

Allegheny County School Immunization Report

School Year 2017-2018



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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 annually.

This report summarizes the immunization data from the 2017-18 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 data from previous school years.

Highlights:

- The percentage of students with all immunizations required for school entry was 96.3% in December 2017, which is above the *Healthy People 2020* goal of 95% coverage.
- The only grade that did not exceed 95% complete immunization coverage was 12th grade (92.9%), as this grade had new immunization requirements for students.
- The majority of Allegheny County schools (78.0%) had at least 95% of their students fully immunized.
- In Allegheny County, 0.7% of all students started school in the fall with provisional enrollment status; kindergarten (1.1%) and 12th grade (2.9%) had higher percentages of students enrolled provisionally due to new or additional immunization requirements.
- Overall, 3.0% of students submitted medical or religious exemptions. Parochial/religious schools (4.6%) and private/independent schools (4.7%) had the highest percentage of 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, tetanus, and pertussis (DTaP), hepatitis B (HBV), measles, mumps, and rubella (MMR), polio, and varicella (VZV) vaccines. For students enrolled in 7th through 11th grade, two additional vaccines are required at a single dose each: tetanus, diphtheria, and pertussis (Tdap) and meningococcal (MCV4).¹ A new requirement for the 2017-18 school year added an additional dose of MCV4 for all 12th graders in addition to the single dose of Tdap.² Information regarding the immunization status of students by vaccine type is reported by schools to the Allegheny County Health Department (ACHD) and the Pennsylvania Department of Health (PA DOH) in December of each school year.²

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 if there is an explicit plan in place for receiving or scheduling the remaining required doses over a five-day provisional period. This was a change from the eight-month provisional period in previous school years. If the provisional period expires before the student receives or is scheduled to receive 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, 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.³

This report utilizes data submitted in December 2017 by all Allegheny County schools to summarize the immunization status of students for the 2017-18 school year. The Bureau of Assessment, Statistics, and Epidemiology (BASE) at ACHD was responsible for collecting, cleaning, and analyzing the data.

¹ Allegheny County Health Department, *Article X: School Health Immunization*. (Accessed July 24, 2018); available from <https://www.alleghenycounty.us/Health-Department/Health-Department-Regulations.aspx>

² Commonwealth of Pennsylvania, 28 Pa. Code Part III, Ch 23, Subch C §23.86. *School Reporting*. (Accessed July 24, 2018), 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 24, 2018, 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, 162,761 students were enrolled in 386 Allegheny County schools in December 2017. Of the students enrolled, a large majority (83.7%) attended public schools, with the fewest number of students (3.1%) enrolled in private/independent schools (Table 1).

Table 1. Allegheny County School Enrollment, December 2017

School Type	Number of Students		Number of Schools N (%)
	Enrolled N (%)		
Charter	7,503	(4.6)	19 (4.9)
Parochial/Religious	13,913	(8.5)	70 (18.1)
Private/Independent	5,038	(3.1)	44 (11.4)
Public	136,307	(83.7)	253 (65.5)
Total	162,761	(100)	386 (100)

The overall percentage of students in Allegheny County with all immunizations required for school entry was 96.3% for the 2017-18 school year (Figure 1). Individual grades showed high percentages of fully immunized students, with only 12th grade (92.9%) falling just short of reaching the *Healthy People 2020* goal of 95% coverage (Table 2). 12th grade had lower coverage due to an additional immunization requirement for the 2017-18 school year.

Figure 1. Summary of Immunization Status of all Students, Allegheny County, School Year (SY) 2017-18

