

Vaccine Education Webinar Series

Presented by:

Massachusetts Chapter
OF THE AMERICAN ACADEMY OF PEDIATRICS
INCORPORATED IN MASSACHUSETTS



CMEs to be provided by the MA Department of Public Health

Measles Update: Spring 2025 Vaccinating in the Disinformation Age

Presenter:

John Snyder, MD, FAAP

Pediatrician

Amherst Pediatrics

Thursday, May 1, 2025, 12:00-1:00 PM ET

Presenter and Planner Disclosure

I, John Snyder, MD, a presenter for this educational activity, have no relevant financial relationships with ineligible companies to disclose.

2025 Vaccine Educational Webinar Series
Measles Update: Spring 2025
Thursday, May 1, 2025, 12:00-1:00 PM ET

Measles Snapshot – 2025 outbreak



Updated on April 25, 2025

U.S. Cases in 2025

Total cases

884

Age

Under 5 years: **266 (30%)**

5-19 years: **338 (38%)**

20+ years: **261 (30%)**

Age unknown: **19 (2%)**

Vaccination Status

Unvaccinated or Unknown: **97%**

One MMR dose: **1%**

Two MMR doses: **2%**

Measles Snapshot – 2025 outbreak

U.S. Hospitalizations in 2025

11%

11% of cases hospitalized (94 of 884).

Percent of Age Group Hospitalized

Under 5 years: **20% (53 of 266)**

5-19 years: **7% (22 of 338)**

20+ years: **7% (17 of 261)**

Age unknown: **11% (2 of 19)**



Updated on April 25, 2025

Measles Snapshot – 2025 outbreak



Updated on April 25, 2025

U.S. Deaths in 2025

3

There have been 3 confirmed deaths from measles.

"We are reaching a breaking point..."

- Susan J. Kressly, M.D., FAAP
AAP President

American Academy of Pediatrics

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AAP Headquarters

345 Park Blvd
Itasca, IL 60143
Phone: 630/626-6000
Fax: 847/434-8000
E-mail: kidsdocs@aap.org
www.aap.org

Reply to

AAP Washington Office

601 13th St NW, Suite 400N
Washington, DC 20005
Phone: 202/347-8600
E-mail: kids1st@aap.org

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April 10, 2025

The Honorable Bill Cassidy, MD
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U.S. Senate Committee on Health, Education,
Labor & Pensions

428 Senate Dirksen Office Building
Washington, DC, 20510

The Honorable Brett Guthrie
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House Committee on Energy and Commerce
2161 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Bernie Sanders
Ranking Member

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Education, Labor & Pensions

428 Senate Dirksen Office Building
Washington, DC, 20510

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2107 Rayburn House Office Building
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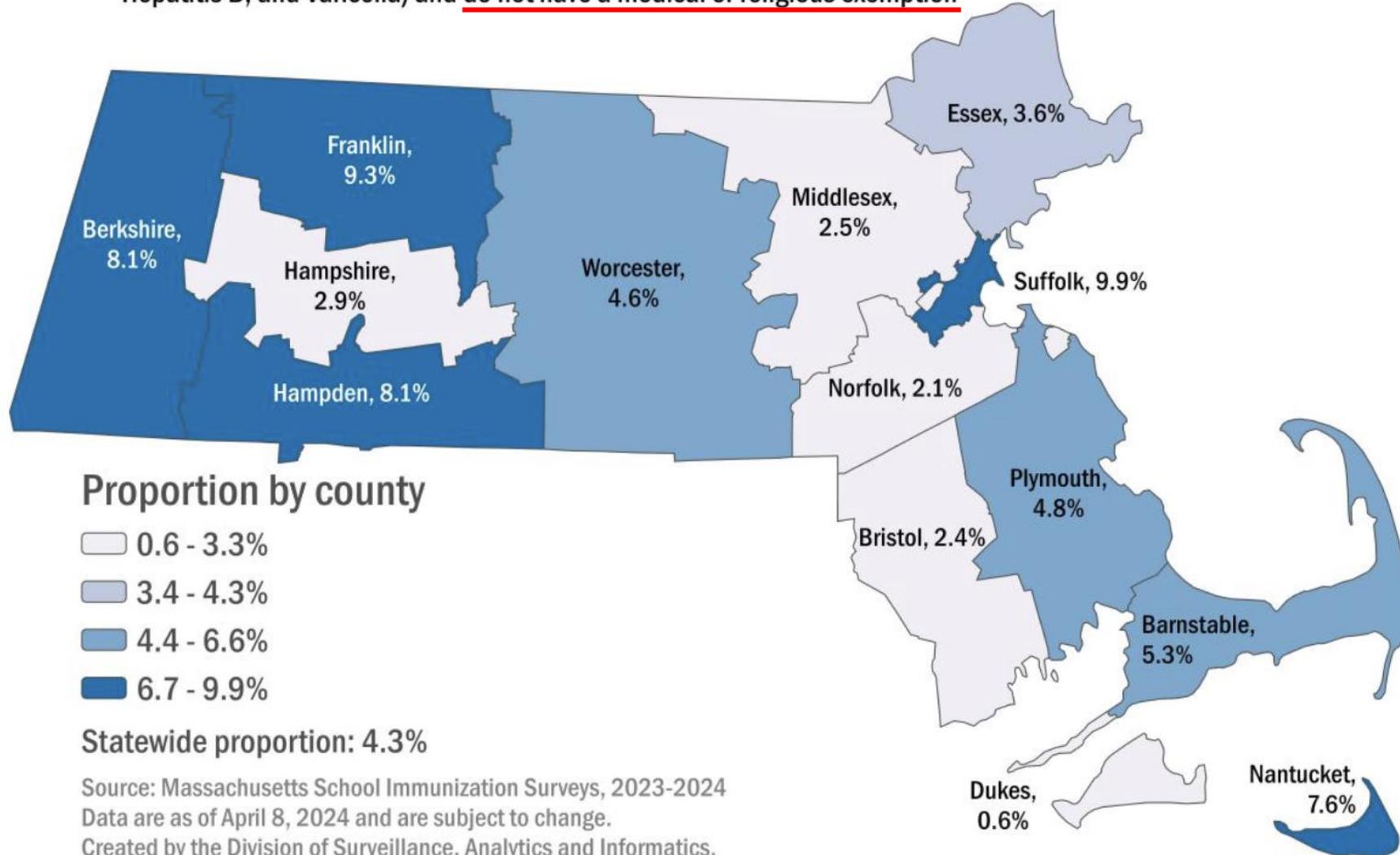
Dear Chairman Cassidy, Ranking Member Sanders, Chairman Guthrie, and Ranking Member Pallone:

