

Allegheny County School Immunization Report

School Year 2015-2016



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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 to submit the immunization status of their students twice a year. Data received in October provides a baseline for data received in April, allowing ACHD to see how students' immunization status changes over the school year.

This report summarizes the immunization data from the 2015-16 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 Pennsylvania's Department of Health, as well as data from past school years.

Highlights:

- The percentage of students with complete immunizations was 96.7% in April 2016, which is above the *Healthy People 2020* goal of 95% coverage.
- The 2015-16 school year marked the first year since March 2012 that the overall complete immunization coverage did not decrease; it instead was the same as the overall coverage from the previous school year.
- The only grade that did not exceed 95% complete immunization coverage was kindergarten, which fell just under the goal at 94.9%.
- The majority of Allegheny County schools (78.1%) had at least 95% of students fully immunized, with all charter schools and 87.9% of public schools meeting this goal.
- In Allegheny County, 1.5% of students started school in the fall with provisional enrollment status; this percentage fell to 0.6% by April. Kindergarten (9.7%) and 7th grade (4.0%) both reached six year highs for fall provisional enrollment. However, kindergarten was the only grade with provisional enrollment above 1% by April.
- Overall, 2.7% of students submitted medical or religious/moral/ethical exemptions. Parochial/religious schools (3.6%) and private schools (3.5%) had the highest percentage of religious/moral/ethical exemptions.

Introduction

To maintain healthy students and communities, all students enrolled in Kindergarten through 12th 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 7th through 12th grade, two additional vaccines are required at a single dose each: tetanus, diphtheria, and pertussis (Tdap) and meningococcal (MCV4).¹ Information regarding the immunization status by vaccine type is reported by schools to ACHD in October of each school year and in December to PA DOH.²

Allegheny County Health Department (ACHD) requires all schools to submit data in October and April detailing total enrollment, number of students fully immunized, number of students enrolled provisionally, and the number of students with medical or religious/moral/ethical 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 grace period. If the grace period expires before the student receives all required doses, the student is to be denied admission to school.

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/moral/ethical, 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/moral/ethical 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, *Health 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.³ This report uses a cut-off of 95% as the target coverage for all vaccine types.

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 2015-16 school year. The Bureau of Assessment, Statistics, and Epidemiology at ACHD was responsible for cleaning and analyzing the data.

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>

Overall Student Immunization Coverage in Allegheny County

Based on the reported data, 163,125 students were enrolled in 389 Allegheny County schools in April 2016. Of the students enrolled, a large majority (83.7%) attended public schools, with the fewest number of students (3%) enrolled in private/independent schools (Table 1).

Table 1. Allegheny County School Enrollment, April 2016

School Type	Number of Students		Number of Schools N (%)
	Enrolled N (%)		
Charter	6,452 (4.0)		17 (4.4)
Parochial/Religious	15,313 (9.4)		76 (19.5)
Private/Independent	4,863 (3.0)		40 (10.3)
Public	136,497 (83.7)		256 (65.8)
Total	163,125 (100)		389 (100)

The overall percentage of students in Allegheny County with complete vaccinations was 96.7% for the 2015-16 school year (Table 2). Individual grades showed high percentages of fully immunized students, with only kindergarten falling just short (94.9%) of reaching the *Healthy People 2020* goal of 95% coverage. Seventh grade had lower complete immunization than 6th grade (96.2% vs. 97.2%), which coincides with the additional requirements of the Tdap and MCV4 vaccines for this grade.

Table 2. Percentage of Fully Immunized Students by Grade, Allegheny County, April 2016

Grade	Number of Students		Number of Students with Complete Immunizations N (%)
	Enrolled N		
K	12,804		12,146 (94.9)
1st	12,731		12,252 (96.2)
2nd	12,952		12,533 (96.8)
3rd	12,824		12,431 (96.9)
4th	12,628		12,277 (97.2)
5th	12,106		11,744 (97.0)
6th	12,422		12,075 (97.2)
7th	12,155		11,692 (96.2)
8th	12,082		11,685 (96.7)
9th	12,988		12,575 (96.8)
10th	12,787		12,357 (96.6)
11th	12,327		11,976 (97.2)
12th	12,319		11,976 (97.2)
Total	163,125		157,719 (96.7)

The percentage of students with complete immunizations remained steady at 96.7% since last school year (Table 3). While coverage did not decrease, it still reflects lower coverage than that of the previous school years. While no grade shows a higher percentage of fully immunized students than in March 2011, kindergarten’s coverage saw in 2016 its first increase since March 2012.

