

# **School Health Program**

**(216-RICR-20-10-4)**

## **Benefit Cost Analysis**

**October 2021**

### **Background**

Marijuana is permitted in the State of Rhode Island for certain qualifying medical conditions when a licensed physician certifies in writing that its use may alleviate a person's symptoms. Medical marijuana can be used for conditions such as chronic pain, post-traumatic stress disorder (PTSD), cancer, seizures including epilepsy, and autism spectrum disorder, among others.

As of June 2020, the most recent data available, there are 19,803 active medical marijuana patients in the State<sup>1</sup>. Of the 19,803, there are roughly 30 minors who are patients. Currently there are no regulations that provide procedures for how medical marijuana students are able to receive their medication during the school day or on school grounds.

The Rhode Island Department of Health ("RIDOH") is proposing amendments to the School Health Program regulation (216-RICR-20-10-4) in order to require schools to develop policies and procedures for the administration of medical marijuana and cannabidiol (CBD) on school campus. This economic analysis will focus on the costs and benefits to Rhode Island schools and medical marijuana card holder students.

### **Alternative 1: Status Quo**

In order to determine the costs and benefits of the proposed regulation, a baseline must first be established.

#### *Costs*

Currently, schools are not required to permit students to consume medical marijuana on campus, however, RIDOH has heard anecdotal evidence that a few schools have allowed parents/guardian to come onto campus to administer to the student. A couple of schools require parents/guardian to sign the student out and take the student off campus in order to administer the medication.

---

<sup>1</sup> Rhode Island Department of Health. (2020). (rep.). *2020 Medical Marijuana Program Annual Report to the Rhode Island General Assembly*. Rhode Island Department of Health.

In either scenario parents/guardians are taking time away from their jobs in order to administer the medication, likely resulting in lost wages for the parent. According to the U.S. Bureau of labor statistics, the median hourly wage for Rhode Islanders is \$21.24<sup>2</sup>.

Therefore:

\$ 21.24 x 2-hour x 180 school days = \$ 7,646.40 of potential lost wages per student per school year

\$ 7,646.40 x 30 students = \$ 229,362 total for all medical marijuana students each school year.

The \$ 229,362 total accounts for the total cost of all medical marijuana students to have their parents administer the medication. Yet not all students have this benefit; RIDOH has been given anecdotal evidence of less than five students have the benefit of his or her parents being able to come administer medication on school grounds. Parents or guardians with children in schools that do not allow them to come and administer medical marijuana to their child on school grounds must remove their child from school property to administer the medication elsewhere and then bring the student back to school. Therefore, there are lost wage costs for all students under the current policy which does not allow a mechanism for school nurses to administer the medication.

The remaining students who are unable to have their parents administer the medication, are likely not adhering to their medication regimen and can be at risk for an emergency room visit and/or hospitalization.

An emergency room visit costs a minimum of \$1,200<sup>3</sup> in facility and physician costs alone. The costs are likely higher in the event of any diagnostic or laboratory work or any medication administered. Hospitalization can be even more expensive at an average of \$7,800<sup>4</sup>.

However, it is unlikely that the all 25 students who are medical marijuana patients will have a hospitalization or emergency room visit.

In 2019, it was reported that 528 emergency room visits were made from a school setting and 102 hospitalizations occurred from a school setting<sup>5</sup>. If it could be assumed that a third of students who are medical marijuana patients were sent to the emergency

---

2 U.S Bureau of Labor Statistics. (2021, March 31). *Rhode Island Occupational Employment and Wage Statistics*. State Occupational Employment and Wage Estimates. Retrieved September 13, 2021, from [https://www.bls.gov/oes/current/oes\\_ri.htm#00-0000](https://www.bls.gov/oes/current/oes_ri.htm#00-0000).

3 Rhode Island Department of Health. (n.d.). State of Rhode ISLAND: Department of health. Potentially Preventable Emergency Room Visits. Retrieved September 13, 2021, from <https://health.ri.gov/data/potentiallypreventableemergencyroomvisits/>.

4 Agency for Healthcare Research and Quality. (2019, August 27). *Costs of Pediatric Hospital Stays*. Costs of Pediatric Hospital Stays, 2016. Retrieved September 13, 2021, from <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb250-Pediatric-Stays-Costs-2016.jsp>.

5 Rhode Island Department of Health. (n.d.). Hospital Discharge Data. Retrieved September 13, 2021, from <https://health.ri.gov/data/hospitalization/discharge/>.

room because of failure to adhere to consistent medication schedule, it could also be assumed that of those ten emergency room visits, at least one resulted in a hospitalization. The following costs are produced.

