

How Ready Is Providence?

CHILDREN RECEIVING TIMELY IMMUNIZATIONS

October 2008

Why is it important?

Globally, immunizations save more than three million lives annually and protect millions more from illnesses and permanent disability. Just 50 years ago in the United States, young children often died of diseases that are now nearly eliminated.

Yet there is growing complacency in the United States about timely immunizations for children, making this one of the chief challenges to widespread vaccination. Coupled with the increasing number of parents who are expressing skepticism about the safety of vaccines, diseases inevitably reappear. This is evidenced by an unusual outbreak of measles in San Diego in February 2008. Of the 12 children who became

ill, nine had not been inoculated against the virus because of parent objections and the other three children were too young for vaccinations.¹

A recent study of National Immunization Survey data finds that children of women with less than a high school education were 16% more likely to have received timely childhood vaccinations than the children of college graduates. Immunization rates were highest among Hispanic and non-Hispanic black families.² Study authors cite cultural differences as one possibility for the difference. They also acknowledge that vaccination information is widely shared with the low-income and minority parents who access government-subsidized health-care programs.

What did we report in 2004?

In 2004, Ready to Learn Providence reported the percentage of young children enrolled in the 2004-2005 academic year at Providence Public Schools who received their third and fourth doses of the Diphtheria, Tetanus, and Pertussis (DTaP) vaccinations on time.³ Since regular visits to a pediatrician generally drop off after a child's first birthday, a comparison of on-time immunizations for the third and fourth doses of DTaP is a good indication of

whether parents continue to bring their children for necessary "well visits" as they age, rather than seeking care only at times of crisis.

As displayed in Table 1, we previously reported that, on average, 80% of children in pre-kindergarten through second grade received their third dose of DTaP on time. Fewer children, 65%, received their fourth dose of DTaP on time.

What is happening now?

Since that time, rates of immunization in Providence appear to have increased. An analysis of immunization data for children enrolled in the public schools in the 2007-2008

academic year indicate that, of the children in pre-K through 2nd grade whose immunization data were available and valid,⁴ 87% received the third dose of DTaP on time and 79% received

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Continued from Page 1

the fourth dose of DTaP on time. These rates are substantially higher than those previously reported.

When data are examined at a neighborhood level,⁵ all but two of Providence's 25 neighborhoods experienced an increase in rates of immunization for the third dose of DTaP. Rates ranged from 81% in Elmwood and Manton to 94% in Hope and Mount Hope. Elmhurst and Reservoir saw a slight decline, with rates of five and three percentage points respectively.

Increases in the rates of immunization for the fourth dose of DTaP were

particularly impressive, with all but the Fox Point neighborhood experiencing gains. The lowest rate of 70% was for children living in Lower South Providence and the highest rate of 96% in Blackstone as displayed in Figure 2. These ranges are substantially higher

than just three years ago, when rates were as low as 59% in some neighborhoods.

Detailed data comparing neighborhood-level statistics from 2004 to 2007 are presented in the following table and figures.

Table 1

2004-2007 Comparison by Neighborhood of Children Receiving DTaP on Time

Neighborhood	Third DTaP by 11 Months		Fourth DTaP by 24 Months	
	2004	2007	2004	2007
Blackstone*	-	93%	-	96%
Charles	85%	90%	69%	80%
College Hill*	-	-	-	-
Downtown*	-	-	-	-
Elmhurst	88%	83%	68%	82%
Elmwood	80%	85%	65%	75%
Federal Hill	77%	89%	67%	81%
Fox Point	82%	91%	85%	84%
Hartford	80%	90%	64%	77%
Hope	88%	94%	81%	87%
Lower South Providence	79%	83%	64%	70%
Manton	77%	81%	64%	90%
Mount Hope	85%	94%	67%	90%
Mount Pleasant	84%	91%	61%	82%
Olneyville	76%	89%	64%	78%
Reservoir	90%	87%	72%	78%
Silver Lake	82%	87%	73%	81%
Smith Hill	80%	89%	60%	81%
South Elmwood	78%	81%	63%	78%
Upper South Providence	77%	84%	64%	77%
Valley	81%	86%	63%	80%
Wanskuck	79%	84%	66%	79%
Washington Park	81%	86%	63%	76%
Wayland*	71%	-	57%	-
West End	75%	87%	61%	80%
Citywide Average	80%	87%	65%	79%

*Public school enrollment at one or both points in time is too low in these particular neighborhoods to accurately represent rates of immunization.

When data are examined at a neighborhood level, all but two of Providence's 25 neighborhoods experienced an increase in rates of immunization for the third dose of DTaP.

