



**DELAWARE COUNTY HEALTH DEPARTMENT**

# BOH Epi Update

## Trends in Delco Vaccine Preventable Diseases

DCHD Epidemiology Division

December 4, 2025

## Diseases and vaccines for prevention

- Chickenpox (varicella)
- COVID-19
- Dengue
- Diphtheria
- Flu (influenza)
- Hepatitis A
- Hepatitis B
- Hib (*Haemophilus influenzae* type b)
- HPV (human papillomavirus)
- Measles
- Meningococcal
- Mpox
- Mumps
- Pneumococcal
- Polio (poliomyelitis)
- Rotavirus
- RSV (respiratory syncytial virus)
- Rubella (German measles)
- Shingles (herpes zoster)
- Tetanus (lockjaw)
- Whooping cough (pertussis)

## Recommended vaccines for travel

- Adenovirus
- Anthrax
- Chikungunya
- Cholera
- Ebola
- Japanese encephalitis (JE)
- Rabies
- Smallpox
- Tick-borne encephalitis
- Tuberculosis
- Typhoid fever
- Yellow fever

– CDC <https://www.cdc.gov/vaccines/by-disease/index.html>

# Big Picture - World

- Infectious diseases are **climbing worldwide**.
- Changes in vaccine **policy** and growing **hesitancy**, measles and pertussis (*whooping cough*) are making a **comeback globally**.
- CDC reported the number of countries experiencing large or disruptive outbreaks of measles nearly doubled—from 36 in 2022 to 57 in 2023.
- Starting in January 2025, **measles rebounded in North America**, largely fueled by outbreaks in Texas; Alberta, Canada; and Chihuahua, Mexico.

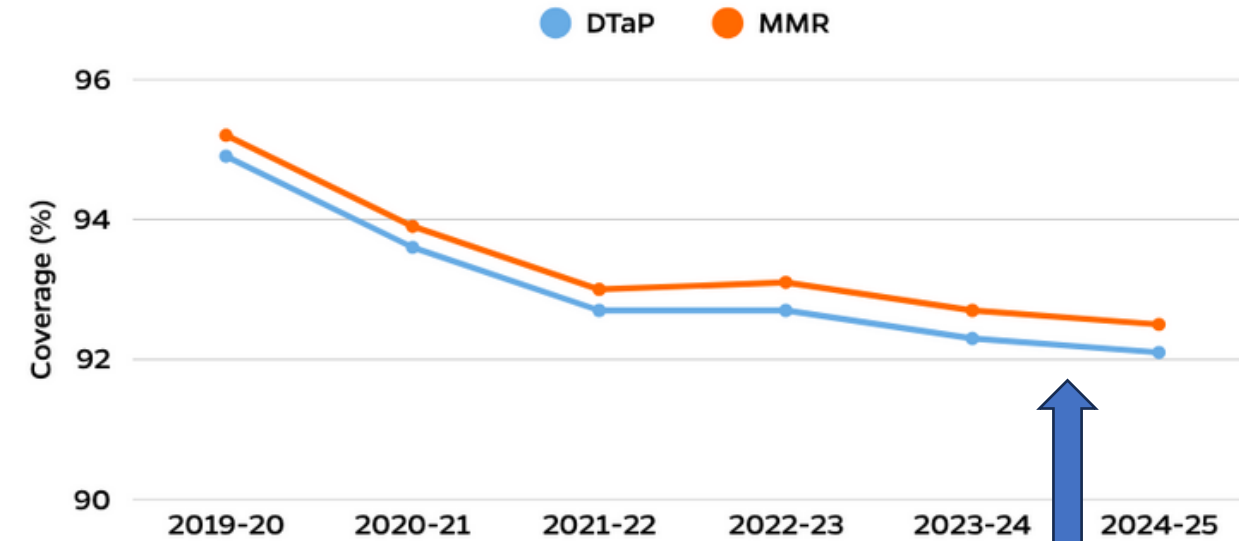
A decorative vertical bar on the left side of the slide, consisting of a dark blue outer section and a lighter blue inner section.

# National U.S.

# US National Trends 2019-2025 **Coverage declining, exemptions increasing**

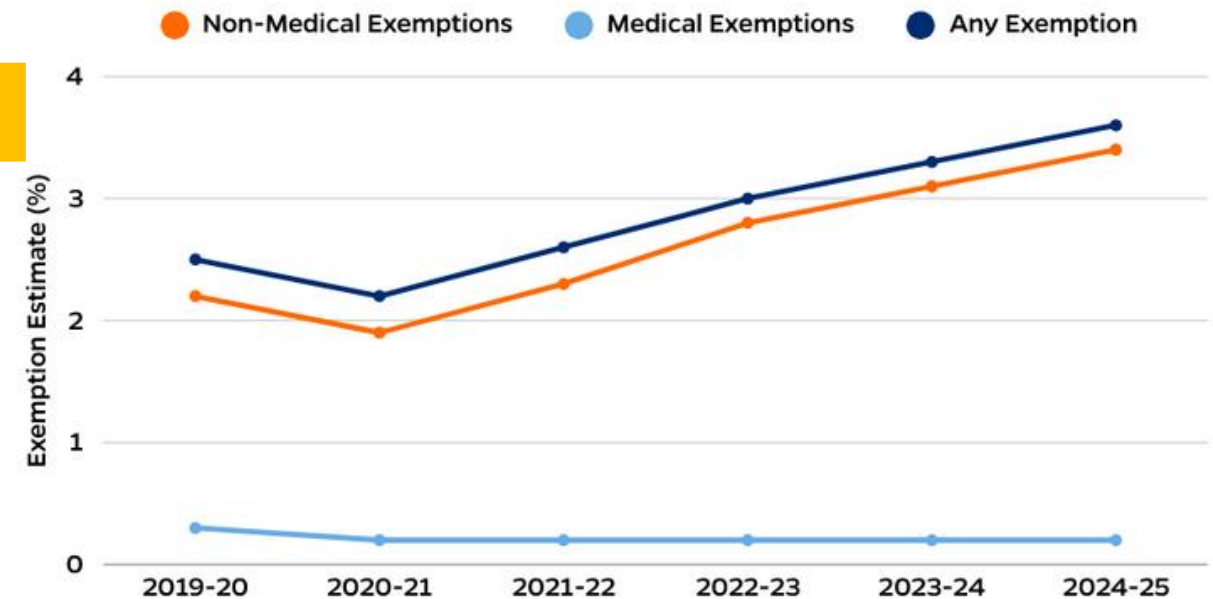
measles, mumps, and rubella (MMR)  
diphtheria, tetanus, and pertussis (DTaP)