Emergency Room:

10 students \* 1 incident \* \$1,154 = \$ 11,540

Hospitalization:

1 students \* 1 incident \* \$7,800 = \$ 7,800

The use of medical marijuana can improve or even eliminate symptoms of a chronic illness in lieu of the use of conventional prescribed medication. Students who do not adhere to their medication schedule could end up with flair-ups of symptoms causing them to miss school.

Chronic absenteeism is defined as missing more than 10% - or 18 days - of a 180-day school year. For children in elementary school, chronic absenteeism results in lower achievements in math and reading and can continue until the child reaches seventh grade. Additionally, chronically absent elementary school children are twice as likely to repeat a grade<sup>6</sup>.

Children in middle or high school who are chronically absent are at a higher risk of disengagement from school, academic failure and dropping out than their peers<sup>6</sup>. Furthermore, students who do not complete high school have worse life trajectories than their peers including limited employment prospects, low wages, poverty, poor health and premature death<sup>7</sup>.

For all grades, the most common reason for missing school was due to health-related reasons<sup>6</sup>. By addressing reasons for absenteeism and creating a community response student attendance can be improved and therefore a better life trajectory. Research has estimated that for every year of a high school a student completes their lifetime wealth increases by 15%. Compared to high school dropouts, those who complete high school have \$244,000 more in lifetime earnings<sup>6</sup>.

Rhode Island's class of 2019 had 8% of students who did not finish high school, and of the 8%, only 2% went on to complete their GED<sup>6</sup>.

If just one student who is a medical marijuana patient, drops out due to health-related reasons, that will cost the student \$244,000 in lifetime earnings.

### *Benefits*

---

<sup>6</sup> Rhode Island Kids Count. (2020). (rep.). *2020 Rhode Island Kids Count Factbook*. Rhode Island Kids Count.

<sup>7</sup> Office of Disease Prevention and Health Promotion. (2020). (issue brief). *High School Graduation*.

There are approximately five children who can have the medication administered during the school day by his or her parent. These five children are no longer at risk for potentially being sent to the emergency room or being hospitalized due to not adhering to their medication regime. Additionally, the children are less likely to miss school from unmanaged symptoms from their illness and therefore will have better education outcomes and are less likely to drop out.

The remaining twenty-five children are unable to have the same benefit, either because the school does not permit it or perhaps the parent is unaware the school may permit medical marijuana administration. As such, the current policy does not allow for the benefits to be borne equally for medical marijuana students.

## **Alternative 2: Proposed Regulation**

In the proposed regulation, RIDOH will require each school to develop policies and protocols for students who are medical marijuana patients to receive their medication by either a parent, legal guardian, parental designee, or school nurse. However, the proposed regulation permits the school nurse to refuse medical marijuana administration as long as the refusal applies to all medical marijuana students. Schools may also opt out of developing policies and procedures related to medical marijuana administration if they are able to demonstrate loss of federal funding as a result of implementation.

### *Cost*

Under the proposed regulation costs would be incurred by school districts in the form of time spent developing the mandated school protocols for storage and administration of medical marijuana by school nurses, parents/guardians, or parent/guardian designees.

### *Labor Costs:*

1. To develop protocols and procedures for Medical Marijuana administration

Cost for labor: \$50/hour<sup>8</sup>

Time: 20 hours

Total Cost:

\$50/hour \* 20 hours \* 66 school districts = \$66,000

### *Benefit*

A national survey on attitudes and administration of medical marijuana by health care providers showed only 25% of providers would refuse to administer medical marijuana<sup>9</sup>. Assuming the same statistics would apply in Rhode Island of an estimated 25% of

---

<sup>8</sup> Salary is based on average education administrator salary for RI  
[https://www.bls.gov/oes/current/oes\\_ri.htm](https://www.bls.gov/oes/current/oes_ri.htm)

school nurses opting out of medical marijuana administration, at least seven students and families will be impacted each school year. A cost of \$53,524 in lost wages for all impacted students, per school year will be incurred.

While national data poses a generally favorable view of administering medical marijuana, when RIDOH conducted an advance notice of proposed rulemaking as well as two community reviews on this topic, a majority of school nurses opposed such administration as medical marijuana is not approved by the Food and Drug Administration. Additionally, it was communicated that there are limited studies on the impact of early marijuana use and brain development. RIDOH therefore anticipates as much as 50% of school nurses refusing to administer medical marijuana. If half of school nurses refuse to administer, then 15 students would be impacted, and students would either go without their medication or a cost of up to \$114,690 of lost wages per school year.

