

# Allegheny County School Immunization Report

School Year 2016-2017



# **Allegheny County School Immunization Report School Year 2016-2017**

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## Executive Summary

To ensure that schools in Allegheny County are complying with state and county immunization regulations, the Allegheny County Health Department (ACHD) requires all schools (public, private/independent, parochial/religious, charter, and cyber) to submit the immunization status of their students twice a year.

This report summarizes the immunization data from the 2016-17 school year in Allegheny County. It is organized into four parts: overall immunization, provisional enrollment, immunization exemptions, and immunization status by type of vaccine. Data are primarily presented by school type or by grade. Also included are state-level data from the Pennsylvania Department of Health, as well as data from previous school years.

### Highlights:

- The percentage of students with complete immunizations was 96.4% in April 2017, which is above the *Healthy People 2020* goal of 95% coverage.
- The only grades that did not exceed 95% complete immunization coverage were kindergarten (94.9%) and 7<sup>th</sup> grade (94.8%), as these are the only grades in which additional immunizations are required for students.
- The majority of Allegheny County schools (76.8%) had at least 95% of their students fully immunized.
- In Allegheny County, 1.5% of students started school in the fall with provisional enrollment status; this percentage fell to 0.8% by April. Kindergarten reached a seven-year low for fall provisional enrollment (7.9%), and 7<sup>th</sup> grade remained steady from the 2015-16 school year (3.9%).
- Overall, 2.7% of students submitted medical or religious exemptions. Parochial/religious schools (3.5%) and private schools (3.5%) had the highest percentage of religious exemptions.

## Introduction

To maintain healthy students and communities, all students enrolled in Kindergarten through 12<sup>th</sup> grade in Allegheny County are required to have the appropriate number of doses of the diphtheria and tetanus (DT), hepatitis B (Hep B), measles, mumps, and rubella (MMR), polio, and varicella (VZV) vaccines. For students enrolled in 7<sup>th</sup> through 12<sup>th</sup> grade, two additional vaccines are required at a single dose each: tetanus, diphtheria, and pertussis (Tdap) and meningococcal (MCV4).<sup>1</sup> Information regarding the immunization status of students by vaccine type is reported by schools to Allegheny County Health Department (ACHD) in October of each school year and in December to the Pennsylvania Department of Health (PA DOH).<sup>2</sup>

ACHD requires all schools (public, private/independent, parochial/religious, charter, and cyber) to submit data each school year detailing total enrollment, number of students fully immunized, number of students enrolled provisionally, and the number of students with medical or religious exemptions. Provisional enrollment allows students who have at least one dose in a multi-dose vaccine series to start the school year as long as there is an explicit plan in place for receiving the remaining required doses over an eight-month provisional period. If the provisional period expires before the student receives all required doses, the student is to be denied admission to school. ACHD requires summary reporting eight months after the start of school to determine if provisional enrollments have changed.

Students may also be admitted to school without being fully immunized if their parents have submitted paperwork claiming an exemption. Exemptions can either be medical or religious, and they do not expire as provisional enrollment does. Medical exemptions can be obtained for students who have a condition for which a vaccine is contraindicated and must be documented by the student's physician. Religious exemptions are submitted in writing by the student's parent or guardian.

Immunization has been recognized as a national priority of the *Healthy People 2020* initiative established by the United States Department of Health and Human Services. Outlining public health goals to be reached by the year 2020, *Healthy People 2020* sets a 95% immunization coverage goal for children entering kindergarten for all five required vaccines and an 80% coverage for children ages 13-15 for the Tdap and MCV4 vaccines.<sup>3</sup>

This report utilizes data submitted in the fall and spring by all Allegheny County schools in order to summarize the immunization status of students for the 2016-17 school year. The Bureau of Assessment, Statistics, and Epidemiology (BASE) at ACHD was responsible for collecting, cleaning, and analyzing the data.

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<sup>1</sup> Allegheny County Health Department, *Article X: School Health Immunization*. (Accessed July 24, 2017); available from [http://www.achd.net/regulations/Article\\_10\\_School\\_Immunizations.pdf](http://www.achd.net/regulations/Article_10_School_Immunizations.pdf)

<sup>2</sup> Commonwealth of Pennsylvania, 28 Pa. Code Part III, Ch 23, Subch C §23.86. *School Reporting*. (Accessed July 24, 2017), available from <http://www.pacode.com/secure/data/028/chapter23/subchapCtoc.html>

<sup>3</sup> U.S. Department of Health and Human Services, *Healthy People 2020 Objectives: Immunization and Infectious Diseases*, July 2015, Accessed July 24, 2017, available from <https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives>

## Overall Student Immunization Coverage in Allegheny County

Based on the reported data, 163,832 students were enrolled in 393 Allegheny County schools in April 2017. Of the students enrolled, a large majority (83.4%) attended public schools, with the fewest number of students (3.2%) enrolled in private/independent schools (Table 1).

