

ALLEGHENY COUNTY
HEALTH DEPARTMENT

SCHOOL
IMMUNIZATION
REPORT
2023-2024



ALLEGHENY COUNTY SCHOOL IMMUNIZATION REPORT 2023-2024

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**ALLEGHENY COUNTY HEALTH DEPARTMENT
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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 and charter) to submit the immunization status of their students annually.

This report summarizes the immunization data from the 2023-2024 school year. It is organized into five parts: overall immunization status, provisional enrollment, immunization exemptions, immunization status by type of vaccine, and barriers to vaccine coverage. Data are primarily presented by school type, or by grade. Also included are data from previous school years as reference points.

Highlights:

- The percentage of students with all immunizations required for school entry was 94.6 percent in December 2023
- Kindergarten (93.0%), seventh grade (92.5%), and twelfth grade (90.6%) had the lowest percentage of students with all required vaccines. Additional doses of certain vaccines are required to enter seventh and twelfth grades.
- The majority of Allegheny County schools (66.4%) had at least 95 percent of their students fully immunized, a decrease from the previous school year (70.6%)
- In Allegheny County, 1.5 percent of all students were provisionally enrolled at the time of the survey; kindergarten (2.9%), seventh grade (2.4%), and twelfth grade (3.6%) had higher percentages of students enrolled provisionally, due to new or additional immunization requirements upon entering those grade levels
- Overall, 3.6 percent of students submitted medical or religious/moral exemptions. Students at parochial/religious schools (6.5%) and private/independent schools (4.6%) had the highest percentage of exemptions.

INTRODUCTION

To maintain healthy students and communities, all students enrolled in kindergarten through twelfth grade are required to have the appropriate number of doses of the following vaccines: diphtheria, tetanus, and pertussis (DTaP); hepatitis B; measles, mumps, and rubella (MMR); polio; and varicella.¹ For students enrolled in seventh grade, two additional vaccines are required at a single dose each: tetanus, diphtheria, and pertussis (Tdap) and meningococcal conjugate vaccine (MCV).¹ An additional dose of MCV is required for all twelfth graders.²

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 either receiving or scheduling the remaining required doses within the five-day provisional period. If the provisional period expires before the student receives, or is scheduled to receive all required doses, the student is denied admission to school. The provisional period was shortened from eight months to five days beginning with the 2017-2018 school year.

Students may also be admitted to school without being fully immunized if their parents have submitted paperwork for an exemption. Exemptions can be medical, religious, or moral/philosophical, 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 and moral exemptions are submitted in writing by the student's parent or guardian. Students experiencing homelessness are exempt under the McKinney-Vento Act.

The ACHD requires all schools (public, private/independent, parochial/religious, and charter) 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/moral exemptions, per Article X of ACHD's Rules and Regulations.¹ The Health Department collects data on every grade to get a comprehensive view of the immunization coverage. The Pennsylvania Department of Health (PADOH) collects data on kindergarten, seventh grade, and twelfth grade students in December from every school in the commonwealth, each year.²

¹ Allegheny County Health Department, *Article X: School Health Immunization*. (Accessed July 7, 2024); available from <https://www.alleghenycounty.us/files/assets/county/v/1/government/health/documents/human-health-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 7, 2024), available from <http://www.pacode.com/secure/data/028/chapter23/subchapCtoc.html>

Vaccines that are not required for school entry in Pennsylvania but are recommended for children by the CDC’s Advisory Committee on Immunization Practices include those for rotavirus, *Haemophilus influenzae* type B, pneumococcal disease, influenza, hepatitis A, COVID-19 and human papillomavirus. The list of required vaccines for school entry varies by state, depending on logistical, political and practical considerations.

This report utilizes data submitted in December 2023³ by Allegheny County schools to summarize the immunization status of students for the 2023-24 school year for required vaccines. The ACHD created and issued the survey in October 2023, with responses due on December 31, 2023. After the due date, reminders by phone and email were sent to schools who had not yet submitted, and school nurses were contacted to correct mistakes. In May 2024, the survey was closed and the data were finalized. The ACHD was responsible for collecting, cleaning and analyzing the data.

