

Long-Term Care Healthcare-Associated Infections in 2025: Analysis of 30,967 Reports From Pennsylvania

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Keywords: nursing homes, annual report, healthcare-associated infections, HAI, infection rates, resident days

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Disclosure: The authors declare that they have no relevant or material financial interests.

Submitted

March 18 2026

Accepted

March 30, 2026

Published

April 27, 2026

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Kepner S, Cutting D, Jones R. Long-Term Care Healthcare-Associated Infections in 2025: Analysis of 30,967 Reports From Pennsylvania. *Patient Safety*. 2026;8(2):159999. doi:10.33940/001c.159999

Abstract

Background: The Pennsylvania Patient Safety Reporting System (PA-PSRS) is the largest patient safety data repository of its kind in the United States. The PA-PSRS database contains over 5.8 million reports, including more than 473,000 long-term care (LTC) healthcare-associated infection (HAI) reports.

Methods: LTC HAI data from PA-PSRS were extracted on March 1, 2026. Infection counts were calculated based on report submission date, and rates were calculated based on infection confirmation date. Reports from LTC facilities and specific care areas were included in rate calculations if resident and device days were also entered in PA-PSRS for the corresponding month.

Results: In 2025, Pennsylvania's LTC facilities submitted 30,967 infection reports to PA-PSRS, a 16.9% increase over the prior year and the fourth consecutive annual increase, with all four increases exceeding 10%. The overall infection rate was 1.25 infections per 1,000 resident days, representing a 15.7% increase from 2024. The

2025 rate also established a significant four-year increasing linear trend since the low point of 0.77 in 2021 ($R^2=0.989$, $p=0.0005$). Infection rates increased across all regions of the state except the Northeast, which remained unchanged, with the largest increase observed in the Southeast region, where the rate rose by 0.26 points (32.9%) from 2024 to 2025. The overall infection rate increased due to rising rates across all infection types, except for device-related bloodstream infections, for which the rate remained the same. Respiratory tract infections had the largest increase in both number and percentage, driven largely by influenza, which rose by 1,652 reports (117.7%). Reports of gastrointestinal infections increased as well, attributable to an 84.7% increase in norovirus.

Conclusion: In 2025, the number of infection reports submitted to PA-PSRS and the overall infection rate increased, due to a rise in all infection types except for device-related bloodstream infections. Respiratory tract infections, particularly influenza, showed the most substantial increase.

Introduction

The Pennsylvania Patient Safety Reporting System (PA-PSRS) is the largest patient safety data repository of its kind in the United States. In addition to over 5.3 million patient safety event reports from hospitals, ambulatory surgical facilities, abortion facilities, and birthing centers, the PA-PSRS database contains more than 473,000 long-term care (LTC) healthcare-associated infection (HAI) reports submitted from 2009 through 2025, the most recent year included in this analysis.

Methods

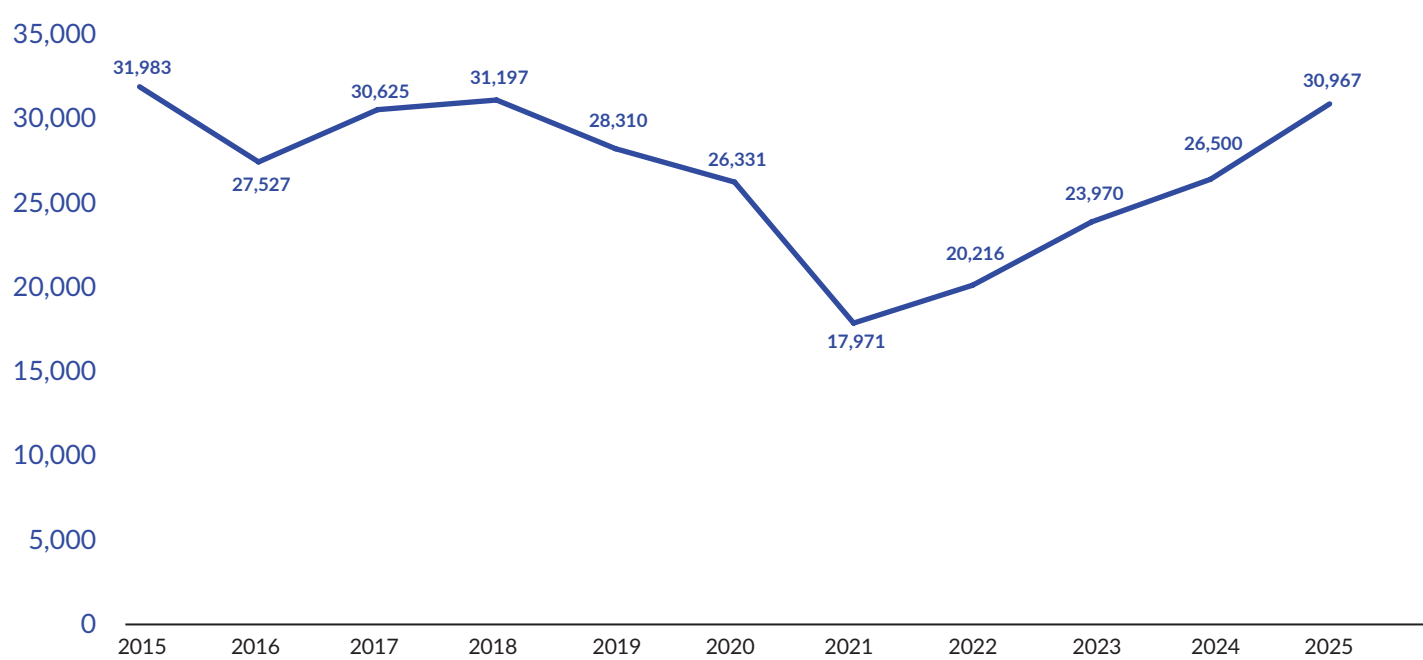
The LTC data from PA-PSRS^{a,1} were extracted on March 1, 2026, to allow time for users to complete the entry of all 2025 resident and device utilization days, which are used for calculating rates. Report counts are based on the submission date, while overall infection rates are calculated per 1,000 resident days using the infection confirmation date to align infections with the period in which resident days occurred. Rates for infections associated with urinary catheters and central lines are calculated per 1,000 urinary catheter days or 1,000 central line days, respectively. A report is included in rate calculations if resident and/or device days were entered in PA-PSRS for the corresponding month and care area. Unless otherwise stated, statistical tests are conducted at a 0.05 significance level.

Results

Pennsylvania’s LTC facilities submitted 30,967 infection reports to PA-PSRS in 2025, a 16.9% increase over the prior year and the fourth consecutive annual increase, with all four increases exceeding 10% (see **Figure 1**). As shown in **Figure 2**, the overall infection rate in 2025 was 1.25 infections per 1,000 resident days, representing a 15.7% increase from 2024. The 2025 rate also established a significant four-year increasing linear trend since the low point of 0.77 in 2021 ($R^2=0.989$, $p=0.0005$).