Table 1. Allegheny County School Enrollment, April 2017

School Type	Number of Students		Number of Schools N (%)
	Enrolled N (%)		
Charter	6,745 (4.1)		17 (4.3)
Parochial/Religious	15,221 (9.3)		75 (19.1)
Private/Independent	5,168 (3.2)		44 (11.2)
Public	136,698 (83.4)		257 (65.1)
<b>Total</b>	<b>163,832 (100)</b>		<b>393 (100)</b>

The overall percentage of students in Allegheny County with complete immunizations was 96.4% for the 2016-17 school year (Figure 1). Individual grades showed high percentages of fully immunized students, with only kindergarten (94.9%) and 7<sup>th</sup> grade (94.8%) falling just short of reaching the *Healthy People 2020* goal of 95% coverage. Kindergarten and 7<sup>th</sup> grades had lower coverage due to new or additional immunization requirements; the coverage returned to higher levels by 1<sup>st</sup> and 8<sup>th</sup> grade, respectively (Table 2).

Figure 1. Summary of Immunization Status of all Students, Allegheny County, April 2017

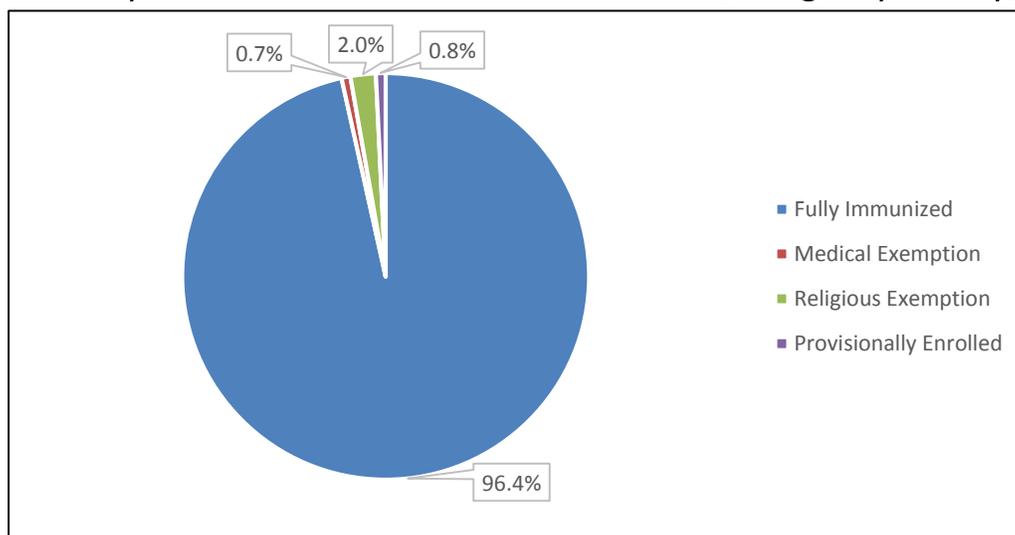


Table 2. Percentage of Fully Immunized Students by Grade, Allegheny County, April 2017

Grade	Number of Students	Number of Students with
	Enrolled N	Complete Immunizations N (%)
K	12,704	12,053 (94.9)
1st	12,593	12,196 (96.8)
2nd	12,578	12,125 (96.4)
3rd	12,809	12,405 (96.8)
4th	12,782	12,400 (97.0)
5th	12,638	12,280 (97.2)
6th	12,384	12,046 (97.3)
7th	12,719	12,059 (94.8)
8th	12,430	11,984 (96.4)
9th	12,805	12,320 (96.2)
10th	12,717	12,240 (96.2)
11th	12,377	11,890 (96.1)
12th	12,296	11,915 (96.9)
<b>Total</b>	<b>163,832</b>	<b>157,913 (96.4)</b>

The percentage of students with complete immunizations (96.4%) was lower than last school year by 0.3% (Table 3). Overall coverage still exceeds the *Healthy People 2020* goal of 95%; however, there has been a trend of slightly decreasing overall coverage over the past seven school years. The coverage in kindergarten held steady at 94.9% from 2016 while coverage in 7<sup>th</sup> grade continued to decline from 96.9% in March 2011 to 94.8% in April 2017.