³ Data updated as of May 2024

STUDENT IMMUNIZATION COVERAGE IN ALLEGHENY COUNTY

Immunization data were reported for 157,049 students enrolled in 369 Allegheny County schools in December 2023. Of the students at the 369 schools reporting data, a majority (82.8%) attended public schools, with the fewest number of students (4.5%) enrolled in private/independent schools (Table 1).

Table 1. Allegheny County School Enrollment, School Year 2023-24

School Type	Number of Students Enrolled		Number of Schools	
	N	(%)	N	(%)
Charter	8,322	5.3%	26	7.0%
Parochial/Religious	11,497	7.3%	53	14.4%
Private/Independent	7,142	4.5%	46	12.5%
Public	130,088	82.8%	244	66.1%
Total	157,049	100.0%	369	100.0%

The overall percentage of students with all immunizations required for school entry was 94.6 percent for the 2023-24 school year (Table 2).

Table 2. Immunization Status of All Students, Allegheny County, School Year 2023-24

Status	N	%
Fully Immunized	148,634	94.6%
Medical Exemption	689	0.4%
Religious Exemption	2,850	1.8%
Moral/Philosophical Exemption	2,137	1.4%
Homeless Exemption	234	0.1%
Provisionally Enrolled	2,323	1.5%
Denied Admission	123	<0.1%
Unknown status	59	<0.1%
Total Enrollment	157,049	100.0%

Kindergarten (93.0%), seventh grade (92.5%), and twelfth grade (90.6%) had lower coverage compared to other grades, likely because they require new or additional immunizations for entry. The percentage of students with complete immunizations (94.6%) was lower than in the previous school year (Table 3). There has been a downward trend in overall coverage since the 2013-14 school year (data not shown). Year-to-year variation by grade has been minimal, apart from a drop in twelfth grade coverage from 2016-17 (96.9%) to 2017-18 (92.9%) when the new requirement for a second dose of the MCV vaccine was introduced, and the recent drops in seventh and twelfth grade coverage from 2019-20 to 2020-21 when many schools switched to virtual learning due to the COVID-19 pandemic.

Table 3. Percentage of Fully Immunized Students by School Year and Grade, Allegheny County, 2014-2015 SY to 2023-24 SY

Grade	April 2016 %	April 2017 %	December 2017 %	December 2018 %	December 2019 %	December 2020 %	December 2021 %	December 2022 %	December 2023 %
K	94.9	94.9	96.4	95.8	95.8	94.2	94.3	93.8	93.0
1st	96.2	96.8	96.7	97.1	96.7	96.8	96.1	95.5	94.9
2nd	96.8	96.4	97.3	97.0	97.2	96.6	96.7	96.0	95.0
3rd	96.9	96.8	96.6	97.3	97.0	97.3	96.5	96.3	95.6
4th	97.2	97.0	97.1	96.9	96.9	96.9	97.0	96.3	95.8
5th	97.0	97.2	96.9	97.3	96.7	97.1	96.8	96.4	96.1
6th	97.2	97.3	97.3	97.2	97.1	96.7	96.8	96.5	95.9
7th	96.2	94.8	95.9	95.6	95.7	91.4	92.0	93.2	92.5
8th	96.7	96.4	96.5	96.6	96.4	96.2	94.3	92.5	94.9
9th	96.8	96.2	96.4	96.1	95.9	96.4	95.5	95.0	94.8
10th	96.6	96.2	96.0	96.5	96.6	96.2	96.2	95.7	95.4
11th	97.2	96.1	96.3	96.8	96.9	96.4	96.0	96.3	95.9
12th	97.2	96.9	92.9	93.3	93.4	89.6	90.5	91.4	90.6
Total	96.7	96.4	96.3	96.4	96.3	95.6	95.3	95.1	94.6

Schools were classified as charter, parochial/religious, private/independent, or public. Public schools, which account for 66.1 percent of the schools and 82.8 percent of the total students in Allegheny County (Table 1), had 95.1 percent immunization coverage (Table 4). Charter schools (94.5%), private/independent (93.0%) and parochial/religious schools (91.1%) had lower coverage.