Figure 3, which displays infection rates by region, shows that infection rates increased from 2024 to 2025 across all regions of the state, except for the Northeast, which remained at 1.53. The North Central region had the highest infection rate in 2025, at 1.63 reports per 1,000 resident days, whereas the Southeast region had the lowest rate at 1.05. Although the Southeast rate remained the lowest of all regions in 2025, it showed the largest increase, rising by 0.26 points (32.9%) from 2024 to 2025. The distribution of LTC infection reports and infection rates by region is shown in **Table 1**.

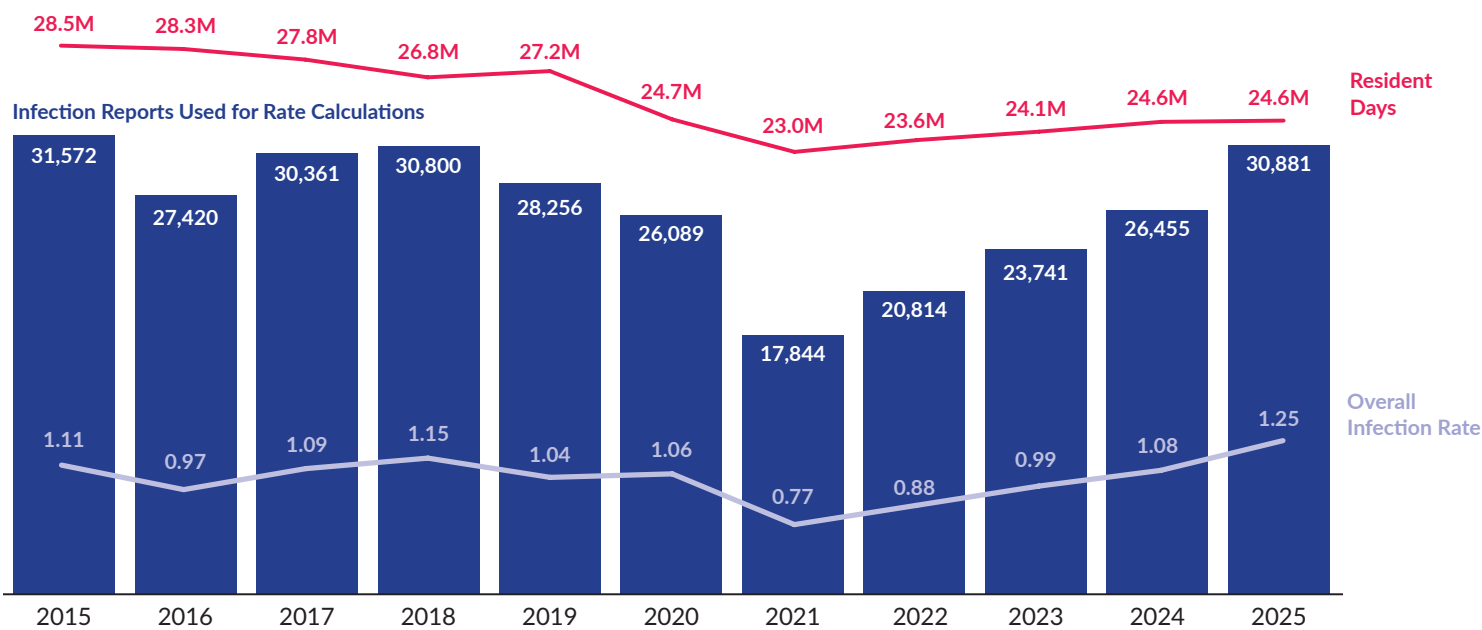
Figure 1. LTC Infection Reports Submitted to PA-PSRS by Year



Note: Report counts are based on the report submission date. Numbers shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date.

^aPA-PSRS is a secure, web-based system through which Pennsylvania long-term care facilities submit reports of healthcare-associated infections in accordance with mandatory reporting laws outlined in the Medical Care Availability and Reduction of Error (MCARE) Act (Act 52 of 2007). All reports submitted through PA-PSRS are confidential and no information about individual facilities or providers is made public.

Figure 2. PA-PSRS LTC Infection Reports, Resident Days, and Overall Infection Rates per 1,000 Resident Days by Year



Note: The number of infection reports shown for each year is based on the infection confirmation date, rather than the report submission date, ensuring alignment with the time frame in which resident days occurred. Reports were excluded from the rate calculations if a facility did not report resident days for the corresponding month. Numbers and rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff dates.

Figure 3. PA-PSRS LTC Infection Rates per 1,000 Resident Days by Region—2024 Versus 2025

