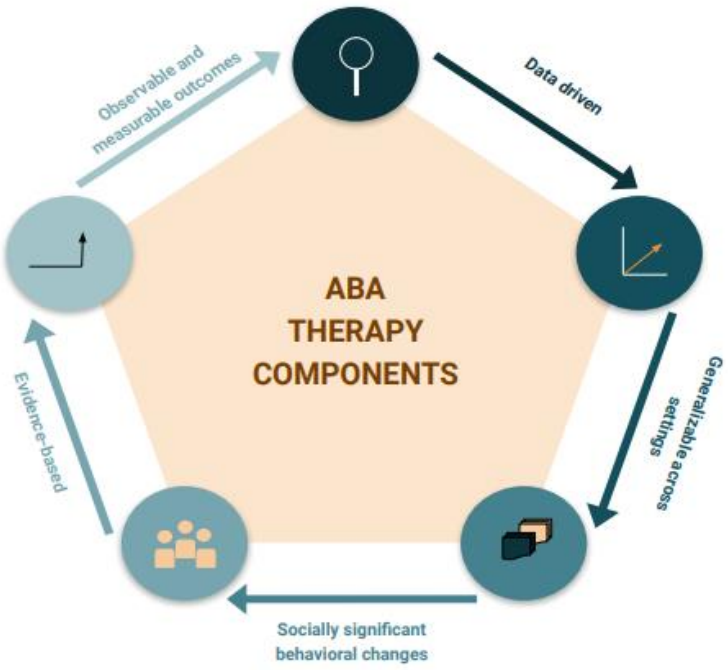
[xi] Based on a study from 2017, the population prevalence of Down syndrome is 1 in 1,440.

syndrome can benefit from receiving these services as a young child through early intervention programs and throughout their life, which will promote the greatest possible development, independence, and productivity.[23,24]

2.3 What is ABA?

ABA is a specific type of therapy used to address challenging behavior and is most effective when started early, between the ages of two to five, but can still be helpful for older children, adolescents, and even adults.[xii,25] Through observation and positive reinforcement, ABA therapy helps teach social, motor, and verbal behaviors, as well as reasoning skills, and works to manage challenging behavior.[26] ABA is an intensive behavioral intervention that seeks to reinforce desirable behaviors and decrease undesired behaviors. Driven by data, ABA therapy produces socially significant behavioral changes that are generalizable across settings (see Figure 1).[27] All ABA therapy techniques focus on antecedents (what happens before a behavior occurs) and consequences (what happens after the behavior).[28]

Figure 1. Components of ABA Therapy



ABA therapy can help:

- Increase language and communication skills
- Improve attention, focus, social skills, memory, and academic performance
- Decrease problem behaviors

[xii] ABA therapy can be used with children as young as 18 months old.

- Provide desensitization for new stimuli (e.g., Continuous Positive Airway Pressure (CPAP) machines, eyeglasses)

The methods of behavior analysis have been used and studied for decades and have helped many kinds of learners gain different skills—from healthier lifestyles to speaking a new language.[29] ABA has been used by therapists to help children with ASD and related developmental disorders since the 1960s.[30]

As a comprehensive treatment approach that is individualized to meet the specific needs of each individual with Down syndrome, the goals of ABA therapy are to increase skills and decrease problem behaviors. ABA therapy programs are typically implemented by a team of therapists, who work with the individual with Down syndrome daily.[31] Treatments occur in a variety of settings, or in a combination of settings, including educational, health, community, or home, with parents also being trained to support their child in different environments.[32,33] Training parents in ABA therapy increases consistency and the likelihood that the goals of ABA therapy will be met.[34]

ABA therapy can include several different types of interventions:[35]

- Discrete Trial Training (DTT) involves breaking a skill down step by step using three components:
  - The antecedent (cue that triggers the behavior)
  - The behavior (response to the cue)
  - The conclusion (what happens after the response).
- Early Intensive Behavioral Intervention (EIBI) is used with young children to teach social, adaptive, communication, and function skills and is highly individualized.
- Early Start Denver Model (ESDM) utilizes play activities to help foster cognitive, social, and language skills.
- Natural Environment Training involves learning and practicing skills acquired through DTT in more natural environments (i.e., practicing a learned skill at home or in school).
- Comprehensive ABA therapy delivers treatments that usually last for several hours each day and involve therapists or behavior technicians working with the individual in both home and school settings and who may also work with parents and caregivers to teach skills that can be used outside of ABA therapy sessions.
- Focused ABA therapy is a type of treatment often provided one-on-one with a therapist that may focus on helping an individual in a specific situation where they are facing difficulty. It may also target a skill that needs to be worked on.

ABA services involve a specialized behavioral treatment approach, and most graduate or postgraduate training programs in psychology, social work, or other areas do not provide in-depth training in this discipline.[36] The formal training to become certified by the Behavior Analyst Certification Board (BACB) is similar to that for other medical and behavioral health professionals, and other licensed professionals may have ABA included with their particular scope of training and competencies.[37] Board-certified behavior analysts (BCBAs) as well as registered behavior technicians (RBTs) who are trained and supervised by BCBAs provide ABA therapy.