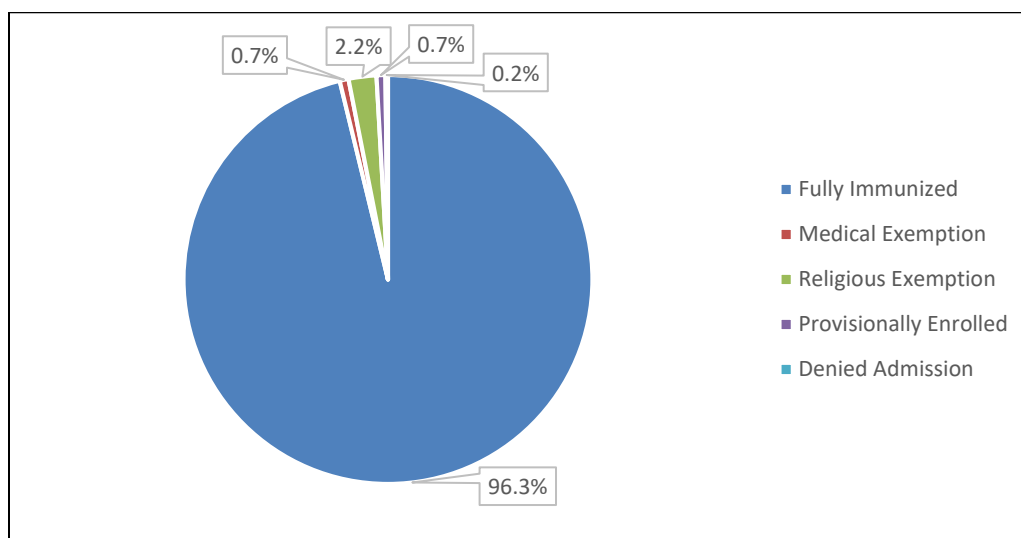


Table 2. Percentage of Fully Immunized Students by Grade, Allegheny County, December 2017

Grade	Number of Students	Number of Students with
	Enrolled N	Complete Immunizations N (%)
K	12,555	12,101 (96.4)
1st	12,402	11,994 (96.7)
2nd	12,374	12,035 (97.3)
3rd	12,474	12,053 (96.6)
4th	12,751	12,376 (97.1)
5th	12,759	12,367 (96.9)
6th	12,579	12,239 (97.3)
7th	12,264	11,758 (95.9)
8th	12,583	12,145 (96.5)
9th	12,825	12,362 (96.4)
10th	12,428	11,932 (96.0)
11th	12,406	11,950 (96.3)
12th	12,361	11,488 (92.9)
Total	162,761	156,800 (96.3)

The percentage of students with complete immunizations (96.3%) was similar to the previous school year (Table 3). Overall coverage still exceeds the *Healthy People 2020* goal of 95%; however, there has been a downward trend in overall coverage over the past eight school years. From the 2016-17 school year to the 2017-18 school year, the coverage in kindergarten increased from 94.9% to 96.4% and, in 7th grade from 94.8% to 95.9%, but coverage in 12th grade declined from 96.9% to 92.9%. This reflects noncompliance with the new requirement to get a 2nd dose of the MCV4 vaccine before starting 12th grade.

Table 3. Percentage of Fully Immunized Students by School Year and Grade, Allegheny County, 2010-11 SY to 2017-18 SY

Grade	March 2011 %	March 2012 %	March 2013 %	March 2014 %	April 2015 %	April 2016 %	April 2017 %	Dec 2017 %
K	95.1	95.4	95.3	94.7	94.3	94.9	94.9	96.4
1st	97.0	97.1	97.3	97.0	96.3	96.2	96.8	96.7
2nd	97.4	97.1	97.3	97.2	96.9	96.8	96.4	97.3
3rd	97.4	97.3	97.2	97.3	96.9	96.9	96.8	96.6
4th	97.2	97.5	97.4	97.1	97.1	97.2	97.0	97.1
5th	97.4	97.2	97.6	97.4	97.3	97.0	97.2	96.9
6th	97.6	97.4	97.2	97.5	97.4	97.2	97.3	97.3
7th	96.9	96.8	96.5	96.4	96.4	96.2	94.8	95.9
8th	97.4	97.1	97.0	96.8	96.7	96.7	96.4	96.5
9th	97.6	97.4	97.1	96.9	96.5	96.8	96.2	96.4
10th	97.5	97.7	97.0	96.9	97.3	96.6	96.2	96.0
11th	97.7	97.4	97.7	97.0	97.3	97.2	96.1	96.3
12th	97.6	97.7	97.4	97.5	97.2	97.2	96.9	92.9
Total	97.2	97.2	97.1	96.9	96.7	96.7	96.4	96.3