Table 3. Percentage of Fully Immunized Students by School Year and Grade, Allegheny County, 2011-2017

Grade	March 2011 %	March 2012 %	March 2013 %	March 2014 %	April 2015 %	April 2016 %	April 2017 %
K	95.1	95.4	95.3	94.7	94.3	94.9	94.9
1st	97.0	97.1	97.3	97.0	96.3	96.2	96.8
2nd	97.4	97.1	97.3	97.2	96.9	96.8	96.4
3rd	97.4	97.3	97.2	97.3	96.9	96.9	96.8
4th	97.2	97.5	97.4	97.1	97.1	97.2	97.0
5th	97.4	97.2	97.6	97.4	97.3	97.0	97.2
6th	97.6	97.4	97.2	97.5	97.4	97.2	97.3
7th	96.9	96.8	96.5	96.4	96.4	96.2	94.8
8th	97.4	97.1	97.0	96.8	96.7	96.7	96.4
9th	97.6	97.4	97.1	96.9	96.5	96.8	96.2
10th	97.5	97.7	97.0	96.9	97.3	96.6	96.2
11th	97.7	97.4	97.7	97.0	97.3	97.2	96.1
12th	97.6	97.7	97.4	97.5	97.2	97.2	96.9
<b>Total</b>	<b>97.2</b>	<b>97.2</b>	<b>97.1</b>	<b>96.9</b>	<b>96.7</b>	<b>96.7</b>	<b>96.4</b>

For the 2016-17 school year, Allegheny County schools were classified as charter, parochial/religious, private/independent, or public. Public schools, which account for 65.1% of the schools and 83.4% of the total students in Allegheny County (Table 1), had a complete immunization coverage of 96.7% (Table 4). Public schools were closely followed by charter schools which continued to have high complete immunization coverage (95.6%). Both private/independent (94.6%) and parochial/religious schools (94.4%) fell just short of meeting the *Healthy People 2020* goal of 95% coverage.

**Table 4. Percentage of Fully Immunized Students by School Type, Allegheny County, April 2017**

School Type	Number of	Number of Students with Complete
	Students Enrolled N	Immunizations N (%)
Charter	6,745	6,451 (95.6)
Parochial/Religious	15,221	14,370 (94.4)
Private/Independent	5,168	4,889 (94.6)
Public	136,698	132,203 (96.7)
<b>Total</b>	<b>163,832</b>	<b>157,913 (96.4)</b>

Historically, public schools and charter schools have consistently reached at least 95% complete immunization coverage (Table 5). Over the last four school years, parochial/religious and private/independent schools have tended to fall just below this goal, with only minor decreases over the last year.

**Table 5. Percentage of Fully Immunized Students by School Type, Allegheny County, 2011-2017**

School Type	March 2011	March 2012	March 2013	March 2014	April 2015	April 2016	April 2017
Charter	97.4%	95.0%	97.5%	96.3%	97.9%	98.0%	95.6%
Parochial/Religious	95.3%	95.0%	95.9%	94.9%	94.8%	94.8%	94.4%
Private/Independent	95.0%	95.6%	95.3%	95.0%	92.9%	95.1%	94.6%
Public	97.5%	97.5%	97.3%	97.2%	97.2%	96.9%	96.7%

Overall, 76.8% of all Allegheny County schools met the *Healthy People 2020* goal (Table 6). Most public, charter, and parochial/religious schools met this goal, while only half of private/independent schools were able to reach 95% coverage.

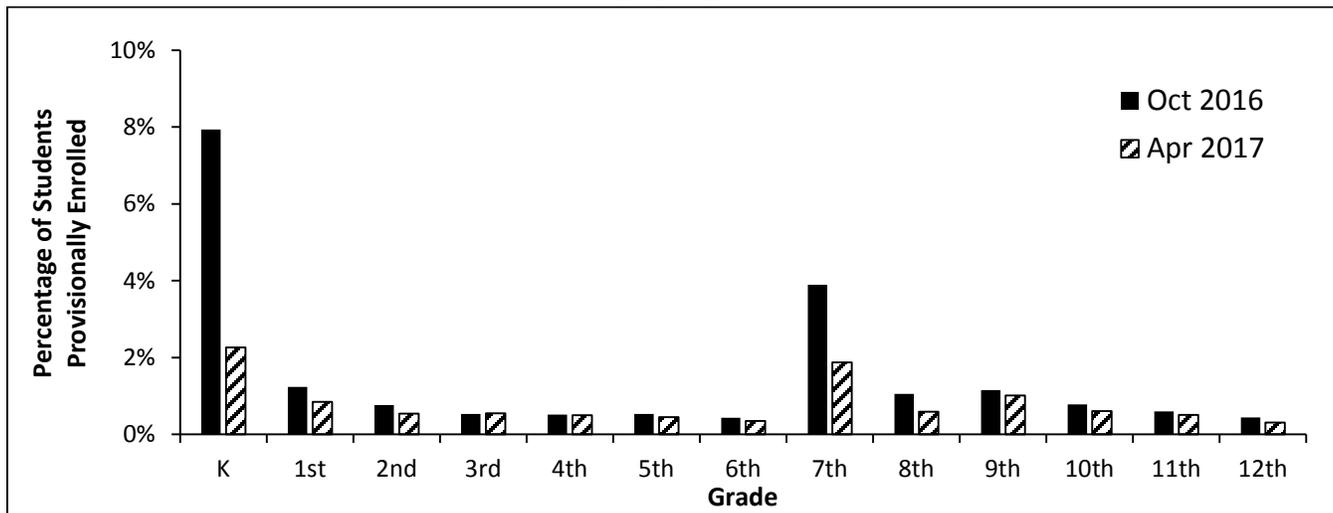
Table 6. Percentage of Schools Meeting *Healthy People 2020* Goal of 95% Coverage by School Type, Allegheny County, April 2017

