HB 559 Opposition Testimony

Chairman Huffman, Vice Chair Gavarone, Ranking Member Antonio and Honorable members of the Health Committee, thank you for the opportunity to voice a couple of my concerns about HB559.

1.) Vaccination does not guarantee immunity. During sponsor testimony, a Representative asked if there was a specific vaccination rate that would provide assurance of safety on behalf of immunocompromised children. This important question was left unanswered. Consider the following reports:

News report: **Student Diagnosed With Mumps at California State University San Marcos**
"The student lived off campus and was current on mumps vaccinations."
https://www.nbcsandiego.com/on-air/as-seen-on/Cal-State-San-Marcos-Student-Diagnosed-With-Mumps-395189031.html

News report: **How did Vaccinated Harvard Student Get the Mumps?**
"According to the Boston Globe, all of the infected students at Harvard were vaccinated against mumps."
http://m.huffpost.com/us/entry/us_57276bc7e4b0b49df6abc402

News report: **Mumps outbreak Whitworth University**
"All three students were fully immunized against the mumps."
http://www.khq.com/story/33328845/three-confirmed-mumps-cases-inwhitworth-university-students

News report: **Mumps outbreak**
"All of the students with confirmed or probable cases at Missouri have received the required two doses of a vaccine that protects against mumps, as well as measles and rubella..."
http://www.kansascity.com/news/state/missouri/article115467353.html

Journal article: **Measles outbreak in a fully immunized secondary-school population** *The New England Journal of Medicine*
"We conclude that outbreaks of measles can occur in secondary schools, even when more than 99 percent of the students have been vaccinated and more than 95 percent are immune."
http://www.ncbi.nlm.nih.gov/pubmed/3821823

As evidenced by these reports, vaccination does not necessarily result in immunity, and therefore the vaccination compliance rate is a metric that would fail to inform immunocompromised patients of their true risk of exposure.

2.) An individual who receives a live viral vaccine may shed the virus and transmit it to those around them. Please review the following vaccine insert:

Varivax, section 5.4
"Due to the concern for transmission of vaccine virus, vaccine recipients should attempt to avoid whenever possible close association with susceptible high-risk individuals for up to six weeks following vaccination with VARIVAX."
https://www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM142812.pdf

If the goal of this legislation is truly to protect the immunocompromised, it would be prudent for schools to mandate that all children recently vaccinated with the Varivax vaccine be excluded from school for at least 6 weeks following vaccination in light of the known potential for shedding.

Here is another example:

Horizontal transmission of the Leningrad-3 live attenuated mumps vaccine virus. *Vaccine, 2006*
"The L-3 mumps vaccine virus can be shed and transmitted horizontally, even to subjects previously vaccinated with the same virus."
https://www.sciencedirect.com/science/article/pii/S0264410X05010467?via%3Dihub

Please review the MMR vaccine insert:
"Excretion of small amounts of the live attenuated rubella virus from the nose or throat has occurred in the majority of susceptible individuals 7 to 28 days after vaccination."
http://www.merck.com/product/usa/pi_circulars/m/mmr_ii/mmr_ii_pi.pdf

HB 559 would never be able to accomplish the stated purpose of protecting immunocompromised school children because vaccine failure and live viral vaccine shedding may put individuals who are immunocompromised at serious risk even in the presence of high vaccination rates.

For these reasons, I respectfully request that you oppose HB 559. Thank you.

Thank you,

Maura Urchek BSN, RN, CCM

Additional Resources:

Hepatitis B triple series vaccine and developmental disability in US children aged 19 years, *The Journal of Toxicological & Environmental Chemistry, 2008*
"The odds of receiving EIS (special education services) were approximately nine times as great for vaccinated boys (n = 46) as for unvaccinated boys (n = 7), after adjustment for confounders."
https://www.tandfonline.com/doi/abs/10.1080/02772240701806501

Mechanisms of aluminum adjuvant toxicity and autoimmunity in pediatric populations. *Lupus. 2012*
"Immune challenges during early development, including those vaccine-induced, can lead to permanent detrimental alterations of the brain and immune function. Experimental evidence also shows that simultaneous administration of as little as two to three immune adjuvants can overcome genetic resistance to autoimmunity. In some developed countries, by the time children are 4 to 6 years old, they will have received a total of 126 antigenic compounds along with high amounts of aluminum (Al) adjuvants through routine vaccinations."
https://www.ncbi.nlm.nih.gov/pubmed/22235057