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

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

For the 2015-16 school year, Allegheny County schools were classified as charter, parochial/religious, private/independent, or public. Public schools, which include 65.8% of the schools in Allegheny County and 83.7% of the total students (Table 1), had a complete immunization percentage of 96.9% (Table 4). Charter schools had the highest percentage of fully immunized students (98.0%). Parochial/religious schools, at 94.8%, were the only school classification that did not meet the *Healthy People 2020* goal of 95%.

Table 4. Percentage of Fully Immunized Students by School Type, Allegheny County, April 2016

School Type	Number of Students Enrolled N	Number of Students with Complete Immunizations N (%)
Charter	6,452	6,320 (98.0)
Parochial/Religious	15,313	14,512 (94.8)
Private/Independent	4,863	4,623 (95.1)
Public	136,497	132,264 (96.9)
Total	163,125	157,719 (96.7)

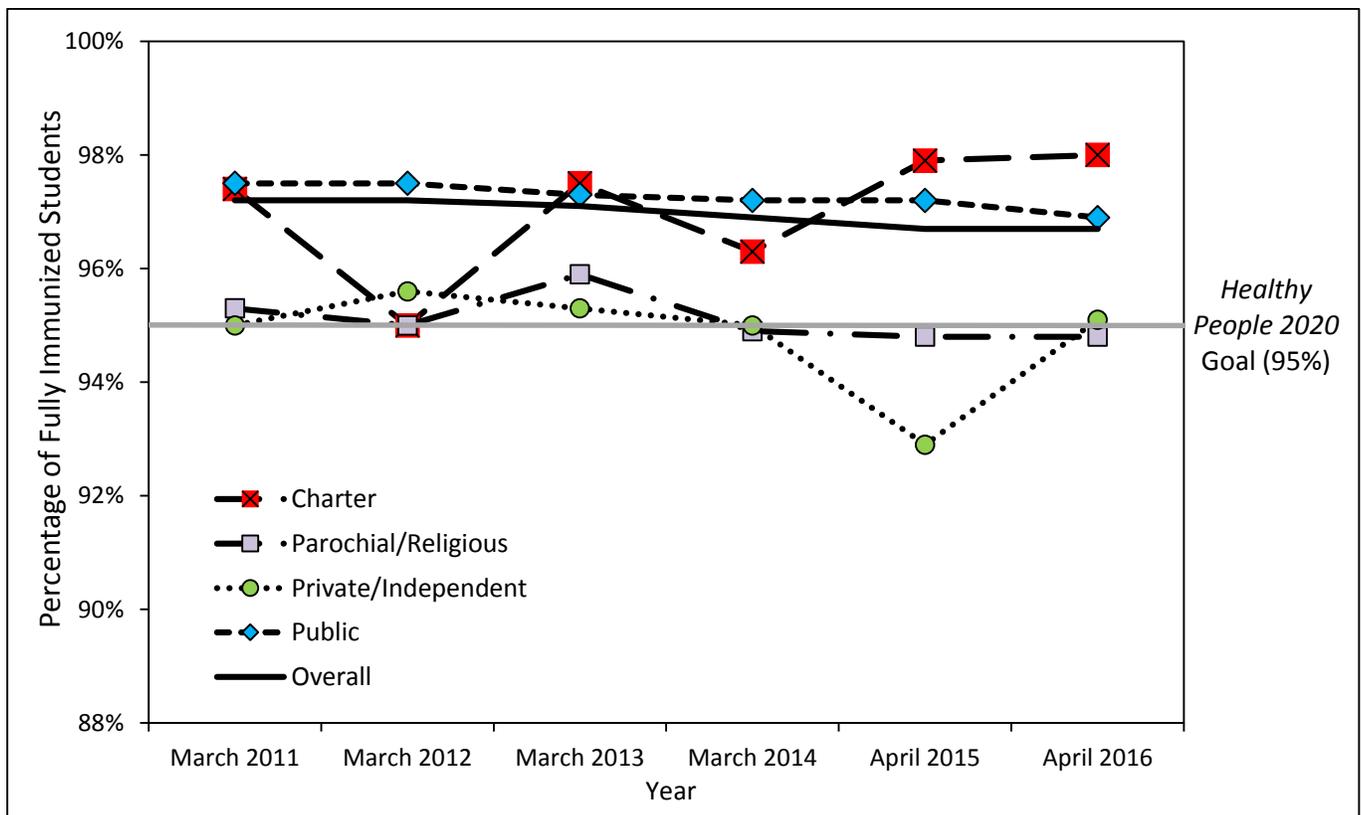
Overall, 78.1% of all Allegheny County schools met the *Healthy People 2020* goal (Table 5). All charter schools in Allegheny County reached at least 95% coverage. The majority of both public and parochial/religious schools also met this goal, while only 45% of private/independent schools were able to reach 95% coverage.

