

Testimony of Dr. Shilpa Ravella on S.26
Before the Vermont Senate Health and Welfare Committee
February 12, 2026

Chair and members of the Committee, thank you for the opportunity to testify.

My name is Dr. Shilpa Ravella. I'm a practicing gastroenterologist and author with expertise in nutrition. Previously, for the better part of a decade, I served as a full-time faculty member at Columbia University Irving Medical Center in New York City.

I'm here to speak from a clinical and public-health perspective on S.26. Thank you for considering this bill, which focuses on foods and beverages served in school settings and restricts certain synthetic food dyes. From a medical standpoint, there are three points I'd like to highlight.

First, the scientific evidence. The body of data on artificial food dyes and children's behavior has been growing consistently over the years and the results are cause for concern. This data includes diverse studies in both humans and animals, including randomized controlled trials--long considered the gold standard in scientific research--and observational studies. The data points to associations between synthetic food dye exposure and changes in children's behavior, such as inattention, hyperactivity, and restlessness¹. We also have some literature highlighting plausible mechanisms through which food dyes can cause harm, like neuroinflammation (inflammation of the brain), as well as neurotransmitter disruption and oxidative stress². Overall, we have an important story emerging here regarding how these dyes may affect both animals and humans, as well as plausible mechanisms behind their effects.

Second, the clinical context and nutrition perspective. In my gastroenterology practice, I frequently receive questions from patients and families about diet, additives, and overall health. While I don't treat children clinically for attention or behavioral issues, my work in GI nutrition — and my research on inflammation³ — gives me insight into how dietary exposures can affect overall health. How children eat is immensely important for their overall health^{4,5}. Diet is one of the few modifiable factors that parents can control, and schools are where children consume a large portion of their daily food. Importantly, these synthetic dyes provide no nutritional benefit and are not essential to food safety or quality. In fact, foods containing synthetic dyes also tend to contain additional additives that are harmful to children's health. For example, foods and drinks sold by the top 25 US manufacturers in 2020 with synthetic dyes contained on average 141% more sugar than products without synthetic dyes⁶, and we know that there is a wealth of literature on the health harms of excess sugar for children^{7,8}.

Third, the policy question. FDA safety determinations largely focus on acute toxicity and cancer risk. Behavioral and neurodevelopmental effects are more difficult to study and historically have not driven regulatory thresholds. States often step in when emerging evidence raises concerns in children's environments. "FDA safe" when it comes to taking additives off the market often actually means absence of proof of harm, not proof of safety.^{9,10} In contrast to the

U.S., the European Union's public health protection policy follows the "precautionary principle," under which credible evidence of danger to human health merits protective action despite scientific uncertainty¹². Many major food companies in the U.S. use artificial food dyes in America—while selling the same food in Europe without dyes or with natural color¹³. It's possible for American manufacturers to produce dye-free alternatives of their foods—some already do—and several states and districts have transitioned to dye-free foods in schools without major disruption¹⁴.

In line with previous testimony you have heard regarding expanding this bill, I urge you to consider the mounting data on potential health harms of additional additives including preservatives BHA, potassium bromate, and propyl paraben, which are currently covered under three statewide bans, and titanium dioxide, which is in several state bills. Titanium dioxide, a color enhancer and anti-caking agent, was banned in the E.U. in 2022 after a safety assessment concluded that it can damage DNA and harm the immune system¹⁵. Other additives to consider with potential links to cancer include BHT (butylated hydroxytoluene), TBHQ (tert-butylhydroquinone), propyl gallate, and aspartame. Many of these additives serve superficial functions in food, and can easily be omitted or replaced with safer alternatives.

In medicine, we often act under uncertainty when certain conditions are met: potential harm, broad exposure, and minimal countervailing benefit. S.26 fits that framework. The bill does not ban these dyes statewide, nor does it restrict parental choice outside of schools. It simply sets a standard for foods provided in a publicly regulated setting to children. From a physician's perspective, this is a reasonable, precautionary step that aligns school food policy with child health priorities while evidence continues to evolve. The benefit of these dyes is essentially cosmetic. S.26 protects one of our most vulnerable populations in an environment in which they are attempting to learn, grow and thrive. I urge you to vote accordingly.

Thank you for your time. I'm happy to answer questions.