School Type	Number of Schools N	Number of Schools that Met 95% Goal n (%)
Charter	17	14 (82.4)
Parochial/Religious	75	47 (62.7)
Private/Independent	44	22 (50.0)
Public	257	219 (85.5)
<b>Total</b>	<b>393</b>	<b>302 (76.8)</b>

### Provisional Enrollment in Allegheny County

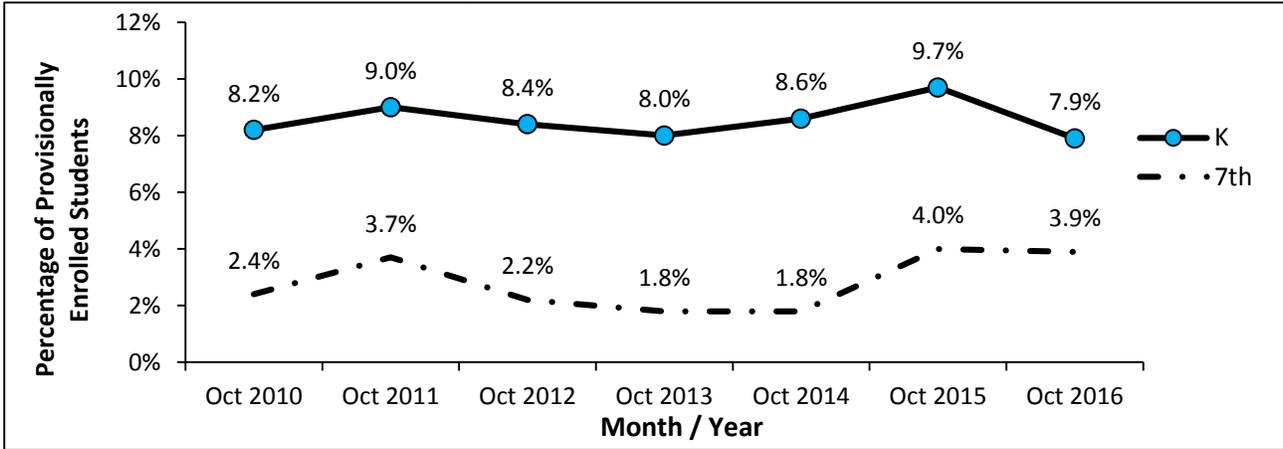
Kindergarten and 7<sup>th</sup> grade had the highest percentage of students who were provisionally enrolled in both October and April (Figure 2). These grades are also the two in which new or additional immunizations are required for students. All grades except kindergarten and 7<sup>th</sup> grade were at 1.0% or below for provisional enrollment in April.

Figure 2. Percentage of Students Provisionally Enrolled by Grade, Allegheny County, 2016-2017