For every school nurse who agrees to administer will save a parent/guardian from having to come to school to administer the medication. These benefits will range depending on how many school nurses opt-out of administering medical marijuana.

If it assumed only 25% school nurses will opt out and the parents, legal guardians, or parent designee are unable to administer themselves on school campus, only seven students would be without access to medicine and thus at risk for an emergency room visit or hospitalization would be lowered. Emergency room visits would be lowered from ten to seven and hospitalization will likely either remain at one or drop to zero.

In this scenario, costs of an emergency room visit are lowered by \$3,462, to a total cost of \$8,078. If no students are hospitalized, then it adds an additional cost savings of \$7,800. These cost savings could be even greater in the event the parent, legal guardian, or parent designee is able to administer the medication.

Assuming all students will be able to receive their medication either through the school nurse or parent/legal guardian/parent designee, students will then be more focused in school and have better education outcomes. The side effects from their health condition will be better managed and likely result in fewer missed school days and therefore improving education outcomes and thus life trajectory.

Even with school nurses opting out of administering medical marijuana, the option of allowing parents, legal guardians and parent designees to come to campus to administer medical marijuana allows for further medication access for students.

The benefits of the proposed regulation come in the form of the decreases in lost wages and medical emergencies that are expected to be realized when 50% to 75% of school

---

9 Attitudes and knowledge about cannabis and cannabis-based therapies among US neurologists, nurses, and pharmacists. *Epilepsy & Behavior*: Volume 109, August 2020.

nurses are able to administer medical marijuana to authorized student patients. Lost wages decrease by \$114,702 to \$175,868. Emergency room visit costs decrease by \$3,462. And hospitalization costs decrease by between \$0 and \$7,800. Therefore, the annual benefits of the proposed regulation break down as follows:

|                          |                       |
|--------------------------|-----------------------|
| Lost wages prevented     | \$114,702 - \$175,868 |
| ER visits avoided        | \$3,462               |
| Hospitalizations avoided | \$3,900               |
| Total annual benefits    | \$122,064 - \$183,230 |

### *Net Present Value*

A total of 36 states as well as the District of Columbia, Guam, Puerto Rico and the U.S. Virgin Islands have approved marijuana for medicinal use. It is expected that, as more states permit medical marijuana, additional data on treatment procedures and conditions will be expanded. Additionally, as more states allow recreational marijuana this will further research on the benefits of marijuana.

It is difficult for RIDOH to project how many children will be medical marijuana patients. Currently it varies on how many children are in the medical marijuana program. However, RIDOH feels it would be reasonable to assume that a minimum of two children will be added to the program each year. Therefore, RIDOH would expect a minimum of 20 additional children to need medical marijuana by the year 2031 for a total of 50 children who would benefit from the allowance of receiving this medication on school campuses.

This represents approximately a 5.2% annual increase. Though the costs of the proposed regulation are incurred one time, the benefits recur annually, and we would expect them to increase proportionally to the increase in the affected population.

Therefore, the five-year schedule of costs and benefits for the proposed regulation breaks down as follows:

|                 | <b>2022</b>              | <b>2023</b>              | <b>2024</b>              | <b>2025</b>              | <b>2026</b>                 | <b>2027</b>              |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|--------------------------|
| <b>Costs</b>    | \$66,000                 | \$0                      | \$0                      | \$0                      | \$0                         | \$0                      |
| <b>Benefits</b> | \$122,064 -<br>\$183,230 | \$128,411 -<br>\$192,758 | \$135,089 -<br>\$202,781 | \$142,113 -<br>\$213,326 | \$149,503<br>-<br>\$224,419 | \$157,277 -<br>\$236,088 |

|                                  | <b>7% Discount Rate</b> | <b>7% Discount Rate</b> |
|----------------------------------|-------------------------|-------------------------|
| <b>Present value of benefits</b> | \$656,322 - \$985,204   | \$750,120 - \$1,126,004 |
| <b>Present value of costs</b>    | \$66,000                | \$66,000                |
| <b>Net present value</b>         | \$590,322 - \$919,204   | \$684,120 - \$1,060,004 |

### *Alternative Option 3: Student Self-Administration*

RIDOH could permit schools to allow students to self-administer for their own medication. Depending on the age of the student, schools are permitted to let the student administer their own medication (e.g., asthma inhalers). If this scenario was permitted RIDOH could assume the following costs and benefits would be incurred.