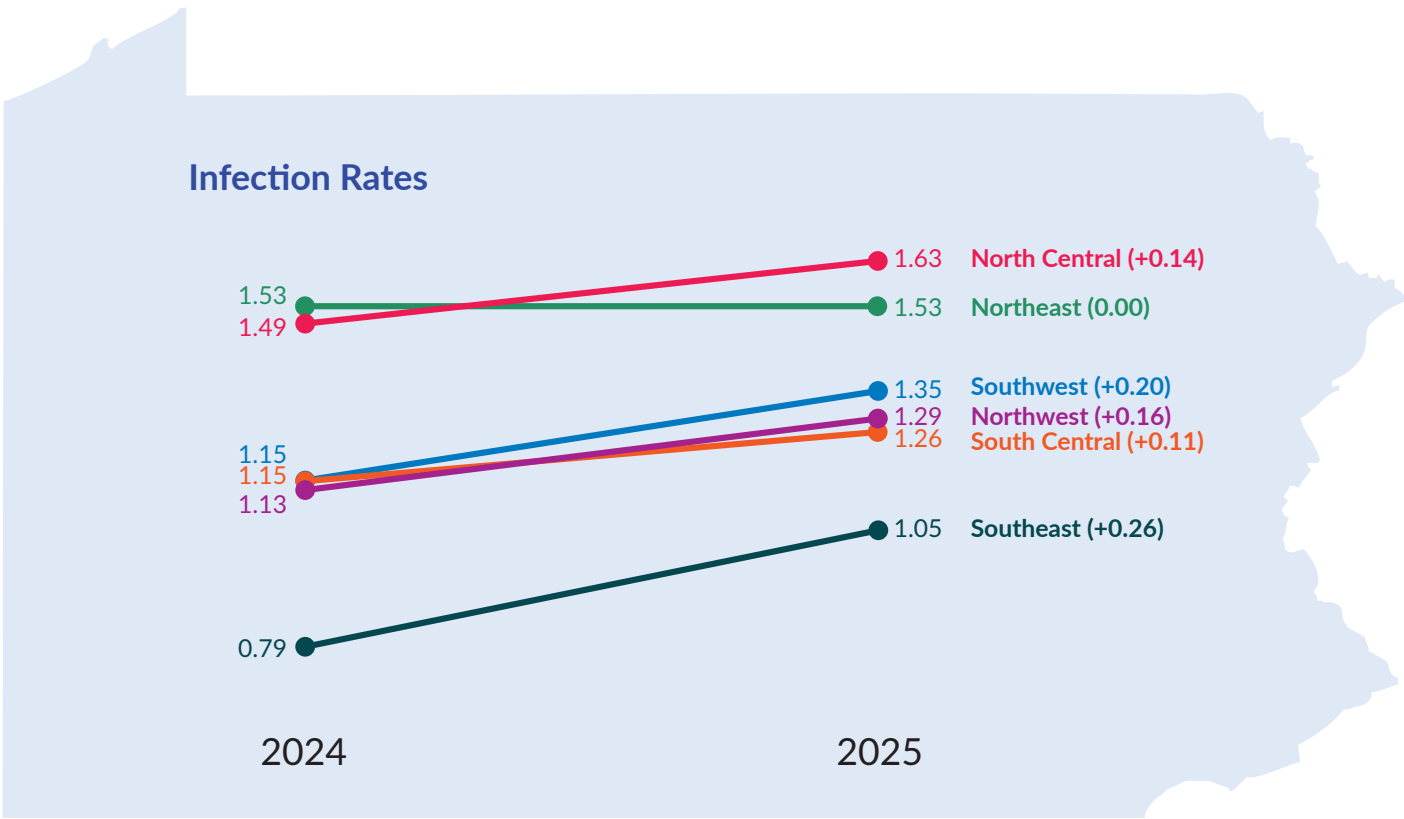


Table 1. PA-PSRS LTC Infection Reports and Infection Rates per 1,000 Resident Days by Region

Region	2024 Infection Reports	2024 Rate per 1,000 Resident Days	2025 Infection Reports	2025 Rate per 1,000 Resident Days
North Central	2,258	1.49	2,490	1.63
Northeast	4,953	1.53	4,933	1.53
Southwest	5,383	1.15	6,299	1.35
Northwest	2,435	1.13	2,826	1.29
South Central	3,780	1.15	4,189	1.26
Southeast	7,646	0.79	10,144	1.05
Total	26,455	1.08	30,881	1.25

Note: The number of infection reports shown for each year is based on the infection confirmation date, rather than the report submission date, ensuring alignment with the time frame in which the resident days occurred. Reports were excluded from the rate calculation if a facility did not report resident days for the corresponding month. Numbers and rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date.

LTC Healthcare-Associated Infection Types and Subtypes

LTC facility reports submitted to PA-PSRS are classified into five main infection types (**Figure 4**), each further divided into specific subtypes (**Table 2**). **Figure 4** and **Table 2** show the distribution of reports across infection types and subtypes, respectively, for the past four years. Across this period, skin and soft tissue infections (SSTIs) have been the most frequently reported type, reflecting the predominance of the cellulitis, soft tissue, or wound infection subtype. Symptomatic urinary tract infection (SUTI) and pneumonia were also among the most frequently reported subtypes throughout the four-year period.

In 2025, respiratory tract infections (RTIs) showed the largest increase in both number and percentage, moving from the third to the second most frequently reported infection type after three consecutive years behind urinary tract infections. This shift was driven largely by influenza, which showed the greatest increase among all subtypes, rising by 1,652 reports (117.7%). Gastrointestinal infections also showed a large percentage increase in 2025 (31.5%), largely reflecting an 84.7% increase in norovirus reports.

Care Area

Table 3 presents the distribution of reports submitted in 2025 by infection type and care area, and **Table 4** shows the corresponding distribution by infection subtype. Skilled nursing/short-term rehabilitation units accounted for one-third of all infection reports (33.7%; 10,440 of 30,967). Across care areas, SSTIs were the most reported infection type, except in ventilator-dependent units, where RTIs comprised 61.1% (193 of 316) of all reports. At the subtype level, the largest concentration of reports was seen with cellulitis, soft tissue, or wound infection in skilled nursing/short-term rehabilitation units. The highest proportion observed for any infection subtype in any care area was in ventilator-dependent units, where pneumonia reports accounted for 46.8% (148 of 316) of all reports.

LTC Healthcare-Associated Infection Rates

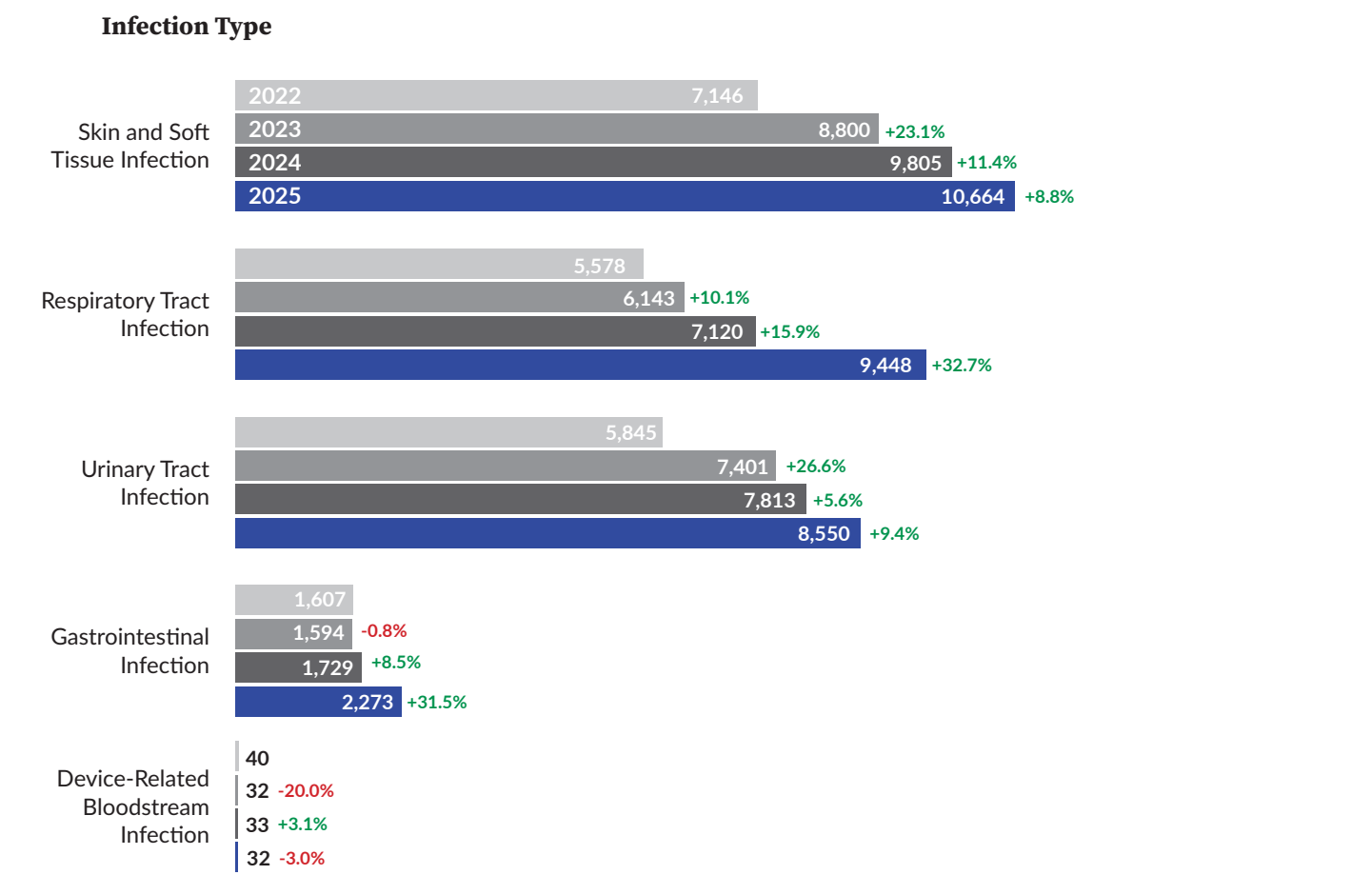
Figure 5 shows rates per 1,000 resident days for the five main infection types for 2022 through 2025. The overall infection rate increased from 1.08 in 2024 to 1.25 in 2025 due to rising rates across all infection types, except for device-related bloodstream infections, which essentially remained the same. Of note is the comparatively higher slope exhibited by the Respiratory Tract Infection line among the segments going from 2024 to 2025 and how it intersects with the Urinary Tract Infection line.