I write with great concern about the growing measles outbreak we are experiencing in our country, and to urge the Senate Committee on Health, Education, Labor, and Pensions (HELP)//House Committee on Energy and Commerce//House and Senate Appropriations



Proportion of Kindergarten Students Not Meeting School Requirements* by Massachusetts County, 2023-2024

*Students who are not fully vaccinated for Kindergarten entry (DTaP, Polio, MMR, Hepatitis B, and Varicella) and do not have a medical or religious exemption



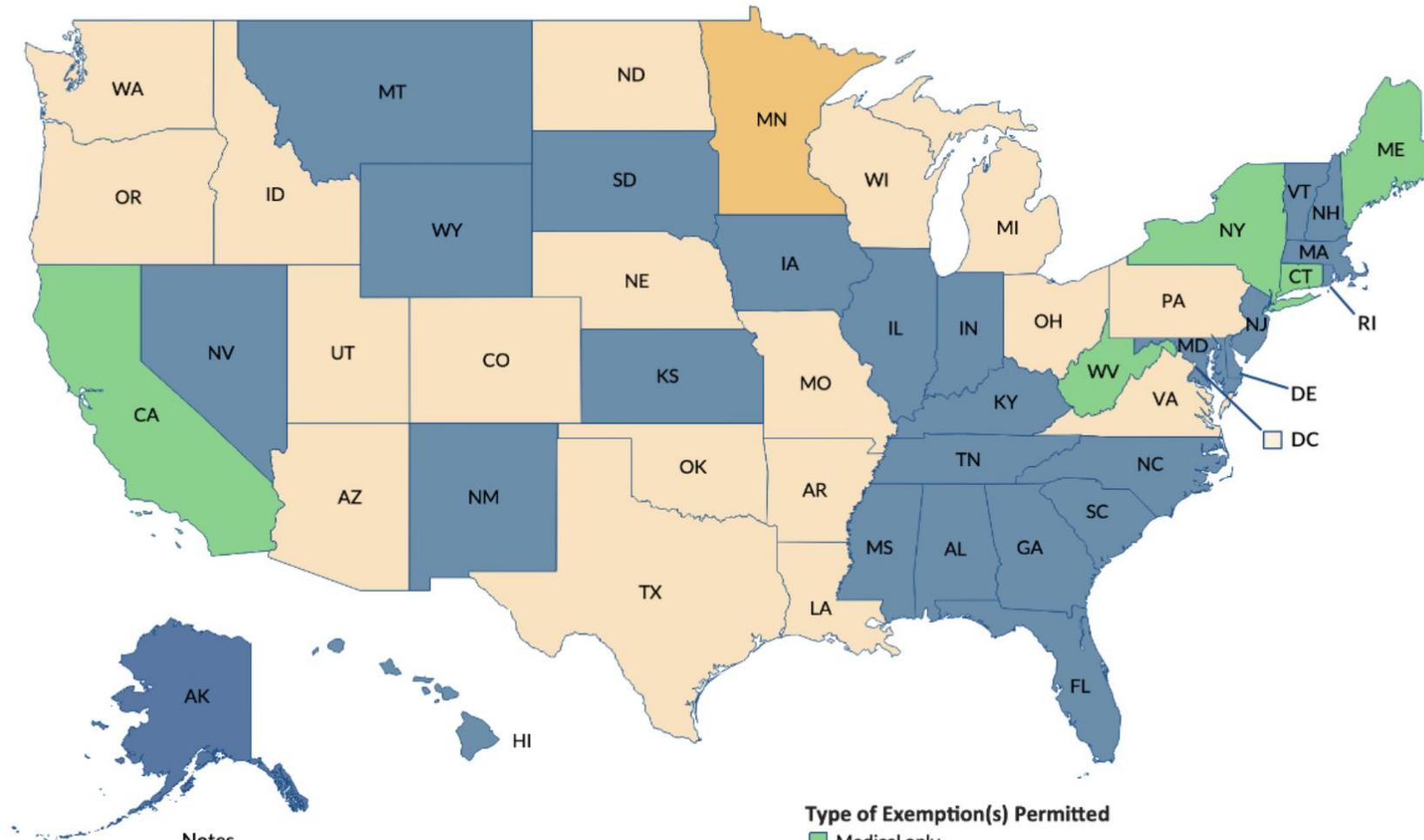
Source: Massachusetts School Immunization Surveys, 2023-2024
Data are as of April 8, 2024 and are subject to change.
Created by the Division of Surveillance, Analytics and Informatics,
Bureau of Infectious Disease and Laboratory Sciences, April 2024.

