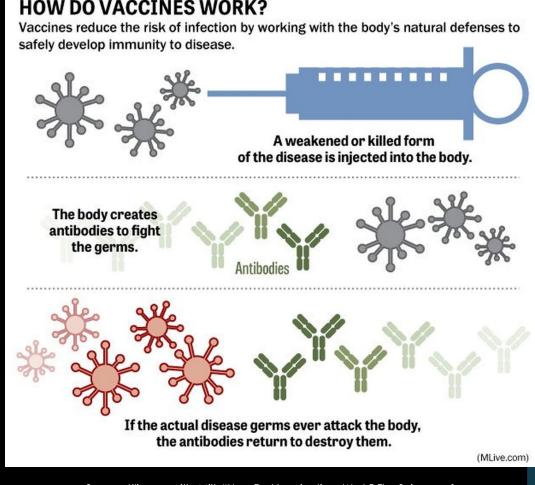
Mandatory Vaccinations for School-Age Children in North Carolina

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Public Health – the health of a population as a whole and how institutions, especially government institutions, can improve that health.

Vaccines – weakened strains of a disease that help the body's **natural** immune system develop resistance to the wild strain of the disease¹.

Provide the **benefits** of protecting the body from a disease without many of the complications of getting the disease.



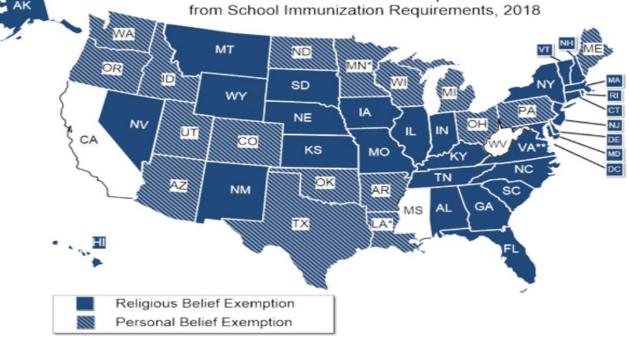
Source: Klingensmith, Milt. "How Do Vaccinations Work? The Science of Immunizations." Mlive.com, Mlive.com, 10 Dec. 2014, vw.mlive.com/news/2014/12/how_do_vaccinations_work_the_s.html.

THE PROBLEM – As more vaccines have been discovered and distributed, more and more of the public have begun to **distrust** vaccines and the science behind the development and distribution of vaccines². This distrust has led to increasing rates of nonmedical exemptions from vaccination in the United States and elsewhere, which is a public health and safety issue, as **epidemics** for diseases with vaccines have increased in frequency in the United States, France, and Britain, among others³



from School Immunization Requirements, 2018

Source: "States with Religious and Philosophical Exemptions from School Immunization Requirements." National Conference of State Legislators, NCSL, 30 Jan. 2019, www.ncsl.org/r esearch/health /schoolimmunizationexemptionstate-laws.aspx.



48 out of 50 states, or **96%**, allow nonmedical exemptions for vaccination, including North Carolina.

Sources of Information

¹U.S. Department of Health and Human Services. "Vaccine Basics." Vaccines.gov, U.S. Department of Health and Human Services, 11 Oct. 2006, www.vaccines.gov/basics/index.html.

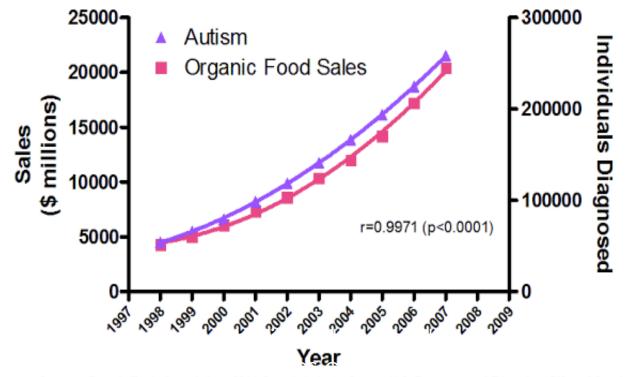
²Stern, Alexandra Minna, and Howard Markel. "The History Of Vaccines And Immunization: Familiar Patterns, New Challenges." Health Affairs, vol. 24, no. 3, May 2005, pp. 611-621. doi:10.1377/hlthaff.24.3.611