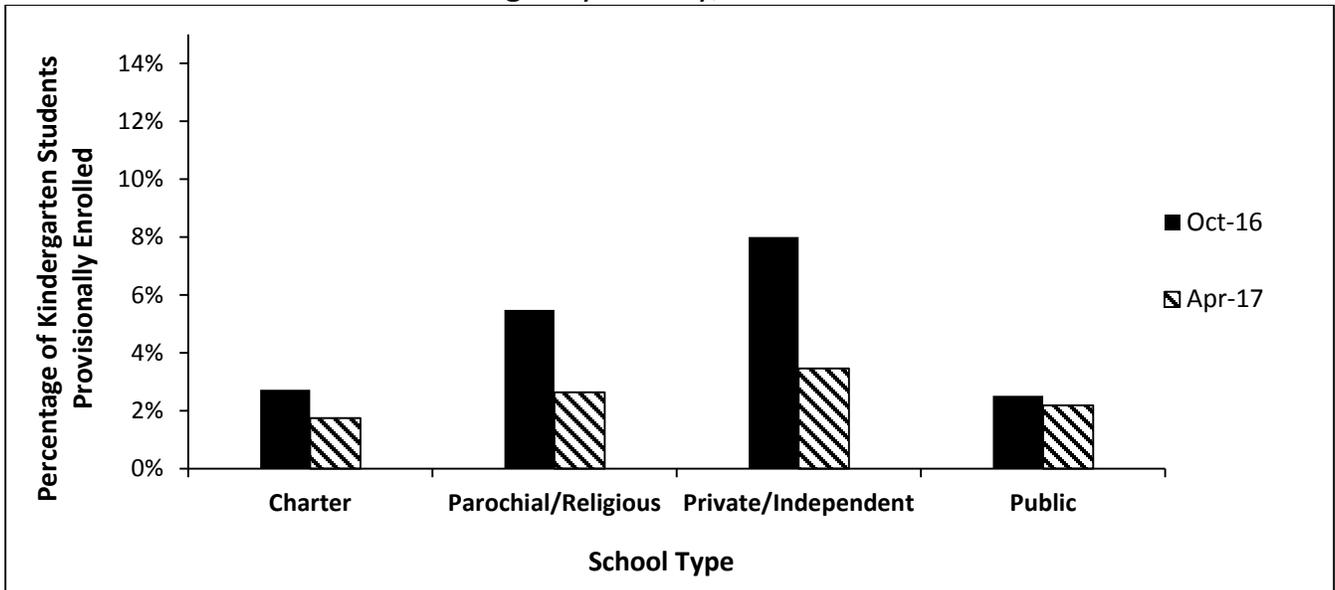
There was a large decrease in kindergarten students entering school with provisional enrollment status in October 2016, reaching a seven-year low of 7.9% (Figure 3). The percentage of students entering 7<sup>th</sup> grade with provisional enrollment increased to 4.0% in October 2015 and was virtually unchanged at 3.9% in October 2016.

Figure 3. Percentage of Provisionally Enrolled Kindergarten and 7<sup>th</sup> Grade Students by Year, Allegheny County, October 2011-2017



Private/independent schools had the highest percentage of provisionally enrolled kindergarten students in both October and April. For all school types, the percentage of kindergarten students who were provisionally enrolled in October decreased by April (Figure 4).

Figure 4. Percentage of Kindergarten Students Provisionally Enrolled by School Type, Allegheny County, 2016-2017



Except for charter schools, all other school types in Allegheny County saw a reduction of nearly 50% in the total number of provisionally enrolled students from October to April (Table 7). While charter schools had the smallest decrease, they also had the fewest students enrolled provisionally in October. County regulations require all provisionally enrolled students to be fully immunized within eight

months of enrollment or be denied admission to the school. By April, no school type had yet reached the goal of reducing their number of provisionally enrolled students to zero.

**Table 7. Provisional Enrollment Change for All Students during 2016-17 School Year by School Type, Allegheny County**

School Type	Number of Students Enrolled in October N	Number of Students Provisionally Enrolled in October n (%)	Number of Students Enrolled in April N	Number of Students Provisionally Enrolled in April n (%)	% Change in the Number of Provisional Enrollments
Charter	7,028	79 (1.1)	6,745	70 (1.0)	-11.4
Parochial/Religious	14,622	412 (2.8)	15,221	214 (1.4)	-48.1
Private/Independent	5,100	104 (2.0)	5,168	59 (1.1)	-43.3
Public	137,286	1,920 (1.4)	136,698	973 (0.7)	-49.3
<b>Total</b>	<b>164,036</b>	<b>2,515 (1.5)</b>	<b>163,832</b>	<b>1,316 (0.8)</b>	<b>-47.7</b>