Figure 6 and **Table 5** display rates for each infection subtype from 2022 through 2025. The influenza infection subtype saw the largest increase from 2024 to 2025, rising from 0.056 to 0.127 reports per 1,000 resident days, a 126.8% increase. Conjunctivitis and *C. diff* were the only infection subtypes that showed a decrease in rate from 2024 to 2025.

Table 6 displays infection rates by year based on care area and infection subtype. From 2024 to 2025, rates increased across all care areas for both influenza and norovirus, with the exception of ventilator-dependent units. *C. diff* was the only infection subtype to show a decrease in rates across all five care areas.

Figure 7 and **Table 7** display infection rates for seasonal infection subtypes (i.e., influenza, influenza-like illness, lower respiratory tract infection [LRTI], norovirus, and pneumonia) by quarter from 2022 through 2025. These rates are calculated as the number of infections by quarter per 1,000 resident days. The rates for influenza and norovirus had a sizable jump in Q1 2025, but the percentage increase for influenza was several orders of magnitude larger than the percentage increase for norovirus—i.e., a 1,141% increase for influenza from Q4 2024 to Q1 2025 compared to a 208% increase for norovirus.

Figure 4. LTC Infection Reports Submitted to PA-PSRS by Infection Type and Year



Note: Numbers shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date.

Table 2. LTC Infection Reports Submitted to PA-PSRS and Percentage Distribution by Infection Subtype and Year

Infection Type	Infection Subtype	No. of Reports				% of Total				Change in Reports 2024 to 2025	
		2022	2023	2024	2025	2022	2023	2024	2025	Number	Percent
Skin and Soft Tissue Infection	Cellulitis, soft tissue, or wound infection	5,081	6,212	6,797	7,679	25.1%	25.9%	25.6%	24.8%	 882	 13.0%
	Conjunctivitis	1,937	2,483	2,894	2,850	9.6%	10.4%	10.9%	9.2%	 -44	 -1.5%
	Scabies	128	105	114	135	0.6%	0.4%	0.4%	0.4%	 21	 18.4%
Respiratory Tract Infection	Pneumonia	3,005	3,747	3,916	4,559	14.9%	15.6%	14.8%	14.7%	 643	 16.4%
	Influenza	1,058	609	1,404	3,056	5.2%	2.5%	5.3%	9.9%	 1,652	 117.7%
	LRTI	1,451	1,608	1,626	1,659	7.2%	6.7%	6.1%	5.4%	 33	 2.0%
	Influenza-like illness	64	179	174	174	0.3%	0.7%	0.7%	0.6%	 0	 0.0%
Urinary Tract Infection	SUTI	4,589	5,817	6,144	6,666	22.7%	24.3%	23.2%	21.5%	 522	 8.5%
	CAUTI	1,087	1,363	1,411	1,568	5.4%	5.7%	5.3%	5.1%	 157	 11.1%
	ABUTI	169	221	258	316	0.8%	0.9%	1.0%	1.0%	 58	 22.5%
Gastrointestinal Infection	Norovirus	730	707	754	1,393	3.6%	2.9%	2.8%	4.5%	 639	 84.7%
	C. diff	854	872	941	856	4.2%	3.6%	3.6%	2.8%	 -85	 -9.0%
	Bacteriologic gastroenteritis	23	15	34	24	0.1%	0.1%	0.1%	0.1%	 -10	 -29.4%
Device-Related Bloodstream Infection	CLABSI	40	32	33	32	0.2%	0.1%	0.1%	0.1%	 -1	 -3.0%
Totals		20,216	23,970	26,500	30,967	100.0%	100.0%	100.0%	100.0%	4,467	16.9%

Note: Numbers shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date.

LRTI = Lower Respiratory Tract Infection
SUTI = Symptomatic Urinary Tract Infection
CAUTI = Catheter-Associated Urinary Tract Infection
ABUTI = Asymptomatic Bacteremic Urinary Tract Infection
CLABSI = Central Line-Associated Blood Stream Infection