2.4 Effectiveness of ABA Therapy

As a lifelong condition, services provided early in life will often lead to improvement in physical and intellectual abilities for individuals with Down syndrome.[38] Using a variety of techniques, ABA therapy can help children with Down syndrome learn new behaviors and improve their skills.[39]

Considered as an evidence-based[xiii] treatment by the U.S. Surgeon General,[40] ABA therapy is a widely used treatment approach for ASD and other conditions.[41] ABA therapy can be structured to meet the specific needs of an individual with Down syndrome.[42] ABA interventions have been shown to be effective for improving social skills, adaptive behaviors, language abilities, and cognitive skills as well as being helpful for reducing anxiety in children and adolescents.[43] Results from extensive research have shown that ABA therapy can lead to improvement in skills such as speech, cognition, and social functioning as well as decrease problem behaviors associated with Down syndrome.[44]

For those with Down syndrome who exhibit challenging behaviors, a recent meta-analysis of single-case research found that results suggest ABA-based interventions are promising for behavior change.[45] Based on information derived from clinical experts for this study, about 5% of children with Down syndrome have behavioral dysregulations significant enough to benefit from at-home ABA services, and an additional 5% of children with Down syndrome would require short-term ABA therapy at home for desensitization needs. For both cohorts of children, the in-home ABA therapy needs would be approximately seven hours per week in addition to any ABA services provided in the school setting with an estimated three years of ABA therapy recommended for children with behavioral dysregulation and six months required for those with desensitization needs.[xiv]

As a widely accepted treatment for ASD, every state in the United States has mandated coverage for the treatment of ASD which generally grants coverage for ABA therapy; several states have expanded that coverage to include individuals with developmental disabilities, such as Florida amending its autism mandate set forth in F.S. 627.6686 to include Down syndrome.[46,47]

3.0 Conclusion

Down syndrome is the most common chromosomal cause of mild to moderate intellectual disabilities.[48] There is no single standard treatment for individuals with Down syndrome; treatments are based on the unique physical and intellectual needs of each individual, as well as their personal strengths and limitations, with the goal of helping children with Down syndrome develop to their full potential.[49,50] Services provided early in life often help babies and children with Down syndrome improve their physical and intellectual disabilities.[51] These treatments often include ST, OT, and PT.[52] In addition to these treatment modalities, ABA therapy is also used to treat individuals with Down syndrome.

[xiii] Evidence-based means that ABA has passed scientific tests of its usefulness, quality, and effectiveness.
[xiv] The experts for this study estimated that children with a singular diagnosis of Down syndrome would likely require three one-year periods of ABA therapy throughout their childhood, and that children who need ABA therapy for desensitization would likely only require one six-month period.

A propensity to engage in challenging behaviors can be part of a behavioral phenotype characteristic of Down syndrome[53] and ABA therapy has been shown to be an effective treatment for Down syndrome, helping to improve social interactions, communication abilities, and cognitive skills.[54] Based on the principle of applying behavior analysis to identify and change behavior, ABA therapy can lead to improvement in skills such as speech, cognition, and functioning while also helping to decrease problem behaviors associated with Down syndrome.[55] Therefore, if the bill were to pass, individuals with a singular diagnosis of Down syndrome[xv] would have access to ABA services, increasing the likelihood of their success in inclusive educational and community environments.[56]

[xv] Clinical experts estimated that in Massachusetts about 50 patients with Down syndrome would have significant behavioral dysregulation that would benefit from at-home ABA therapy.

Endnotes

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AN ACT RELATIVE TO APPLIED BEHAVIORAL ANALYSIS THERAPY

ACTUARIAL ASSESSMENT

1.0 Executive Summary

The Massachusetts Legislature's Committee on Financial Services referred House Bill (H.B.) 1084 and Senate Bill (S.B.) 617, both titled "An Act Relative to Applied Behavioral Analysis Therapy," to the Massachusetts Center for Health Information and Analysis (CHIA) for review. The bills require health insurers to provide coverage for the treatment of Down syndrome through speech therapy (ST), occupational therapy (OT), physical therapy (PT), and Applied Behavior Analysis (ABA) therapy. The bill defines "Down syndrome" as a "chromosomal condition caused by an error in cell division that results in the presence of an extra whole or partial copy of chromosome 21."

Chapter 3 §38C requires CHIA to review the medical efficacy of treatments or services included in each mandated benefit bill referred to the agency by a legislative committee, should it become law. CHIA must also estimate each bill's fiscal impact, including changes to premiums and administrative expenses. This report provides the fiscal analysis.

This report references H.B.1084 and S.B. 617 together and hereafter as "the bill."

This report is not intended to determine whether the bill would constitute a health insurance benefit mandate for purposes of Commonwealth of Massachusetts (Commonwealth) defrayal under the Affordable Care Act (ACA), nor is it intended to assist with Commonwealth defrayal calculations if it is determined to be a health insurance mandate requiring Commonwealth defrayal.

1.1 Current Insurance Coverage

Children in the Commonwealth can receive ST, OT, PT, and ABA therapy through the Massachusetts Early Intervention Program (through age two) and their Local Education Agency (LEA) (ages three to their 22nd birthday). Both programs provide ST, OT, and PT services for a singular diagnosis of Down syndrome. However, ABA services for children with a singular diagnosis of Down syndrome, without a dual diagnosis of ASD, are not provided by the Massachusetts Early Intervention Program; however, they are provided through LEA special education services. This report focuses on services covered through commercial health insurance for a singular diagnosis of Down syndrome, without a dual diagnosis of ASD.