## Immunization Exemptions in Allegheny County

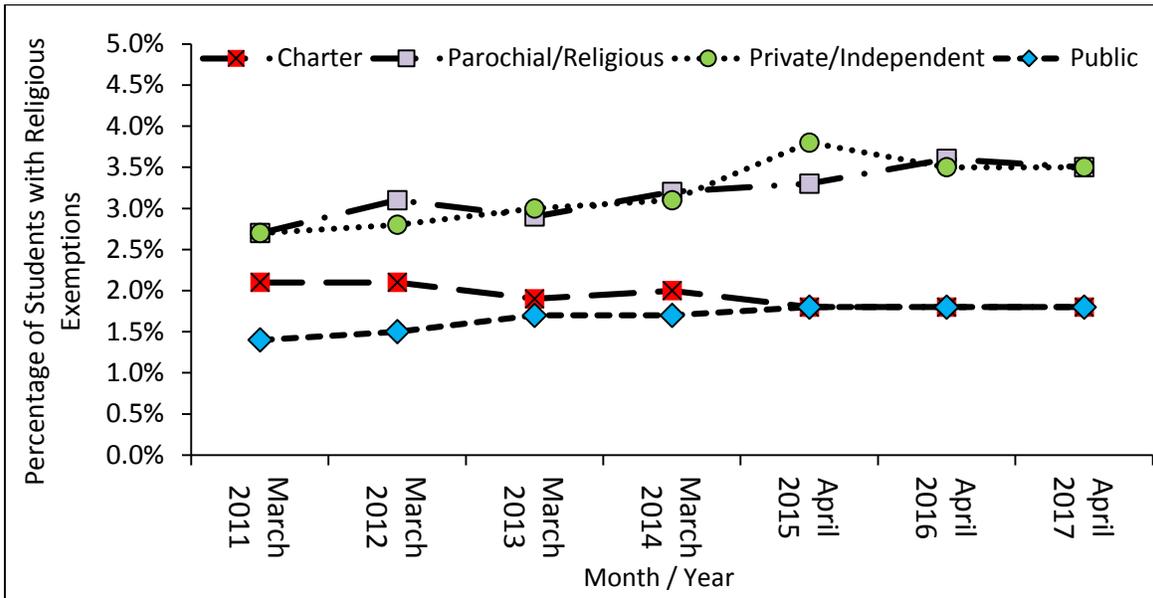
In Allegheny County, 2.7% of students met the requirements for a medical or religious exemption from being fully immunized by April 2016 (Table 8). Medical exemptions were low at 0.7% and have remained between 0.5% and 0.7% over the last seven school years. Private/independent schools had the highest percentage of medical exemptions in the county, but still did not exceed 1% of enrolled students. Religious exemptions were more common, with parochial/religious schools and private/independent schools having the highest percentages (3.5%).

**Table 8. Percentage of Students with Medical or Religious Exemptions by School Type, Allegheny County, April 2017**

School Type	Number of Students Enrolled N	Number of Medical Exemptions n (%)	Number of Religious Exemptions n (%)
Charter	6,745	26 (0.4)	123 (1.8)
Parochial/Religious	15,221	93 (0.6)	538 (3.5)
Private/Independent	5,168	40 (0.8)	181 (3.5)
Public	136,698	1,023 (0.7)	2,458 (1.8)
<b>Total</b>	<b>163,832</b>	<b>1,182 (0.7)</b>	<b>3,300 (2.0)</b>

For the first time since 2011, no school type saw an increase in religious exemptions (Figure 5). Each school type maintained the same percentages as those reported in April 2016, except for parochial/religious schools which decreased by 0.1%.

Figure 5. Percentage of Students with Religious Exemptions by Year, Allegheny County, 2011-2017



### Immunization Status by Vaccine

Students entering kindergarten in Allegheny County exceeded the *Healthy People 2020* goal of 95% coverage for two of five required vaccines (Table 9). Comparatively, kindergarteners statewide only reached this goal for Hep B (96.7%) and Polio (97.3%). Allegheny County was below Pennsylvania’s statewide immunization coverage for all five required vaccines for students entering kindergarten. However, schools have two additional months to collect data before reporting to the state health department so the state and county data may not be directly comparable. Two additional vaccines, Tdap and MCV4, are required for students entering 7th grade. Allegheny County exceeded state coverage and the *Healthy People 2020* goal of 80% (Table 9).

Table 9. Percentage of Students Immunized by Vaccine Type, Allegheny County vs. Pennsylvania, Fall 2016

	Kindergarten					7 <sup>th</sup> Grade	
	MMR 2+ %	VZV 2+ %	Hep B 3+ %	Polio 3+ %	DT 4+ %	MCV4 %	Tdap %
Allegheny County <sup>1</sup>	92.0	91.0	95.4	95.8	93.2	93.5	94.1
Pennsylvania <sup>2</sup>	93.7	92.9	96.7	97.3	94.8	85.1	85.8

Data Sources: <sup>1</sup>Collected 10/15/2016 by the Allegheny County Health Department (Allegheny County), <sup>2</sup> Collected 12/31/2016 by the Pennsylvania Department of Health’s Division of Immunization (Pennsylvania)

The 2016-17 school year saw modest increases for every type of vaccine among Allegheny County kindergarteners (Table 10). Coverage by vaccine has slightly increased or been flat over the past six school years.