Table 5. Percentage of Schools Meeting *Healthy People 2020* Goal of 95% Coverage by School Type, Allegheny County, April 2016

School Type	Number of Schools		Number of Schools that Met 95% Goal	
	N		N (%)	
Charter	17		17 (100)	
Parochial/Religious	76		44 (57.9)	
Private/Independent	40		18 (45.0)	
Public	256		225 (87.9)	
Total	389		304 (78.1)	

Historically, public schools and charter schools have consistently reached at least 95% complete immunization coverage (Figure 1). Over the last three school years, parochial/religious and private/independent schools have tended to fall below this goal, but coverage has begun to either improve or hold steady among these school types.

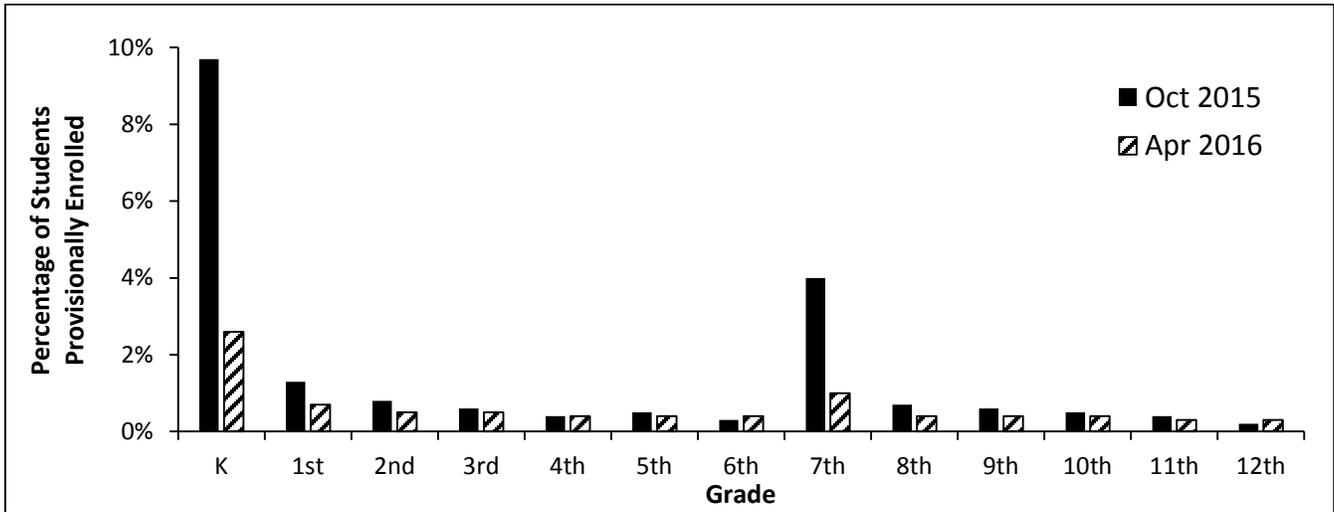
Figure 1. Percentage of Fully Immunized Students by School Type, Allegheny County, 2011-2016