ST, OT, and PT are included in the ACA's 10 essential health benefits (EHBs) as "rehabilitative and habilitative services and devices," for which non-exempted health plans in the individual and small group markets must provide coverage.[1] EHBs are defined by the Massachusetts Benchmark Plan, which provides coverage, without cost-sharing, of early intervention services (including medically necessary ST, OT, and PT) through age two. Once a member is three years of age, ST, OT, and PT are covered as short-term rehabilitation therapy.[2,3]

Current Massachusetts state law[i] requires carriers to provide coverage of ABA therapy for individuals with a diagnosis of ASD[4] but does not require coverage for individuals with a singular diagnosis of Down syndrome. Accordingly, carriers must cover ABA therapy services for a child with a dual diagnosis of Down syndrome and ASD.

[i] M.G.L. c. 175 §47AA, M.G.L. c. 176A §8DD, M.G.L. c. 176G §4V, M.G.L. c. 176B §4DD.

BerryDunn surveyed 10 insurance carriers in the Commonwealth, and five responded. All the responding carriers cover ST, OT, and PT for members with Down syndrome; for children under the age of three, the coverage falls under the benefit classification of early intervention. None of the responding carriers listed ABA therapy as being included as an early intervention benefit or covered benefit in the absence of an accompanying ASD diagnosis. All responding carriers cover ABA therapy for individuals with an ASD diagnosis.

1.2 Analysis

BerryDunn estimated the impact of the bill on insurance premiums by assessing the cost of covering ABA services for individuals with a Down syndrome diagnosis who are not dually diagnosed with ASD.

Since ST, OT, and PT are already a coverage benefit for members with only a Down syndrome diagnosis, there is no additional cost estimated for the provision of ST, OT, and PT as set forth in the bill.

1.3 Summary Results

The estimated impact of the proposed requirement on medical expense and premiums appears below. The analysis includes development of a best estimate mid-level scenario, a low-level scenario, and a high-level scenario using more conservative assumptions.

Table ES-1 displays the summary results for a five-year period. This analysis estimates that the bill, if enacted as drafted for the General Court, would increase fully insured premiums by as much as 0.0025% on average over the next five years; a more likely increase is approximately 0.0018%, equivalent to an average annual expenditure of $0.29 million over the period 2024 – 2028.

Table ES-1. Summary Results

	2024	2025	2026	2027	2028	WEIGHTED AVERAGE	FIVE-YEAR TOTAL
Average Projected Members (000s)	2,110	2,178	2,246	2,275	2,273		
Medical Expense Low ($000s)	$92	$135	$143	$152	$161	$144	$683
Medical Expense Mid ($000s)	$158	$232	$246	$260	$275	$247	$1,171
Medical Expense High ($000s)	$224	$329	$348	$369	$390	$350	$1,659
Premium Low ($000s)	$107	$158	$167	$177	$187	$168	$796
Premium Mid ($000s)	$184	$270	$286	$303	$321	$288	$1,364
Premium High ($000s)	$261	$383	$405	$429	$455	$408	$1,932
PMPM Low	$0.006	$0.006	$0.006	$0.006	$0.007	$0.006	$0.006
PMPM Mid	$0.010	$0.010	$0.011	$0.011	$0.012	$0.011	$0.011
PMPM High	$0.014	$0.015	$0.015	$0.016	$0.017	$0.015	$0.015

	2024	2025	2026	2027	2028	WEIGHTED AVERAGE	FIVE-YEAR TOTAL
Estimated Monthly Premium	$577	$593	$609	$625	$642	$609	$609
Premium % Rise Low	0.0010%	0.0010%	0.0010%	0.0010%	0.0011%	0.0010%	0.0010%
Premium % Rise Mid	0.0017%	0.0017%	0.0017%	0.0018%	0.0018%	0.0018%	0.0018%
Premium % Rise High	0.0025%	0.0025%	0.0025%	0.0025%	0.0026%	0.0025%	0.0025%

Endnotes

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2.0 Introduction

As submitted to the 193rd General Court of the Commonwealth of Massachusetts, H.B. 1084 and S.B. 617 ("the bill")[1] require health insurers to provide coverage for the treatment of Down syndrome through ST, OT, PT, and ABA therapy. The bill defines "Down syndrome" as a "chromosomal condition caused by an error in cell division that results in the presence of an extra whole or partial copy of chromosome 21."

The bill requires coverage of ST, OT, PT, and ABA therapy for members with a singular Down syndrome diagnosis. ST, OT, and PT are already covered by carriers in the Commonwealth for members with a Down syndrome diagnosis, but ABA therapy is not. ABA therapy is, however, covered for individuals who are dually diagnosed with Down syndrome and autism spectrum disorder[i] (ASD). Therefore, the effect of the bill, if it were to pass, would be to require coverage of ABA therapy services for individuals with a singular diagnosis of Down syndrome.

Section 3.0 of this analysis outlines the provisions and interpretations of the bill. Section 4.0 summarizes the methodology used for the estimate. Section 5.0 discusses important considerations in translating the bill's language into estimates of its incremental impact on healthcare costs, and steps through the calculations. Section 6.0 discusses results.

3.0 Interpretation of the Bill

3.1 Reimbursement

As submitted to the 193rd General Court of the Commonwealth of Massachusetts, H.B. 1084 and S.B. 617 ("the bill")[2] require health insurers to provide coverage for the treatment of Down syndrome through ST, OT, PT, and ABA therapy. "Down syndrome" is defined in the bill as a "chromosomal condition caused by an error in cell division that results in the presence of an extra whole or partial copy of chromosome 21."

