

Allegheny County School Immunization Report

School Year 2014-2015



Allegheny County School Immunization Report School Year 2014-2015

A publication of the
**ALLEGHENY COUNTY HEALTH DEPARTMENT
BUREAU OF ASSESSMENT, STATISTICS, AND EPIDEMIOLOGY**

July 2015

Michael Sharbaugh, B.S.
Graduate School of Public Health
University of Pittsburgh

Stephen Forest, M.P.H.
Epidemiology Research Associate
Allegheny County Health Department

Kristen Mertz, M.D.
Medical Epidemiologist
Allegheny County Health Department

Please address questions or comments to:

Stephen Forest, M.P.H.
Allegheny County Health Department
Bureau of Assessment, Statistics, & Epidemiology
542 Fourth Ave, 3rd Floor
Pittsburgh, PA 15219
sforest@achd.net

Executive Summary

The Allegheny County Health Department requires that each school submit the immunization status of its students twice a year, in October and April. Students in kindergarten through 12th grade are required to meet certain immunization requirements before admission to school. Students may begin the school year without the complete schedule of vaccines only if they meet the criteria for provisional enrollment (students can enroll if they started, but have not finished, the recommended number of doses), medical exemption, or religious/moral/ethical exemption. Each exemption has its own requirements, and may apply to all of the immunizations or a certain few.

This report summarizes the immunization data submitted by schools in Allegheny County for the 2014-15 school year. The analysis in this report describes the immunization status of students by grade, school type, exemption status, and vaccine type. Beyond reporting on the immunization status for the 2014-15 school year, this report also includes five-year trends to demonstrate changes in the immunization status.

Highlights

- The percentage of students with complete immunizations was 96.7% in April 2015, which is above the Healthy People 2020 goal of 95%.
- The downward trend of overall immunization coverage from 97.2% in March 2011 to 96.7% in April 2015 corresponded with an upward trend in religious/moral/ethical exemptions from 1.6% to 2.0% over that same period of time.
- All grades exceeded the Healthy People 2020 goal of 95% of students with complete immunizations, except for kindergarten, which was just below the goal at 94.3%.
- Most schools (79%) in Allegheny County had 95% of their students fully immunized; over 90% of public and charter schools met that level of student immunization.
- In October, 1.2% of students were provisionally enrolled, and that fell to 0.5% in April. Kindergarten (8.6%) and 7th grade (1.8%) had the highest percentage in the fall, with kindergarten (2.3%) being the only grade with more than 1% provisionally enrolled in April.
- 2.6% of students had either a medical or religious/moral/ethical exemption. Montessori and special education were the school types that had the highest percentage of students with exemptions.
- In kindergarten and 7th grade, public schools had higher coverage for all of the required vaccines than private schools.

Introduction

Allegheny County requires specific immunizations for students attending school, regardless of the type of school. The initial requirements are for all students entering kindergarten; students are considered fully compliant if they received the appropriate number of doses for diphtheria and tetanus (DT), polio, varicella (VZV), hepatitis B (Hep B), and measles, mumps, and rubella (MMR). Those entering 7th grade are required to have received one dose each of tetanus/diphtheria/pertussis (Tdap) and meningitis (MCV4).¹

Students may enter the school year without the complete schedule of immunizations through a provisional enrollment, a medical exemption, or a religious/moral/ethical exemption. A medical exemption needs to be documented by the student's physician. The parent or guardian must submit, in writing, their religious or moral objections to their child being fully immunized. A provisional enrollment allows the student to begin the school year without completing the immunization schedule, as long as they have received at least one dose of each vaccine type and there is a documented plan for receiving the remaining doses over the eight-month grace period. Students are to be denied admission to school if they are not fully immunized after the grace period.¹

Allegheny County requires that each school submit a summary of its students' immunization status twice a year, in the fall and spring. For the both submissions, schools were asked to provide, by grade, the number of students enrolled, the number of students meeting all immunization requirements, the number of students with each type of exemption, and the number of students denied admission.¹ Additionally once a year, schools are required to submit a summary of its students' immunization status to the Pennsylvania Department of Health (PA DOH). This submission includes the number of students in kindergarten and 7th grade who received the required doses of each vaccine.² The PA DOH data were used in this report to compare Allegheny County's vaccination coverage to Pennsylvania's coverage.

One of the Healthy People 2020 goals, established by the United States Department of Health and Human Services, is to increase the immunization coverage across the country. Specifically, that includes ensuring 95% of students entering kindergarten are fully immunized for MMR, DTaP, VZV, Polio, and Hep B, and 80% of children aged 13 to 15 are immunized for MCV4 and Tdap.³ A high immunization goal should be set for 7th grade students in Allegheny County, so 95% coverage will be used as the target for 7th grade students receiving the MCV4 and Tdap vaccines.

