Massachusetts Department of Public Health (DPH)
Guidance on Use of the Measles, Mumps, Rubella, Varicella (MMRV) Vaccine in Children Under the Age of Four Years

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This document provides guidance from the Massachusetts Department of Public Health (DPH) regarding vaccination against measles, mumps, rubella, and varicella, following the recent recommendations issued by the Advisory Committee on Immunization Practices (ACIP) on September 18–19, 2025. This guidance was developed through review of available data, consultation with professional societies (including the American Academy of Pediatrics), review of the ACIP materials and recommendations, and collaboration with regional public health agencies (see Northeast Public Health Collaborative statement).

There are two options to protect children against measles, mumps, rubella, and varicella:

- Trivalent MMR vaccine and varicella vaccine administered separately
- Quadrivalent MMRV vaccine

The two options are considered equivalent in terms of protection against disease.

DPH recommends the following for routine childhood vaccination against measles, mumps, rubella, and varicella:

- 2-dose series at age 12-15 months; and at age 4-6 years
- MMR vaccine or MMRV vaccine may be administered
  Note: for dose 1 in children age 12-47 months, it is preferable to administer MMR and varicella vaccines separately. Quadrivalent MMRV vaccine may be used if parents or caregivers express a preference for the MMRV vaccine to reduce the number of injections.

There are two options for protecting children against measles, mumps, rubella, and varicella: administering the varicella vaccine and the trivalent measles, mumps, and rubella (MMR) vaccine, separately, or administering the quadrivalent measles, mumps, rubella, and varicella (MMRV) vaccine. Vaccination for measles, mumps, rubella, and varicella is provided in a two-dose series, starting with the first dose at age 12 through 15 months and the second dose at age 4 through 6 years. The MMRV vaccine that is available in the U.S. (ProQuad, Merck) was licensed by FDA in 2005 for children aged 12 months–12 years. Post-licensure monitoring demonstrated a safety signal for increased risk of febrile

seizures for children 12 to 15 months of age after MMRV vaccine compared with MMR vaccine and varicella vaccine administered separately (MMR+V) when providing the first dose of measles, mumps, rubella and varicella vaccination. Subsequent studies consistently demonstrated that during the first 1 to 2 weeks after first dose vaccination at 12 to 15 months of age, there is a small increased risk for febrile seizures after MMRV vaccination compared with MMR+V vaccination (approximately one additional febrile seizure per 2,300-2,600 young children immunized with MMRV for their first dose compared to MMR+V). Febrile seizures are common in young children and are typically associated with fevers caused by infections, and less commonly can be associated with fevers occurring after vaccine administration. Febrile seizures are of short duration and are associated with excellent prognosis. There is no increased risk of febrile seizures after vaccination with MMRV vaccine compared to MMR+V vaccines for the second dose for children aged 4 through 6 years. Therefore, because of the small increased risk of febrile seizure seen after first dose MMRV vaccine, in 2009, ACIP recommended MMR+V vaccines, administered separately, as the preferred option for the first dose regimen at age 12 to 15 months, unless the parent or caregiver expressed a preference for the MMRV vaccine to reduce the number of injections. Providers who considered administering the MMRV vaccine for the first dose were recommended to discuss the benefits and risks of both vaccination options with the parents or caregivers. As a result of this guidance, the MMRV vaccine currently accounts for only 6% of first dose measles, mumps, rubella, and varicella vaccination among children aged 12-35 months, but 75% of second dose vaccination among children aged 4-6 years living in Massachusetts.

At the September 2025 meeting, ACIP voted that children under 4 years should always receive separate MMR and varicella vaccines and not the combined MMRV vaccine. DPH examined the data presented at this meeting very carefully. There were no new data presented to ACIP at the meeting that warranted revisiting and changing the previous ACIP recommendations. Therefore, DPH continues to recommend giving families and providers a choice of vaccines to protect toddlers against measles, mumps, rubella and varicella. DPH's guidance is aligned with the recommendations previously outlined by ACIP in 2009: separate MMR+V vaccines should be administered for the first dose for children aged 12 to 47 months, unless caregivers express a preference for MMRV vaccine. If preferred, the MMRV vaccine may be administered as the first dose to children 12 to 47 months.