3.2 Plans Affected by the Proposed Mandate

The bill amends statutes that regulate commercial healthcare carriers in the Commonwealth and includes the following sections, each of which addresses statutes dealing with a particular type of health insurance policy when issued or renewed, after the effective date of January 1, 2024, in the Commonwealth:[3]

- Chapter 32A – Plans Operated by the Group Insurance Commission (GIC) for the Benefit of Public Employees
- Chapter 175 – Commercial Health Insurance Companies
- Chapter 176A – Hospital Service Corporations
- Chapter 176B – Medical Service Corporations
- Chapter 176G – Health Maintenance Organizations (HMOs)

Self-insured plans, except for those managed by the GIC, are not subject to state-level health insurance benefit mandates. State mandates do not apply to Medicare or Medicare Advantage plans, the benefits of which are qualified

[i] State law mandates coverage of ABA for ASD, which would include members with a dual ASD/Down syndrome diagnosis.

by Medicare. This analysis excludes members over 64 years of age who have fully insured commercial plans, and this analysis does not address any potential effect on Medicare supplement plans, even to the extent they are regulated by state law. Although the bill includes Chapter 118, this analysis does not estimate the bill's impact to MassHealth.

3.3 Covered Services

BerryDunn surveyed 10 insurance carriers in the Commonwealth, and five 5 responded. All the responding carriers cover ST, OT, and PT, and for members with Down syndrome under the age of three, the coverage falls under early intervention. None of the responding carriers listed ABA therapy as being included as an early intervention benefit or covered benefit in the absence of an ASD diagnosis. All responding carriers cover ABA therapy for individuals with an ASD diagnosis.

3.4 Existing Laws Affecting the Cost of the Bill

ST, OT, and PT are included in the ACA's 10 essential health benefits (EHBs) as "rehabilitative and habilitative services and devices," for which non-exempted health plans in the individual and small group markets must provide coverage.[4] EHBs are defined by the Massachusetts Benchmark Plan, which provides coverage, without cost-sharing, of early intervention services (including medically necessary ST, OT, and PT) through age two. Once a member is three years of age, ST, OT, and PT are covered as short-term rehabilitation therapy.[5,6]

Current Massachusetts state law[ii] requires carriers to provide coverage of ABA therapy for individuals with a diagnosis of ASD[7] but does not require coverage for individuals with a singular diagnosis of Down syndrome. Accordingly, carriers must cover ABA therapy services for a child with a dual diagnosis of Down syndrome and ASD.

4.0 Methodology

4.1 Overview

As submitted to the 193rd General Court of the Commonwealth, the bill requires health insurance carriers to provide coverage for the treatment of Down syndrome through ST, OT, PT, and ABA therapy. As discussed above, ST, OT, and PT are covered either under early intervention or as an EHB under federal law, but ABA for Down syndrome is not covered. ABA for members with a diagnosis of ASD is required to be covered by Massachusetts state law. As such, the incremental cost of coverage for this mandate is the cost of ABA services for members with a Down syndrome diagnosis without an accompanying ASD diagnosis.

The incremental cost of coverage is estimated by determining the number of members with Down syndrome without an ASD diagnosis, the percentage of such members who would benefit from ABA services, the length of the indicated ABA therapy, and the cost of ABA services in any given year. Claims data from the All-Payer Claims Database (APCD) were used to determine the cost per user for ABA therapy. The number of members with a Down syndrome diagnosis and no ASD diagnosis, the anticipated utilization of ABA therapy, and the length of the indicated

[ii] M.G.L. c. 175 §47AA, M.G.L. c. 176A §8DD, M.G.L. c. 176G §4V, M.G.L. c. 176B §4DD.

ABA therapy were estimated using a combination of claims data from the APCD, population data, expert interviews, and academic literature.

The combination of these components, and accounting for carrier retention, results in an estimate of the bill's incremental effect on premiums, which is projected over the five years beginning with January 1, 2024, as the implementation date should the bill become law.

4.2 Data Sources

The primary data sources used in the analysis are as follows:

- Input from legislative sponsors, providing information about the intended effect of the bill
- Information, including descriptions of current coverage, from responses to a survey of commercial health insurance carriers in the Commonwealth
- Responses to questions from clinical experts and the Department of Special Education
- Massachusetts APCD
- Published scholarly literature, reports, and population data, cited as appropriate

4.3 Steps in the Analysis

This section summarizes the analytic steps used to estimate the impact of the bill on premiums.

1. **Calculate the populations needing short- and long-term[iii] ABA services**
   - **A.** Calculated the population of members with Down syndrome without an accompanying ASD diagnosis under age 22 covered by commercial insurance, using the APCD
   - **B.** Multiplied the number of members with Down syndrome in Step A by the percentage requiring short-term ABA services, as indicated by clinical experts
   - **C.** Multiplied the number of members with Down syndrome in Step A by the percentage requiring long-term ABA services, as indicated by clinical experts

2. **Calculate the cost of services per person indicated under age 22**
   - **A.** Used APCD claims data for members with an ASD diagnosis to calculate the cost-per-person-per-hour
   - **B.** Multiplied the number of years of short-term services by the average number of hours a week, as indicated by clinical experts
   - **C.** Multiplied the number of hours in Step 2.B. by the cost per hour in Step 2.A.
   - **D.** Multiplied the number of years of long-term services by the average number of hours a week, as indicated by clinical experts
   - **E.** Multiplied the number of hours in Step 2.D. by the cost per hour in Step 2.A.