¹ Allegheny County Health Department, *Article X: School Health Immunization*. (Accessed July 16, 2015); available from http://www.achd.net/regulations/Article_10_School_Immunizations.pdf

² Commonwealth of Pennsylvania, 28 Pa. Code Part III, Ch 23, Subch C §23.86. *School Reporting*. (Accessed July 16, 2015), available from <http://www.pacode.com/secure/data/028/chapter23/subchapCtoc.html>

³ U.S. Department of Health and Human Services, *Healthy People 2020 Objectives: Immunization and Infectious Diseases*, July 2015, Accessed July, 16 2015, available from <http://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives>

This report summarizes the immunization status of Allegheny County school students during the 2014-15 school year, based on the data provided by the schools. Data were cleaned and analyzed by the Allegheny County Health Department’s Bureau of Assessment, Statistics, and Epidemiology.

Overall Student Immunization Coverage in Allegheny County

In April 2015, based on the data reported, there were 166,909 students enrolled in 396 schools in Allegheny County. The majority of students (88%) were enrolled in public schools, including charter schools (Table 1).

Table 1. Enrollment Information, Allegheny County Schools, April 2015

<i>School Type</i>	<i>Number of Students Enrolled</i>	<i>Number of Schools</i>
	<i>N (%)</i>	<i>N (%)</i>
Charter	6,839 (3.8)	17 (4.3)
Private	3,218 (1.9)	21 (5.3)
Private - Montessori	295 (0.2)	6 (1.5)
Private - Religious	16,231 (9.7)	80 (20.2)
Private - Special Education	880 (0.5)	13 (3.3)
Public	139,577 (83.6)	256 (64.6)
Public - Special Education	319 (0.2)	3 (0.8)
Total	166,909	396

In April 2015, the percentage of students in Allegheny County with complete immunizations was 96.7% (Table 2). Kindergarten had the lowest coverage (94.3%) and was the only grade that did not meet the Healthy People 2020 goal of 95% coverage. For 7th grade when additional immunizations of Tdap and MCV4 are required, the percentage of students with complete immunization was 96.4%.

Table 2. Percentage of Fully Immunized Students by Grade, Allegheny County, April 2015

<i>Grade</i>	<i>Number of Students Enrolled N</i>	<i>Number of Students with Complete Immunizations N (%)</i>
K	13,302	12,541 (94.3)
1st	13,613	13,116 (96.3)
2nd	13,065	12,664 (96.9)
3rd	12,703	12,312 (96.9)
4th	12,516	12,148 (97.1)
5th	12,868	12,516 (97.3)
6th	12,628	12,303 (97.4)
7th	12,531	12,083 (96.4)
8th	12,782	12,365 (96.7)
9th	13,275	12,811 (96.5)
10th	12,859	12,515 (97.3)
11th	12,505	12,163 (97.3)
12th	12,262	11,922 (97.2)
Total	166,909	161,459 (96.7)

Over the past five years, the overall percentage of students who were fully immunized has decreased slightly each year, from 97.2% in March of 2011 to 96.7% in April of 2015 (Table 3). The total coverage within each grade varies from year to year, but the percentage of complete immunizations for each grade was lower in April 2015 than it was in March 2011.

Table 3. Percentage of Fully Immunized Students by School Year, Allegheny County

	<i>March 2011</i>	<i>March 2012</i>	<i>March 2013</i>	<i>March 2014</i>	<i>April 2015</i>
	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
K	95.1	95.4	95.3	94.7	94.3
1st	97.0	97.1	97.3	97.0	96.3
2nd	97.4	97.1	97.3	97.2	96.9
3rd	97.4	97.3	97.2	97.3	96.9
4th	97.2	97.5	97.4	97.1	97.1
5th	97.4	97.2	97.6	97.4	97.3
6th	97.6	97.4	97.2	97.5	97.4
7th	96.9	96.8	96.5	96.4	96.4
8th	97.4	97.1	97.0	96.8	96.7
9th	97.6	97.4	97.1	96.9	96.5
10th	97.5	97.7	97.0	96.9	97.3
11th	97.7	97.4	97.7	97.0	97.3
12th	97.6	97.7	97.4	97.5	97.2
Overall	97.2	97.2	97.1	96.9	96.7

Public schools, including charter schools, account for 88% of the students and 69% of the schools in Allegheny County, and had complete immunization percentages of at least 97%, exceeding the Healthy People 2020 goal (Table 4). Private schools also met the goal with a complete immunization

percentage of 96%, while private religious schools fell just short at 94.7%. Montessori and special education schools were below the 95% goal for complete immunizations, but only comprised approximately 1% of the students and 6% of the schools in Allegheny County.