Table 4. Percentage of Fully Immunized Students by School Type, Allegheny County, 2014-2015 SY to 2023-24 SY

School Type	16-Apr	17-Apr	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec
Charter	98.0	95.6	96.7	97.0	96.4	95.2	95.2	95.0	94.5
Parochial/ Religious	94.8	94.4	94.2	94.8	94.1	93.3	92.5	91.6	91.1
Private/ Independent	95.1	94.6	94.2	92.2	93.0	94.1	91.7	91.2	93.0
Public	96.9	96.7	96.6	96.7	96.7	95.8	95.7	95.6	95.1

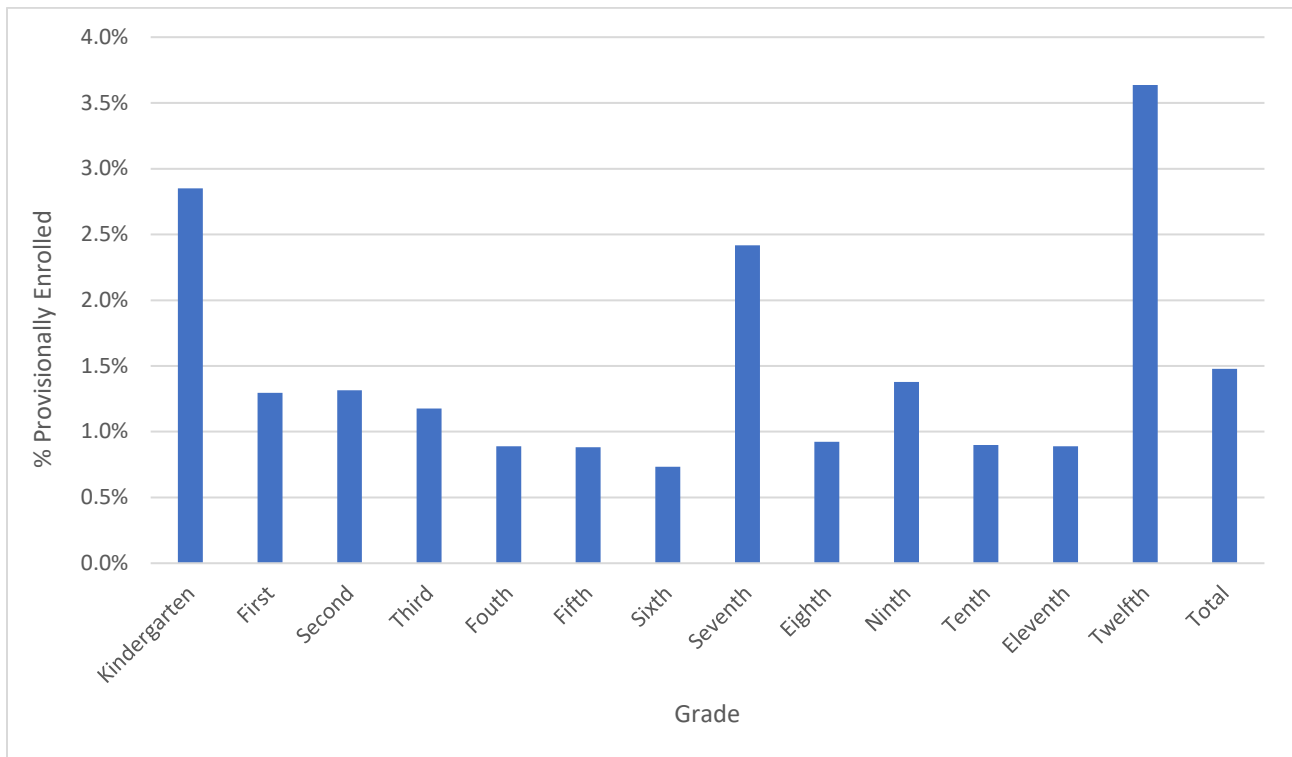
Overall, 66.4 percent of schools had at least 95 percent coverage (Table 5). This is a decrease from the previous school year, when 70.6 percent of schools met the 95 percent coverage goal. At 74.2 percent, public schools had the highest percentage of schools meeting this goal, while parochial/religious schools had the smallest percentage (39.5%).