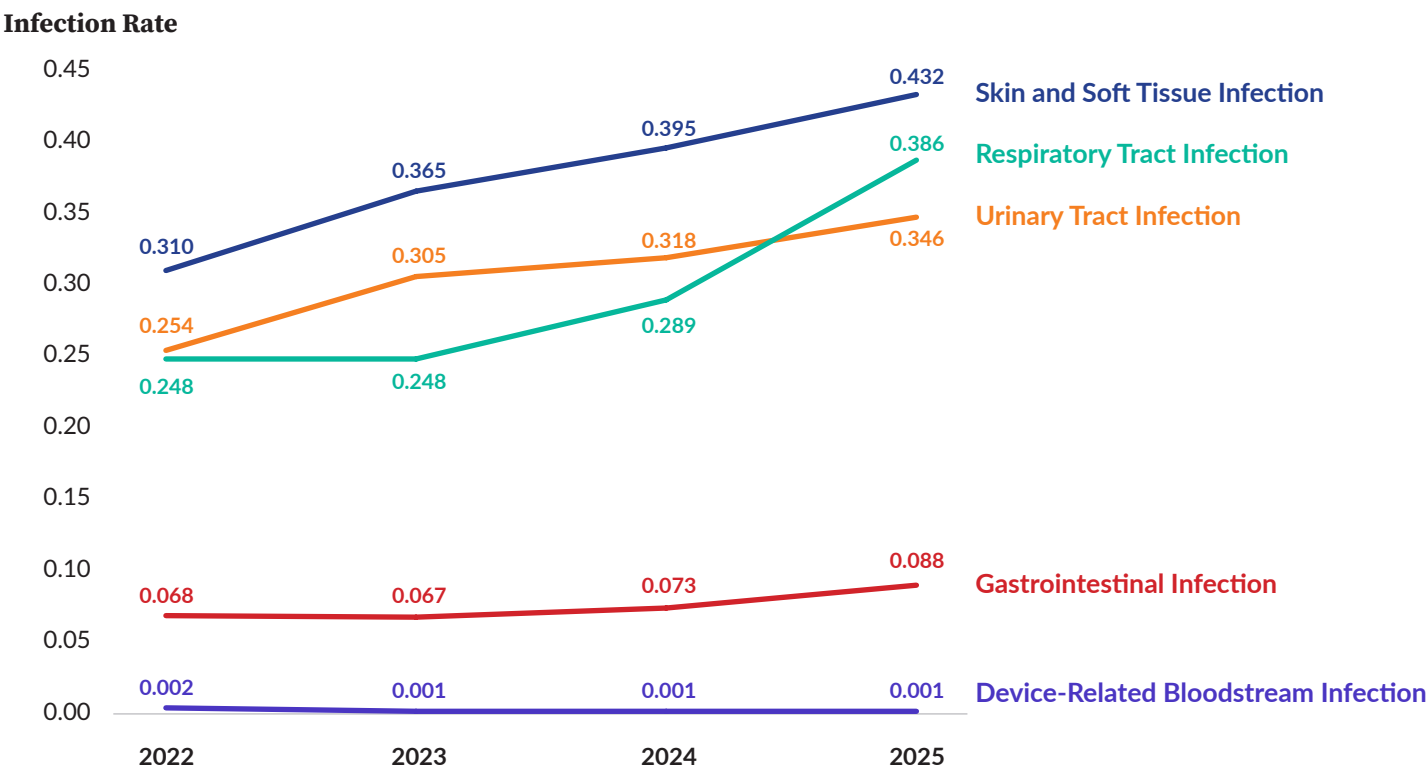
Table 3. LTC Infection Reports Submitted to PA-PSRS in 2025 by Infection Type and Care Area

Infection Type	Skilled Nursing/ Short-Term Rehabilitation Unit	Nursing Unit	Mixed Unit	Dementia Unit	Ventilator- Dependent Unit	Total
Skin and Soft Tissue Infection	3,398	3,557	2,989	642	78	10,664
Respiratory Tract Infection	3,128	2,855	2,754	518	193	9,448
Urinary Tract Infection	3,167	2,603	2,394	351	35	8,550
Gastrointestinal Infection	734	667	678	186	8	2,273
Device-Related Bloodstream Infection	13	9	8	0	2	32
Total	10,440	9,691	8,823	1,697	316	30,967

Table 4. LTC Infection Reports Submitted to PA-PSRS in 2025 by Infection Subtype and Care Area

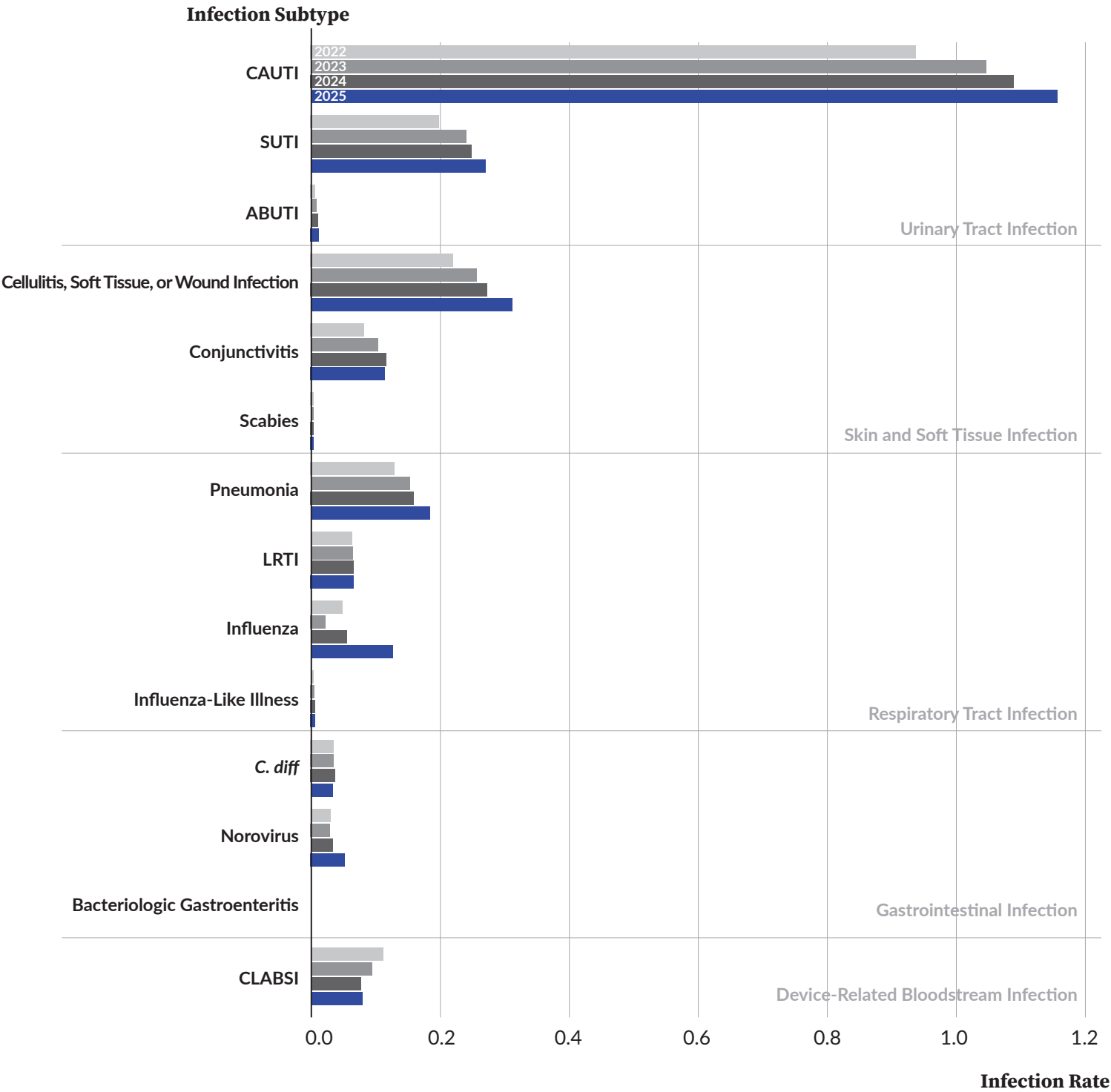
Infection Subtype	Skilled Nursing/ Short-Term Rehabilitation Unit	Nursing Unit	Mixed Unit	Dementia Unit	Ventilator- Dependent Unit	Total
Cellulitis, Soft Tissue, or Wound Infection	2,450	2,603	2,183	385	58	7,679
SUTI	2,447	2,029	1,892	287	11	6,666
Pneumonia	1,494	1,400	1,270	247	148	4,559
Influenza	1,011	932	938	172	3	3,056
Conjunctivitis	909	906	784	231	20	2,850
LRTI	564	493	470	90	42	1,659
CAUTI	593	453	447	53	22	1,568
Norovirus	318	462	450	163	0	1,393
<i>C. diff</i>	400	203	222	23	8	856
ABUTI	127	121	55	11	2	316
Influenza-Like Illness	59	30	76	9	0	174
Scabies	39	48	22	26	0	135
CLABSI	13	9	8	0	2	32
Bacteriologic Gastroenteritis	16	2	6	0	0	24
Total	10,440	9,691	8,823	1,697	316	30,967

