House Bill 19-1312, School Immunization Requirements, will require the Departments of Public Health and Environment to create a standard form and submission process for those seeking an exemption to immunizations due to a medical complication, religious, and personal beliefs. The Departments will be required to develop educational material regarding immunizations to be distributed to health care facilities. The new process and current immunization tracking system is to be presented at the SMART Act hearing. The new rules and regulations are to promulgate the medical exemption recommendations from the Advisory Committee on Immunization Practices according to the Center for Disease Control and Prevention in the Federal Department of Health. In addition, new regulations can be mandated, such as the time schools, parents, legal guardians, and students have to comply with the requirements. The bill intends to protect Colorado from preventable diseases by enacting new mandates required for students to opt out of vaccinations.

House Bill 19-1312 requires students to provide an up-to-date certificate of immunizations from a licensed physician before attending school, or written consent by their parent, guardian, or emancipated self requesting local health officials administer the vaccination. By providing the option to consent to a local health official administering the vaccination it provides an easy way for unvaccinated students to obtain the immunization; and will likely increase the number of students vaccinated.

Exemptions to the requirement of student vaccinations are limited to only those unable to receive the vaccination due to medical complication, or who have obtained a religious or

personal belief certificate. To obtain a certificate of exemption for a medical reason, a licensed physician must specify the immunization will endanger the student's health or that the child is constrained due to other medical conditions. For all non-medical exemptions, the requesting parent, guardian, or emancipated student must complete the mandated forms necessary and acquire an in-person signature from the Public Health and Environment Department, or their applicable county, district, or municipal health agency.

Economic analysis of House Bill 19-1312 finds various positive effects likely to reduce the number of non-vaccinated students. By reducing the amount of non-vaccinated students, it helps to promote public health. For example, the measles declined rapidly within the 1990s by means of vaccinations. However, new hesitancy among parents in the U.S. has resulted in recent outbreaks (Immunize, 2016). And in 2018, one non-vaccinated child put the public's health at risk and spread the contagious disease of measles to 58 people in New York City (Thompson, 2018).

Because of vaccinations, a variety of preventable diseases are becoming rarer within the United States (CDC, 2018). For example, smallpox is now an eradicated disease because of vaccinations and is no longer a needed immunization. Conversely, if vaccinations are not used the opposite outcome occurs and diseases will spread, with the potential to cause nearly eliminated diseases to come back.

In 1974, Japan successfully vaccinated 80% of children from whooping cough, leading to only 393 cases countrywide and no deaths. But, in 1976 only 10% of infants were being immunized from the disease. By 1979 Japan suffered a catastrophic whooping cough epidemic, causing more than 13,000 cases and 41 deaths (CDC, 2018).

The failure to vaccinate can led to a multitude of negative non-pecuniary externalities, which is a cost incurred by someone as the consequence of someone else's actions. In regard to immunizations, failure to do so endangers children, risks infecting others, and can lead to the exclusion from school without proper documentation. Currently, the Centers for Disease Control and Prevention ranks Colorado last out of 49 states for vaccination rates for kindergarteners (Oravetz, 2019). Vaccination rates within Colorado schools vary vastly with reports of immunization rates of 50% or less, compared to others of 93-95% (Schimke, 2018). Due to the severe public health risk and excessive frequency of opting out of vaccinations, government intervention is warranted.

The current process to claim a non-medical exemption from vaccinations in Colorado only requires a statement of exemption from a child's parent, guardian, or emancipated self to be filed with the school (Oravetz, 2019). This is a very easy process. The forms can be downloaded from the Colorado State website and completed at home (Colorado.gov).

However, the proposed bill will make opting out of vaccinations more difficult. This will discourage individuals from avoiding vaccinations in order to avoid associated inconveniences. The process for obtaining an exemption will be more difficult if in-person signatures from the Public Health and Environmental Department, or their applicable county, district, or municipal health agency are required. These certificates for non-medical exemptions will also require yearly renewal. Each of these aspects will likely help reduce the number of students opting out.

The bill requires the Departments to develop educational material regarding immunizations to be distributed to health care facilities. This will aid in informing parents of false information circulating the media, such as a discredited study conducted by Andrew Wakefield (Roa & Andrade, 2011). The study suggested a connection between the measles,

mumps, and rubella vaccines with predispositions to autism. However, due to inadequate methods, financial interests, ethical violations, and scientific misconduct, the study has been discredited and Wakefield's medical license has been revoked. Nonetheless, vaccination rates have declined due to parents' concern about disproven risks of autism (Rao &Andrade, 2011).

By helping notify parents of information regarding vaccinations and the falsehoods circulating social media it will reduce asymmetric information. This has the potential to increase the number of children receiving vaccinations by easing the fears parents have regarding them. However, the bill does not specify the forms or extent of information that will be provided to health care facilities, and so it is hard to determine the impact the information will have.

House Bill 19-1312, School Immunization Requirements, has the potential to reduce the negative non-pecuniary externalities non-vaccinated children create. It makes opting out of vaccinations harder for parents, helping to ensure not only the child's safety but also that of the public. The bill will aid in protecting our schools, reduce their susceptibility to spread diseases, and improve public health. By requiring the Departments to create educational material regarding vaccines to be distributed to health care facilities it helps inform the public of their benefits. The public has been misled by discredited studies that incorrectly attributed health risks to vaccinations. Appropriate information, disseminated by the government, will help to remedy these misconceptions. House Bill 19-1312 will help ensure students receive needed vaccinations and should be passed.

However, amendments can be made to better protect our students and the public. The bill protects the right to seek exemption of vaccinations on personal belief. Currently only seventeen states, including Colorado, preserve this right. The other thirty-three states allow either medical

and religious exemptions or only medical exemptions (NCSL, 2019). California, West Virginia, and Mississippi are the only three states to only allow medical exemptions (NCSL, 2019).

Given the severe negative non-pecuniary externalities non-vaccinated children create, I urge an amendment be made to eliminate the personal belief exemption. This amendment will follow what most states deem appropriate legislation regarding exemptions to school immunizations. Upon eliminating the person belief exemption, House Bill 19-1312 has a greater chance to protect students and the public from preventable diseases.

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