Currently, 45 of 50 states allow some form
of *non-medical* exemption

Only 5 states allow exemptions for
only medical reasons

Exemptions Permitted for State Childcare and School (K-12) Immunization Requirements

May 2024



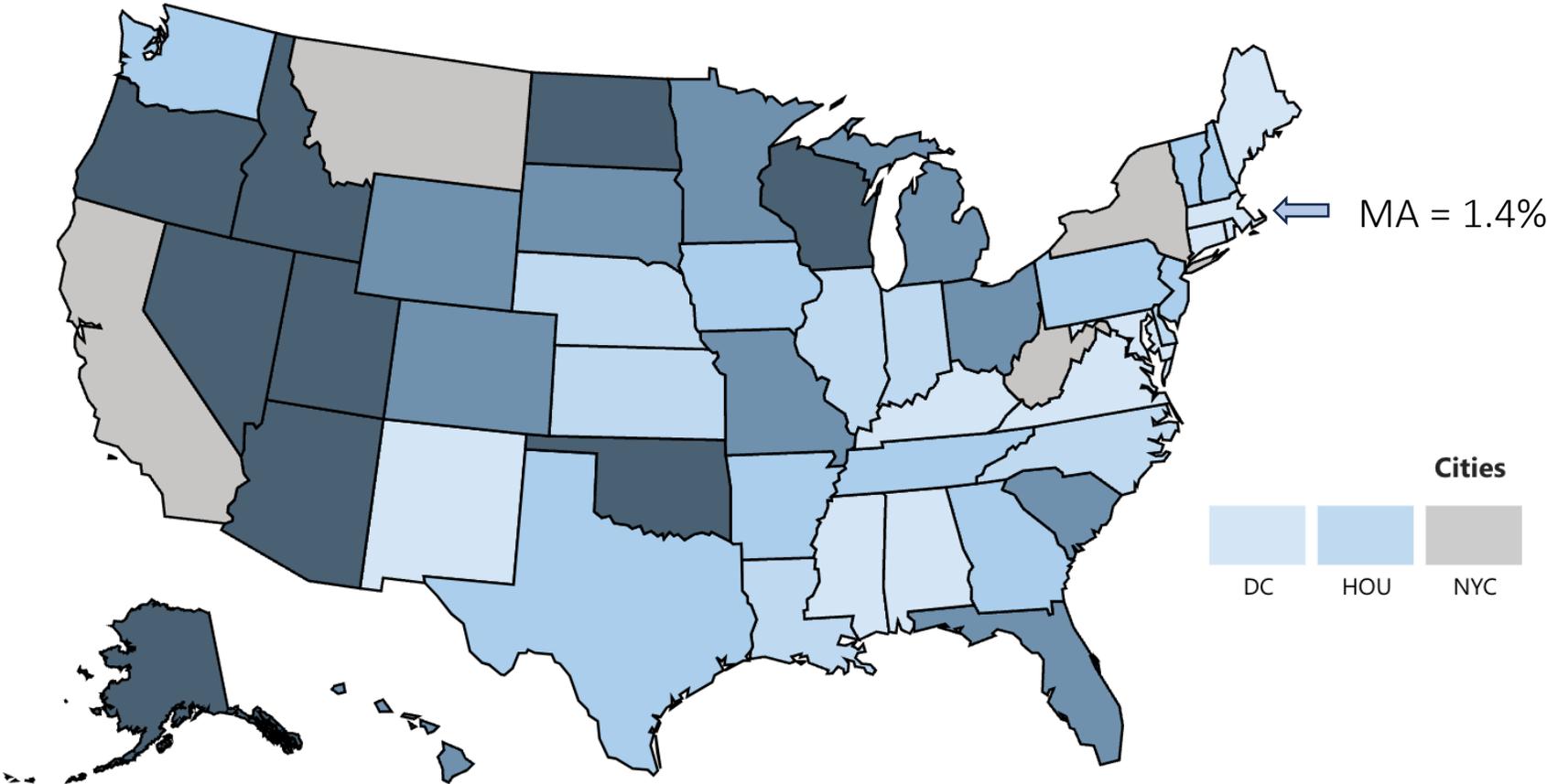
Notes

- AZ: Religious exemption for childcare only, personal belief exemption for school (K-12) only
- CO: Religious and personal belief exemptions combined under category of "nonmedical exemption"
- DC and VA: Personal belief exemption for HPV only
- MO and NE: Personal belief exemption for childcare only
- WA: Personal belief exemption not allowed for MMR