Less people vaccinated negatively impacting  
**VACCINE PREVENTABLE DISEASES**



JHUBSPH <https://publichealth.jhu.edu/ivac/2025/across-the-us-childhood-vaccination-rates-continue-to-decline/>  
CDC [https://www.cdc.gov/schoolvaxview/data/index.html#cdc\\_data\\_surveillance\\_section\\_2-new-findings-on-vaccination-coverage-and-exemptions-among-kindergartners-2024-2025-school-year](https://www.cdc.gov/schoolvaxview/data/index.html#cdc_data_surveillance_section_2-new-findings-on-vaccination-coverage-and-exemptions-among-kindergartners-2024-2025-school-year)

Need above 95% of vaccine coverage or  
people vaccinated for herd immunity  
(community protection) against measles



Source: CDC, SchoolVaxView

# Delaware County School Vaccination Rates



Pennsylvania  
Department of Health

School Immunization Summary by County both Public and Private Schools

School Year: 2024 - 2025

County: 23 - Delaware

Grade	Total Students Enrolled	DTaP/ DTP/DT 4 Doses or More	Polio 4 Doses or More	MMR 2 Doses or More	HEPB 3 Doses or More	Varicella Had Disease	Varicella 2 Doses	Tdap/Td 1 Dose	MCV 1 Dose	MCV (16+) 1 Dose	MCV 2 Doses	Number Medical Exempt	Number Religious Exempt	Number Philosophical Exempt	Number Provisionally Enrolled	Number Denied Admission	Number Non- Compliant and Attending
Kindergarten - Total	6,346	6,005	5,981	5,983	6,077	77	5,895					20	119	42	49	7	281
<b>Percentage:</b>		94.6%	94.2%	94.3%	95.8%	1.2%	92.9%					0.3%	1.9%	0.7%	0.8%	0.11%	4.4%
7th Grade - Total	7,046	6,854	6,828	6,835	6,833	10	6,823	6,281	6,270			22	86	85	50	39	700
<b>Percentage:</b>		97.3%	96.9%	97.0%	97.0%	0.1%	96.8%	89.1%	89.0%			0.3%	1.2%	1.2%	0.7%	0.55%	9.9%
12th Grade - Total	7,065	6,920	6,931	6,962	6,937	43	6,907	6,924		202	6,468	24	85	74	72	19	515
<b>Percentage:</b>		97.9%	98.1%	98.5%	98.2%	0.6%	97.8%	98.0%		2.9%	91.5%	0.3%	1.2%	1.0%	1.0%	0.27%	7.3%

Number of schools reporting: 175

Total numbers for each grade include all children enrolled in school for that county, including home-school enrollments.

Source: PA DOH <https://www.pa.gov/content/dam/copapwp-pagov/en/health/documents/topics/documents/programs/immunizations/School%20Immunization%20Survey%20Summary%20by%20County%202024-2025.xls>

## Comparison of 20<sup>th</sup> Century Annual Morbidity and Current Morbidity: Vaccine-Preventable Diseases

Disease	20th Century Annual Morbidity <sup>†</sup>	2024 Reported Cases <sup>††</sup>	Percent Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	1	> 99%
Measles	530,217	266	> 99%
Mumps	162,344	358	> 99%
Pertussis	200,752	35,435	82%
Polio (paralytic)	16,316	0	100%
Rubella	47,745	9	> 99%
Congenital Rubella Syndrome	152	0	100%
Tetanus	580	32	94%
<i>Haemophilus influenzae</i>	20,000	25*	> 99%

<sup>†</sup> JAMA. 2007;298(18):2155-2163

<sup>††</sup> CDC. National Notifiable Diseases Surveillance System, Weekly Tables of Infectious Disease Data. Atlanta, GA. The Office of Public Health Data, Surveillance, and Technology (OPHDST). Available at: [Weekly statistics from the National Notifiable Diseases Surveillance System \(cdc.gov\)](https://www.cdc.gov/nndss/weekly-tables/). Data submitted (U.S. Residents, excluding U.S. Territories) through Dec 28, 2024; accessed on Jan 30, 2025; diphtheria and polio case counts reported by CDC Program.

\**Haemophilus influenzae* type b (Hib) < 5 years of age. An additional 8 cases of Hib are estimated to have occurred among the 181 notifications of *Haemophilus influenzae* (< 5 years of age) with unknown serotype.