Provisional Enrollment in Allegheny County

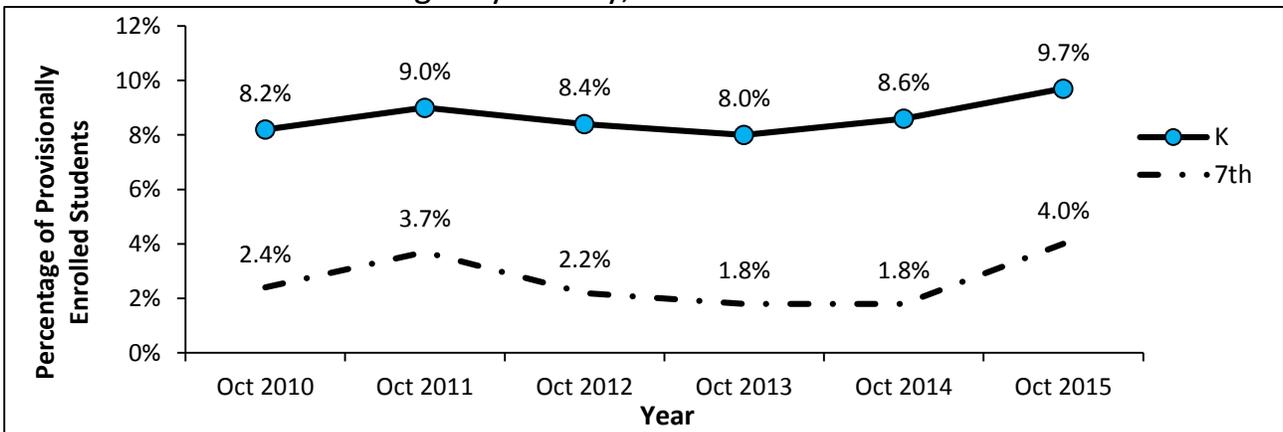
Kindergarten and 7th grade had the highest percentage of students who were provisionally enrolled in both October and April (Figure 2). These grades are also the two in which new immunizations are required for students. No students should be provisionally enrolled in April, given that the grace period has expired; all grades besides kindergarten were at 1.0% or below in April.

Figure 2. Percentage of Students Provisionally Enrolled by Grade, Allegheny County, 2015-2016



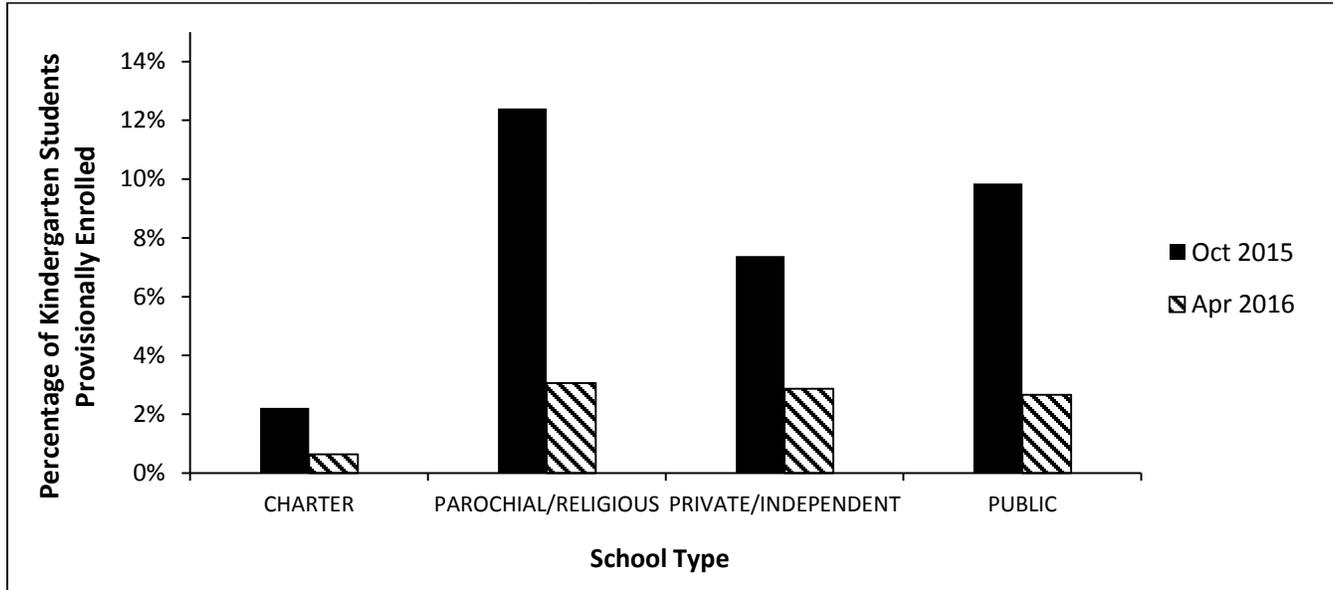
October 2015 saw a rise in kindergarten students entering school with provisional enrollment status, reaching a six-year high of 9.7% (Figure 3). Additionally, the gradual decline in the percentage of students entering 7th grade with provisional enrollment ended, with the percentage reaching 4.0%, the highest in six years.