Table 10. Percentage of Kindergarten Students Immunized by Vaccine Type, Allegheny County, School Years 2011-12 through 2016-17

Vaccine	Fall 2011 <sup>1</sup>	Fall 2012 <sup>1</sup>	Fall 2013 <sup>1</sup>	Fall 2014 <sup>2</sup>	Fall 2015 <sup>2</sup>	Fall 2016 <sup>2</sup>
MMR 2+	90.9	91.1	89.9	91.4	91.0	92.0
VZV 2+	89.5	90.6	89.3	90.6	90.5	91.0
Hep B 3+	95.5	95.3	94.5	95.4	94.2	95.4
Polio 3+	96.8	96.1	95.1	95.6	94.9	95.8
DT 4+	93.8	92.6	92.7	93.7	92.6	93.2

Data Sources: <sup>1</sup>Pennsylvania Department of Health's Division of Immunization (2011-2013), <sup>2</sup>Allegheny County Health Department (2014-2016)

In 2016-17 there was an increase in coverage among 7<sup>th</sup> grade students for Tdap and MCV4 vaccines from 2015-16 (Table 11). Coverage increased 0.6% for Tdap and 0.8% for MCV, and coverage for both vaccines exceeded the *Healthy People 2020* Goal of 80% coverage.

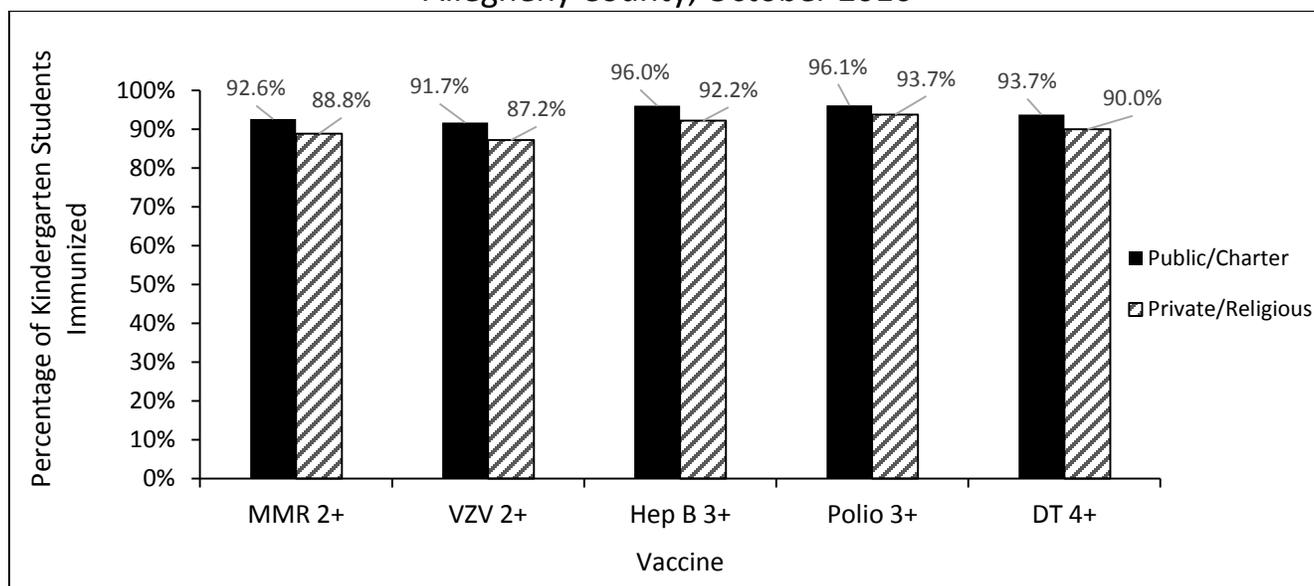
Table 11. Percentage of 7<sup>th</sup> Grade Students Immunized by Vaccine Type, Allegheny County, School Years 2011-12 to 2016-17

Vaccine	Fall 2011 <sup>1</sup>	Fall 2012 <sup>1</sup>	Fall 2013 <sup>1</sup>	Fall 2014 <sup>2</sup>	Fall 2015 <sup>2</sup>	Fall 2016 <sup>2</sup>
MCV4	92.4	92.9	95.2	95.8	92.9	93.5
Tdap	93.5	92.9	94.0	95.9	93.3	94.1

Data Sources: <sup>1</sup>Pennsylvania Department of Health's Division of Immunization (2011-2013), <sup>2</sup>Allegheny County Health Department (2014-2016)