Allegheny County schools were classified as charter, parochial/religious, private/independent, or public. Public schools, which account for 65.5% of the schools and 83.7% of the total students in Allegheny County (Table 1), had a complete immunization coverage of 96.6% (Table 4). Charter schools also had high complete immunization coverage (96.7%). Both private/independent (94.2%) and parochial/religious schools (94.2%) 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, December 2017

School Type	Number of Students Enrolled N	Number of Students with Complete Immunizations N (%)
Charter	7,503	7,252 (96.7)
Parochial/Religious	13,913	13,102 (94.2)
Private/Independent	5,038	4,747 (94.2)
Public	136,307	131,699 (96.6)
Total	162,761	156,800 (96.3)

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.

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	Dec 2017
Charter	97.4%	95.0%	97.5%	96.3%	97.9%	98.0%	95.6%	96.7%
Parochial/Religious	95.3%	95.0%	95.9%	94.9%	94.8%	94.8%	94.4%	94.2%
Private/Independent	95.0%	95.6%	95.3%	95.0%	92.9%	95.1%	94.6%	94.2%
Public	97.5%	97.5%	97.3%	97.2%	97.2%	96.9%	96.7%	96.6%

Overall, 78.0% of all Allegheny County schools met the *Healthy People 2020* goal (Table 6). Most public and charter schools met this goal, while slightly more than half of parochial/religious and private/independent schools were able to reach 95% coverage.

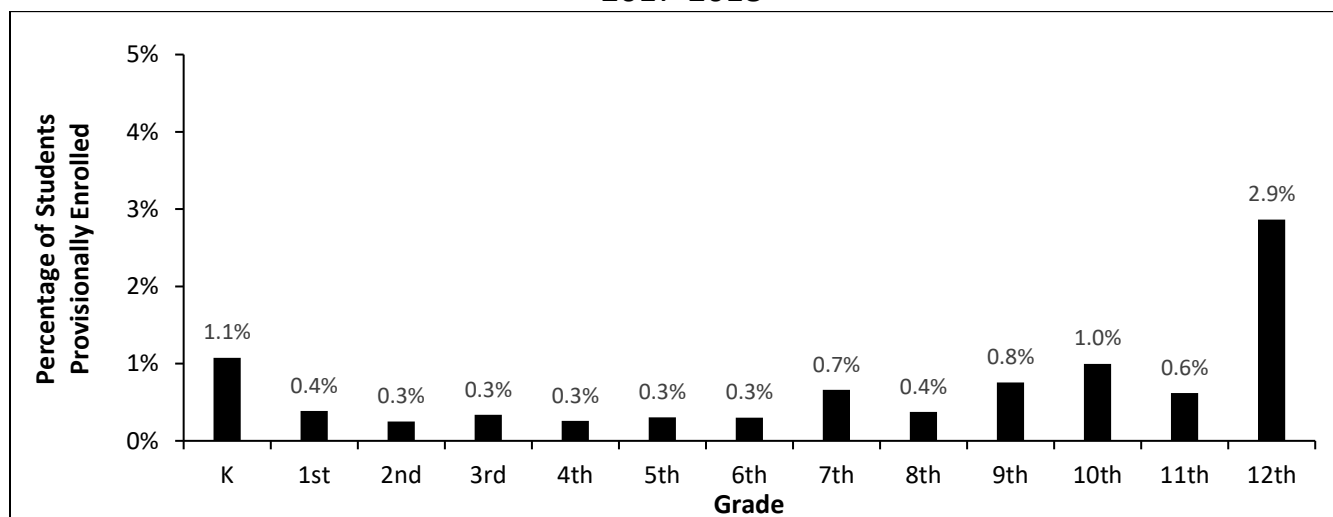
Table 6. Percentage of Schools Meeting *Healthy People 2020* Goal of 95% Coverage by School Type, Allegheny County, December 2017