Figure 3. Percentage of Provisionally Enrolled Kindergarten and 7th Grade Students, Allegheny County, October 2011-2016



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

Figure 4. Percentage of Kindergarten Students Provisionally Enrolled by School Type, Allegheny County, 2015-2016



All school types in Allegheny County saw a reduction of at least 50% in the number of provisionally enrolled students from October to April (Table 6). While charter schools had the greatest decrease, they also had the fewest students enrolled provisionally. County regulations require all provisionally enrolled students to be fully immunized within eight months 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 6. Provisional Enrollment Change during 2015-16 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 Percentage of Provisional Enrollments
Charter	6,776	25 (0.4)	6,452	7 (0.1)	-70.6
Parochial/Religious	15,989	397 (2.5)	15,313	147 (1.0)	-61.3
Private/Independent	4,919	73 (1.5)	4,863	28 (0.6)	-61.2
Public	139,000	2,065 (1.5)	136,497	864 (0.6)	-57.4
Total	166,684	2,560 (1.5)	163,125	1,046 (0.6)	-58.2

Immunization Exemptions in Allegheny County

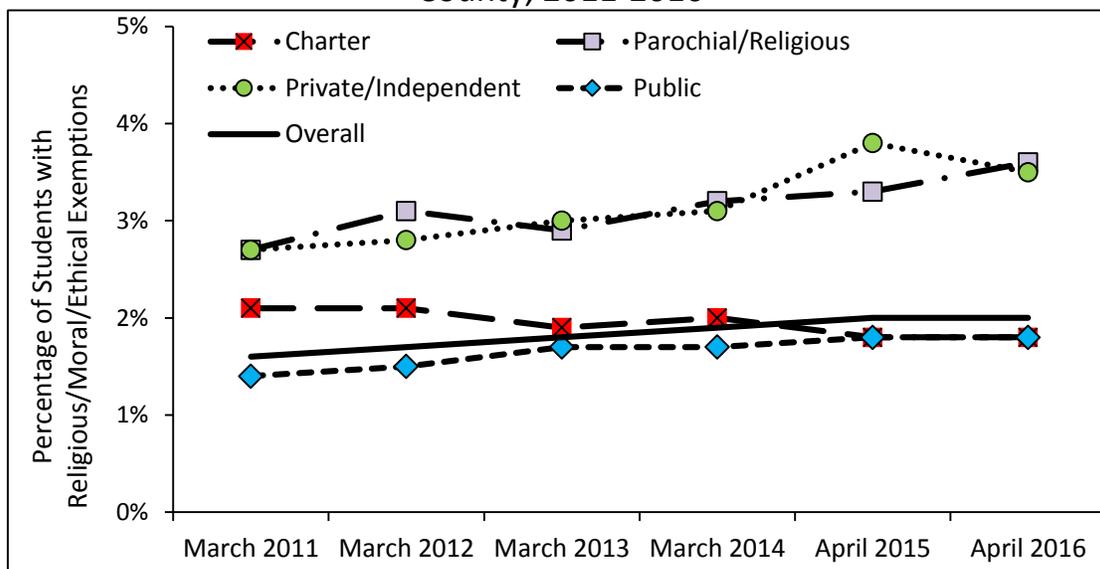
In Allegheny County, 2.7% of students met the requirements for medical or religious/moral/ethical exemption from being fully immunized in April 2016 (Table 7). Medical exemptions were low at 0.7% and have remained between 0.5% and 0.7% over the last six school years. Private/independent schools had the highest percentage of medical exemptions in the county, but still did not exceed 1% of enrolled students. Religious/moral/ethical exemptions were more common, with parochial/religious schools having the highest percentage (3.6%), followed closely by private/independent schools (3.5%).

Table 7. Percentage of Students with Medical or Religious/Moral/Ethical Exemptions by School Type, Allegheny County, April 2016

School Type	Number of Students Enrolled	Number of Medical Exemptions	Number of Religious/Moral/Ethical Exemptions
	N	N (%)	N (%)
Charter	6,452	11 (0.2)	115 (1.8)
Parochial/Religious	15,313	86 (0.6)	549 (3.6)
Private/Independent	4,863	42 (0.9)	170 (3.5)
Public	136,497	960 (0.7)	2,409 (1.8)
Total	163,125	1,099 (0.7)	3,243 (2.0)

Between 2011 and 2016, most school types saw an increasing trend in religious/moral/ethical exemptions (Figure 5). The exception was charter schools, which decreased from 2.1% to 1.8% since March 2011.