#### *Cost*

A student could over or under administer their medication causing them to be unable to focus while in school. In the event a child is unable to focus due to their medication, the student may need to be sent home. The student then misses valuable instruction time and is more likely to have poorer education outcomes as a result of missed instruction. Furthermore, too many missed school days could result in the child being held back or dropping out of school. In the 2019 school year, 8% of a cohort of 11,272 students dropped out, or approximately 902 students. If just one student who is a medical marijuana patient ends up dropping out, that can cost the student \$244,000 in lifetime earnings<sup>6</sup>.

Given that marijuana is a popular recreational drug, a medical marijuana patient may feel pressured to share their medication with friends or they may be targeted by non-medical marijuana students and have their medication taken from them. This can result in non-medical marijuana patients using marijuana during school time. These children could have negative reactions to marijuana causing them to be sent home, or in extreme cases, sent to the emergency room.

In either scenario additional students miss out on valuable instruction time which can have negative education outcomes. Additionally, an incident resulting in a child going into the emergency will cost roughly \$1,200. And the school may face legal issues for creating a situation in which an unauthorized child consumed a drug.

#### *Benefit*

The benefit to students being able to self-administer is that it would prevent the parent/guardian from having to come to the school to administer the medication. However, this would be dependent on the student being old enough to administer the medication. In this situation, RIDOH will assume two-thirds (20 of 30 students) being old enough to self-administer resulting in the following savings:

$\$21.24 \times 2\text{-hour} \times 180 \text{ school days} = \$7,646.40$  of lost wages per student per school year

$\$7,646.40 \times 20 \text{ students} = \$152,928$  for two-thirds of current medical marijuana students each school year.

#### *Determination:*

There is a strong potential to inappropriately dose the medication and therefore the student may not receive the intended therapeutic benefits and be unable to continue with the school day. Additionally, there is concern that a student may share their medication if they are not closely monitored. This could result in adverse effects of students who are not prescribed medical marijuana. Given these reasons, this alternative is not feasible.

#### *Alternative Option 4: Only School Nurse Administration*

To combat the issues of allowing students to self-administer, RIDOH could permit administration of medical marijuana only by the school nurse. School nurses are required to be licensed in accordance with R.I. Gen. Laws Chapter 5-34. School nurses would be well equipped to handle any potential negative outcomes and be able to ensure only designated students receive the medication.

#### *Cost*

Since marijuana is still federally illegal and has not been approved by the Food and Drug Administration (FDA) as an approved medication, many nurses may not feel comfortable administering. As such, many nurses may refuse to administer. Given the many objections received from school nurses during the two-advance notice of proposed rulemaking of the School Health Program regulation (216-RICR-20-10-4), RIDOH will assume that a range of 25% to 50% of the school nurses will refuse to administer.

Even if parents/guardians would not be able to come to campus and administer on campus, the medical marijuana students could still be signed out of school and taken off campus and have their medication administered. If 50% to 75% of the medical marijuana students must have their medication administered in this fashion, then the costs will range between \$53,524 to \$114,690.

As mentioned in above scenarios, children not receiving their medication could result in not only negative health effects such as emergency room visits or hospitalizations but also negative education outcomes from missed school days resulting in lower math and reading proficiency, repeating grades, or dropping out.

#### *Benefit*

By only allowing school nurses to administer the medication, parents, legal guardians or parent designees do not need to take time out of work to administer the student's medication. In this scenario, it is assumed that this benefit would only be made available to school nurses who decided to administer the medication on school campus. In this scenario the following benefit is assumed with 50% to 75% of school nurses choosing to administer, then the cost savings range from \$114,690 to \$175,867.

### *Determination*

While this option does improve access from the current policy, this option still leaves many medical marijuana students without access to necessary medication if their school nurse refuses to administer. This alternative is not feasible.

### **Determination**

Based on the above fiscal analysis, RIDOH has determined that the proposed solution provides the best solution for students who are medical marijuana patients to receive their medication. The proposed solution is cost-effective, and the benefits will increase further as additional children are projected to benefit from the policy.

Pursuant to R.I. Gen. Laws § 42-35-2.9, RIDOH has determined:

1. The benefits of the proposed rule justify the costs of the proposed rule; and
2. The proposed rule will achieve the objectives of the authorizing statute in a more cost-effective manner, or with greater net benefits than that other regulatory alternatives.

Therefore, RIDOH's proposed regulation is the most cost-effective solution as the benefits outweigh the costs.