Administration of aluminium to neonatal mice in vaccine relevant amounts is associated with adverse long term neurological outcomes. *Journal of Inorganic Biochemistry, 2013*
"These current data implicate Al injected in early postnatal life in some CNS alterations that may be relevant for a better understanding of the aetiology of ASD."
https://www.ncbi.nlm.nih.gov/pubmed/23932735

Aluminum hydroxide injections lead to motor deficits and motor neuron degeneration *Journal of Inorganic Biochemistry, 2010*
"Behavioural analyses in these mice revealed significant impairments in a number of motor functions as well as diminished spatial memory capacity. The demonstrated neurotoxicity of aluminum hydroxide and its relative ubiquity as an adjuvant suggest that greater scrutiny by the scientific community is warranted."
https://www.sciencedirect.com/science/article/pii/S0162013409001809?via%3Dihub

Aluminium and breast cancer: Sources of exposure, tissue measurements and mechanisms of toxicological actions on breast biology *Journal of Inorganic Biochemistry, 2013*
"This review examines recent evidence linking exposure to aluminium with the aetiology of breast cancer. The human population is exposed to aluminium throughout daily life including through diet, application of antiperspirants, use of antacids and vaccination. Aluminium has now been measured in a range of human breast structures at higher levels than in blood serum and experimental evidence suggests that the tissue concentrations measured have the potential to adversely influence breast epithelial cells including generation of genomic instability, induction of anchorage-independent proliferation and interference in oestrogen action. The presence of aluminium in the human breast may also alter the breast microenvironment causing disruption to iron metabolism, oxidative damage to cellular components, inflammatory responses and alterations to the motility of cells."
https://www.ncbi.nlm.nih.gov/pubmed/23899626

Aluminum Vaccine Adjuvants: Are They Safe? *Current Medical Chemistry, 2011*
"Experimental research, however, clearly shows that aluminum adjuvants have a potential to induce serious immunological disorders in humans. In particular, aluminum in adjuvant form carries a risk for autoimmunity, long-term brain inflammation and associated neurological complications and may thus have profound and widespread adverse health consequences."
https://www.ncbi.nlm.nih.gov/pubmed/21568886

Aluminum in the central nervous system (CNS): toxicity in humans and animals, vaccine adjuvants, and autoimmunity. *Immunologic Research, 2013*
"In young children, a highly significant correlation exists between the number of pediatric aluminum-adjuvanted vaccines administered and the rate of autism spectrum disorders. Many of the features of aluminum-induced neurotoxicity may arise, in part, from autoimmune reactions, as part of the ASIA syndrome." https://www.ncbi.nlm.nih.gov/pubmed/23609067

Are there negative CNS impacts of aluminum adjuvants used in vaccines and immunotherapy? *Immunotherapy, 2014*
"In the following article we briefly review the literature on Al neurotoxicity and the use of Al salts as vaccine adjuvants and consider not only direct toxic actions on the nervous system, but also the potential impact for triggering autoimmunity. Autoimmune and inflammatory responses affecting the CNS appear to underlie some forms of neurological disease, including developmental disorders. Al has been demonstrated to impact the CNS at every level, including by changing gene expression. These outcomes should raise concerns about the increasing use of Al salts as vaccine adjuvants and for the application as more general immune stimulants." https://www.ncbi.nlm.nih.gov/pubmed/25428645

Aluminium neurotoxicity: neurobehavioural and oxidative aspects. *Archives of Toxicology, 2009*
"Chronic exposure of animals to aluminium is associated with behavioural, neuropathological and neurochemical changes. Among them, deficits of learning and behavioural functions are most evident."
https://www.ncbi.nlm.nih.gov/pubmed/19568732

Link between Aluminum and the Pathogenesis of Alzheimer's Disease: The Integration of the Aluminum and Amyloid Cascade Hypotheses. *International Journal of Alzheimer's Disease, 2011*
"…aluminum is a widely recognized neurotoxin that inhibits more than 200 biologically important functions and causes various adverse effects in plants, animals, and humans."
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3056430/

Do aluminum vaccine adjuvants contribute to the rising prevalence of autism? *Journal of Inorganic Biochemistry, 2011*
"Aluminum (Al), the most commonly used vaccine adjuvant, is a demonstrated neurotoxin and a strong immune stimulator. Hence, adjuvant Al has the potential to induce neuroimmune disorders."
"The application of the Hill's criteria to these data indicates that the correlation between Al in vaccines and ASD may be causal."
https://www.ncbi.nlm.nih.gov/pubmed/22099159