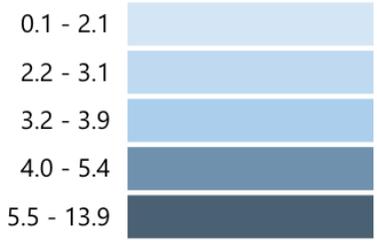
Type of Exemption(s) Permitted

- Medical only
- Medical, religious
- Medical, personal belief
- Medical, religious, personal belief

Percentage of Kindergartners with a Non-Medical Exemption, by School Year (2023-24)



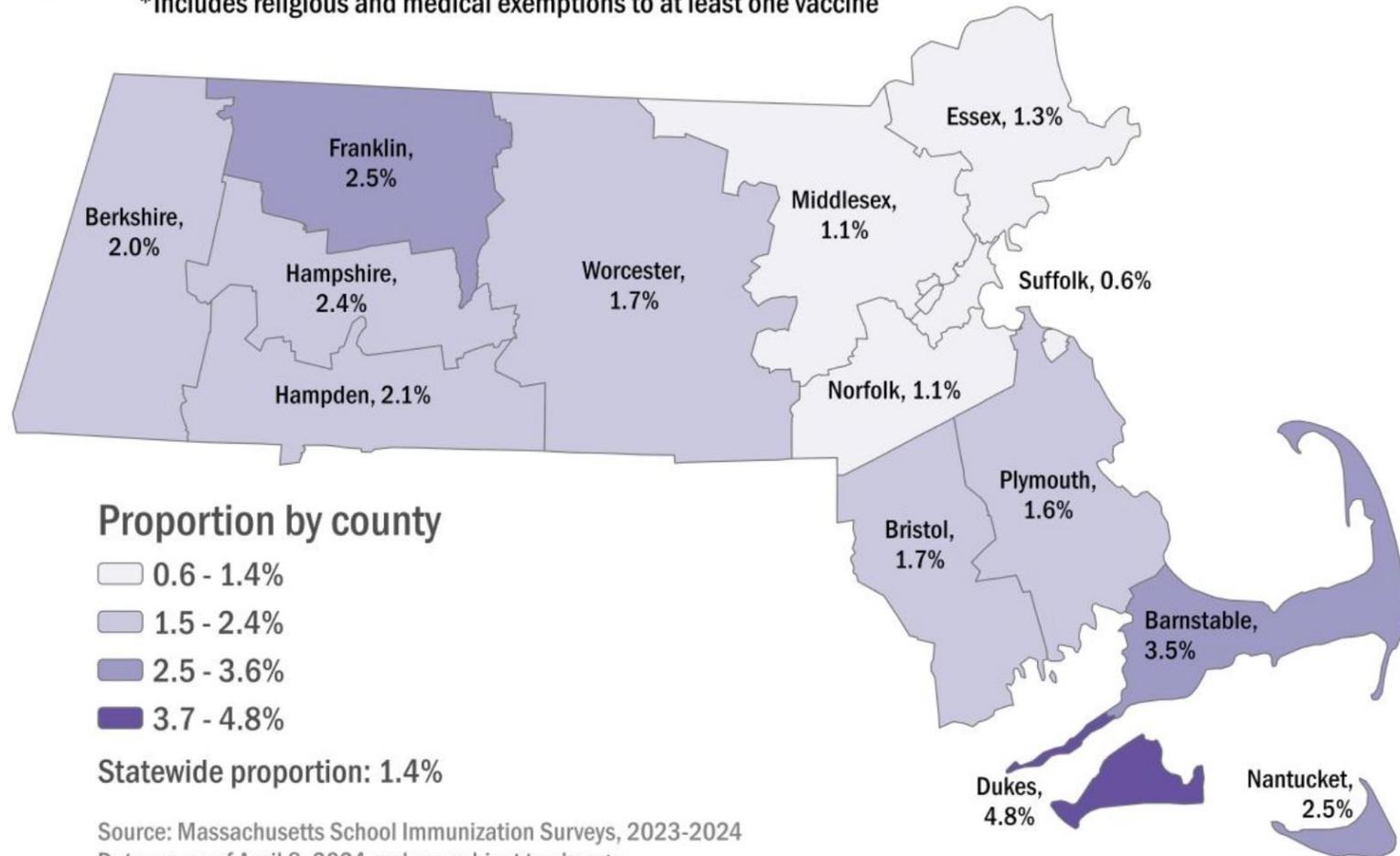
Legend - Coverage (%)





Proportion of Kindergarten Students with an Exemption* by Massachusetts County, 2023-2024

*Includes religious and medical exemptions to at least one vaccine



Source: Massachusetts School Immunization Surveys, 2023-2024
Data are as of April 8, 2024 and are subject to change.
Created by the Division of Surveillance, Analytics and Informatics,
Bureau of Infectious Disease and Laboratory Sciences, April 2024.

Massachusetts Department of Public Health - Immunization Division

US rate =
3.3%

Proportion of Kindergarten Students with an Exemption* by Massachusetts County, 2023-2024

But this data is deceiving

The Massachusetts Department of Public Health Immunization Division is pleased to make available the 2023-2024 Kindergarten Immunization Survey results by school. Please be aware that the data are limited in a number of ways including those listed below.