National Center for Immunization & Respiratory Diseases  
Historical Comparisons of Vaccine-Preventable Disease Morbidity in the U.S.



**Morbidity or  
disease  
occurrence  
significantly  
decreased  
(1901 – 2000)**

3/05/2025



## Comparison of Pre-Vaccine Era Estimated Annual Morbidity with Current Estimate: Vaccine-Preventable Diseases

Number with diseases significantly decreased with vaccines

Disease	Pre-Vaccine Era Annual Estimate	2022 Estimate (unless otherwise specified)	Percent Decrease
Hepatitis A	117,333 †	11,500 *	90%
Hepatitis B (acute)	66,232 †	13,300 *	80%
Pneumococcus (invasive)			
all ages	63,067 †	17,400 #	72%
< 5 years of age	16,069 †	900 #	94%
Rotavirus (hospitalizations, < 3 years of age)	62,500 ††	18,400 ###	71%
Varicella	4,085,120 †	34,238 ###	99%

† JAMA. 2007;298(18):2155-2163

†† CDC. MMWR. February 6, 2009 / 58(RR02);1-25

\* CDC. Viral Hepatitis Surveillance - United States, 2021

# CDC. Unpublished, Active Bacterial Core Surveillance, 2021

## New Vaccine Surveillance Network 2022 data (unpublished); U.S. rotavirus disease now has biennial pattern

### CDC. Varicella Program 2022 data (unpublished, provisional and subject to change)

National Center for Immunization & Respiratory Diseases

Historical Comparisons of Vaccine-Preventable Disease Morbidity in the U.S.