Table 4. Percentage of Fully Immunized Students by School Type, Allegheny County, April 2015

<i>School Type</i>	<i>Number of Students Enrolled N</i>	<i>Number of Students with Complete Immunizations N (%)</i>
Charter	6389	6,252 (97.9)
Private	3,218	3,092 (96.1)
Private - Montessori	295	268 (90.8)
Private - Religious	16,231	15,376 (94.7)
Private - Special Education	880	730 (83.0)
Public	139,577	135,458 (97.0)
Public - Special Education	319	283 (88.7)
Grand Total	166,909	161,459 (96.7)

Public and charter schools had the highest percentages of students with complete immunizations; over 90% of schools in these categories met the Healthy People 2020 goal (Table 5). The second largest school type, behind public, was private religious, but only 56% of those schools had at least 95% of their students fully immunized.

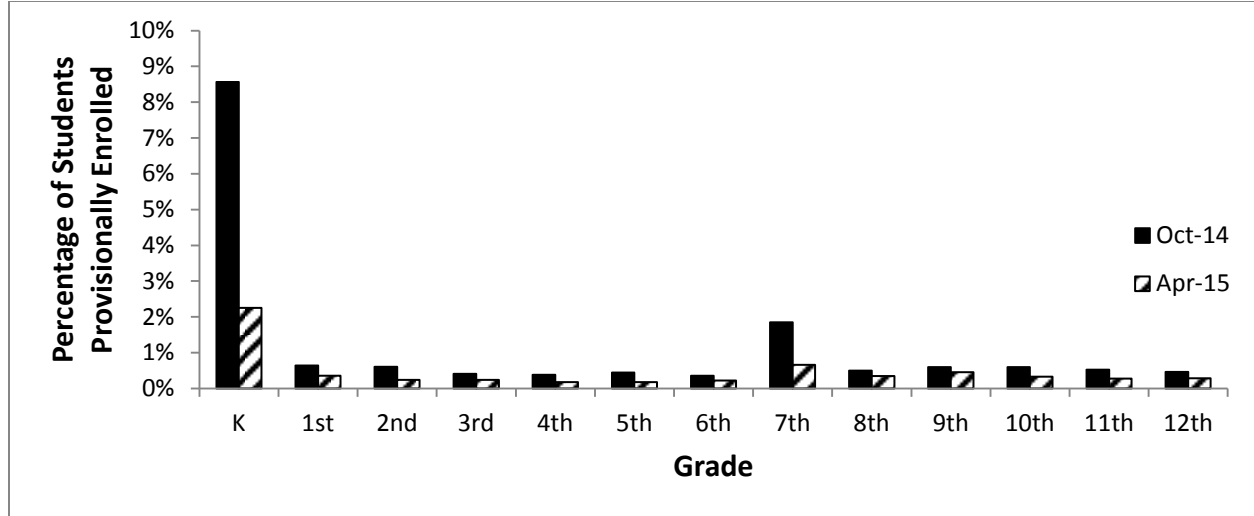
Table 5. Percentage of Schools Meeting Healthy People 2020 Goal (95% Coverage) by School Type, Allegheny County, April 2015

<i>School Type</i>	<i>Number of Schools N</i>	<i>Number of Schools that met 95% Goal N (%)</i>
Charter	17	16 (94.1)
Private	21	14 (66.7)
Private - Montessori	6	1 (16.7)
Private - Religious	80	45 (56.3)
Private - Special Education	13	6 (42.9)
Public	256	232 (90.6)
Public - Special Education	3	0 (0.0)
Total	396	314 (79.3)

Provisional Enrollment in Allegheny County

Kindergarten and 7th grade are the two grades in which there are new immunization requirements for students, and were also the two grades with the highest provisional enrollment percentages in October (Figure 1). Ideally, there would not be any students with provisional enrollment in April, as the grace period had almost completely elapsed, but overall, a small percentage still remained. There was a significant decrease in provisional enrollments for both grades from October to April, but kindergarten still had the highest percentage in April. All other grades had less than 1.0% of students enrolled provisionally.

Figure 1. Percentage of Students with Provisional Enrollment Status by Grade, Allegheny County, 2014-2015