- All data are self-reported by schools, and discrepancies may exist. The Immunization Division continues to work with schools to resolve discrepancies and update immunization data when possible.
- Not all schools return their survey. Schools without data due to non-response are indicated as (*).
- According to suppression guidelines, data from schools reporting fewer than 30 total students are not released and indicated as (†).
- Schools with fewer than 30 students may have data discrepancies not noted here.
- Some schools returned surveys that contained discrepancies, leading to mathematically impossible rates. When possible, we work with schools to resolve data discrepancies. Schools where rates were withheld due to unresolved discrepancies are indicated as (¶).
- Data are collected in the fall, but immunization data are updated throughout the year. Rates during the same school year may be higher than reported if additional children receive immunizations after data are reported. Also, the student body is dynamic; some students join or leave the school, which may affect immunization rates.
- Children are allowed a medical or religious exemption to one or more vaccines.
- Children without the required number of doses of vaccine do not necessarily have an exemption on file.
- Children without a record of vaccination who have serologic proof of immunity to certain diseases (measles, mumps, rubella, hepatitis b, and varicella) meet school entry requirements and may be counted as vaccinated.
- Rates for vaccines are rounded to the nearest percentage point and may slightly under- or overestimate true immunization rates.

Data Definitions:

| | |
|---|--|
| * | School did not respond to survey. |
| † | School returned survey and reported fewer than 30 total students, so data are not released. |
| ¶ | School returned survey however, due to data discrepancies, rates are not available at this time. |
| ‡ | Indicates a school with a negative Gap. The Gap is calculated by the Immunization Division based on submitted aggregate data. A school may have a negative Gap due to a student having both a medical and religious exemption or being fully vaccinated with an exemption. Data are self-reported, in aggregate, by schools so the Immunization Division is unable to account for these students who may be double counted in the Gap calculation. |

KG data unavailable for 505 of 1353 schools
(37%)

More reasons the data is deceiving

Kindergarten Immunization and Exemption Rates by County 2024-2025

| County | Number of Schools * | Number of Children | 5 DTaP | 4 Polio | 2 MMR | 3 Hep B | 2 Varicella | Series Complete | Medical Exemption | Religious Exemption | Total Exemption | Un-immunized | Non-compliance |
|--------------------|---------------------|--------------------|--------------|--------------|--------------|--------------|--------------|-----------------|-------------------|---------------------|-----------------|--------------|----------------|
| Barnstable | 33 | 1,453 | 95.6% | 95.7% | 95.2% | 96.4% | 94.8% | 93.7% | 0.2% | 2.5% | 2.7% | 1.2% | 3.6% |
| Berkshire | 36 | 770 | 94.9% | 95.5% | 91.8% | 95.2% | 90.8% | 88.3% | 0.4% | 2.2% | 2.6% | 1.3% | 9.1% |
| Bristol | 106 | 5,652 | 97.5% | 97.7% | 97.6% | 98.5% | 97.2% | 96.2% | 0.1% | 1.3% | 1.4% | 0.7% | 2.4% |
| Dukes | 7 | 144 | 95.8% | 95.1% | 95.1% | 95.1% | 95.1% | 93.8% | 0.0% | 4.2% | 4.2% | 3.5% | 2.1% |
| Essex | 166 | 8,230 | 96.4% | 96.3% | 96.5% | 97.3% | 95.9% | 94.6% | 0.1% | 1.1% | 1.3% | 0.4% | 4.2% |
| Franklin | 26 | 555 | 91.0% | 91.5% | 91.5% | 91.7% | 91.0% | 87.2% | 0.0% | 2.2% | 2.2% | 1.4% | 10.6% |
| Hampden | 102 | 4,924 | 93.6% | 93.7% | 93.8% | 95.3% | 93.3% | 91.3% | 0.1% | 2.6% | 2.7% | 1.4% | 6.0% |
| Hampshire | 31 | 1,038 | 96.1% | 96.5% | 95.7% | 97.0% | 95.2% | 94.1% | 0.1% | 2.0% | 2.1% | 1.5% | 3.8% |
| Middlesex | 307 | 15,547 | 98.0% | 98.1% | 98.1% | 98.6% | 97.8% | 96.7% | 0.2% | 1.0% | 1.2% | 0.5% | 2.1% |
| Nantucket | 3 | 133 | 90.2% | 90.2% | 91.0% | 91.7% | 90.2% | 83.5% | 0.0% | 3.8% | 3.8% | 0.8% | 12.8% |
| Norfolk | 144 | 7,261 | 97.7% | 97.7% | 97.8% | 98.4% | 97.8% | 96.7% | 0.2% | 0.9% | 1.1% | 0.4% | 2.2% |
| Plymouth | 83 | 5,483 | 95.7% | 95.8% | 96.2% | 97.4% | 95.7% | 93.5% | 0.2% | 1.6% | 1.8% | 0.7% | 4.7% |
| Suffolk | 132 | 5,669 | 92.2% | 93.5% | 94.1% | 95.8% | 92.7% | 88.7% | 0.1% | 0.7% | 0.8% | 0.5% | 10.6% |
| Worcester | 162 | 8,722 | 96.4% | 96.5% | 96.6% | 97.5% | 95.8% | 94.5% | 0.2% | 1.5% | 1.6% | 0.6% | 3.9% |
| Grand Total | 1,338 | 65,581 | 96.3% | 96.5% | 96.6% | 97.5% | 96.0% | 94.4% | 0.1% | 1.3% | 1.5% | 0.7% | 4.1% |