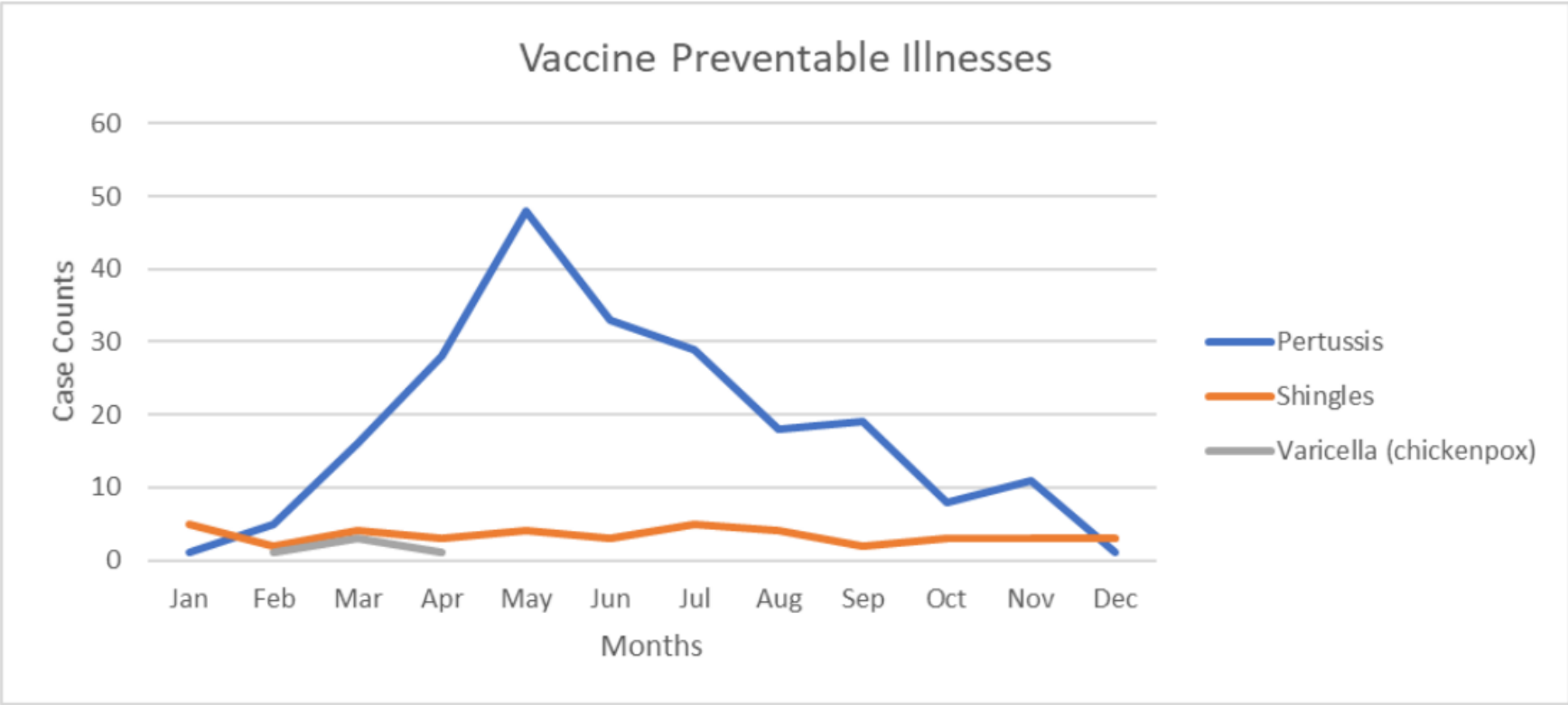
Delaware County, PA

# Delco 2024

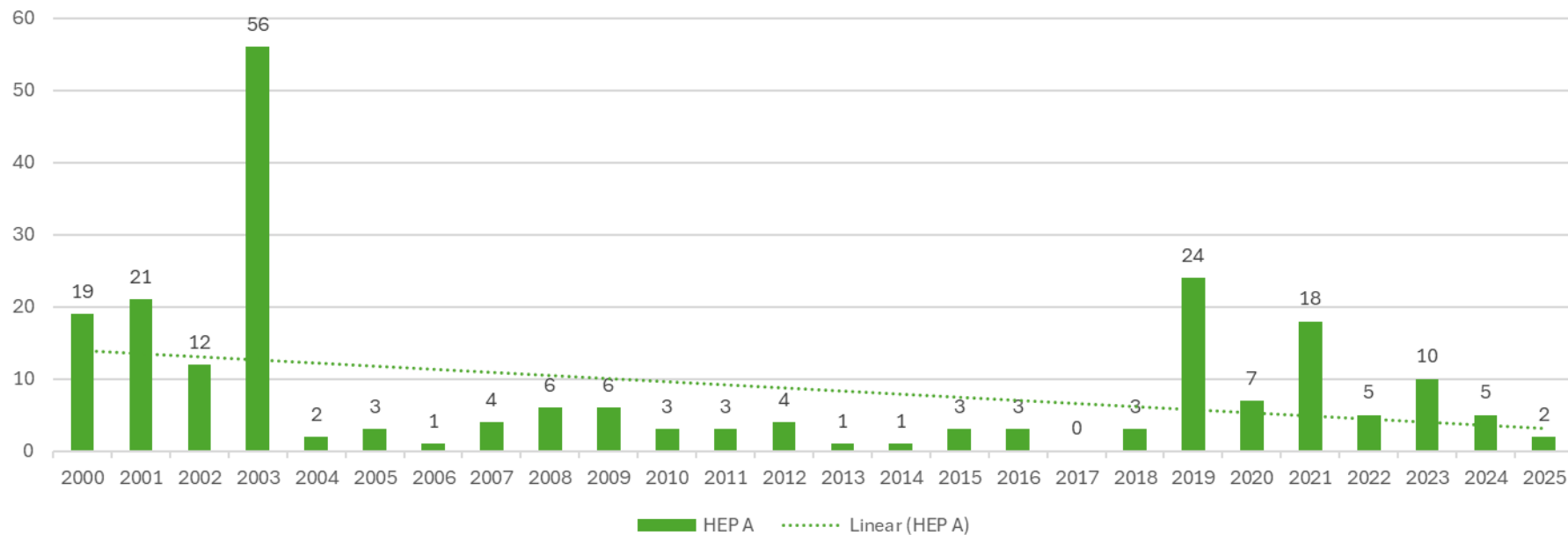
Vaccine Preventable Illness Counts over 2024 by Month

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	YTD
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	0	0	0	0	0	0	0	0	0	0	0	0	0
Pertussis	1	5	16	28	48	33	29	18	19	8	11	1	217
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0
Varicella (Chickenpox)	0	1	3	1	0	0	1	0	0	1	0	1	8
Shingles	5	2	4	3	4	3	5	4	2	3	3	3	41

Decreasing  
pattern in  
2024 Delco  
Pertussis,  
*slight* decline  
in Shingles,  
Varicella  
(Chickenpox)



### HEP A



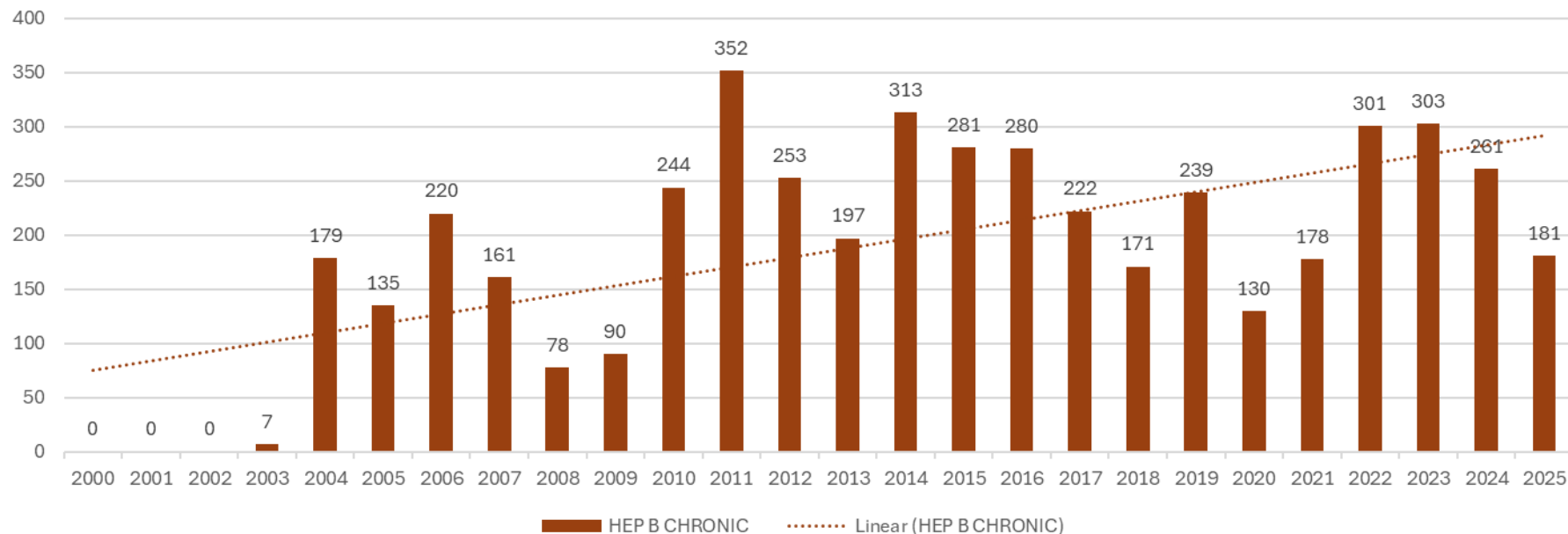
Decreasing for  
Hepatitis A – **Delco**  
2000 to 2025 Nov  
14<sup>th</sup>