3. **Calculate the total annual incremental claims costs**
   - **A.** Divided the cost of short-term services over the first 22 years from Step 2.C. by 22 to get the average annual cost of short-term services

[iii] For purposes of this analysis, short-term refers to six months of ABA therapy for desensitization and long-term refers to three one-year periods of ABA therapy for behavioral dysregulation.

- **B.** Multiplied results of Step 3.A. by the number of members in Step 1.B.
- **C.** Divided the cost of long-term services over the first 22 years from Step 2.D. by 22 to get the average annual cost of short-term services
- **D.** Multiplied results of Step 3.C. by the number of members in Step 1.C.
- **E.** Added results from Steps 3.B. and 3.D. to estimate the annual incremental claims cost

4. **Calculate the impact of the projected claims costs on insurance premiums**
   - **A.** Estimated the fully insured Commonwealth population under age 65 projected for the next five years (2024 – 2028)
   - **B.** Calculated the PMPM impact of the incremental cost of the mandate by dividing the annual incremental cost calculated in Step 3.E. by the projected population from Step 4.A.
   - **C.** Projected PMPM claims cost over the analysis period using an estimated increase in professional service.
   - **D.** Estimated insurer retention (administrative costs, taxes, and profit) and applied the estimate to the final incremental claims cost calculated in Step 3.E. and PMPM claims costs in Step 4.C.

4.4 Assumptions and Limitations

Carriers in Massachusetts are not required to cover ABA therapy for members without an ASD diagnosis, so the utilization for members with a singular diagnosis of Down syndrome cannot be determined from claims data. In addition, literature is limited on the percentage of this population for whom ABA therapy would be indicated and the recommended length of time the therapy should be performed. BerryDunn received input from clinical experts to help estimate these parameters; however, it is difficult to predict if the uptake would be greater if the services were covered by commercial insurance. Given the uncertainty in utilization, a range of estimates was developed by varying the intensity of services up to age 22. This serves to create a bounded range sufficient to encompass variability in utilization due to either the intensity of required services and/or the number of users, without adding complexity to the model by varying both assumptions. The range was informed by estimates provided by clinical experts on the population that needs ABA services, the length of time indicated for those services, and an estimate of the average annual members seeking services in any given year.

The number of fully insured members with Down syndrome with commercial insurance under age 65 was derived using APCD claims with a diagnosis of Down syndrome. To the extent a person did not have claims in a given year, they would not be counted for purposes of this study. However, when looking at the number of members under 65 with claims, including self-insured and MassHealth, the total was very close to the estimated individuals with Down syndrome in the Commonwealth. Given the low incremental impact of the proposed mandate, no further adjustment was made to the number of members impacted when performing the analysis with the assumption that the number would be immaterial and as such, included in the range.

BerryDunn projected the costs-per-user over the analysis period using the long-term average national projection for cost increases to physician services. The actual increase in costs over the projection period is uncertain.

COVID-19 impacted the number of commercial fully insured members starting in 2020. Fully insured membership declined due to decreased enrollment in employer-sponsored insurance (ESI). The impact that COVID-19 and economic trends will have on employment and, therefore, ESI in the 2024 – 2028 projection period is uncertain.

Appendix A addresses these limitations further.

5.0 Analysis

This section describes the calculations outlined in the previous section in more detail. The analysis includes a best estimate middle-cost scenario, a low-cost scenario, and a high-cost scenario using more conservative assumptions. The analysis section proceeds as follows:

Section 5.1 describes the steps used to calculate the total estimated marginal cost of the bill.

Section 5.2 projects the fully insured population age 0 to 64 in the Commonwealth over the years 2024 – 2028.

Section 5.3 calculates the total estimated marginal cost of the bill.

Section 5.4 adjusts these projections for carrier retention to arrive at an estimate of the bill's effect on premiums for fully insured plans.

5.1 Incremental Cost of Coverage for ABA Therapy for Individuals With a Singular Down Syndrome Diagnosis

The proposed legislation requires insurers to cover ABA therapy for members with a Down syndrome diagnosis. ABA therapy for individuals with a dual diagnosis of Down syndrome and ASD is already covered through fully insured commercial insurance, so the incremental impact of the proposed mandate is for the population with a singular diagnosis of Down syndrome. As a first step, BerryDunn used APCD claim data to identify individuals under age 65 in the fully insured commercial population with a diagnosis of Down syndrome and no diagnosis of ASD. There is limited literature available regarding the frequency of the need for ABA therapy for this specific population. BerryDunn relied on information provided by clinical experts to estimate the likely percentage of members in this population who would benefit from ABA services. BerryDunn focused on members under age 22 for the purposes of this study. ABA therapy in this population is generally indicated for behavioral dysregulation and desensitization, with a different length of therapy indicated for each. Table 1 shows the number of members who could benefit from ABA services by the reason for the service.