Table 5. Percentage of Schools with >95% Coverage by School Type, Allegheny County, School Year 2023-2024

School Type	Number of Schools	Number of Schools that Met 95% Goal
	N	N (%)
Charter	26	17 (65.4)
Parochial/Religious	53	21 (39.6)
Private/Independent	46	26 (56.5)
Public	244	181 (74.2)
Total	369	245 (66.4)

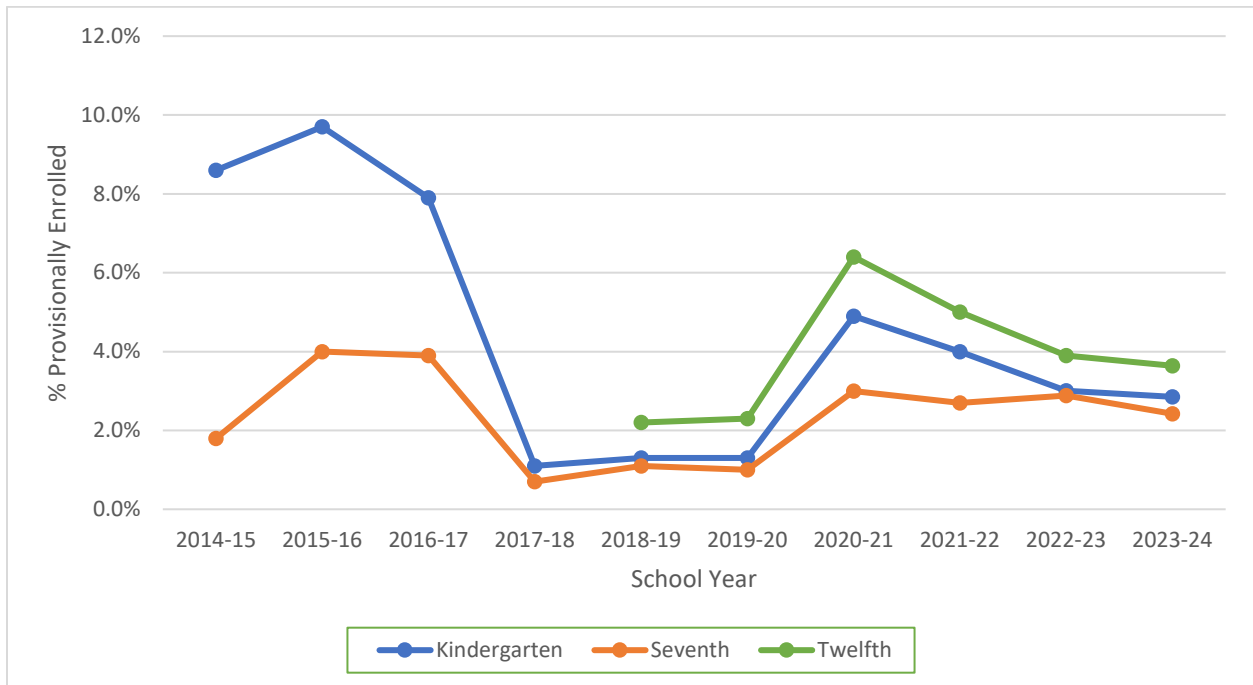
As of December 2023, 1.5% of students in Allegheny County schools were provisionally enrolled. Higher levels of provisional enrollment were seen in kindergarten, seventh, and twelfth grades than others due to additional immunization requirements (Figure 1).

Figure 1: Percentage of Students Provisionally Enrolled by Grade, Allegheny County, 2023-2024