School Type	Number of Schools N	Number of Schools that Met 95% Goal n (%)
Charter	19	17 (89.5)
Parochial/Religious	70	38 (54.3)
Private/Independent	44	23 (52.3)
Public	253	223 (88.1)
Total	386	301 (78.0)

Provisional Enrollment in Allegheny County

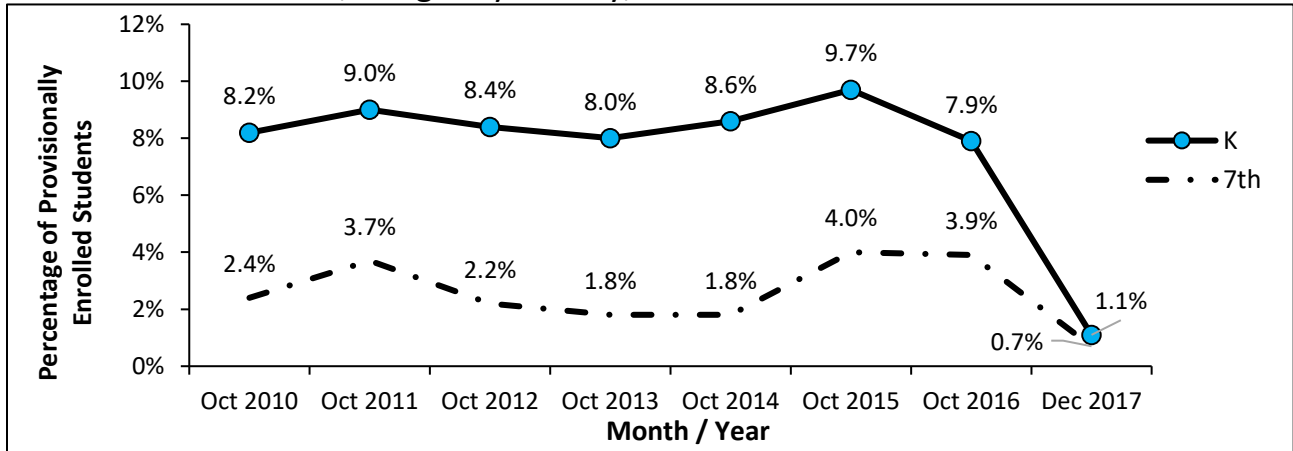
Kindergarten, 7th, and 12th grade saw higher levels of provisional enrollment than other grades due to new or additional immunization requirements (Figure 2). The cause of the elevated level in 10th grade is currently unknown.

Figure 2. Percentage of Students Provisionally Enrolled by Grade, Allegheny County, 2017-2018



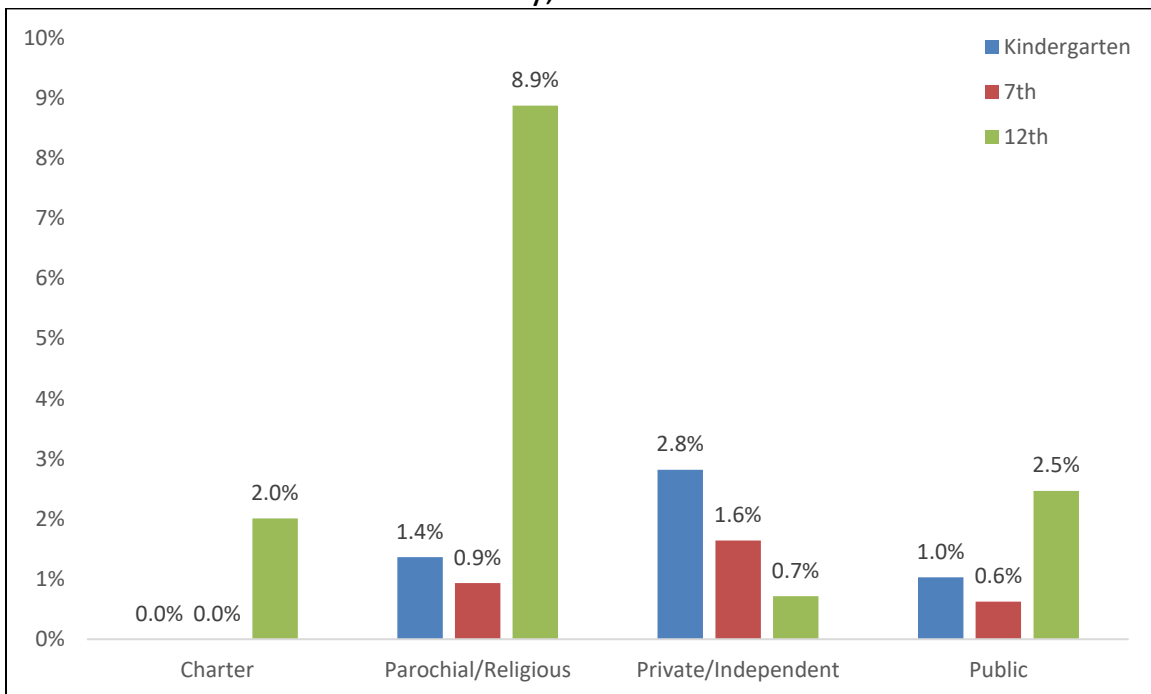
Provisional enrollments in Kindergarten declined (Figure 3) and the large drop from last school year to this school year reflects the change in provisional enrollment period from 8 months to 5 days and the later deadline for reporting from October to December.