Figure 5. PA-PSRS LTC Infection Rates per 1,000 Resident Days by Infection Type



Note: Rates shown for previous years may differ from past publications due to receipt of data or revisions made by reporting facilities after the prior data cutoff date.

Figure 6. PA-PSRS LTC Infection Rates per 1,000 Resident or Device Days by Infection Subtype and Year



Note: Rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date. Although the rates for Bacteriologic Gastroenteritis are greater than zero, they are extremely small and therefore do not produce visible bars in the chart.

Table 5. PA-PSRS LTC Infection Rates per 1,000 Resident or Device Days by Infection Subtype and Year

Infection Subtype	Rates			
	2022	2023	2024	2025
CAUTI	0.938	1.047	1.090	1.157
Cellulitis, Soft Tissue, or Wound Infection	0.221	0.257	0.274	0.312
SUTI	0.199	0.241	0.249	0.271
Pneumonia	0.130	0.154	0.160	0.185
Influenza	0.049	0.023	0.056	0.127
Conjunctivitis	0.083	0.104	0.117	0.115
CLABSI	0.112	0.095	0.078	0.080
LRTI	0.064	0.065	0.066	0.067
Norovirus	0.031	0.030	0.034	0.053
<i>C. diff</i>	0.036	0.036	0.038	0.034
ABUTI	0.007	0.009	0.011	0.013
Influenza-Like Illness	0.004	0.006	0.007	0.007
Scabies	0.005	0.004	0.005	0.005
Bacteriologic Gastroenteritis	0.001	0.001	0.001	0.001

Note: Rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date.

Table 6. PA-PSRS LTC Infection Rates per 1,000 Resident or Device Days by Care Area, Infection Subtype, and Year With Annual Percent Changes