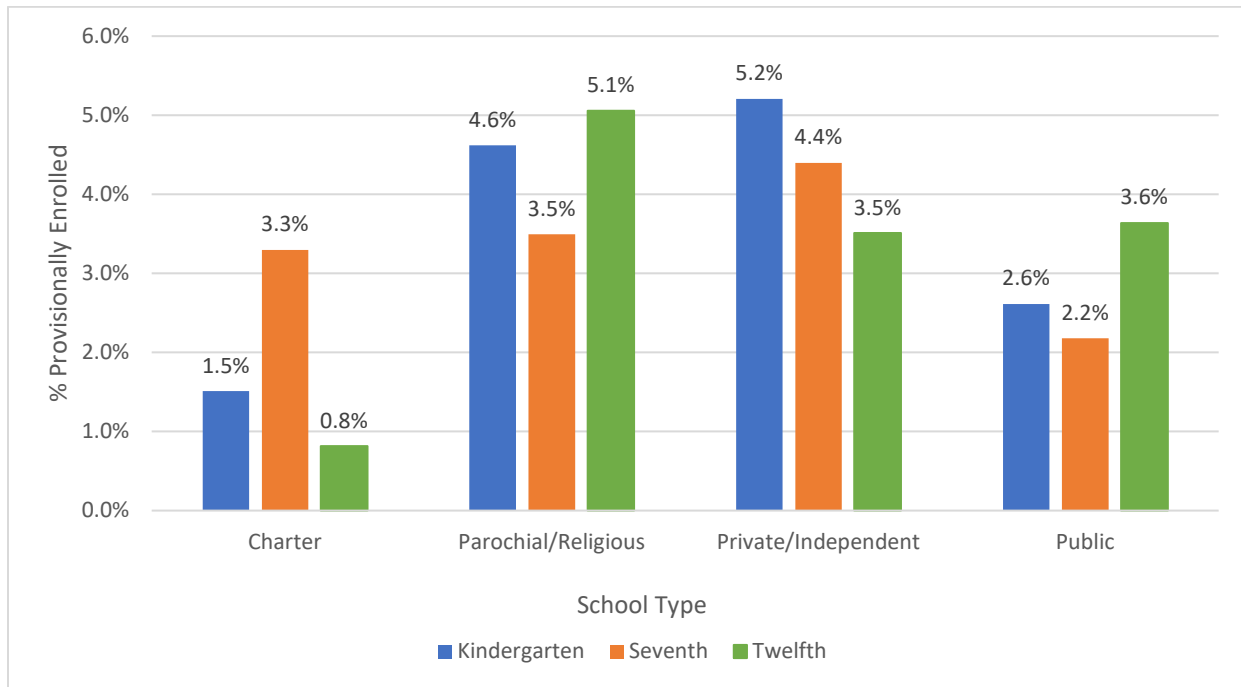
Provisional enrollments in kindergarten, seventh and twelfth grades decreased this year compared to last year (Figure 2). A large drop in provisional enrollment occurred in 2017-18, most likely because the provisional period was changed. It now ends before the deadline for reporting immunization data. The increase in 2020-21 corresponded to the switch to remote learning in many districts.

Figure 2: Percentage of Provisionally Enrolled Kindergarten, Seventh, and Twelfth Grade Students by Year, Allegheny County, 2014-15 SY to 2023-24 SY



As seen in Figure 3, parochial/religious schools had the highest percentage of provisionally enrolled students in twelfth grade. Private/independent schools had the highest percentage of provisionally enrolled students in kindergarten and seventh grade.

Figure 3: Percentage of Students Provisionally Enrolled by School Type, Allegheny County, 2023-2024



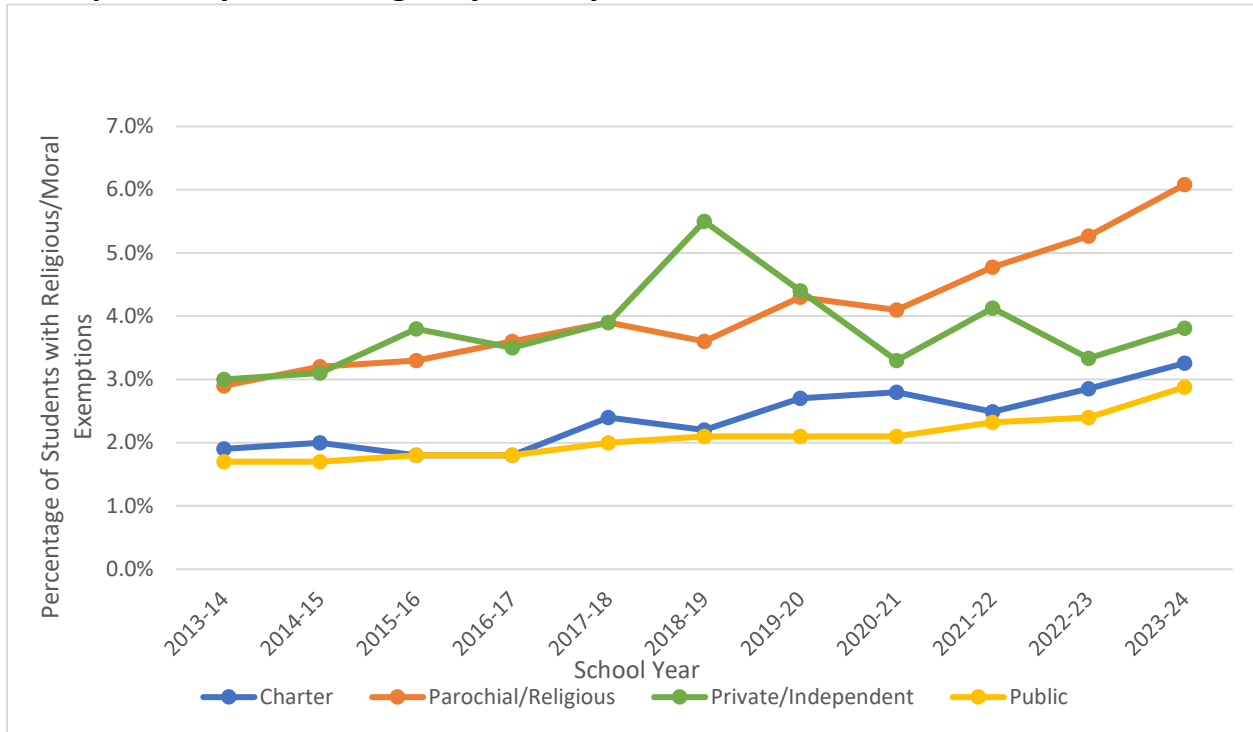
In school year 2023-24, 3.6 percent of students submitted a medical, religious, or moral exemption (Table 6). The percentage of students with medical exemptions decreased slightly from 0.5 percent the previous year to 0.4 percent in the 2023-2024 school year. Parochial/religious schools had the highest percentage of total exemptions (6.5%), 4.2 percent of those which religious exemptions. Public schools had the lowest percentage of total exemptions (3.3%).