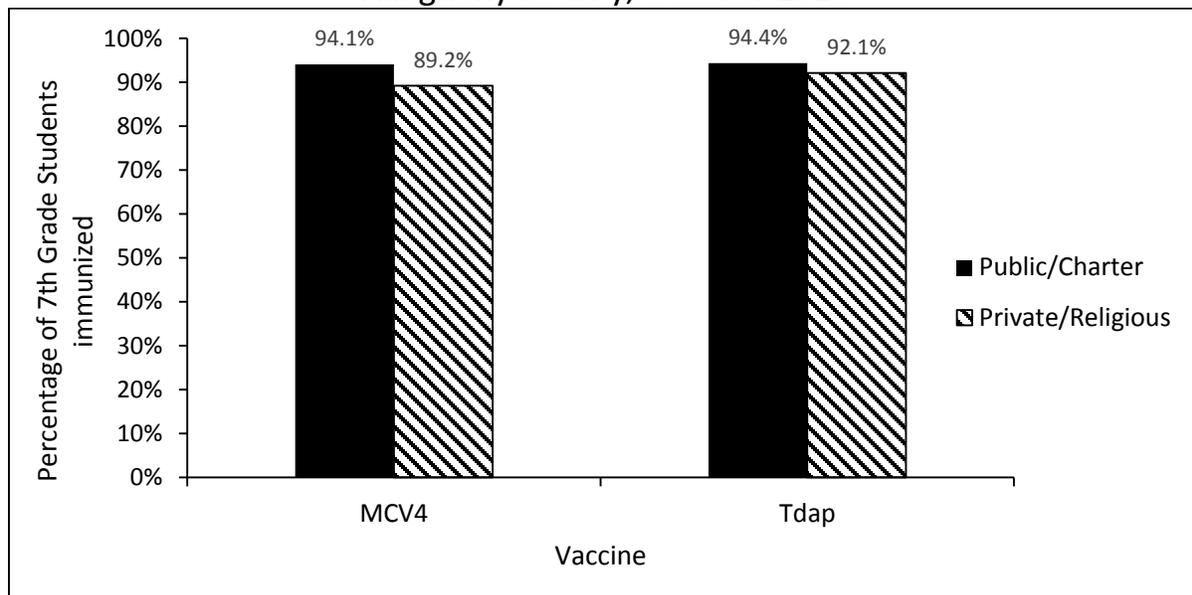
Allegheny County students entering kindergarten at public schools had higher coverage for all required vaccines than students enrolled at private schools (Figure 6). Coverage for all vaccine types fell below the *Healthy People 2020* Goal of 95% coverage at private schools.

Figure 6. Percentage of Kindergarten Students Immunized by School Type and Vaccine, Allegheny County, October 2016



For 7<sup>th</sup> grade students, both public and private schools in Allegheny County showed high coverage for Tdap and MCV4 (Figure 7) with both school types exceeding the *Healthy People 2020* goal of 80%.

Figure 7. Percentage of 7<sup>th</sup> Grade Students Immunized by School Type and Vaccine, Allegheny County, October 2016



## Summary

In Allegheny County, overall immunization coverage was 96.4% for the 2016-17 school year, which exceeds the *Healthy People 2020* goal of 95% coverage. While immunization coverage exceeded the goal of 95%, it did decrease as part of a slow downward trend from March 2011 to present. However, quality control measures in data collecting and cleaning that have been implemented over the past three school years may account for the difference in overall coverage over the past seven school years.

Overall, 76.8% of all schools in Allegheny County had at least 95% of their students fully immunized with public schools having the highest percentage of schools with 95% coverage (85.5% of schools), followed by charter schools (82.4% of schools), parochial/religious schools (62.7% of schools), and private/independent schools (50% of schools).

The percentage of students with exemptions continues to be low in Allegheny County. Medical exemptions were submitted for only 0.7% of students and religious exemptions remained steady from the previous school year at 2.0%. While the percentage of religious exemptions has not increased since 2014-15, it is higher than it was during the 2011-12 through 2013-14 school years. Private/independent and parochial/religious schools continue to have the highest percentages of religious exemptions, whereas charter and public schools have remained fairly consistent with lower percentages.

The initial high percentages of provisional enrollment in the fall for kindergarten and 7<sup>th</sup> grade students point to a potential need to increase immunization efforts specifically for these age groups. Schools may need additional information about immunization requirements for students. Overall, provisional enrollments decreased from 1.5% to 0.8% from October 2016 to April 2017, but no school type was able to reach the goal of zero provisional enrollments by the end of the eight-month provisional period. Decreasing the number of students provisionally enrolled by the end of the school year is not only necessary to protect the health of these students, but it is also required by county regulations.

School immunization coverage in the 2016-17 school year exceeded the *Healthy People 2020* goal of 95% overall coverage, and Allegheny County continues to outperform Pennsylvania in coverage for certain vaccine types. Allegheny County's high immunization coverage can be attributed to the hard work and dedication of school nurses, parents, and clinicians who help ensure students are fully immunized.