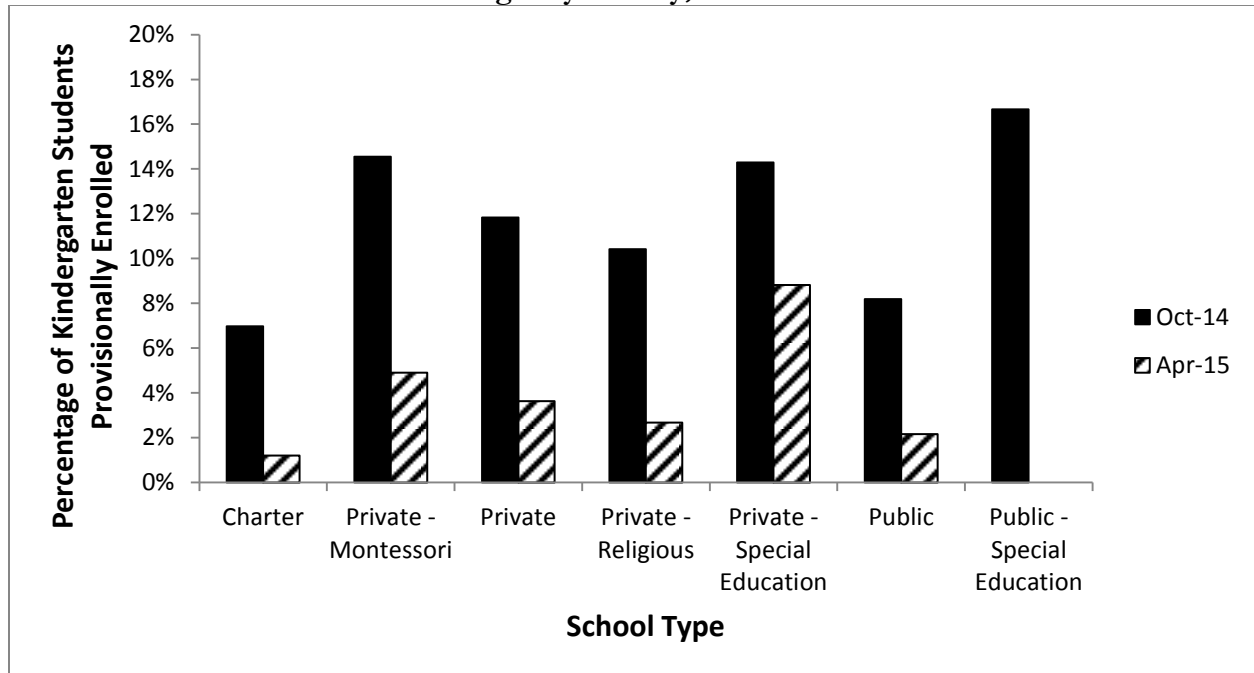
There was a substantial decrease in the number of students with provisional enrollment status for all school types between October and April (Table 6). By law, all students with a provisional enrollment status must meet the full immunization requirements within 8 months or be denied admission to the school, but only the public-special education school type completely met this requirement as of April.

Table 6. Provisional Enrollment Changes during the 2014-2015 School Year, Allegheny County

<i>School Type</i>	<i>Number of Students Enrolled, October N</i>	<i>Provisional Enrollments, October N (%)</i>	<i>Number of Students Enrolled, April N</i>	<i>Provisional Enrollments, April N (%)</i>	<i>% Change in Provisional Enrollment</i>
Charter	6675	79 (1.2)	6389	8 (0.1)	-89.4
Private	3,173	57 (1.8)	3,218	20 (0.6)	-65.4
Private - Montessori	307	18 (5.9)	295	6 (2.0)	-65.3
Private - Religious	15,774	401 (2.5)	16,231	163 (1.0)	-60.5
Private - Special Education	855	20 (2.3)	880	14 (1.6)	-32.0
Public	139,651	1,497 (1.1)	139,577	571 (0.4)	-61.8
Public - Special Education	323	6 (1.9)	319	0 (0.0)	-100.0
Total	166,758	2,078 (1.2)	166,909	782 (0.5)	-62.4

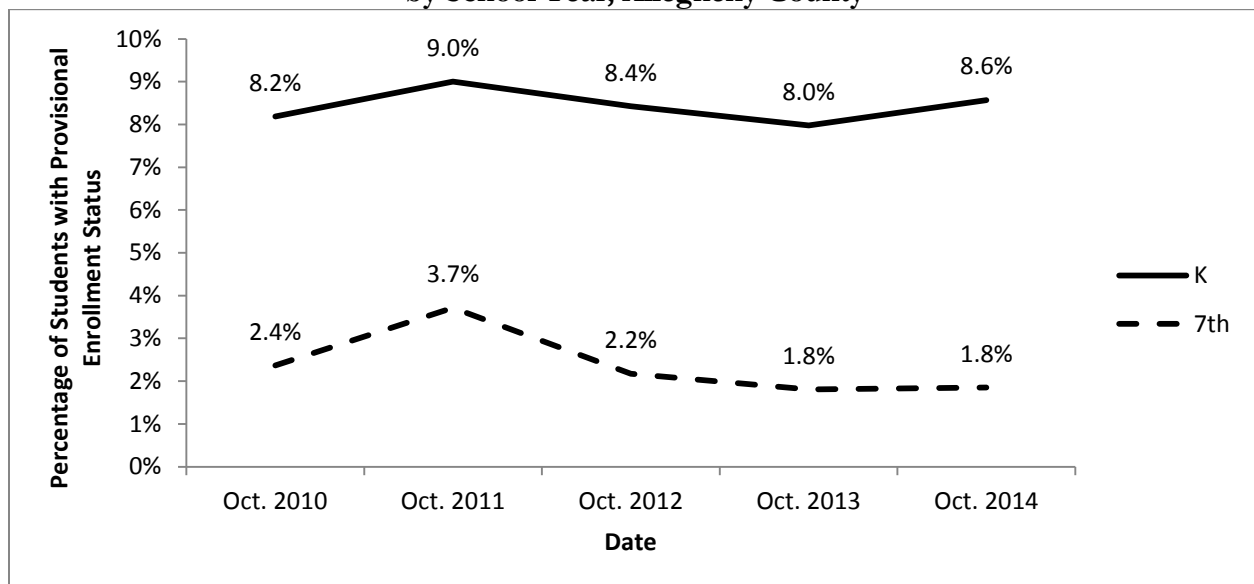
All school types saw a significant decrease in the percentage of students with provisional enrollment status from October to April (Figure 2). The private special education school type had the highest percentage of provisionally enrolled kindergarten students in April, but also had a small population of kindergarten students.