Table 1. Total Projected Users of ABA Services Under Age 22

REASON FOR SERVICE	ELIGIBLE POPULATION	PERCENTAGE OF MEMBERS WHO NEED ABA SERVICES	NUMBER OF MEMBERS WHO NEED ABA SERVICES
Behavioral Dysregulation	465	5%	23
Desensitization	465	5%	23

The average cost/hour ($71.20) for ABA services was calculated using APCD data for individuals with an ASD diagnosis under age 22. The average cost/hour represents a blend of the different service and provider types that fall under an ABA protocol and could vary by member based on treatment patterns; however, the average cost/hour should produce a reasonable estimate in aggregate for the purposes of this analysis. Clinical experts estimated that an average of seven hours of ABA therapy a week is indicated. Multiplying seven hours a week by the average cost/hour and number of weeks in a year, BerryDunn estimated that the total average cost per year would be $25,934 for this population. BerryDunn recognizes that the number of hours a year may be slightly less due to holidays, vacations, or illness but conservatively used 52 weeks in the calculation. BerryDunn relied on information clinical experts provided on most likely length of time ABA services might be performed for behavioral dysregulation and desensitization (up to age 22). The average number of years services would be performed was varied, based on clinical input regarding number of years and number of users (as described in Section 4.4), to develop a range of costs for ABA services up to age 22, by person. Table 2 shows the total costs of ABA services by reason for the service.

Table 2. Total Cost of ABA Services up to Age 22

		BEHAVIORAL DYSREGULATION		DESENSITIZATION	
	AVERAGE COST PER YEAR	YEARS OF ABA THERAPY	TOTAL LIFETIME COST	YEARS OF ABA THERAPY	TOTAL LIFETIME COST
Low Scenario	$25,934	3	$77,802	0.5	$12,967
Mid Scenario	$25,934	5	$129,670	1.0	$25,934
High Scenario	$25,934	7	$181,538	1.5	$38,901

The average annual cost of ABA services for members under the age of 22 was calculated by dividing the cost of services in Table 2 by the number of years in the age span (22). The resultant annual cost was then multiplied by the population needing services in Table 1 to get the total marginal cost of the bill, as shown in Table 3.

Table 3. Total ABA Cost

	BEHAVIORAL DYSREGULATION			DESENSITIZATION			
	ANNUAL COST PER USER	NUMBER OF USERS	TOTAL ANNUAL COST	ANNUAL COST PER USER	NUMBER OF USERS	TOTAL ANNUAL COST	TOTAL COMBINED ANNUAL COST
Low	$3,536	23	$82,223	$589	23	$13,704	$95,926
Mid	$5,894	23	$137,038	$1,179	23	$27,408	$164,445
High	$8,252	23	$191,853	$1,768	23	$41,111	$232,964

The marginal cost of the bill was divided by the commercial under 65 fully insured membership to develop the marginal PMPM cost of the bill, which was then trended forward using the long-term average national projection for cost increases to physician and clinical services—reported at 5.9%[8] to develop the PMPM costs for calendar years 2024 – 2028, as shown in Table 4.

Table 4. Projected PMPM Cost of ABA Therapy for Members With Down Syndrome Diagnosis and No ASD Diagnosis

	2024	2025	2026	2027	2028
Low Scenario	$0.005	$0.005	$0.005	$0.006	$0.006
Mid Scenario	$0.009	$0.009	$0.009	$0.010	$0.010
High Scenario	$0.012	$0.013	$0.013	$0.013	$0.014

5.2 Projected Fully Insured Population in the Commonwealth

Table 5 shows the fully insured population in the Commonwealth ages 0 – 64 projected for the next five years. Appendix A describes the sources of these values.

Table 5. Projected Fully Insured Population in the Commonwealth, Ages 0 – 64

YEAR	2024	2025	2026	2027	2028
Total (0 – 64)	2,109,829	2,177,989	2,245,532	2,275,249	2,273,358

5.3 Total Marginal Medical Expense

The analysis assumes the mandate would be effective for all policies issued, delivered, or renewed in the Commonwealth on or after the assumed effective date of January 1, 2024. Based on an assumed renewal distribution by month, by market segment, and by the Commonwealth market segment composition, 72.1% of the member months exposed in 2024 will have the proposed mandate coverage in effect during calendar year 2024. The annual dollar impact of the mandate in 2024 was estimated using the estimated PMPM and applying it to 72.1% of the member months exposed.

Multiplying the total estimated PMPM cost by the projected fully insured membership over the analysis period results in the total cost (medical expense) associated with the proposed requirement, shown in Table 6.

Table 6. Estimated Marginal Claims Cost

	2024	2025	2026	2027	2028
Low Scenario	$92,120	$135,305	$143,288	$151,742	$160,695
Mid Scenario	$157,920	$231,951	$245,637	$260,129	$275,477
High Scenario	$223,720	$328,598	$347,985	$368,516	$390,259

5.4 Carrier Retention and Increase in Premium

Assuming an average retention rate of 14.1%—based on CHIA's analysis of administrative costs and profit in the Commonwealth[9]—the increase in medical expense was adjusted upward to approximate the total impact on premiums. Table 7 displays the result.

Table 7: Estimate of Increase in Carrier Premium Expense

	2024	2025	2026	2027	2028
Low Scenario	$107,292	$157,590	$166,888	$176,734	$187,162
Mid Scenario	$183,930	$270,154	$286,094	$302,973	$320,849
High Scenario	$260,567	$382,719	$405,299	$429,212	$454,535

6.0 Results

The estimated impact of the proposed requirement on medical expense and premiums appears in Table 8 below. The analysis includes development of a best estimate mid-level scenario, a low-level scenario, and a high-level scenario using more conservative assumptions. The impact on premiums is driven by the provisions of the bill that require coverage of ABA services for individuals with a Down syndrome diagnosis without an accompanying ASD diagnosis. Variation between scenarios is attributable to the uncertainty surrounding the number of ABA sessions needed for this population.