Figure 3. Percentage of Provisionally Enrolled Kindergarten and 7th Grade Students by Year, Allegheny County, 2010-11 SY to 2017-18 SY



As seen in Figure 4, parochial/religious schools had the highest percentage of provisionally enrolled students in 12th grade and private/independent schools had the highest percentage in Kindergarten and 7th grade.

Figure 4. Percentage of Students Provisionally Enrolled by School Type, Allegheny County, 2017-2018



Immunization Exemptions in Allegheny County

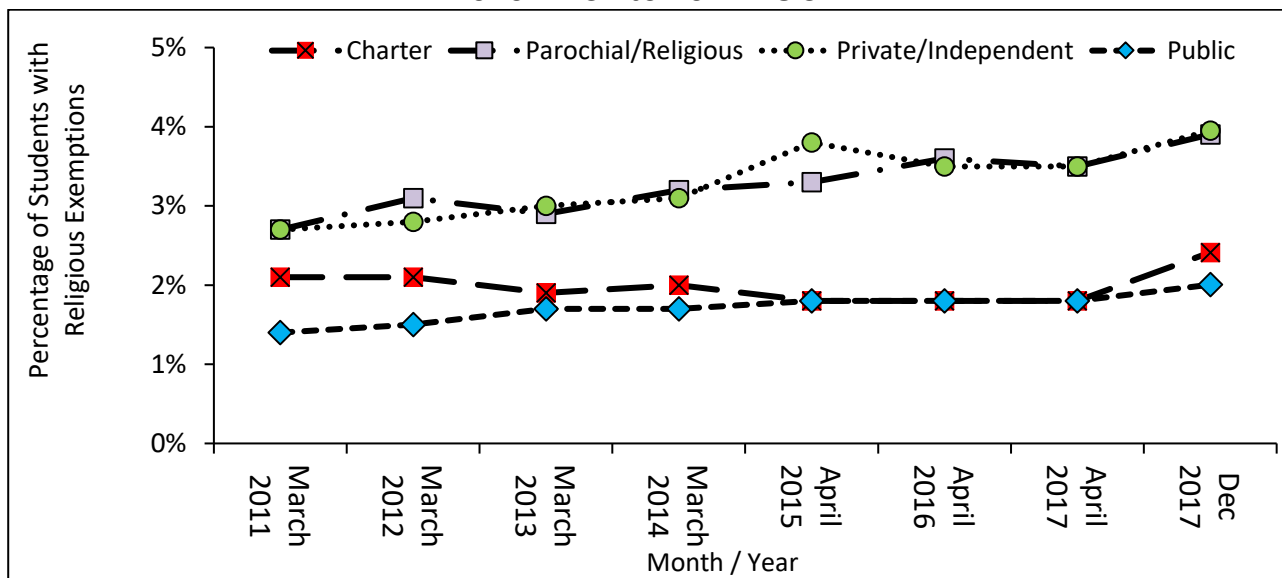
In Allegheny County, 3.0% of students submitted a medical or religious exemption from being fully immunized by December 2017 (Table 7). Medical exemptions were low at 0.7% and have remained between 0.5% and 0.7% over the last eight school years. Religious exemptions (2.2% of students) were more common than in previous years, with parochial/religious schools and private/independent schools having the highest percentages (3.9%).