Figure 2. Percentage of Kindergarten Students with Provisional Enrollment Status by School Type, Allegheny County, 2014-2015



Over the past five years, the percentage of students entering kindergarten in the fall with provisional enrollment status has remained relatively consistent, at about 8.4%. In that same time period, there has been a decrease in provisional enrollment status for those entering 7th grade in the fall (Figure 3).

Figure 3. Percentage of Students with Provisional Enrollment Status for Kindergarten and 7th Grade by School Year, Allegheny County



Immunization Exemptions in Allegheny County

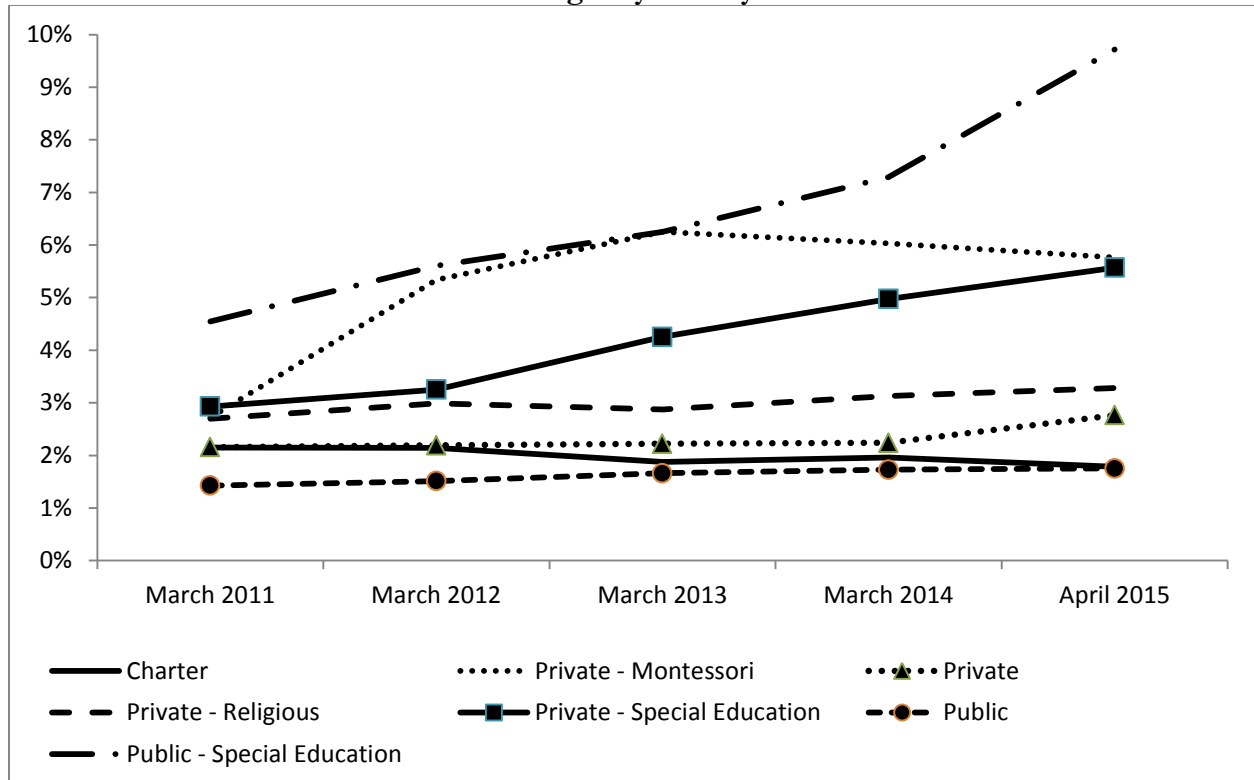
The overall percentage of students with medical or religious/moral/ethical exemption from complete vaccination in Allegheny County in April 2015 was 2.6% (Table 7). Less than 1.0% of students had medical exemptions, with private special education schools having had the highest percentage of students with medical exemptions at 2.8%. More students (2.0%) had a religious/moral/ethical exemption. Montessori and special education schools had over 5% of students with religious/moral/ethical exemptions, which alone precludes those schools from meeting the Healthy People 2020 goal.