Increasing for  
Hepatitis B Chronic

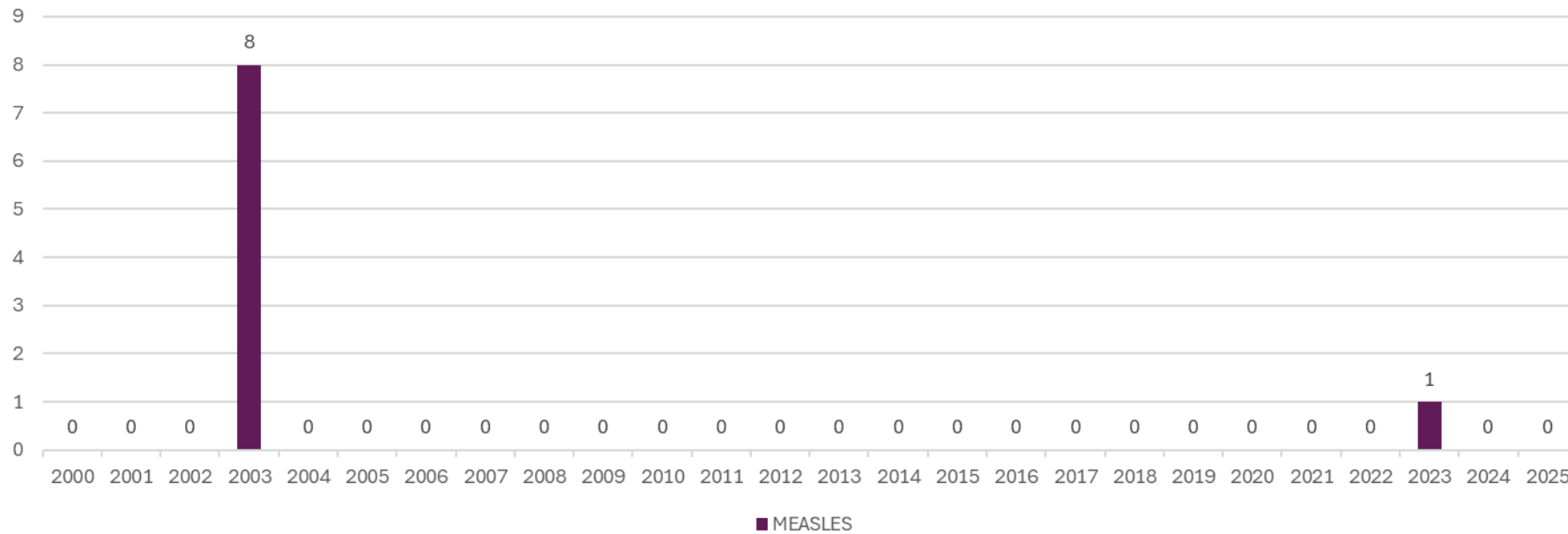
US ~declines in  
Hep B Chronic in  
children and  
adolescents, due  
to universal  
vaccine  
recommendations,

US adults Hep B  
Chronic increasing  
due to immigration  
of infected persons  
from highly  
endemic  
countries.[10,11](#)