Figure 5. Percentage of Students with Religious/Moral/Ethical Exemptions, Allegheny County, 2011-2016



Immunization Status by Vaccine

Students entering kindergarten in Allegheny County exceeded the *Healthy People 2020* goal of 95% coverage for all vaccines (Table 8). Comparatively, kindergarteners statewide also reached this goal for all vaccines types except VZV. Allegheny County exceeded Pennsylvania’s statewide immunization coverage for all five required vaccines for students entering kindergarten. Two additional vaccines, Tdap and MCV4, are required for students entering 7th grade. When compared to all Pennsylvania students, Allegheny County exceeded their coverage by almost 10%, with both Tdap and MCV4 immunization percentages above 97% (Table 8).

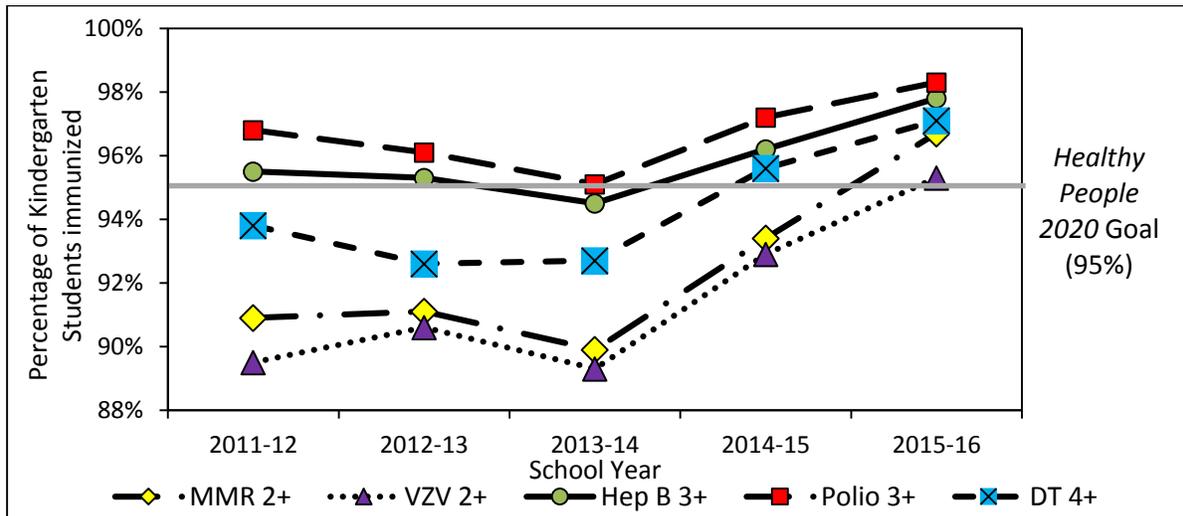
Table 8. Percentage of Students Immunized by Vaccine, Allegheny County vs. Pennsylvania, December 2015

	Kindergarten					7 th Grade	
	MMR 2+ %	VZV 2+ %	Hep B 3+ %	Polio 3+ %	DT 4+ %	MCV4 %	Tdap %
Allegheny County	96.7	95.3	97.8	98.3	97.1	97.2	97.4
Pennsylvania	95.5	94.7	97.3	97.9	96.3	88.6	89.2

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

The 2015-16 school year marks the first year in the past five school years with greater than 95% coverage for all vaccine types for Allegheny County kindergarteners (Figure 6). MMR and VZV saw the greatest increases in coverage, with an approximate 5% increase in both vaccines since the 2011-12 school year.

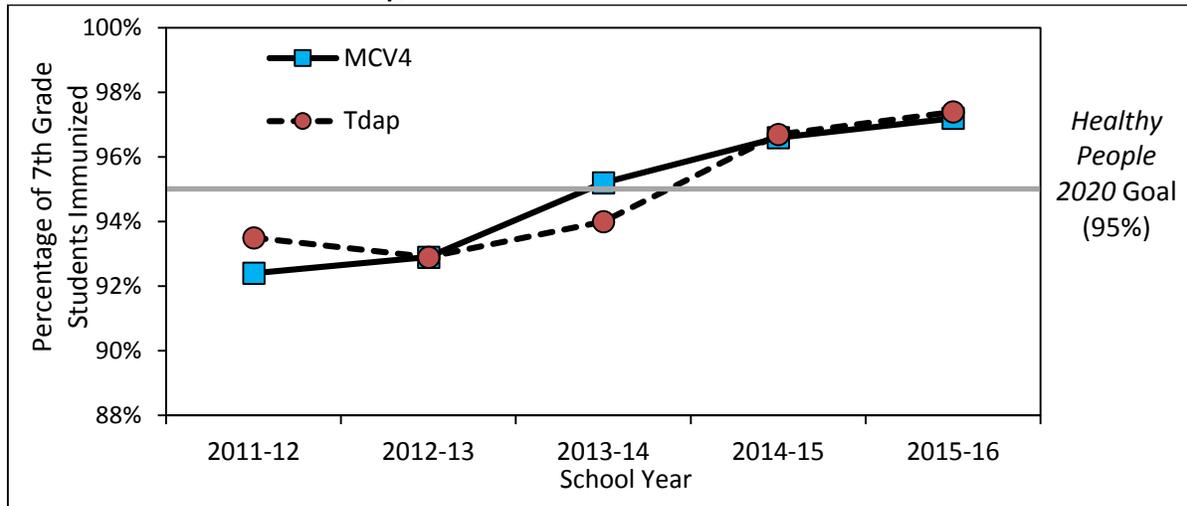
Figure 6. Percentage of Kindergarten Students Immunized by Vaccine, Allegheny County, School Years 2011-12 to 2015-16