1. California Office of Environmental Health Hazard Assessment (OEHHA). *Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children*. April 2021 <https://oehha.ca.gov/sites/default/files/media/downloads/risk-assessment/report/healtheffsassess041621.pdf>
2. Sanoober Fatima et al., "Protecting Developing Brains: Urgent Need to Regulate Synthetic Food Dyes in Children's Diets," *Annals of Medicine and Surgery* (London) 87, no. 10 (2025): 6918–6919, <https://doi.org/10.1097/MS9.0000000000003770>
3. Ravella, Shilpa. *A Silent Fire: The Story of Inflammation, Diet, and Disease*. New York, NY: W.W. Norton & Company, 2022
4. Saavedra, Jose M. "Nutrition in School-Age Children: A Rationale for Revisiting Priorities." *Nutrition Reviews* 81, no. 7 (2023): 823–843. <https://doi.org/10.1093/nutrit/nuac089>
5. Rajeev, Aakansha Maria, et al. "Pediatric Nutrition and Its Role in Preventing Non-communicable Diseases: A Review." *Cureus* 17, no. 7 (2025): e87431. <https://doi.org/10.7759/cureus.87431>

6. Dunford, Elizabeth K., Thomas M. Galligan, Lindsey Smith Taillie, and Aviva A. Musicus. "All the Colors of the Rainbow: Synthetic Dyes in US Packaged Foods and Beverages in 2020." *Journal of the Academy of Nutrition and Dietetics* 125, no. 9 (2025): 1207–1217.e9. <https://doi.org/10.1016/j.jand.2025.05.007>
7. Park, Sohyun, Heidi M. Blanck, Bettylou Sherry, Nancy Brener, and Terrence O'Toole. "Factors Associated with Sugar-Sweetened Beverage Intake among United States High School Students." *The Journal of Nutrition* 142, no. 2 (2012): 306–312. <https://doi.org/10.3945/jn.111.148536>
8. Fidler Mis, Nataša, Christian Braegger, Jiri Bronsky, Cristina Campoy, Magnus Domellöf, Nicholas D. Embleton, Iva Hojsak, Jessie Hulst, Flavia Indrio, Alexandre Lapillonne, Walter Mihatsch, Christian Molgaard, Rakesh Vora, and Mary Fewtrell. "Sugar in Infants, Children and Adolescents: A Position Paper of the European Society for Pediatric Gastroenterology, Hepatology and Nutrition Committee on Nutrition." *Journal of Pediatric Gastroenterology and Nutrition* 65, no. 6 (2017): 681–696. <https://doi.org/10.1097/MPG.0000000000001733>
9. Boyd, Marie. "What About the Kids? Advancing a Child-Centered Approach to Food & Drug Law." *Administrative Law Review* 76, no. 1 (2024)
10. Maffini, Maricel V., Thomas G. Neltner, and Sarah Vogel. "We Are What We Eat: Regulatory Gaps in the United States That Put Our Health at Risk." *PLoS Biology* 15, no. 12 (2017): e2003578. <https://doi.org/10.1371/journal.pbio.2003578>
11. U.S. Food and Drug Administration. "Final Determination Regarding Partially Hydrogenated Oils (Removing Trans Fat)." Last modified June 16, 2015. U.S. Food and Drug Administration. <https://www.fda.gov/food/food-additives-petitions/final-determination-regarding-partially-hydrogenated-oil-s-removing-trans-fat>
12. European Parliament. *The Precautionary Principle: Definitions, Applications and Governance*. In-Depth Analysis, European Parliamentary Research Service, 2015. European Parliament. [https://www.europarl.europa.eu/thinktank/en/document/EPRI_IDA\(2015\)573876](https://www.europarl.europa.eu/thinktank/en/document/EPRI_IDA(2015)573876)
13. Center for Science in the Public Interest. "U.S. Food, Drink Companies Use Artificial Food Dyes at Home but Not in Europe." ConsumerAffairs, January 27, 2016
14. Center for Science in the Public Interest. "Which School Meals and Snacks Contain Synthetic Food Dyes?" Center for Science in the Public Interest. Accessed February 13, 2026. <https://www.cspinet.org/article/which-school-meals-and-snacks-contain-synthetic-food-dyes>
15. Younes, Maged, Gabriele Aquilina, Laurence Castle, Karl-Heinz Engel, Paul Fowler, Maria Jose Frutos Fernandez, Peter Fürst, Ursula Gundert-Remy, Rainer Gürtler, Trine Husøy, Melania Manco, Wim Mennes, Peter Moldeus, Sabina Passamonti, Romina Shah, Ine Waalkens-Berendsen, Detlef Wölfl, Emanuela Corsini, Francesco Cubadda, Didima De Groot, Rex FitzGerald, Sara Gunnare, Arno Christian Gutleb, Jan Mast, Alicja Mortensen, Agnes Oomen, Aldert Piersma, Veronika Plichta, Beate Ulrich, Henk Van Loveren, Diane Benford, Margherita Bignami, Claudia Bolognesi, Riccardo Crebelli, Maria Dusinska, Francesca Marcon, Elsa Nielsen, Josef Schlatter, Christiane Vleminckx, Stefania Barmaz, Maria Carfi, Consuelo Civitella, Alessandra Giarola, Ana Maria Rincon, Rositsa Serafimova, Camilla Smeraldi, Jose Tarazona, Alexandra Tard, and Matthew Wright. "Safety Assessment of Titanium Dioxide (E171) as a Food Additive." *EFSA Journal* 19, no. 5 (2021): e06585. <https://doi.org/10.2903/j.efsa.2021.6585>