### HEP B CHRONIC

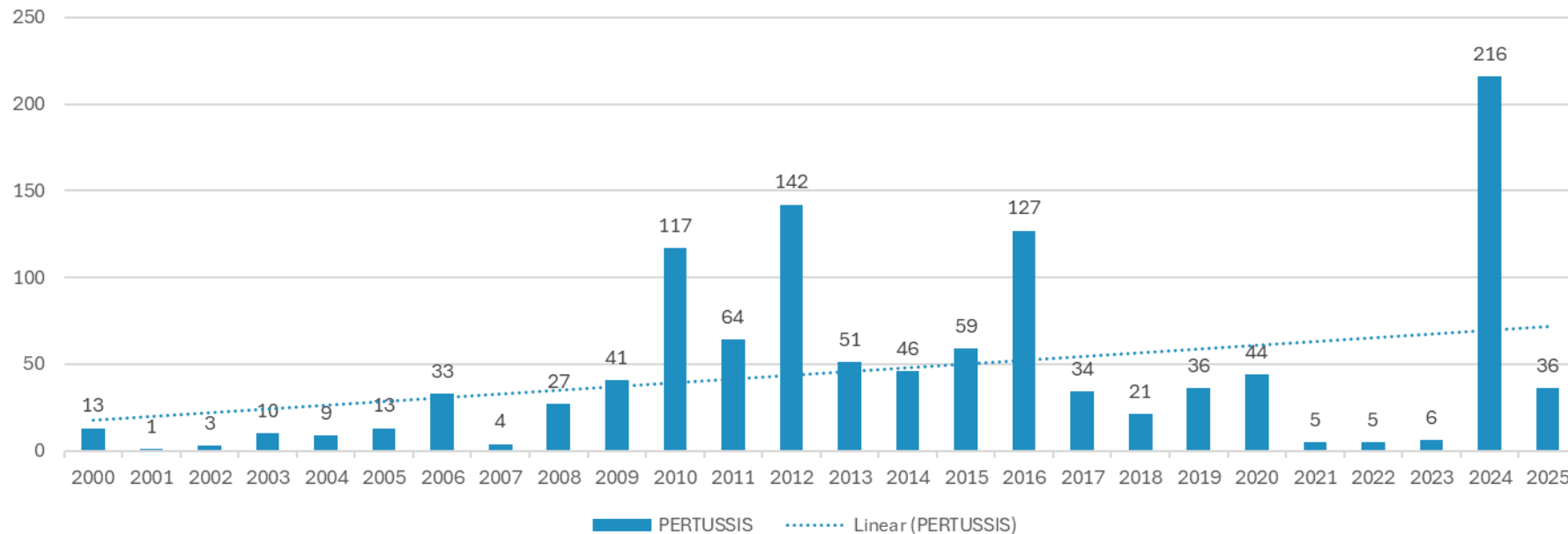


## MEASLES



2000-Nov 14th 2025

## PERTUSSIS

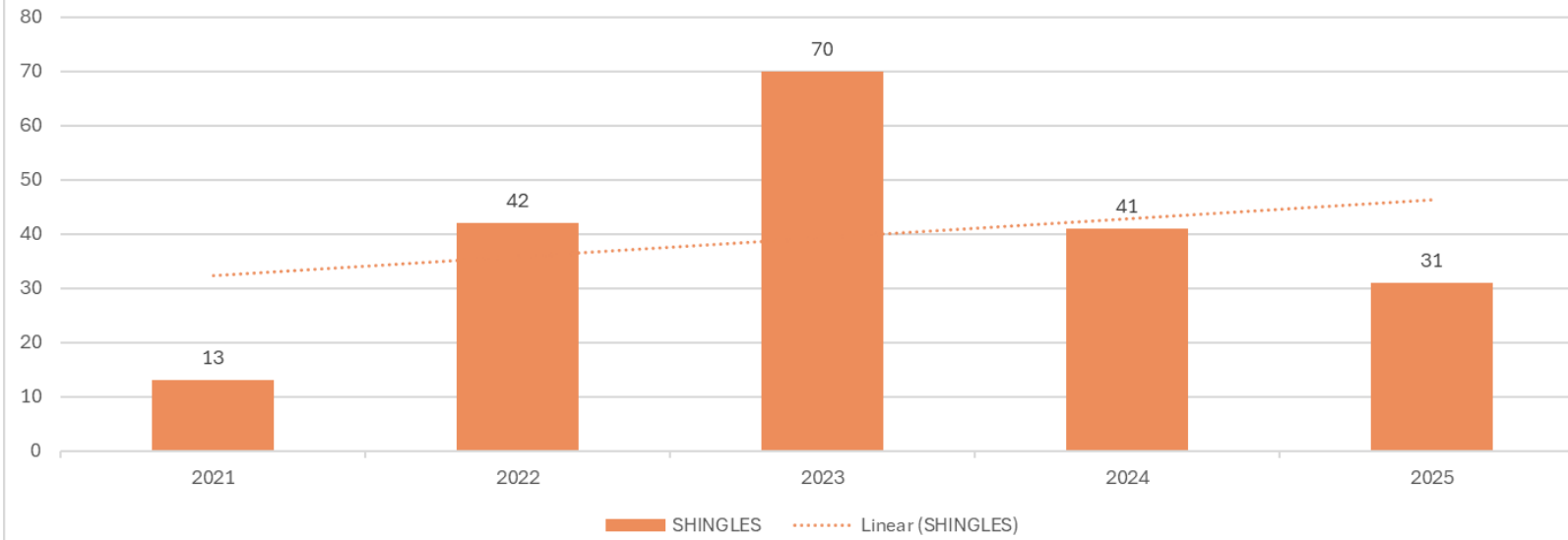


Increasing for  
Pertussis - Delco  
2000 to 2025 Nov  
14<sup>th</sup>

US 6x higher in  
[2024](#) compared to  
[2023](#). **Elevated in  
2025** compared to  
immediately before  
the pandemic.