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

The last two school years have seen very high coverage among 7th grade students for Tdap and MCV4 vaccines (Figure 7). Since the 2011-12 school year, Tdap coverage has increased by nearly 4% and MCV4 coverage has increased by over 5%.

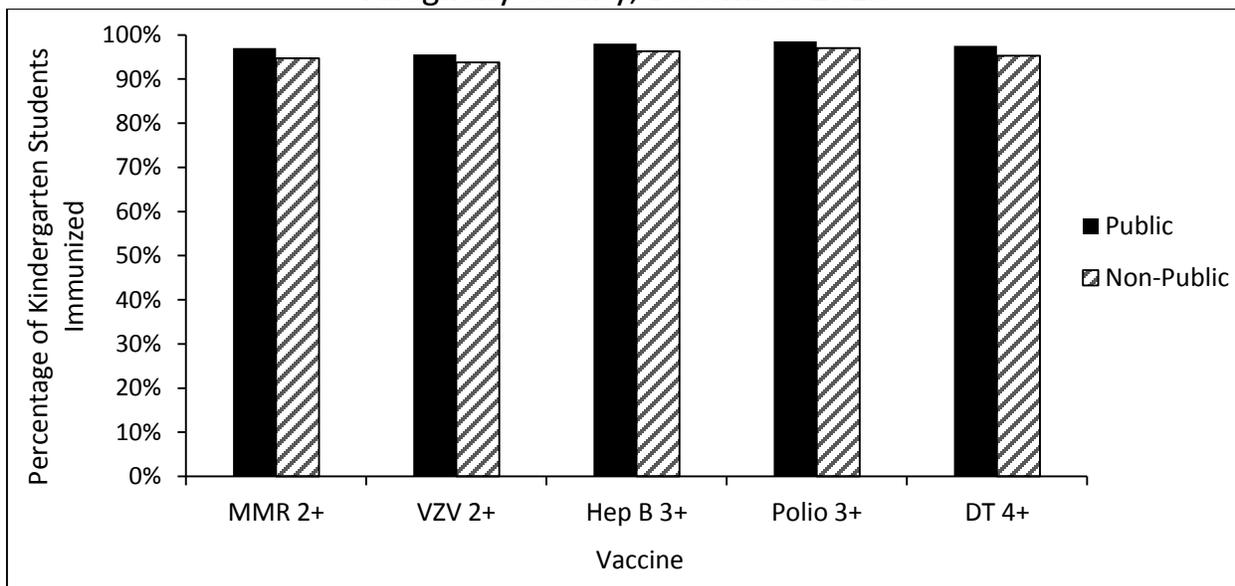
Figure 7. Percentage of 7th Grade Students Immunized by Vaccine Type, Allegheny County, School Years 2011-12 to 2015-16



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

Allegheny County students entering kindergarten at public schools had higher coverage for all required vaccines than students enrolled at private schools (Figure 8). In public schools, all vaccines exceeded 95% coverage. Conversely, private schools fell just short of this goal, with MMR reaching 94.7% and VZV reaching 93.8%.