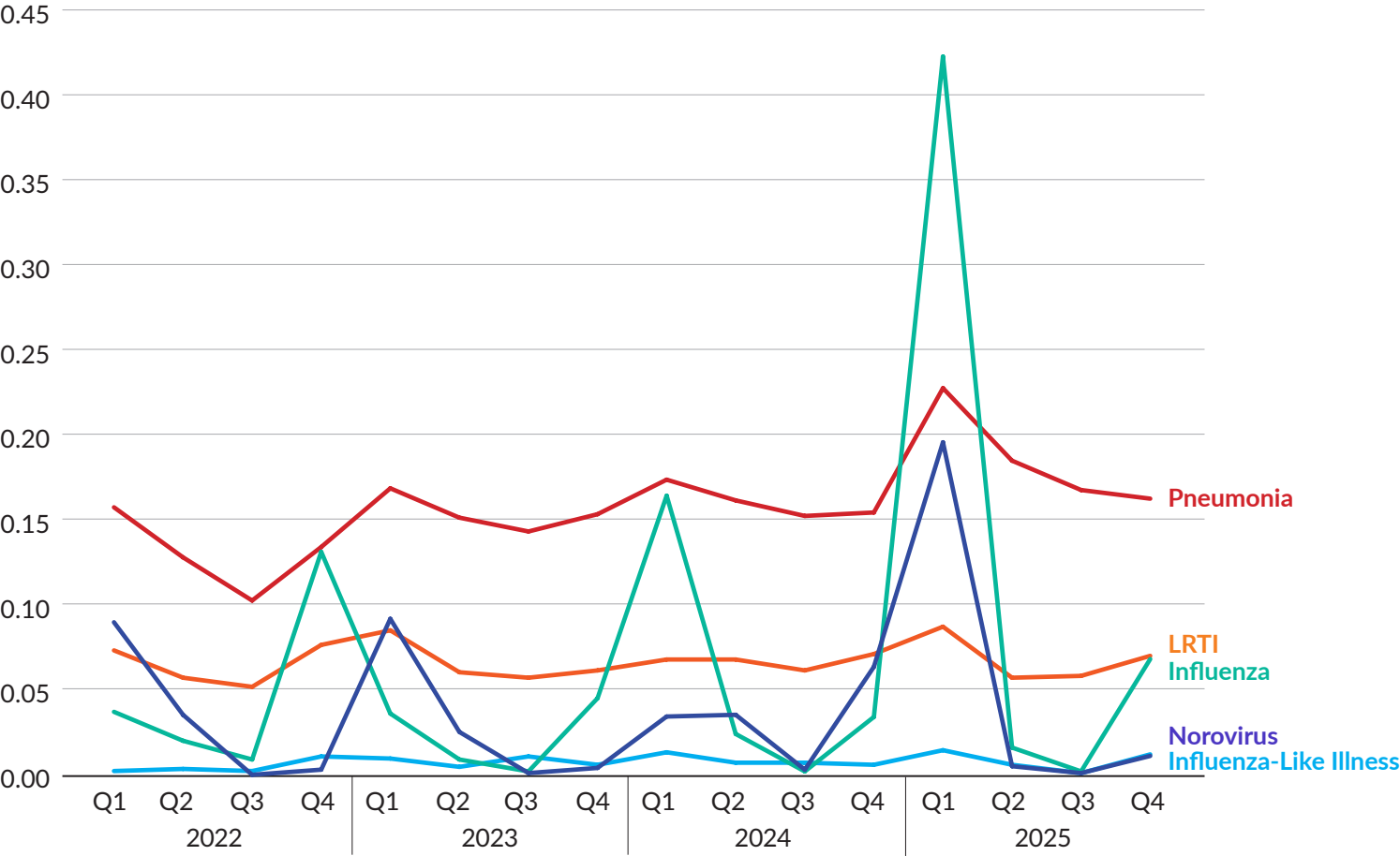
Care Area	Infection Subtype	2022	2023	2024	2025	% Increase/Decrease		
						'22 to '23	'23 to '24	'24 to '25
Dementia Unit	Influenza	0.023	0.018	0.034	0.092	-22.8%	90.5%	171.0%
	Scabies	0.005	0.006	0.005	0.013	23.4%	-19.0%	166.0%
	CAUTI	0.975	0.991	0.746	1.083	1.7%	-24.7%	45.1%
	Norovirus	0.066	0.039	0.062	0.085	-41.6%	61.0%	36.5%
	Pneumonia	0.088	0.102	0.099	0.124	16.1%	-3.4%	25.6%
	Cellulitis, Soft Tissue, or Wound Infection	0.156	0.167	0.175	0.199	6.7%	5.2%	13.8%
	SUTI	0.130	0.132	0.136	0.150	1.6%	3.6%	10.0%
	<i>C. diff</i>	0.012	0.018	0.014	0.011	52.1%	-23.9%	-18.6%
	Conjunctivitis	0.084	0.140	0.150	0.116	66.3%	7.3%	-22.7%
	LRTI	0.061	0.066	0.059	0.045	8.7%	-11.3%	-23.4%
	ABUTI	0.002	0.005	0.010	0.006	123.8%	108.5%	-41.8%
	Influenza-Like Illness	0.002	0.013	0.017	0.005	528.6%	29.5%	-72.5%
	Bacteriologic Gastroenteritis	-	0.001	0.002	-	-	320.0%	-100.0%
	CLABSI	-	-	-	-	-	-	-
Mixed Unit	Influenza	0.053	0.026	0.054	0.143	-51.0%	110.9%	163.6%
	Influenza-Like Illness	0.004	0.007	0.005	0.012	70.7%	-35.7%	160.0%
	Norovirus	0.014	0.029	0.043	0.055	117.8%	46.6%	26.9%
	CLABSI	0.100	0.162	0.072	0.086	61.0%	-55.3%	19.4%
	Pneumonia	0.136	0.162	0.162	0.190	19.3%	-0.1%	17.0%
	Cellulitis, Soft Tissue, or Wound Infection	0.231	0.281	0.285	0.320	21.3%	1.6%	12.1%
	SUTI	0.205	0.258	0.257	0.279	26.0%	-0.4%	8.4%
	Conjunctivitis	0.087	0.110	0.112	0.115	26.2%	2.5%	2.9%
	Scabies	0.003	0.004	0.003	0.003	42.3%	-8.1%	0.0%
	LRTI	0.054	0.063	0.071	0.068	17.4%	12.1%	-4.5%
	CAUTI	0.955	1.217	1.208	1.146	27.5%	-0.7%	-5.1%
	<i>C. diff</i>	0.042	0.040	0.037	0.033	-5.9%	-6.3%	-10.5%
	ABUTI	0.008	0.014	0.010	0.008	85.7%	-33.6%	-15.8%
	Bacteriologic Gastroenteritis	0.001	0.001	0.002	0.001	-45.5%	250.0%	-71.4%
Nursing Unit	Influenza	0.051	0.021	0.049	0.122	-59.3%	138.8%	148.0%
	Norovirus	0.035	0.024	0.028	0.058	-31.9%	17.6%	106.4%
	Influenza-Like Illness	0.004	0.002	0.003	0.004	-37.1%	45.5%	21.9%
	Cellulitis, Soft Tissue, or Wound Infection	0.221	0.255	0.277	0.337	15.3%	8.5%	21.7%
	Scabies	0.004	0.002	0.005	0.006	-40.0%	142.9%	21.6%
	ABUTI	0.007	0.007	0.013	0.015	1.4%	80.0%	17.5%
	Pneumonia	0.107	0.137	0.153	0.179	28.9%	11.2%	17.2%
	LRTI	0.055	0.056	0.056	0.064	2.4%	0.7%	12.8%
	Conjunctivitis	0.072	0.087	0.104	0.116	21.0%	18.8%	12.3%
	SUTI	0.187	0.207	0.245	0.262	10.7%	18.5%	6.7%
	CAUTI	0.959	0.858	1.078	1.116	-10.5%	25.6%	3.5%
	<i>C. diff</i>	0.025	0.025	0.031	0.026	0.8%	23.8%	-18.3%
	CLABSI	0.081	0.080	0.126	0.073	-1.8%	57.7%	-41.8%
	Bacteriologic Gastroenteritis	0.001	0.001	0.001	<0.0005	-14.3%	50.0%	-66.7%

Table 6. (continued)

Care Area	Infection Subtype	2022	2023	2024	2025	% Increase/Decrease		
						'22 to '23	'23 to '24	'24 to '25
Skilled Nursing/ Short-Term Rehabilitation Unit	Influenza	0.053	0.025	0.070	0.129	-52.4%	177.4%	84.0%
	Norovirus	0.034	0.034	0.025	0.040	0.6%	-26.1%	57.1%
	ABUTI	0.008	0.009	0.011	0.016	4.9%	24.4%	50.5%
	Bacteriologic Gastroenteritis	0.002	0.001	0.001	0.002	-46.7%	75.0%	35.7%
	CLABSI	0.136	0.068	0.063	0.073	-50.2%	-7.5%	16.1%
	Pneumonia	0.143	0.157	0.160	0.185	10.3%	1.6%	15.4%
	CAUTI	0.910	1.124	1.088	1.214	23.6%	-3.3%	11.6%
	SUTI	0.225	0.290	0.278	0.305	29.4%	-4.4%	9.8%
	Cellulitis, Soft Tissue, or Wound Infection	0.226	0.259	0.283	0.305	14.5%	9.3%	7.6%
	LRTI	0.074	0.071	0.071	0.071	-3.3%	-1.3%	0.7%
	<i>C. diff</i>	0.047	0.048	0.050	0.049	2.4%	5.2%	-2.6%
	Conjunctivitis	0.084	0.104	0.124	0.114	24.6%	18.9%	-8.5%
	Scabies	0.010	0.007	0.005	0.005	-29.7%	-25.4%	-11.3%
	Influenza-Like Illness	0.005	0.008	0.010	0.008	69.4%	22.9%	-26.5%
Ventilator- Dependent Unit	CAUTI	0.828	0.276	0.309	0.996	-66.7%	12.0%	222.2%
	SUTI	0.164	0.071	0.035	0.098	-56.9%	-50.4%	178.1%
	LRTI	0.507	0.319	0.281	0.349	-37.1%	-11.8%	24.0%
	Cellulitis, Soft Tissue, or Wound Infection	0.363	0.354	0.379	0.439	-2.5%	7.1%	15.7%
	<i>C. diff</i>	0.151	0.113	0.077	0.070	-24.8%	-31.8%	-9.8%
	Pneumonia	1.062	1.105	1.293	1.073	4.1%	17.0%	-17.0%
	Conjunctivitis	0.452	0.220	0.225	0.146	-51.4%	2.4%	-34.9%
	Influenza-Like Illness	-	-	0.007	-	-	-	-100.0%
	ABUTI	-	0.014	-	0.014	-	-100.0%	-
	Bacteriologic Gastroenteritis	-	-	-	-	-	-	-
	CLABSI	0.165	-	-	0.466	-100.0%	-	-
	Influenza	0.007	-	-	0.021	-100.0%	-	-
	Norovirus	-	-	-	-	-	-	-
	Scabies	-	-	-	-	-	-	-