³Omer, Saad B., and Robert Bednarczyk. "Measles Was Eliminated. But We Can't Be Sure It'll Stay That Way.' The Washington Post, WP Company, 11 Feb. 2019 www.washingtonpost.com/outlook/201 9/02/11/measles-was-eliminated-we-

<u>Common Myths and</u> <u>Misconceptions (and</u> <u>Counterpoints):</u>

- Vaccines cause autism
 - \succ This is simply not true. ¹²
- All vaccine hesitant individuals (especially parents of newborn children) believe that vaccines cause autism ³
 - Many vaccine hesitant individuals are wary of for-profit pharmaceutical companies commonly known as "big pharma." ³

The real cause of increasing autism prevalence?



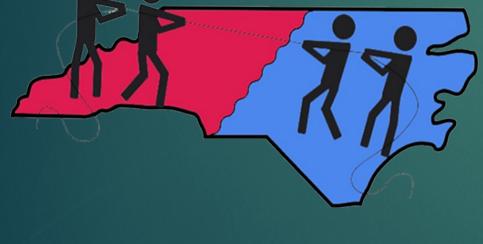
Sources: Organic Trade Association, 2011 Organic Industry Survey; U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS), OM B# 1820-0043: "Children with Disabilities Receiving Special Education Under Part B of the Individuals with Disabilities Education Act

EFFECTIVE POTENTIAL SOLUTIONS (most to least effective)

- 1. Make essential vaccines mandatory ⁴
 - PRO: found to be effective in France
 - CON: not clear if positive effects only because of mandatory vaccination (confounding factors)
- 2. Increase training for medical professionals regarding vaccine hesitant individuals
 - PRO: increase trust level between patients and healthcare providers
 - CON: difficult to guarantee that all healthcare providers not only get the same quality of training, but implement their training in similar manners
- 3. Make all vaccinations mandatory ⁵
 - PRO: should increase vaccine coverage rates
 - CON: increase distrust between patients and healthcare providers, between patients and government, not guaranteed because of resistance and pushback to current required vaccinations



Specific to North Carolina:



Source: Boell, Heinrich. "Symbols of the Democrat and Republican Party Fighting over North Carolina." *Heinrich* Boell Stiftung, 2 Nov. 2018, us.boell.org/ -The state knows its **population's values** based on how the population votes on other issues. This means that the **specific solution** implemented (as mentioned above) is dependent on the state. A national-level policy on immunizations would likely cause increased distrust of government because of the inherent distance between a locality and the national government.

Sources:

Park, Alice. "Doctor behind Vaccine-Autism Link Loses License." Time, Time, 24 May 2010, healthland.time.com/2010/05/24/doctor-behind-vaccine-autism-link-loses-license/.

²Taylor, Luke E., et al. "Vaccines Are Not Associated with Autism: An Evidence-Based Meta-Analysis of Case-Control and Cohort Studies." Vaccine, vol. 32, no. 29, 17 June 2014, pp. 3623–3629., doi:https://doi.org/10.1016/j.vaccine.2014.04.085. ³Bianco, Aida, et al. "Parent Perspectives on Childhood Vaccination: How to Deal with Vaccine Hesitancy and Refusal?" Vaccine, vol. 37, no. 7, 8 Feb. 2019, pp. 984–990., doi:10.1016/j.vaccine.2018.12.062.

⁴Omer, Saad B., and Robert Bednarczyk. "Measles Was Eliminated. But We Can't Be Sure It'll Stay That Way." The Washington Post, WP Company, 11 Feb. 2019, www.washingtonpost.com/outlook/2019/02/11/measles-was-eliminated-we-cant-besure-itll-stay-that-way/.

⁵Russi, Mark B., and Robert. S. Baltimore. "Mandatory Influenza Vaccine." Infection Control & Hospital Epidemiology, vol. 33, no. 03, 2012, pp. 222–223., doi:10.1086/664493.