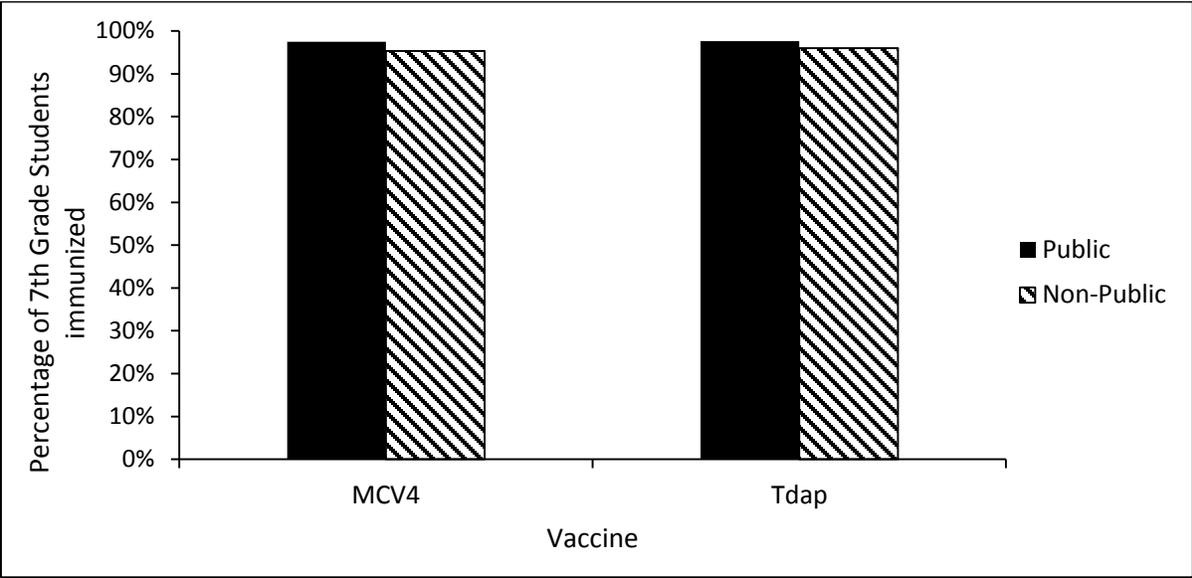
Figure 8. Percentage of Kindergarten Students Immunized by School Type and Vaccine, Allegheny County, December 2015



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

For 7th grade students, both public and private schools in Allegheny County showed high coverage for Tdap and MCV4 (Figure 11). Both school types exceeded the *Healthy People 2020* goal, with public schools showing coverage above 97% and private schools greater than 95%.

Figure 9. Percentage of 7th Grade Students Immunized by School Type and Vaccine, Allegheny County, December 2015



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

Summary

In Allegheny County, overall immunization coverage was 96.7% for the 2015-16 school year, which exceeds the *Healthy People 2020* goal of 95% coverage. While immunization coverage did not increase from the prior school year, it did remain steady, signifying the first school year in which it did not decrease since reporting began in 2011.

Overall, 78.1% of schools in Allegheny County had at least 95% immunization coverage. Almost all school types were able to meet the *Healthy People 2020* goal with over 95% of their students fully immunized with the exception of parochial/religious schools, which fell just below the goal at 94.8%. Charter schools saw the highest coverage for the 2015-16 school year with 98.0% of their students fully immunized and all 17 schools exceeding 95% coverage.

Percentages of students with exemptions continue to be low in Allegheny County. Medical exemptions were submitted for only 0.7% of students and religious/moral/ethical exemptions remained steady from the previous school year at 2.0%. While the percentage of religious/moral/ethical exemptions did not increase since 2014-15, it is higher than in previous years. Private/independent and parochial/religious schools continue to have the highest percentages of religious/moral/ethical exemptions, whereas charter and public schools have remained fairly consistent with lower percentages.

Allegheny County saw a large increase in provisional enrollments for students entering both kindergarten and 7th grade in October 2015. Almost 10% students entering kindergarten were enrolled provisionally, while the percentage of provisionally enrolled 7th graders more than doubled to 4.0%. While these percentages did decrease to 2.6% for kindergarten and 1.0% for 7th grade by April 2016, the initial high percentages in the fall 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 0.6% from October 2015 to April 2016, but no school type was able to reach the goal of zero provisional enrollments required by county regulations.

It is important to continue to work towards higher immunization coverage among Allegheny County students, specifically among those entering kindergarten and 7th grade. 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 regulation. Nevertheless, the 2015-16 school year marks the first time in five years that all five vaccines required for entering kindergarten students reached 95% coverage, and Allegheny County continues to outperform Pennsylvania in coverage for every vaccine type. Allegheny County's high immunization coverage can be attributed to the hard work and dedication of school nurses, parents, and pediatricians who help ensure students are fully immunized.