Table 7. Percentage of Students with Medical or Religious Exemptions by School Type, Allegheny County, December 2017

School Type	Number of Students Enrolled N	Number of Medical Exemptions n (%)	Number of Religious Exemptions n (%)
Charter	7,503	25 (0.3)	181 (2.4)
Parochial/Religious	13,913	94 (0.7)	543 (3.9)
Private/Independent	5,038	37 (0.7)	199 (3.9)
Public	136,307	1,010 (0.7)	2,733 (2.0)
Total	162,761	1,166 (0.7)	3,656 (2.2)

Religious exemptions did increase slightly in the 2017-18 school year (Figure 5), but the trend has been consistent for the past eight school years – between three and four percent of students enrolled in parochial/religious and private/independent schools have religious exemptions while between one and two percent of students enrolled in public and charter schools have religious exemptions.

Figure 5. Percentage of Students with Religious Exemptions by Year, Allegheny County, 2010-11 SY to 2017-18 SY



Immunization Status by Vaccine

Students entering kindergarten in Allegheny County exceeded the *Healthy People 2020* goal of 95% coverage for all five required vaccines (Table 8). Two additional vaccines, Tdap and MCV4, are required for students entering 7th grade and Allegheny County exceeded the *Healthy People 2020* goal of 80% (Table 8).

Table 8. Percentage of Students Immunized by Vaccine Type, Allegheny County, December 2017

	Kindergarten					7 th Grade		12 th Grade
	MMR (2) %	VZV (2) %	Hep B (3) %	Polio (4) %	DTaP (5) %	MCV4 (1) %	Tdap (1) %	Grade MCV4 2 %
Allegheny County ¹	97.6	97.4	97.9	97.3	97.8	97.3	97.5	94.3

Data Sources: ¹Collected 12/31/2017 by the Allegheny County Health Department (Allegheny County)

The 2017-18 school year saw increases in reported coverage for every type of vaccine among Allegheny County kindergarteners (Table 9). The increases are most likely explained by the reduction in the provisional period from eight months to five days and the change in reporting date from October to December.

Table 9. Percentage of Kindergarten Students Immunized by Vaccine Type, Allegheny County, 2011-12 SY through 2017-18 SY

Vaccine	Oct 2011 ¹	Oct 2012 ¹	Oct 2013 ¹	Oct 2014 ²	Oct 2015 ²	Oct 2016 ²	Dec 2017 ²
MMR (2)	90.9	91.1	89.9	91.4	91.0	92.0	97.6
VZV (2)	89.5	90.6	89.3	90.6	90.5	91.0	97.4
HBV (3)	95.5	95.3	94.5	95.4	94.2	95.4	97.9
Polio (4)	96.8	96.1	95.1	95.6	94.9	95.8	97.3
DTaP (4+)	93.8	92.6	92.7	93.7	92.6	93.2	97.8

Data Sources: ¹Pennsylvania Department of Health's Division of Immunization (2011-2013), ²Allegheny County Health Department (2014-2017)

In the 2017-18 school year there was an increase in coverage among 7th grade students for Tdap and MCV4 vaccines from the 2016-17 school year (Table 10). Coverage increased from 94.1% to 97.5% for Tdap and from 93.5% to 97.3% for MCV4.