Aluminum vaccine adjuvants: are they safe? *Current medicinal chemistry, 2011*
"Experimental research, however, clearly shows that aluminum adjuvants have a potential to induce serious immunological disorders in humans. In particular, aluminum in adjuvant form carries a risk for autoimmunity, long-term brain inflammation and associated neurological complications and may thus have profound and widespread adverse health consequences."
https://www.ncbi.nlm.nih.gov/pubmed/21568886

Aluminum hydroxide injections lead to motor deficits and motor neuron degeneration. *Journal of Inorganic Biochemistry, 2009*
"Aluminum-treated mice showed significantly increased apoptosis of motor neurons and increases in reactive astrocytes and microglial proliferation within the spinal cord and cortex. Morin stain detected the presence of aluminum in the cytoplasm of motor neurons with some neurons also testing positive for the presence of hyper-phosphorylated tau protein, a pathological hallmark of various neurological diseases, including Alzheimer's disease and frontotemporal dementia."
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2819810/

Aluminium overload after 5 years in skin biopsy following post-vaccination with subcutaneous pseudolymphoma. *Journal of Trace Elements in Medicine and Biology, 2012*
https://www.ncbi.nlm.nih.gov/pubmed/22425036

Aluminum adjuvant linked to Gulf War illness induces motor neuron death in mice.
Neuromolecular Medicine, 2007
"Aluminum-treated groups also showed significant motor neuron loss (35%) and increased numbers of astrocytes (350%) in the lumbar spinal cord. The findings suggest a possible role for the aluminum adjuvant in some neurological features associated with GWI and possibly an additional role for the combination of adjuvants."
https://www.ncbi.nlm.nih.gov/pubmed/17114826

Autism Spectrum Disorders and Aluminum Vaccine Adjuvants
Tomljenovic L., Blaylock R.L., Shaw C.A. (2014) Autism Spectrum Disorders and Aluminum Vaccine Adjuvants. In: Patel V., Preedy V., Martin C. (eds) Comprehensive Guide to Autism. Springer, New York, NY
"It appears plausible that disruptions of critical events in immune development may also play a role in the establishment of neurobehavioral disorders; (iv) the same immune system components that play key roles in brain development appear to be targeted for impairment by Al adjuvants. In summary, research data suggests that vaccines containing Al may be a contributing etiological factor in the increasing incidence of autism."
https://rd.springer.com/referenceworkentry/10.1007%2F978-1-4614-4788-7_89

The Putative role of environmental aluminum in the development of chronic neuropathology in adults and children. How strong is the evidence and what could be the mechanisms involved?
Metabolic Brain Disease, 2017
https://www.ncbi.nlm.nih.gov/pubmed/28752219

Evidence of microglial activation in autism and its possible role in brain underconnectivity. *Neuron Glia Biology, 2011*
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3523548/

Chronic Microglial Activation and Excitotoxicity Secondary to Excessive Immune Stimulation: Possible Factors in Gulf War Syndrome and Autism. *Journal of American Physicians and Surgeons, 2004*
http://www.jpands.org/vol9no2/blaylock.pdf

Reconsideration of the immunotherapeutic pediatric safe dose levels of aluminum, *Journal of Trace Elements in Medicine and Biology, 2018*
"Highlights: -Aluminum levels in vaccine is based on immune efficacy and ignore body weight for safety. -Several critical mistakes have been made in the consideration of pediatric dosing of aluminum in vaccines. -Safety inferences of vaccine doses of aluminum have relied solely on dietary exposure studies of adult mice and rats. -On Day 1 of life, infants receive 17 times more aluminum than would be allowed if doses were adjusted per body weight."
https://www.sciencedirect.com/science/article/pii/S0946672X17300950

History of chickenpox in glioma risk: a report from the international glioma case-control study
"In our study, a positive history of chickenpox was associated with a 21% lower glioma risk, adjusting for age and sex." https://onlinelibrary.wiley.com/doi/full/10.1002/cam4.682

