



Childhood Vaccination Coverage Report

Rhode Island Department of Health, Office of Immunization September 2007

BACKGROUND

Each year, the Centers for Disease Control and Prevention (CDC) publish state and national estimates of vaccination coverage rates among children 19-35 months of age from the National Immunization Survey (NIS) www.cdc.gov/mmwr/preview/mmwrhtml/mm5634a2.htm.

State immunization programs use NIS coverage rates to identify children at risk for disease, to track uptake of new vaccines, and to monitor progress towards achieving state and national Healthy People (HP) 2010 immunization goals. HP 2010 immunization goals include 90% or greater coverage for each individual vaccine series and 80% coverage for the combination series 4:3:1:3:3:1 (4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella).

HOW DOES RHODE ISLAND MEASURE UP?

We should all be proud that RI's estimated coverage rates, 96%+ for all but one vaccine, surpassed HP 2010 goals! (Table 1) That means our RI partnerships between public health, community practices, and parents are working. Our universal vaccine policy, all vaccines for all kids in their medical homes, our vigorous use of KIDSNET to support immunization, our outreach in childcare and community settings, and the strong support of professionals throughout the state, has kept us in the top tier of states.

These data point out one problem in RI... our toddlers aren't getting their 4th dose of DTaP as early as they used to, and they often don't get it by 19 months of age. As a result, our "ranking" for the complete 4-dose series of DTaP has dropped, which also holds down our "complete series-4:3:1:3:3:1" rate. If we can bring toddlers in a little earlier for their 4th DTaP, we can easily be #1 again!

Table 1. Vaccination Coverage Among Children 19-35 Months of Age - Rhode Island, 2002-2006

Vaccine	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)
4 DTaP	92.9	95.4	94.7	87.9	86.6
3 Polio	94.2	94.5	95.4	95.6	96.8
1 MMR	95.0	93.6	95.6	95.2	96.2
3 Hib	93.9	95.4	94.2	94.2	96.8
3 HepB	97.0	93.9	94.9	96.3	97.8
1 Varicella	88.9	90.7	91.7	96.2	96.4
4:3:1:3:3:1		79.8	81.5	80.1	80.6

According to the childhood immunization schedule, children should receive a total of four doses of DTaP vaccine by 19 months of age at 2, 4, 6, and 15-18 months. The NIS also measures the number of vaccine doses received by age milestones at 3, 5, 7, 19, and 24 months. RI milestone data trend for DTaP vaccine (Table 2) shows a progressive decrease in coverage at each age interval up to the 19-month interval. Coverage for the 4th dose of DTaP is recovered by 24 months of age.

One explanation for the drop in coverage may be the complexity of the DTaP vaccine schedule. Several studies have demonstrated that the number of required doses in a vaccine series as well as the timeliness of earlier doses can impact age appropriate receipt of future doses. The DTaP vaccine schedule is complex in that the 4th dose must be separated from the 3rd by at least 6 months. Earlier doses that are missed, given too early (invalid) and repeated, or given late will further delay the 4th dose. This theory is supported by the increase seen from the 19-month interval to the 24 month period when children typically have a well-child visit and make-up the vaccine dose at that time.

Table 2. Estimated Vaccination Coverage Levels of DTaP Vaccine by Age Milestone - Rhode Island, 2002-2006

Age Milestone	1 dose by 3 months (%)	2 doses by 5 months (%)	3 doses by 7 months (%)	4 doses by 19 months (%)	4 doses by 24 months (%)
2002	95.6	89.0	79.6	74.4	87.8
2003	95.1	90.4	82.1	80.3	93.1
2004	92.3	86.3	74.1	75.0	88.2
2005	92.2	86.3	77.8	71.6	86.2
2006	96.7	90.6	79.7	72.0	84.5

IMPROVING VACCINATION COVERAGE RATES

1. Follow CDC's *Recommended Childhood/Adolescent Schedule/Rhode Island's Suggested Schedule* for routine vaccination: www.health.ri.gov/family/immunization/SuggestedSchedule-RI.pdf.
2. Timeliness: consider scheduling vaccines at the earliest opportunity when an "age range" is recommended (example: give dose 4 of DTaP at the 15 month visit rather than the 18 month visit; last dose of PCV and Hib at 12 months).
3. Follow CDC's *Catch-up Immunization Schedule* for kids who fall behind: www.cdc.gov/vaccines/recs/schedules/default.htm.
4. Use KIDSNET to avoid missed opportunities:
 - Review and print child's immunization history and attach to chart prior to visit.
 - Generate practice reports to identify children who are missing immunizations.
5. Assess vaccination status at sick and well-child visits.
6. Follow CDC guidelines for valid contraindications to vaccines: www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm.
7. For additional suggestions for improving immunization services visit: www.immunize.org/catg.d/p2045.htm.