6.1 Five-Year Estimated Impact

For each year in the five-year analysis period, Table 8 displays the projected net impact of the proposed language on medical expense and premiums using a projection of Commonwealth fully insured membership. Note that the relevant provisions are assumed effective January 1, 2024.[10]

Figures in Table 8 differ from reference tables in Section 5, because reference tables in Section 5 reflect dollars based on a membership snapshot used in the development of the PMPMs. Table 8 displays projected membership based on a population projection, summarized in Table 5.

Finally, the impact of the proposed law on any one individual, employer group, or carrier may vary from the overall results, depending on the current level of benefits each receives or provides and on how the benefits will change under the proposed language.

Table 8 Summary Results

	2024	2025	2026	2027	2028	WEIGHTED AVERAGE	FIVE-YEAR TOTAL
Average Members (000s)	2,110	2,178	2,246	2,275	2,273		
Medical Expense Low ($000s)	$92	$135	$143	$152	$161	$144	$683
Medical Expense Mid ($000s)	$158	$232	$246	$260	$275	$247	$1,171
Medical Expense High ($000s)	$224	$329	$348	$369	$390	$350	$1,659
Premium Low ($000s)	$107	$158	$167	$177	$187	$168	$796
Premium Mid ($000s)	$184	$270	$286	$303	$321	$288	$1,364
Premium High ($000s)	$261	$383	$405	$429	$455	$408	$1,932
PMPM Low	$0.006	$0.006	$0.006	$0.006	$0.007	$0.006	$0.006
PMPM Mid	$0.010	$0.010	$0.011	$0.011	$0.012	$0.011	$0.011
PMPM High	$0.014	$0.015	$0.015	$0.016	$0.017	$0.015	$0.015
Estimated Monthly Premium	$577	$593	$609	$625	$642	$609	$609
Premium % Rise Low	0.0010%	0.0010%	0.0010%	0.0010%	0.0011%	0.0010%	0.0010%
Premium % Rise Mid	0.0017%	0.0017%	0.0017%	0.0018%	0.0018%	0.0018%	0.0018%
Premium % Rise High	0.0025%	0.0025%	0.0025%	0.0025%	0.0026%	0.0025%	0.0025%

6.2 Impact on GIC

The proposed mandate would apply to self-insured plans operating for state and local employees by the GIC. This section describes the results for the GIC.

Findings from BerryDunn's carrier survey indicate that benefit offerings for GIC and other commercial plans in the Commonwealth are similar. For this reason, the cost of the bill for GIC per member will likely be similar to the cost for other fully insured plans in the Commonwealth.

BerryDunn assumed the proposed legislative change will apply to self-insured plans that the GIC operates for state and local employees, with an effective date of July 1, 2024. Because of the July effective date, the results in 2024 are approximately one-half of an annual value. Table 9 breaks out the GIC's self-insured membership, as well as the corresponding incremental medical expense.

Table 9. GIC Summary Results

	2024	2025	2026	2027	2028	WEIGHTED AVERAGE	FIVE-YEAR TOTAL
GIC Self-Insured							
Members (000s)	313	312	312	311	310		
Medical Expense Low ($000s)	$9	$19	$20	$21	$22	$20	$91
Medical Expense Mid ($000s)	$16	$33	$34	$36	$38	$35	$157
Medical Expense High ($000s)	$23	$47	$48	$50	$53	$49	$222

Endnotes

[1] The 193rd General Court of the Commonwealth of Massachusetts, House Bill 1084 and Senate Bill 617, "An Act Relative to Applied Behavioral Analysis." Accessed June 22, 2023. **https://malegislature.gov/Bills/193/H1084** and **https://malegislature.gov/Bills/193/S617**.

[2] *Ibid.*

[3] The bill, as currently written, does not include Chapter 176A. However, the Sponsors confirmed that the bill's intent is to include Chapter 176A.

[4] 45 CFR §156.115(a)(5)(i) Provision of EHB. Code of Federal Regulations. Accessed July 10, 2023. **https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-B/part-156/subpart-B/section-156.115**.

[5] HMO Blue® New England $2,000 Deductible Plan Option. Accessed **June** 7, 2023. **https://www.mass.gov/doc/ehbbp-hmoblue-2017pdf/download**.

[6] *Ibid.*

[7] M.G.L. c. 175 §47AA, M.G.L. c. 176A §8DD, M.G.L. c. 176G §4V, M.G.L. c. 176B §4DD. Accessed June 23, 2023. **https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter175/Section47AA**; **https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter176A/Section8dd**; **https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter176g/Section4V**; **https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter176B/Section4dd**.

[8] U.S. Centers for Medicare & Medicaid Services, Office of the Actuary. National Health Expenditure Projections. "Table 6, Hospital Care Expenditures; Aggregate and per Capita Amounts, Percent Distribution and Annual Percent Change by Source of Funds: Calendar Years 2018-2027; Private Insurance." Accessed May 23, 2022. **https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html**.

[9] Massachusetts Center for Health Information and Analysis. Annual Report on the Massachusetts Health Care System, September 2017. Accessed September 14, 2022. **http://www.chiamass.gov/annual-report**.