Table 6: Percentage of Students with Medical, Religious or Moral Exemptions by School Type, Allegheny County, School Year 2023-2024

School Type	Number of Students Enrolled N	Number of Medical Exemptions N (%)	Number of Religious Exemptions N (%)	Number of Moral Exemptions N (%)	Number of Total Exemptions N (%)
Charter	8,322	29 (0.3)	171 (2.1)	100 (1.2)	300 (3.6)
Parochial/Religious	11,497	43 (0.4)	478 (4.2)	221 (1.9)	742 (6.5)
Private/Independent	7,142	53 (0.7)	137 (1.9)	135 (1.9)	325 (4.6)
Public	130,088	564 (0.4)	2,064 (1.6)	1,681 (1.3)	4,309 (3.3)
Total	157,049	689 (0.4)	2,850 (1.8)	2,137 (1.4)	5,676 (3.6)

Religious and moral/philosophical exemptions increased since the 2022-23 school for all school types.

Figure 4. Percentage of Students with Religious or Moral/Philosophical Exemptions by Year, Allegheny County, 2013-2014 SY to 2023-2024 SY



IMMUNIZATION STATUS BY VACCINE

Kindergarteners in public schools exceeded 95 percent coverage for all five required vaccines (Table 7). Coverage was low among parochial/religious schools, which did not exceed 92.1 percent coverage for any vaccine.

No school type achieved 95 percent coverage among seventh or twelfth grade students for the additional Tdap and meningococcal vaccine doses required for school (Table 8). Public schools had the highest coverage among school types for seventh grade, with over 94 percent of seventh grade students receiving the required doses of Tdap and MCV4 vaccine. Charter schools had the highest percentage of twelfth grade students receiving a second dose of MCV4 (93.8%). Since the 2022-23 school year, both charter and private/independent schools saw an increase in the percentage of twelfth graders who received the second dose of MCV4, going from 81.3 percent to 93.8 percent, and 86.0 percent to 91.6 percent, respectively (Table 9).

Table 7. Percentage of Kindergarten Students Immunized by School Type and Vaccine, Allegheny County, School Year 2023-24

Vaccine	Charter	Parochial/Religious	Private/Independent	Public	Overall
MMR (2)	92.3%	89.5%	93.9%	95.4%	94.7%
VZV (2)	92.3%	88.8%	92.9%	95.1%	94.3%
HBV (3)	94.1%	92.1%	94.6%	96.3%	95.7%
Polio (4)	93.1%	89.9%	93.1%	95.4%	94.6%
DTaP (4+)	93.8%	90.7%	93.5%	95.5%	94.9%

Table 8. Percentage of Seventh Grade Students Immunized by School Type and Vaccine, Allegheny County, School Year 2023-24