## SHINGLES

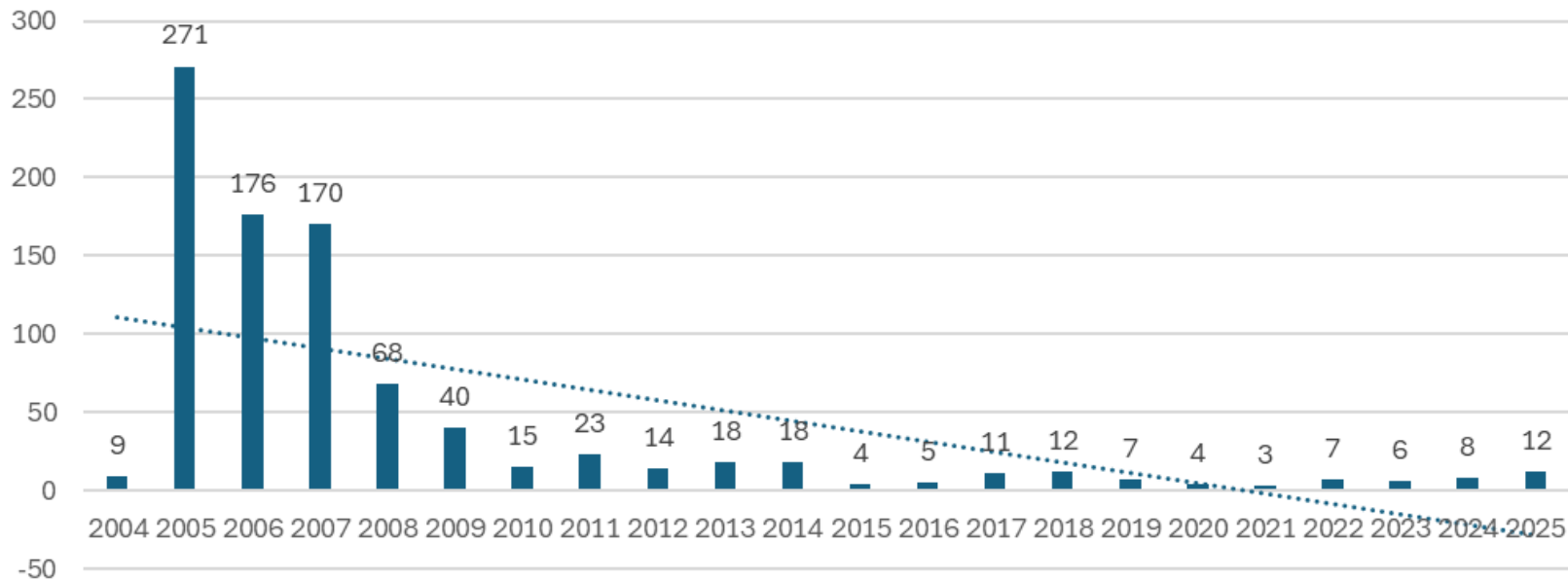
## Shingles reactivation of the chickenpox virus