Kindergarten Immunization and Exemption Rates by School 2024-2025

| SCHOOL NAME | SCHOOL TYPE | MUNICIPALITY | COUNTY | 5 DTAP | 4 POLIO | 2 MMR | 3 HEP B | 2 VAR | SERIES | EXEMPTION |
|-------------------------------|---------------|------------------|-----------|--------|---------|-------|---------|-------|--------|-----------|
| NORTH BROOKFIELD ELEMENTARY | PUBLIC | NORTH BROOKFIELD | WORCESTER | 100% | 94% | 88% | 97% | 91% | 88% | 0% |
| CORNERSTONE ACADEMY | PRIVATE | NORTHBOROUGH | WORCESTER | * | * | * | * | * | * | * |
| FANNIE PROCTOR | PUBLIC | NORTHBOROUGH | WORCESTER | 92% | 92% | 92% | 92% | 92% | 92% | 8% |
| LINCOLN ST. ELEMENTARY SCHOOL | PUBLIC | NORTHBOROUGH | WORCESTER | 100% | 100% | 100% | 100% | 97% | 97% | 3% |
| MARGUERITE PEASLEE | PUBLIC | NORTHBOROUGH | WORCESTER | 88% | 88% | 88% | 94% | 88% | 88% | 12% |
| MARION E ZEH SCHOOL | PUBLIC | NORTHBOROUGH | WORCESTER | 97% | 97% | 97% | 97% | 97% | 97% | 3% |
| REACH/EVOLUTION | COLLABORATIVE | NORTHBOROUGH | WORCESTER | † | † | † | † | † | † | † |
| ST BERNADETTE SCHOOL | PRIVATE | NORTHBOROUGH | WORCESTER | 75% | 75% | 72% | 75% | 72% | 72% | 3% |
| THE FITZGERALD INSTITUTE | PUBLIC | NORTHBOROUGH | WORCESTER | * | * | * | * | * | * | * |
| NORTHBRIDGE ELEMENTARY SCHOOL | PUBLIC | NORTHBRIDGE | WORCESTER | 99% | 99% | 99% | 99% | 99% | 99% | 1% |
| WHITINSVILLE CHRISTIAN SCHOOL | PRIVATE | NORTHBRIDGE | WORCESTER | 85% | 92% | 85% | 90% | 85% | 83% | 15% |
| OAKHAM CENTER | PUBLIC | OAKHAM | WORCESTER | † | † | † | † | † | † | † |
| ALFRED M CHAFFEE ELEMENTARY | PUBLIC | OXFORD | WORCESTER | 97% | 97% | 97% | 97% | 97% | 97% | 3% |
| PAXTON CENTER | PUBLIC | PAXTON | WORCESTER | 100% | 100% | 100% | 100% | 100% | 100% | 0% |
| PETERSHAM CENTER SCHOOL | PUBLIC | PETERSHAM | WORCESTER | † | † | † | † | † | † | † |
| PETERSHAM MONTESSORI SCHOOL | PRIVATE | PETERSHAM | WORCESTER | * | * | * | * | * | * | * |
| THOMAS PRINCE ELEMENTARY | PUBLIC | PRINCETON | WORCESTER | 97% | 97% | 97% | 97% | 97% | 94% | 3% |

* School did not respond to survey.