[10] With an assumed start date of January 1, 2016, dollars were estimated at 70.7% of the annual cost, based upon an assumed renewal distribution by month (Jan through Dec) by market segment and the Massachusetts market segment composition.

Appendix A: Membership Affected by the Proposed Language

Membership potentially affected by proposed mandated change criteria includes Commonwealth residents with fully insured, employer-sponsored health insurance issued by a Commonwealth-licensed company (including through the GIC); nonresidents with fully insured, employer-sponsored insurance (ESI) issued in the Commonwealth; Commonwealth residents with individual (direct) health insurance coverage; and lives covered by GIC self-insured coverage. Other populations within the self-insured commercial sector are excluded from the state coverage mandate due to federal Employee Retirement Income Security Act (ERISA) protections of self-insured plans.

The unprecedented economic circumstances due to COVID-19 add particular challenges to estimation of health plan membership. The membership projections are used to determine the total dollar impact of the proposed mandate in question; however, variations in the membership forecast will not affect the general magnitude of the dollar estimates. Given the uncertainty, BerryDunn took a simplified approach to the membership projections. These membership projections are not intended for any purpose other than producing the total dollar range in this study. Further, to assess how recent volatility in commercial enrollment levels might affect these cost estimates, please note that the PMPM and percentage of premium estimates are unaffected because they are per-person estimates, and the total dollar estimates will vary by the same percentage as any percentage change in enrollment levels.

CHIA publishes monthly enrollment summaries in addition to its biannual enrollment trends report and supporting databook (enrollment-trends-Data Through September 2022 databook[1] and Monthly Enrollment Summary – June 2021[2]), which provide enrollment data for Commonwealth residents by insurance carrier for most carriers, excluding some small carriers. CHIA uses supplemental information beyond the data in the Massachusetts APCD to develop its enrollment trends report and adjust the resident totals from the Massachusetts APCD. CHIA-reported enrollment data formed the base for the membership projections. For the base year 2019 in the membership projection, the 2019 Massachusetts APCD and published 2019 membership reports available from the Massachusetts Division of Insurance (DOI) [3,4] were used to develop a factor used to adjust the CHIA enrollment data for the few small carriers not present in the enrollment report. The adjustment was trended forward to 2022 and applied to CHIA enrollment data.

In 2021, commercial, fully insured membership was 5.6% less than in 2019, with a shift to both uninsured and MassHealth coverage. As part of the public health emergency (PHE), members were not disenrolled from MassHealth coverage, even when they no longer passed eligibility criteria. Shortly before the PHE ended, redetermination efforts began in April 2023 and are anticipated to occur over a 12-month period. Many of the individuals subject to redetermination will no longer be eligible for MassHealth coverage. It is anticipated that a portion of individuals losing coverage will be eligible for coverage in individual ACA plans and ESI. The impact of COVID-19 on the fully insured market over the five-year projected period (2024 – 2028) is uncertain. It is not anticipated that enrollment levels in commercial insurance will immediately return to 2019 levels.

The number of MassHealth members moving to commercially insured plans after the unwinding of the PHE was estimated by a study performed by the National Opinion Research Center (NORC) at the University of Chicago.[5] BerryDunn used these results and assumed MassHealth disenrollment occurs uniformly from April 2023 to March 2024. BerryDunn further assumed that the commercial market will return to pre-pandemic enrollment levels by the

end of the projection period in December of 2027.

The distribution of members by age and gender was estimated using Massachusetts APCD population distribution ratios and was checked for reasonableness and validated against U.S. Census Bureau data.[6] Membership was projected from 2024 – 2028 using Massachusetts Department of Transportation population growth rate estimates by age and gender.[7]

Projections for the GIC self-insured lives were developed using the GIC base data for 2018 and 2019, which BerryDunn received directly from the GIC, as well as the same projected growth rates from the Census Bureau that were used for the Commonwealth population. Breakdowns of the GIC self-insured lives by gender and age were based on the Census Bureau distributions.

Endnotes

[1] Center for Health Information and Analysis. Estimates of fully insured and self-insured membership by insurance carrier. Accessed March 17, 2023. **https://www.chiamass.gov/enrollment-in-health-insurance/**.

[2] *Ibid.*

[3] Massachusetts Department of Insurance. HMO Group Membership and HMO Individual Membership Accessed March 21, 2023. **https://www.mass.gov/doc/quarterly-group-members-q4-2020/download; https://www.mass.gov/doc/quarterly-individual-members-q4-2020/download**.

[4] Massachusetts Department of Insurance. Membership in Insured Preferred Provider Plans. Accessed March 21, 2023. **https://www.mass.gov/doc/2019-ippp-medical-plans/download**.

[5] NORC at the University of Chicago, Medicaid Redetermination Coverage Transitions, Accessed June 12, 2023. **https://ahiporg-production.s3.amazonaws.com/documents/Medicaid-Redetermination-Coverage-Transitions-Methodology.pdf**.

[6] U.S. Census Bureau. Annual Estimates of the Resident Population by Single Year of Age and Sex: April 1, 2010, to July 1, 2019. Accessed March 17, 2023. **https://www2.census.gov/programs-surveys/popest/tables/2010-2019/state/asrh/sc-est2019-syasex-25.xlsx**.

[7] Massachusetts Department of Transportation. Socio-Economic Projections for 2020 Regional Transportation Plans. Accessed November 12, 2020. **https://www.mass.gov/lists/socio-economic-projections-for-2020-regional-transportation-plans**.