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The 2026 Immunization Report: Epidemiology in a Fragmented System

Biology * Public Health * Ethics

Introduction: The Fragmentation of United States Immunization Policy

From Massachusetts's 1853 smallpox mandate and the 1954 Salk polio trials to the 1964 creation of the Advisory Committee on Immunization Practices (ACIP), United States public health governance expanded the routine childhood schedule to 17 diseases by 2025, eliminating endemic measles in 2000.[1][2][3][4] In 2026, declining vaccination coverage, pathogen adaptation, and federal policy rollbacks have fractured that epidemiological shield, culminating in the Pan American Health Organization (PAHO) formally revoking the United States' measles elimination status on November 17, 2026.[1][6]

Pathogen Resurgence: Immune Amnesia, Pertussis Adaptation, and Influenza Drift

In final 2025 surveillance data, the U.S. recorded 2,289 confirmed measles cases across 45 jurisdictions plus 26 international visitors (48 outbreaks; 11% hospitalized, three deaths), led by genotypes D8 and B3.[5][7][8] Through November 19, 2026, 2026 year-to-date transmission surged to 5,838 confirmed cases (5,820 across 47 jurisdictions including the District of Columbia plus 18 international visitors, with 43 new 2026 outbreaks and 96% outbreak-associated) -- prompting PAHO to determine on November 17, 2026 that continuous U.S. endemic transmission lasting over 12 months from January 20, 2025 ended the country's 26-year elimination status.[5][6] Wild-type measles binds CD150 on memory B and T lymphocytes, inducing apoptosis and a 27-month "immune amnesia" that erases immunological memory.[9][10]

| Measles Outbreak Metric | | 2025 (Feb 2026 Report / Final CDC) | | 2026 YTD (Feb Snapshot / Nov 19 Update) |

| Confirmed Cases (Final 2025 / YTD Nov 19, 2026) | | 2,289 | | 5,838 |

| Elimination Status (Since 2000) | | Maintained (under review) | | Revoked by PAHO (Nov 17, 2026) |

| Under 5 / 5-19 Years (Feb 2026 Age Breakdown; 982 YTD) | | 584 (26%) / 1,012 (44%) [of 2,281 prelim.] | | 248 (25%) / 575 (59%) [of 982 Feb] |

| Hospitalizations (Under 5) (Feb 2026 Breakdown) | | 246 (11%) [107 (18%)] [of 2,281 prelim.] | | 38 (4%) [16 (6%)] [of 982 Feb] |

Bordetella pertussis caused 35,493 cases in 2024 and 28,783 provisional cases in 2025 (per CDC's January 16, 2026 surveillance tally, including 13 infant deaths in early tracking).[1][11] Unlike Th1/Th17 whole-cell vaccines that cleared mucosal bacteria, Th2-skewed acellular vaccines elicit humoral antibody protection that wanes 42% annually after dose five, selecting for pertactin/fimbriae protein divergence and the ptxP3 promoter allele (1.6x toxin output).[12][13] Meanwhile,

influenza caused 289 pediatric deaths in 2024-2025 (89% unvaccinated; 5.8 per million in Black children vs. 3.1 in White children) and 203 pediatric deaths across the 2025-2026 season (up from 71 by Week 6), driven by viral evolution of A(H3N2) subclade K (J.2.4.1), whose hemagglutinin mutations and N-linked glycosylation shifts evade preexisting immunity.[1][14][15][16][17]

Herd Immunity Thresholds: Kermack-McKendrick Dynamics

Under Kermack-McKendrick theory, community immunity requires 1 1/R0 based on the basic reproduction number: 93-95% for measles (R0 = 15-18) and 92-94% for pertussis (R0 = 12-17).[1][6][13] In 2024-2025, U.S. kindergarten coverage slipped below those protective thresholds to 92.5% (MMR) and 92.1% (DTaP).[1]

Sociological Shifts and the 2026 Policy Schism

Concurrently, 38% of U.S. parents align with the Make America Healthy Again (MAHA) movement, exhibiting lower trust in the CDC (51% vs. 64%) and FDA (47% vs. 60%), higher trust in HHS Secretary Robert F. Kennedy Jr. (56% vs. 23%), and skepticism toward seasonal flu (44%) and COVID-19 (28%) vaccines, with 24% skipping or delaying doses.[18] On January 5, 2026, federal officials bypassed ACIP to cut universally recommended childhood targets from 17 to 11, relegating rotavirus, hepatitis A/B, meningococcal, flu, and COVID-19 to shared decision-making and HPV to one dose.[4][19][20][21] At least 25 states rejected the rollback, forming the Governors Public Health Alliance (15 states), West Coast Health Alliance (CA, OR, WA, HI), and Northeast Public Health Collaborative (Northeastern states and NYC), while enacting laws like California AB 144 (September 2025) and Maryland's Vax Act of 2026 (HB 637 / Chapter 7, enacted April 2026) to anchor insurance mandates and state recommendations to professional medical guidelines.[19][22][23][24][25][26]

Conclusion: Infrastructure Financing and Legal Reform

While Section 317 immunization grants remain flat-funded at $681.9 million for FY2026 against a $1.1 billion need (amid a 156% rise in adult vaccination costs), proposals to bypass the Althen causation standard by adding autism to the Vaccine Injury Compensation Program (VICP) table risk exhausting its $4 billion trust fund.[1][27][28][29][30][31] Enacting bipartisan modernization legislation (H.R. 5142, expanding special masters and updating the $250,000 injury cap) and restoring unified, science-driven ACIP governance are vital to reversing disease resurgence.[29][32]

Updates... (Nov 21, 2026): Updated 2026 U.S. measles surveillance to 5,838 confirmed cases as of November 19, 2026 (5,820 across 47 jurisdictions plus 18 international visitors, spanning 43 new 2026 outbreaks), replaced the HTTP 403-blocked HRSA link in Ref. 29 with the U.S. Department of Justice Vaccine Litigation Section (VICP) record, and standardized reference list identifiers, numbered markers, currency formatting, and exact publication dates across all 32 sources.

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