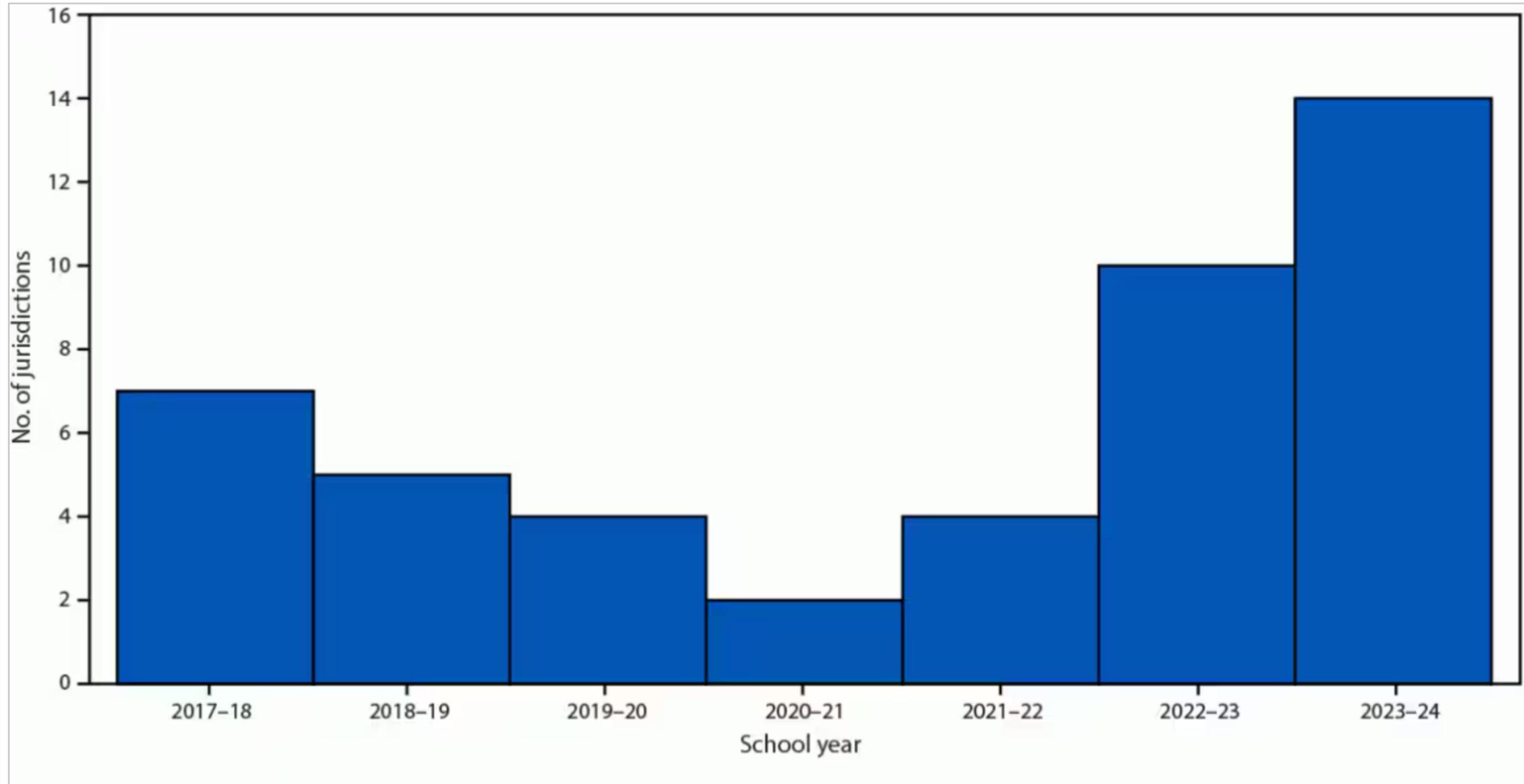
† School returned survey and reported fewer than 30 total students, so data are not released.

| SCHOOL NAME | SCHOOL TYPE | MUNICIPALITY | COUNTY | 5 DTAP | 4 POLIO | 2 MMR |
|-------------------------------------|----------------|--------------|------------|--------|---------|-------|
| NEWTON SCHOOL | PUBLIC | GREENFIELD | FRANKLIN | 76% | 78% | 71% |
| ST BERNADETTE SCHOOL | PRIVATE | NORTHBOROUGH | WORCESTER | 75% | 75% | 72% |
| VETERANS MEMORIAL ELEMENTARY SCHOOL | PUBLIC | SAUGUS | ESSEX | 72% | 72% | 72% |
| BLESSED SACRAMENT - WALPOLE | PRIVATE | WALPOLE | NORFOLK | 75% | 72% | 75% |
| MARTIN LUTHER KING CHARTER SCHOOL | PUBLIC CHARTER | SPRINGFIELD | HAMPDEN | 70% | 75% | 76% |
| JAMES HENNIGAN | PUBLIC | BOSTON | SUFFOLK | 70% | 80% | 77% |
| PAUL DEVER SCHOOL | PUBLIC | BOSTON | SUFFOLK | 89% | 80% | 77% |
| ABNER GIBBS | PUBLIC | WESTFIELD | HAMPDEN | 78% | 83% | 78% |
| WILLIAMS ELEMENTARY | PUBLIC | PITTSFIELD | BERKSHIRE | 93% | 95% | 80% |
| YOUNG ACHIEVERS SCIENCE & MATH SCH | PUBLIC | BOSTON | SUFFOLK | 82% | 78% | 80% |
| HAJJAR ELEMENTARY | PUBLIC | BILLERICA | MIDDLESEX | 73% | 85% | 81% |
| MILDRED AVENUE K-8 | PUBLIC | BOSTON | SUFFOLK | 81% | 83% | 81% |
| SAINT JOHN PAUL CATHOLIC ACADEMY | PRIVATE | BOSTON | SUFFOLK | 80% | 80% | 81% |
| MARGUERITE E SMALL ELEMENTARY | PUBLIC | YARMOUTH | BARNSTABLE | 77% | 82% | 82% |
| BRIDGE BOSTON CHARTER SCHOOL | PUBLIC CHARTER | BOSTON | SUFFOLK | 82% | 85% | 82% |
| FRANK H FREEDMAN SCHOOL | PUBLIC | SPRINGFIELD | HAMPDEN | 83% | 83% | 83% |
| HIGHLANDS | PUBLIC | DANVERS | ESSEX | 78% | 78% | 83% |

National Percentage of Kindergartners with an Exemption from One or More Vaccines by School Year



FIGURE 2. Number of jurisdictions that could not potentially achieve $\geq 95\%$ coverage*[†] with measles, mumps, and rubella vaccine among kindergartners – United States, 2017–18 to 2023–24 school years



Abbreviations: MMR = measles, mumps, and rubella vaccine; UTD = up to date.