**Table 7. Percentage of Students with Medical or Religious/Moral/Ethical Exemptions
Allegheny County, April 2015**

<i>School Type</i>	<i>Number of Students Enrolled N</i>	<i>Medical Exemptions N (%)</i>	<i>Religious/Moral/Ethical Exemptions N (%)</i>
Charter	6389	12 (0.2)	114 (1.8)
Private	3,218	16 (0.5)	89 (2.8)
Private - Montessori	295	4 (1.4)	17 (5.8)
Private - Religious	16,231	118 (0.7)	532 (3.3)
Private - Special Education	880	25 (2.8)	49 (5.6)
Public	139,577	886 (0.6)	2,445 (1.8)
Public - Special Education	319	5 (1.6)	31 (9.7)
Total	166,909	1,066 (0.6)	3,277 (2.0)

Between 2011 and 2015, both private and public special education schools saw an increase in religious/moral/ethical exemptions, while Montessori schools had an increase between 2011 and 2012, but then remained at a consistent level of exemptions (Figure 4). The remaining school types had little variation in the level of religious/moral/ethical exemptions.

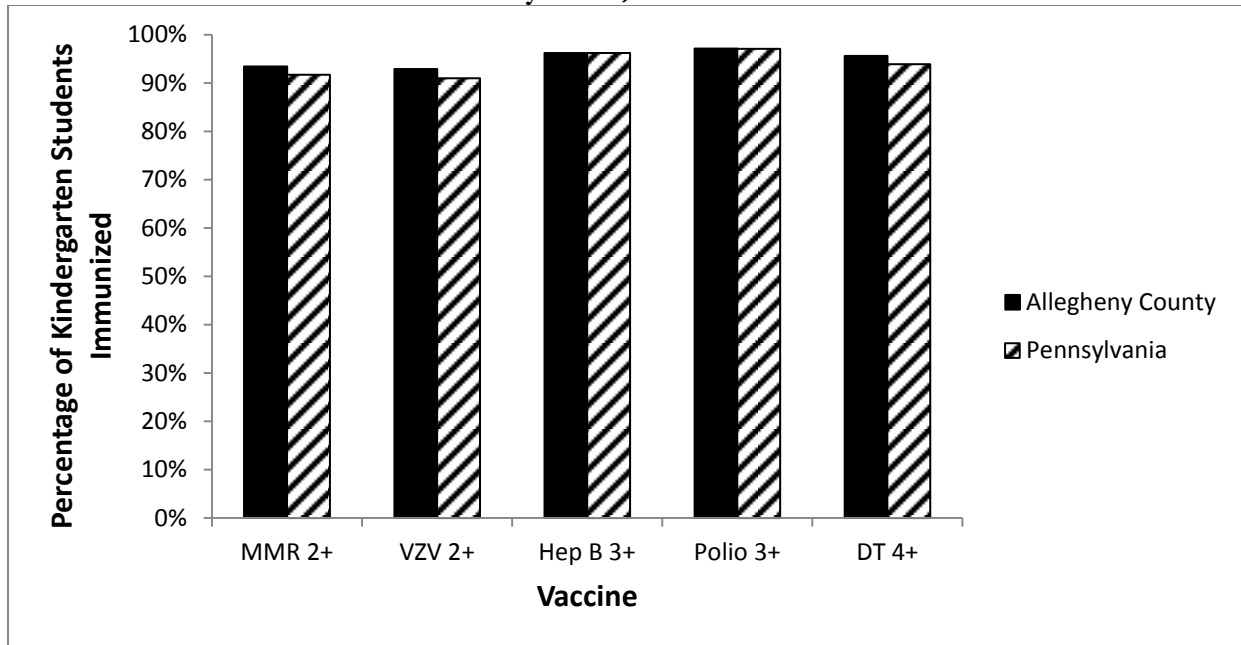
Figure 4. Percentage of Students with Religious/Moral/Ethical Exemptions by School Type, Allegheny County



Immunization Status by Type of Vaccine

For those students entering kindergarten in Allegheny County, only MMR and VZV vaccinations did not meet the Healthy People 2020 goal of 95% coverage, although both were close at 93% (Figure 5). For each of the five vaccines required to begin kindergarten, Allegheny County either matched or exceeded Pennsylvania’s immunization coverage.