(Endnotes)

¹ Steinhauer, Jennifer. (2008, March 21). Public health risk seen as parents reject vaccines. *The New York Times*. Retrieved March 21, 2008 from <http://www.nytimes.com/2008/03/21/us/21vaccine.html>. ²Kim, S. S., Frimpong, J. A., Rivers, P. A., Kronenfeld, J. J. (2007). Effects of maternal and provider characteristics on up-to-date immunization status of children aged 19 to 35 months. *American Journal of Public Health*, 97, No. 2. ³The Centers for Disease Control recommends the third dose of DTaP be administered by six months of age and the fourth dose by 18 months. For purposes of these analyses, the third dose by 11 months and the fourth dose by 24 months are considered on time. ⁴Only 65% of the 6,109 children in pre-K through 2nd grade in Providence Public Schools in 2007-2008 were included in this analysis. Approximately 1,700 records (28%) were missing immunization data and an additional 470 records were eliminated because data errors invalidated them. In the 2004 analysis, records for 71% of enrolled children were included. ⁵For a neighborhood level analysis, all student residential addresses were geocoded based 2007-2008 enrollment data. The immunization dataset was then linked to this record set. The addresses, therefore, are reflective of the Fall 2007 enrollment address and not necessarily the address of the child at the time immunization.

Figure 1

Children in Grades PreK through 2nd Receiving Their Third Dose of DTaP by 11 Months of Age

Academic Year 2007-2008

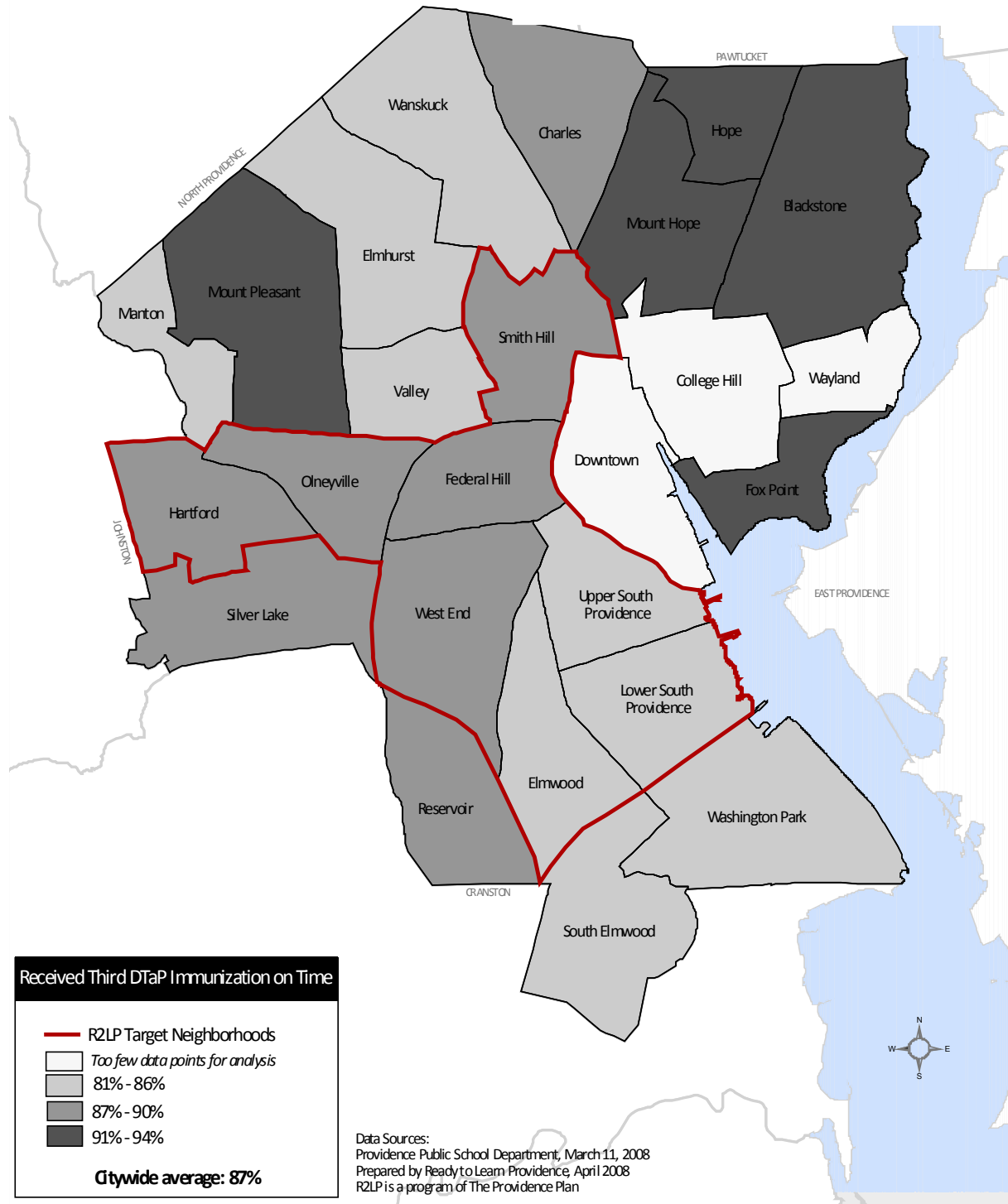


Figure 2

Children in Grades PreK through 2nd Receiving Their Fourth Dose of DTaP by 24 Months of Age

Academic Year 2007-2008