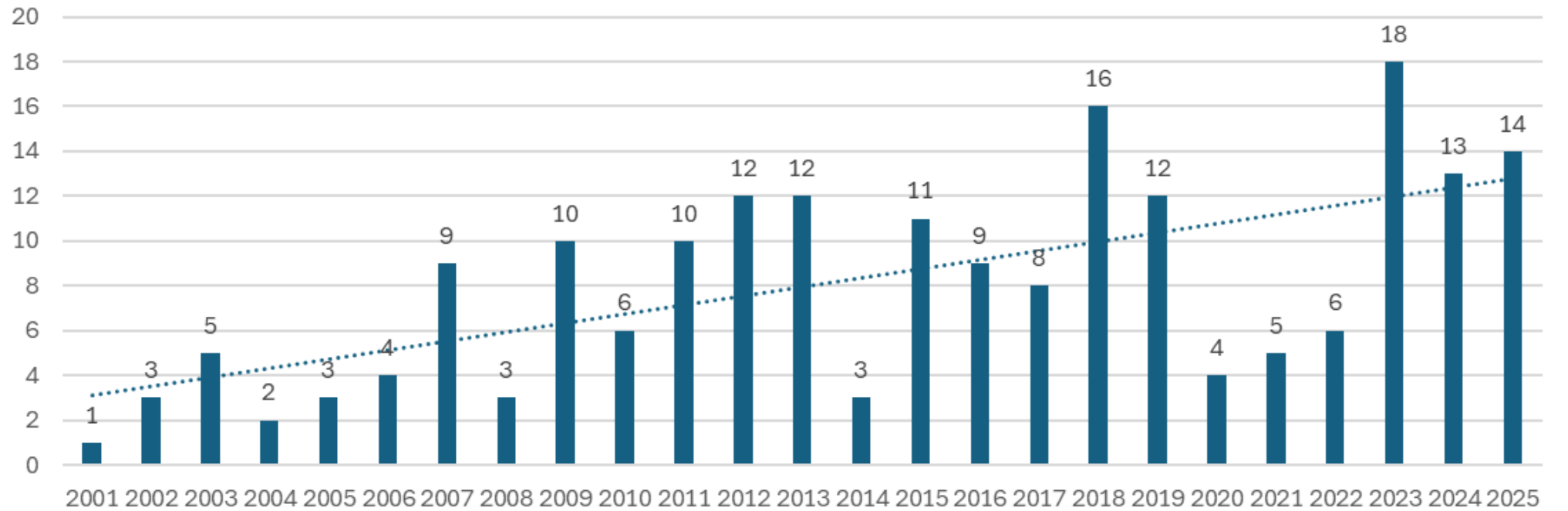
Increasing for  
Shingles

Decreasing for  
Chickenpox -  
Delco 2000 to  
2025 Nov 14th

## Varicella (Chickenpox)



## Haemophilus influenzae (bacteria H Flu)

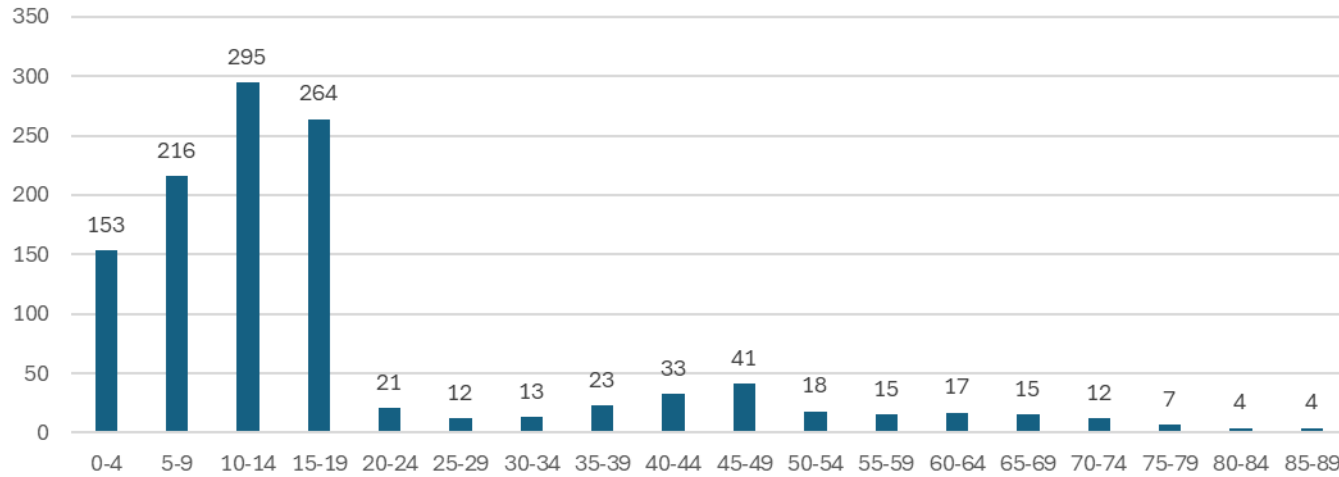


Increasing for  
bacterial  
Hemophilus  
influenza H Flu -  
Delco 2000 to  
2025 Nov 14th

Infections range  
from mild, like ear  
infections, to  
serious, like  
bloodstream  
infections.

<https://www.cdc.gov/h1-disease/about/index.html>

Pertussis 2003-Nov 14th 2025 (n=1163)

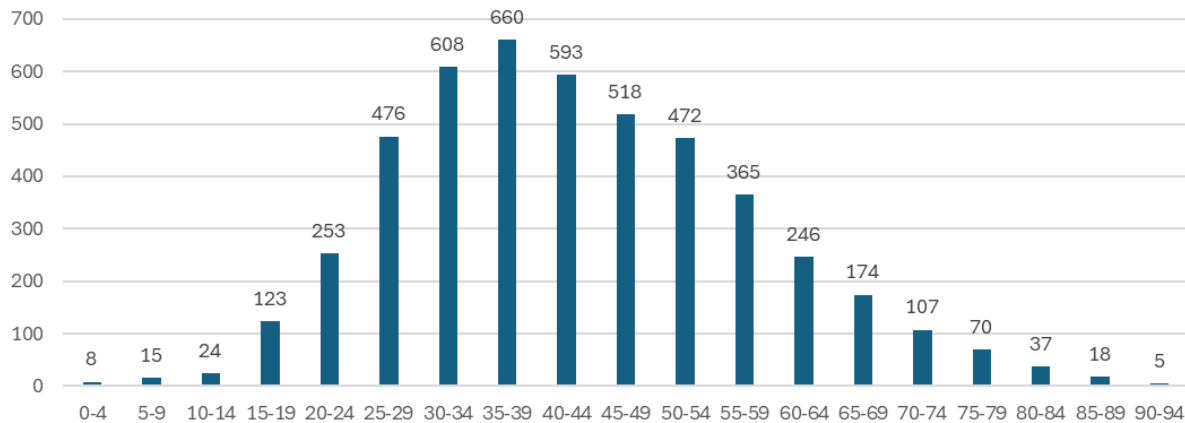


Diseases impact  
on age groups

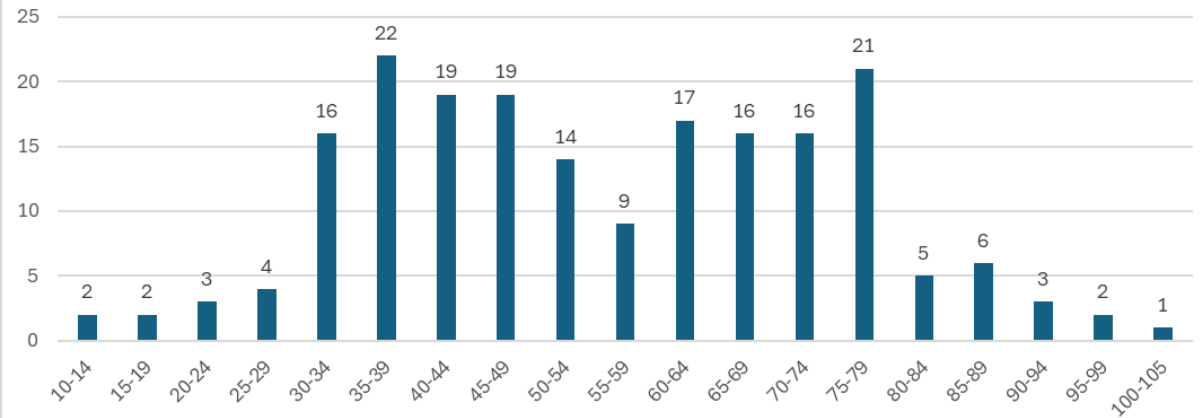
Pertussis –  
younger

Hep B Shingles –  
older adults Delco  
2000 to 2025 Nov  
14th

Hepatitis B Chronic 2004-Nov 14th 2025 (n=4,772)



Shingles 2021-Nov 14th 2025 (n=197)



*Thank you!!*

Victor Alos Rullan, DMD, MPH, MS  
[rullanv@co.Delaware.pa.us](mailto:rullanv@co.Delaware.pa.us)  
Ph/Fax 484-763-3113