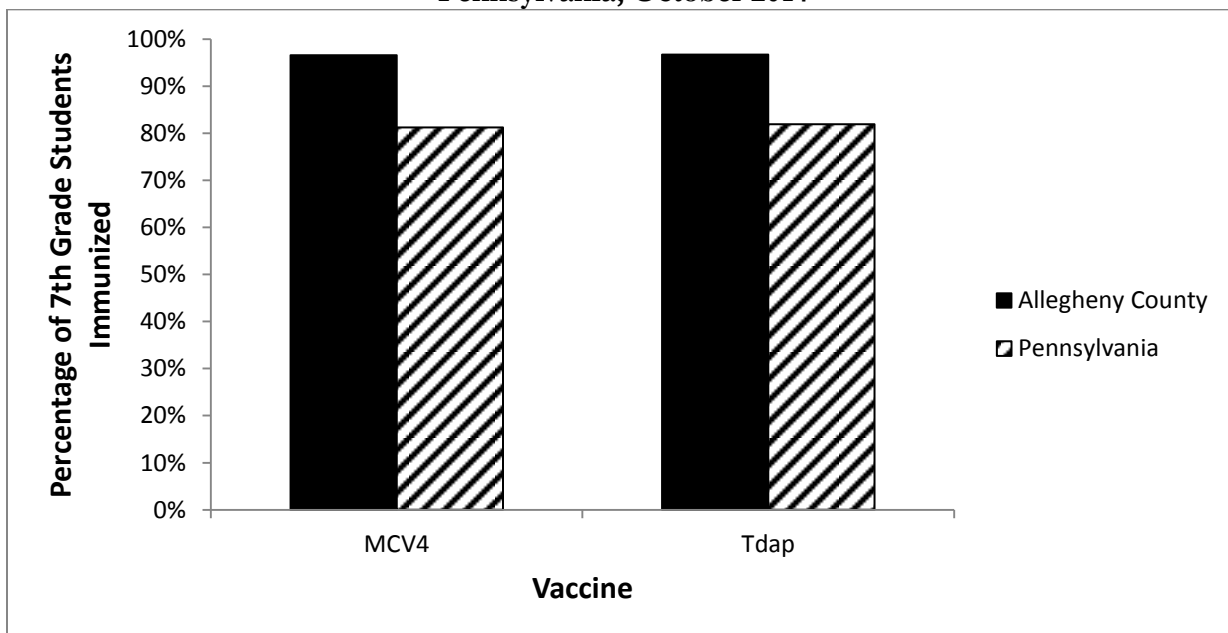
Figure 5. Percentage of Kindergarten Students Immunized by Vaccine Type, Allegheny County vs Pennsylvania, October 2014



Data Source: Pennsylvania Department of Health’s Division of Immunization

Entering 7th grade, students are required to receive two additional vaccinations, Tdap and MCV4. Both vaccines had coverage of 97% for Allegheny County students, which was a higher percentage for each vaccine when compared to all of Pennsylvania (Figure 6).

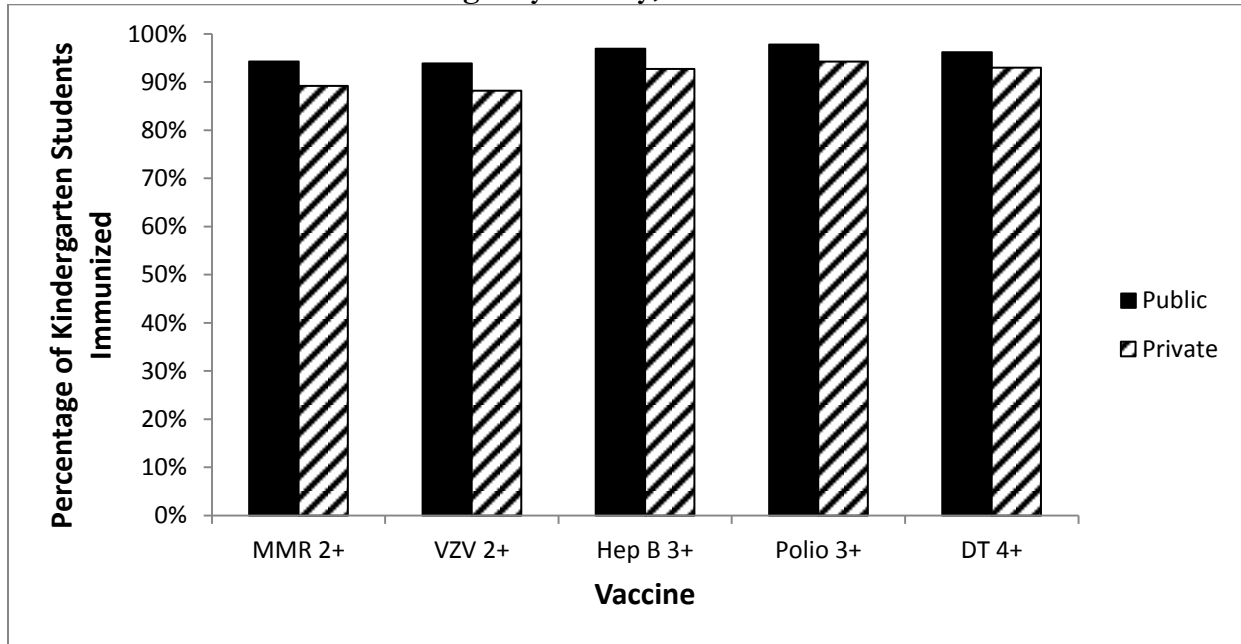
Figure 6. Percentage of 7th Grade Students Immunized by Vaccine Type, Allegheny County vs Pennsylvania, October 2014