Table 10. Percentage of 7th Grade Students Immunized by Vaccine Type, Allegheny County, School Years 2011-12 to 2017-18

Vaccine	Oct 2011 ¹	Oct 2012 ¹	Oct 2013 ¹	Oct 2014 ²	Oct 2015 ²	Oct 2016 ²	Dec 2017 ²
MCV4 (1)	92.4	92.9	95.2	95.8	92.9	93.5	97.3
Tdap (1)	93.5	92.9	94.0	95.9	93.3	94.1	97.5

Data Sources: ¹Pennsylvania Department of Health's Division of Immunization (2011-2013), ²Allegheny County Health Department (2014-2017)

Allegheny County students entering kindergarten at public and charter schools had higher coverage for all required vaccines than students enrolled at parochial/religious and private/independent schools (Table 11). Coverage for VZV and polio fell slightly below the *Healthy People 2020* Goal of 95% coverage at parochial/religious schools at 94.9%, but otherwise all school types met the *Healthy People 2020* goal for all vaccines.

Table 11. Percentage of Kindergarten Students Immunized by School Type and Vaccine, Allegheny County, December 2017

Vaccine	Charter	Parochial/Religious	Private/Independent	Public
MMR (2)	97.7	95.2	95.0	98.0
VZV (2)	97.7	94.9	95.2	97.8
HBV (3)	98.0	95.5	96.0	98.3
Polio (4)	97.8	94.9	95.2	97.7
DTaP (4+)	98.1	95.8	96.4	98.1

For 7th grade students, public schools in Allegheny County showed higher coverage for Tdap and MCV4 than parochial/religious, private/independent, or charter schools (Table 12), but all school types exceeded the *Healthy People 2020* goal of 80%.

Table 12. Percentage of 7th Grade Students Immunized by School Type and Vaccine, Allegheny County, December 2017

Vaccine	Charter	Parochial/Religious	Private/Independent	Public
MCV4 (1)	96.0	96.2	95.1	97.6
Tdap (1)	96.0	96.5	94.1	97.8

For 12th grade students, charter and public schools in Allegheny County had higher coverage than parochial/religious or private/independent schools for the second dose of MCV4 (Table 13). While there is no *Healthy People 2020* goal for a second dose of MCV4, all schools exceeded the 80% benchmark also used for the first dose of MCV4.

Table 13. Percentage of 12th Grade Students Immunized by School Type and Vaccine, Allegheny County, December 2017

Vaccine	Charter	Parochial/Religious	Private/Independent	Public
MCV4 (2)	95.0	86.8	92.6	95.0

Summary

In Allegheny County, overall immunization coverage for the required school vaccinations was 96.3% for the 2017-18 school year, which exceeds the *Healthy People 2020* goal of 95% coverage; however there has been a slow downward trend from the 2010-11 school year to the 2017-18 school year. Starting with the 2014-15 school year quality control measures in data collection and cleaning were implemented to improve the accuracy of the immunization data. The decline in coverage from 97% to 96% may reflect more accurate data than an actual decline in coverage, but this is not definitively known.

Overall, 78.0% of all schools in Allegheny County had at least 95% of their students fully immunized with charter schools having the highest percentage with 95% coverage (89.5% of schools), followed by public schools (88.1% of schools), parochial/religious schools (54.3% of schools), and private/independent schools (52.3% 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 increased slightly from the previous school year to 2.2%. Private/independent and parochial/religious schools continue to have the highest percentages of religious exemptions, whereas charter and public schools have remained consistent with lower percentages.

The higher percentages of provisional enrollment for kindergarten and 12th grade students point to a need to increase immunization efforts specifically for these age groups. Schools may need to provide additional information to parents about immunization requirements for students. Overall, provisional enrollments decreased substantially from previous school years, but no school type could reach the goal of zero provisional enrollments by the December deadline to submit data. Decreasing the number of students provisionally enrolled when they start school is not only necessary to protect the health of these students, but it is also required by county regulations.

Immunization coverage in Allegheny County schools for the 2017-18 school year exceeded the *Healthy People 2020* goal of 95% overall coverage. Allegheny County's high immunization coverage can be attributed to the hard work and dedication of school nurses, parents, clinicians, and public health officials who help ensure students are fully immunized.