Do childhood diseases affect NHL and HL risk? A case-control study from northern and southern Italy. *Leukemia Research, 2006*
"To investigate the association between non-Hodgkin lymphoma (NHL), Hodgkin lymphoma (HL), and exposure to childhood diseases, we analyzed an Italian case-control study that included 225 histologically-confirmed incident cases of NHL, 62 HL cases, and 504 controls. After adjusting for confounding factors, all examined childhood diseases were negatively associated with HL. Measles was negatively associated with NHL, particularly follicular B-cell NHL. Our findings provide additional support to the hypothesis that infections by most common childhood pathogens may protect against HL or, at least, be correlated with some other early exposure, which may lower the risk of HL in adulthood. In addition, our study shows that measles may provide a protective effect against NHL."
https://www.ncbi.nlm.nih.gov/pubmed/16406019

Combining Childhood Vaccines at One Visit is Not Safe. *Journal of American Physicians and Surgeons, 2016*
https://vaccinesafetycommission.org/pdfs/04-2016-JPANDS-Miller-Vaccines.pdf

Vaccine Product Inserts

ActHIB (Haemophilus b): (Section 13.1): *ActHIB vaccine **has not been evaluated** for its carcinogenic, or mutagenic potential or impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm109841.pdf
Adacel (TDap): (Section 13.1): *Adacel vaccine **has not been evaluated** for carcinogenic or mutagenic potential, or impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm142764.pdf
BOOSTRIX (TDap): (Section 13.1): *BOOSTRIX **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/ucm152842.pdf
DAPTACEL (DTaP): (Section 13.1): DAPTACEL ***has not been evaluated*** *for carcinogenic or mutagenic potential or impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm103037.pdf
ENGERIX-B (Hepatitis B): (Section 13.1): *ENGERIX-B **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm224503.pdf
FLUARIX (Seasonal Influenza): (Section 13.1): *FLUARIX **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm220624.pdf
HAVRIX (Hepatitis A): (Section 13.1): *HAVRIX has **not been evaluated** for its carcinogenic potential, mutagenic potential, or potential for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm224555.pdf
HIBERIX (Haemophilus B, booster): (Section 13.1): *HIBERIX **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm179530.pdf
INFANRIX (DTaP): (Section 13.1): INFANRIX ***has not been evaluated*** *for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm124514.pdf
IPOL (Inactivated Polio): (page 13 of 28): *Long-term studies in animals to evaluate carcinogenic potential or impairment of fertility **have not been conducted**.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm133479.pdf
MENOMUNE (Meningococcal): (Section 13.1): *MENOMUNE A/C/Y/W 13 vaccine **has not been evaluated** for carcinogenic or mutagenic potential, or impairment of fertility.*

https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm308370.pdf
MMR-II (Measles, Mumps, Rubella): (page 6): *MMR-II **has not been evaluated** for carcinogenic or mutagenic potential, or for potential to impair fertility.*
https://www.fda.gov/downloads/BiologicsBloodVaccines/UCM123789.pdf
PEDIARIX (Diptheria, Tetanus, acellular Pertussis, Hepatitis B, Inactivated Polio): (Section 13.1): *PEDIARIX **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM241874.pdf
Pentacel (Diphtheria, Tetanus, acellular Pertussis, Polio, Haemophilus B): (Section 13.1): *Pentacel vaccine **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm109810.pdf
Prevnar (Pediatric Pneumococcal): (Section 13.1): *Prevnar 13 **has not been evaluated** for the potential to cause carcinogenicity, genotoxicity, or impairment of male fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm201669.pdf
ProQuad (MMR plus Varicella): (Section 13.1): *ProQuad **has not been evaluated** for its carcinogenic, mutagenic, or teratogenic potential, or its potential to impair fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm123796.pdf
RECOMBIVAX HB (Hepatitis B): (Section 13.1): *RECOMBIVAX HB **has not been evaluated** for its carcinogenic or mutagenic potential, or its potential to impair fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm110114.pdf
ROTARIX (Rotavirus): (Section 13.1): *ROTARIX **has not been evaluated** for carcinogenic or mutagenic potential, or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm133539.pdf
ROTATEQ (Rotavirus): (Section 13.1): *ROTATEQ **has not been evaluated** for its carcinogenic or mutagenic potential or its potential to impair fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm142288.pdf
TWINRIX (Hepatitis A and B): (Section 13.1): *TWINRIX has **not been evaluated** for its carcinogenic or mutagenic potential or for impairment of fertility.*
https://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm110079.pdf