Data Source: Pennsylvania Department of Health’s Division of Immunization

When comparing public to private schools in Allegheny County, public schools had higher coverage for each of the vaccines required for kindergarten (Figure 7). In public schools, all vaccines had at least 94% coverage, with only MMR and VZV being just below goal of Healthy People 2020. In private schools no vaccine had more than 95% coverage, while MMR and VZV were below 90%.

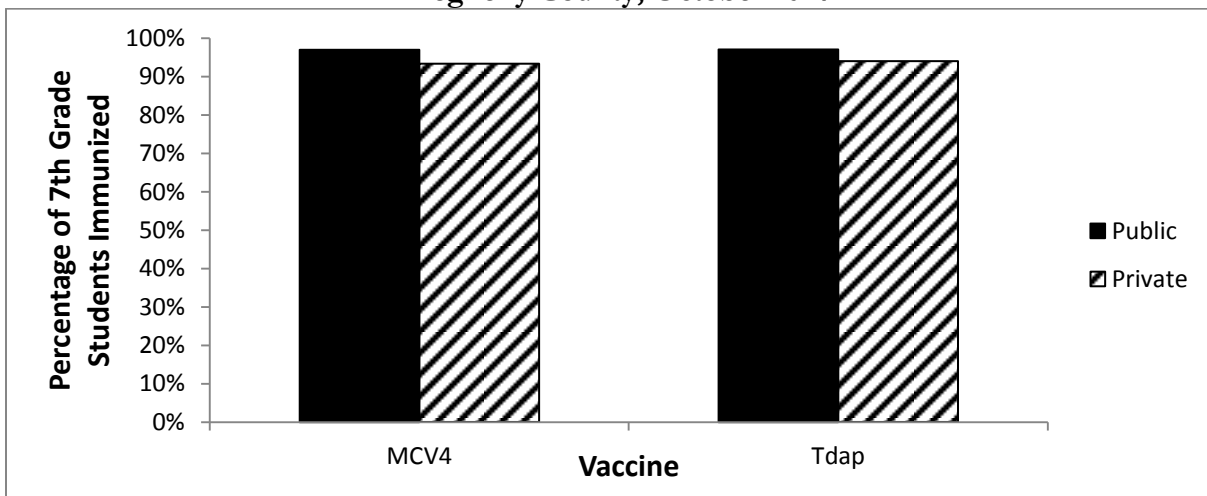
Figure 7. Percentage of Kindergarten Students Immunized by School Type and Vaccine Type, Allegheny County, October 2014



Data Source: Pennsylvania Department of Health’s Division of Immunization

For the additional vaccinations required for 7th grade, public schools had higher coverage than private schools, with both MCV4 and Tdap having 97% coverage (Figure 8). For private schools, there was approximately 94% coverage for both vaccines.

Figure 8. Percentage of 7th Grade Students Immunized by School Type and Vaccine Type, Allegheny County, October 2014



Data Source: Pennsylvania Department of Health’s Division of Immunization

Summary

For the 2014-15 school year, Allegheny County had an overall immunization coverage of 96.7%, which exceeds the 95% goal of Healthy People 2020. However, overall immunization coverage was 97.2% in 2011 and has continually decreased over the past five years.

Public, private, and charter schools had greater than 95% of students with complete vaccinations, which exceeded the Healthy People 2020 goal. Private religious schools fell just short at 94.7%, while Montessori and special education schools were at 91% or below for complete immunizations. Overall, 79% of the schools in Allegheny County met the Healthy People 2020 goal.

The percentage of students with exemptions in Allegheny County remained low. Overall, 2.0% of students had a religious/moral/ethical exemption, which is an increase from 1.6% in 2011. The school types that had increases in the percentage of religious/moral/ethical exemptions between 2011 and 2015 were public and private special education and Montessori schools. Provisional enrollments were down to 0.5% of students in April from 1.2% in October, with kindergarten having the highest percentage of students in April still enrolled provisionally.

Overall, there are opportunities to improve, such as increasing the number of schools where 95% of students are fully immunized, decreasing the number of students who are still enrolled provisionally near the end of the school year, and having 95% of kindergarten students be fully immunized upon admission. Nonetheless, the immunization coverage in Allegheny County should be considered an accomplishment, and are due to the dedicated efforts of school nurses, parents, and pediatricians who help ensure students are fully vaccinated.