Vaccine Education Strategies

- Sharing personal stories of people who have been affected by vaccine-preventable diseases
- Highlighting the scientific consensus on the safety and effectiveness of vaccines
- Emphasizing the importance of herd immunity in protecting vulnerable populations, and the dangers of under-immunized communities
- Addressing common myths and misconceptions about vaccines

RESEARCH ARTICLE



Use of narratives to enhance childhood vaccine acceptance: Results of an online experiment among Canadian parents

Eve Dube ^a, Marie-Eve Trottier^b, Devon Greyson^c, Noni E. MacDonald^d, Samantha B. Meyer^e, Shannon E. MacDonald^f, S. Michelle Driedger^g, Holly O. Witteman^h, Manale Ouakki^b, and Dominique Gagnon^b

^aDepartment of Anthropology, Laval University, Quebec, Quebec, Canada; ^bDepartment of Biohazard, Quebec National Institute of Public Health, Quebec, Quebec, Canada; ^cSchool of Population and Public Health, University of British Columbia, Vancouver, British Columbia, Canada; ^dDepartment of Pediatrics, Dalhousie University, Halifax, Nova Scotia, Canada; ^eSchool of Public Health Sciences, University of Waterloo, Waterloo, Ontario, Canada; ^fFaculty of Nursing, University of Alberta, Edmonton, Alberta, Canada; ^gDepartment of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba, Canada; ^hDepartment of Family Medicine, Laval University, Quebec, Quebec, Canada

ABSTRACT

Identifying effective interventions to promote children's vaccination acceptance is crucial for the health and wellbeing of communities. Many interventions can be implemented to increase parental awareness of the benefits of vaccination and positively influence their confidence in vaccines and vaccination services. One potential approach is using narratives as an intervention. This study aims to evaluate the effects of a narrative-based intervention on parents' attitudes and vaccination intentions. In a pre-post experiment, 2,000 parents of young children recruited from an online pan-Canadian panel were randomly exposed to one of the three videos presenting narratives to promote childhood vaccination or a control condition video about the importance and benefits of physical activity in children. Pre-post measures reveal a relatively modest but positive impact of the narratives on parents' attitudes and intention to vaccinate their child(ren). The results also suggest that narratives with more emotional content may be more effective in positively influencing vaccine attitudes than the more factual narrative. Using narratives to promote vaccination can positively influence parents' views and intentions toward childhood vaccines, but research is still required to identify the best components of such interventions.

ARTICLE HISTORY

Received 1 May 2024
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KEYWORDS

Vaccination; immunization;
vaccine hesitancy; childhood;
narratives

“Parents who want to play it safe, but are not altogether sure how, should turn with relief to this reasoned, logical and comprehensive analysis of the facts.”

—ABIGAIL ZUGER, M.D., *The New York Times*

Seth Mnookin

THE  PANIC
VIRUS

The True Story Behind the

Vaccine-Autism Controversy

WITH A NEW AFTERWORD BY THE AUTHOR

"I struggled with that question of whether it is fair for me to use these emotional gripping personal stories to make my point at the same time as I was criticizing [others for using] that kind of tactic."

-- Seth Mnookin, author of *The Panic Virus: A True Story of Medicine, Science and Fear*

“What’s important is that you use stories to illustrate data rather than as a substitute for data. So, it’s fair to say that the numbers of children with a particular disease is on the rise, and then to say ‘here are the figures and here is the story’. That contrasts with people saying ‘numbers are not what matters, that the stories are all that matters’,”

- - Seth Mnookin, author of *The Panic Virus: A True Story of Medicine, Science and Fear*

I am a measles survivor

Measles Outbreak: 1989-91

- Worst measles outbreak since the measles vaccine came into widespread use in the 1960s
- Over 55,000 cases and 166 deaths

Measles Outbreak: 1989-91

Why?

- Only a single dose of MMR was recommendation at that time
- Budget cuts to childhood vaccination programs in the United States left many children without access to vaccination
- *It's the most contagious disease there is!*

What did we do?

- 1989: Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP) recommended a second dose of MMR vaccine for all children
- 1993: United States Congress created the Vaccines for Children program.

What has this accomplished?

- The elimination of endemic measles transmission in the U.S. in 2000
- Every outbreak since that year has been the result of a imported infection.

How to stop and prevent measles outbreaks

What stopped each U.S. outbreak?

- Quarantines for exposed individuals
- Isolation for sick patients
- Massive vaccination campaigns

Vaccines Work (2 doses of MMR \approx 97% effective)

2018-19 Rockland County, NY outbreak:

95% of the 312 cases were unvaccinated, undervaccinated or had an unknown vaccine status.

2018 Clark County, WA outbreak:

96% of the cases (68 of 71 individuals) were unvaccinated or had an unknown vaccine status.

Texas/New Mexico outbreak:

320 cases

23 hospitalized

2 deaths (unvaccinated)

97 % unvaccinated or unknown status

Gaines County has one of Texas's highest vaccine exemption rates, at nearly 18%

“...the very concept of ordered liberty precludes allowing every person to make his own standards on matters of conduct in which the society as a whole has important interests.”

- Chief Justice Warren Burger
Supreme Court of the United States

Questions?