Vaccine	Charter	Parochial/Religious	Private/Independent	Public	Overall
MCV4 (1 dose)	90.5%	90.1%	89.8%	94.3%	93.6%
Tdap (1 dose)	90.7%	90.3%	90.5%	94.2%	93.6%

Table 9. Percentage of Twelfth Grade Students Immunized by School Type and Vaccine, Allegheny County, School Year 2023-24

Vaccine	Charter	Parochial/Religious	Private/Independent	Public	Overall
MCV4 (1 dose)	93.8%	84.7%	91.6%	92.6%	92.1%

BARRIERS AT LOW-COVERAGE SCHOOLS

Of the 369 schools reporting data, 35 did not exceed 85 percent full coverage among their students in 2023-24. Of the 35 low-coverage schools, 11 were religious/parochial schools, 13 were private/independent schools, 10 were public schools, and one was a charter school. Low-coverage schools had an average school enrollment of 164 students (range of 11 to 439 students), compared to an average of 458 students (range of 37 to 2,018 students) in the higher coverage schools.

To assess barriers to coverage, Health Department staff contacted nurses at low coverage schools during the 2022-23 and 2023-24 school years. Over two years, 48 schools had below 85% coverage, 19 of which were below 85% coverage in both the 2022-23 and the 2023-24 school years. Forty-six school nurses responded to outreach from ACHD.

School nurses cited parents' beliefs in vaccine misinformation (30.4%), religious or moral beliefs (30.4%) and difficulties obtaining student vaccination records (37.0%) as the top reasons for their low reported vaccination rate. Over half (52.2%) of nurses responded that they had no effective method for increasing vaccine coverage when parents held strong beliefs against vaccination, but educating parents and communicating with a student's previous school and pediatrician were effective in obtaining records. Nurses also spoke about the importance of administrative support to enforce immunization policies.

SUMMARY

In Allegheny County, overall immunization coverage for the required school vaccinations was 94.6 percent for the 2023-2024 school year. There has been a slow downward trend from the 2013-14 school year to the present. The slight decrease in overall coverage from 2019-2020 to 2021-2022 was likely due to the impact of the COVID-19 pandemic, which led to a decrease in well-child visits and preventive healthcare, including immunizations, but coverage continued to decrease after the height of the pandemic as well.^{4,5}

Overall, 66.4 percent of all schools had at least 95 percent of their students fully immunized. Public schools had the highest percentage of schools (74.2%) with 95 percent coverage, followed by charter schools (65.4%), private/independent schools (56.5%), and parochial/religious schools (39.6%).

The percentage of students with exemptions continues to be low. Medical exemptions were submitted for only 0.4 percent of students. Religious exemptions (1.8%) and moral exemptions (1.4%) increased slightly from the previous school year to a combined 3.2 percent. Private/independent and parochial/religious schools continue to have the highest percentages of religious and moral exemptions. School nurses report that strong anti-vaccine beliefs make it difficult to ensure students are fully vaccinated.

The high percentages of provisional enrollment for students in kindergarten, seventh, and twelfth grade point to a need to increase immunization efforts before the school year starts. Schools should provide additional information to parents during the summer about immunization requirements for students in these grades. Providers may need to hold additional vaccination clinics before the start of the school year. Overall, provisional enrollments were lower than in most previous school years, but no school type reached the goal of zero provisional enrollments by the December deadline for submitting data. Decreasing the number of students provisionally enrolled when they start school is necessary to protect the health of these students, as well as students who are immunocompromised or otherwise susceptible to vaccine-preventable disease.

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.

⁴ Patel B, Murthy , Zell E, et al. Impact of the COVID-19 Pandemic on Administration of Selected Routine Childhood and Adolescent Vaccinations — 10 U.S. Jurisdictions, March–September 2020. *MMWR Morb Mortal Wkly Rep* 2021;70:840–845. DOI: <http://dx.doi.org/10.15585/mmwr.mm7023a2external> icon.

⁵ Schweiberger K, Patel SY, Mehrotra A, Ray KN. Trends in Pediatric Primary Care Visits During the Coronavirus Disease of 2019 Pandemic. *Academic Pediatrics* 2021. Published May 10, 2021DOI:<https://doi.org/10.1016/j.acap.2021.04.031>