Note: When a dash “-” appears in a cell within the table, it means that the rate is zero. If “<0.0005” appears in a cell, it means that the rate is greater than zero but would otherwise be shown as “0.000” due to rounding to three decimal places. When “-100.0%” appears in a cell, it means that the year to which that percentage reduction applies had a zero rate and the prior year had a nonzero rate. Rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date. Also, percentage increases and decreases were calculated using cell values with greater decimal expansions than what is displayed in the table to provide greater accuracy.

Figure 7. PA-PSRS LTC Infection Rates per 1,000 Resident Days Trending for Seasonal Infection Subtypes by Quarter



Note: Rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date.

Table 7. PA-PSRS LTC Infection Rates per 1,000 Resident Days for Seasonal Infection Subtypes by Quarter

	Influenza	Influenza-Like Illness	LRTI	Norovirus	Pneumonia
2022 Q1	0.037	0.002	0.072	0.089	0.157
Q2	0.020	0.003	0.057	0.035	0.128
Q3	0.009	0.002	0.052	<0.0005	0.103
Q4	0.131	0.009	0.075	0.003	0.134
2023 Q1	0.036	0.008	0.083	0.091	0.168
Q2	0.009	0.004	0.060	0.025	0.151
Q3	0.002	0.009	0.057	0.001	0.143
Q4	0.045	0.005	0.061	0.004	0.153
2024 Q1	0.164	0.011	0.067	0.034	0.173
Q2	0.024	0.006	0.067	0.035	0.161
Q3	0.002	0.006	0.061	0.003	0.152
Q4	0.034	0.005	0.070	0.063	0.154
2025 Q1	0.422	0.012	0.085	0.194	0.226
Q2	0.016	0.005	0.057	0.005	0.184
Q3	0.002	0.001	0.058	0.001	0.167
Q4	0.068	0.010	0.069	0.011	0.162

Note: Rates shown for previous years may differ from past publications due to newly received data or revisions made by reporting facilities after the prior data cutoff date. If “<0.0005” appears in a cell, it means that the rate is greater than zero but would otherwise be shown as “0.000” due to rounding to three decimal places.

Discussion

In 2025, Pennsylvania’s LTC facilities submitted 30,967 infection reports to PA-PSRS and recorded 24.6 million resident days, with an overall infection rate of 1.25 per 1,000 resident days based on eligible reports. This marks a 16.9% increase in total infection reports and a 15.7% rise in the infection rate compared to 2024. Notably, 2025 represents the fourth consecutive annual increase, with the rate rising from 0.77 in 2021 to 1.25 in 2025.

The overall infection rate increased due to rising rates across all infection types except for device-related bloodstream infections. Notably, higher rates of influenza and norovirus were reported in 2025, with a Q1 peak that aligns with expected seasonal patterns but is more pronounced than in prior years. The increase in influenza reporting is consistent with PA-NEDSS (Pennsylvania’s version of the National Electronic Disease Surveillance System) data for the same period.² In addition, the Pennsylvania Department of Health updated guidance for LTC facilities in November 2024 to encourage influenza testing among residents with respiratory symptoms,³ which may have contributed to increased reporting. Norovirus is highly contagious, easily spread within LTC settings, and capable of causing infection at very low doses.⁴

These findings underscore the importance of the Patient Safety Authority’s (PSA’s) ongoing efforts to provide LTC facilities with education and resources for surveillance, reporting, and infection prevention. In 2025, PSA infection prevention advisors continued their work with infection preventionists and facility leaders, offering expanded opportunities for support and guidance. Infection Prevention Office Hours were introduced as a monthly forum for facilities to ask questions related to surveillance and reporting. Advisors also broadened educational outreach by providing training sessions on HAI surveillance and reporting, along with biannual modules reviewing Medical Care Availability and Reduction of Error (MCARE) requirements and HAI surveillance criteria.

Conclusion

In 2025, there was a rise in both the number of infection reports submitted to PA-PSRS and the overall infection rate across Pennsylvania’s LTC facilities. The increase in overall rate in 2025 was driven by increases in the rates of all infection types except for device-related bloodstream infections, with respiratory tract infections, particularly influenza, showing the most substantial increase in both number and rate.

Notes

This analysis was exempted from review by the Advarra Institutional Review Board.

Data used in this study cannot be made public due to their confidential nature, as outlined in the Medical Care Availability and Reduction of Error (MCARE) Act (Pennsylvania Act 52 of 2007).

Artificial intelligence (Microsoft Copilot) was used only to improve sentence clarity. No AI was used for data analysis, interpretation, or generation of original content. The authors take full responsibility for the accuracy and integrity of the manuscript.

References

1. Pennsylvania Department of Health. Medical Care Availability and Reduction of Error (MCARE) Act, Pub. L. No. 331 Stat. 52 (2007). DOH website. <https://www.pa.gov/content/dam/copapwp-pagov/en/health/documents/topics/documents/laws-and-regulations/Act%2052%20of%202007.pdf>. Published 2007. Accessed March 18, 2026.
2. Pennsylvania Department of Health. Respiratory Virus Dashboard. Bureau of Epidemiology. <https://app.powerbigov.us/view?r=eyJrIjoiZmIwYTJRMjY2U0tNGE0Zi00Mzk3LTk5NWQtMWE1NGQyYTIyMWNiIiwidCI6IjQxOGUyODQxLTAxMjgtNGRkNS05YjZjLTQ3ZmM1YTlhMWJkZSJSJ9>. Accessed March 6, 2026.
3. Pennsylvania Department of Health. Respiratory Virus Outbreak Toolkit. Bureau of Epidemiology. https://paproviders.org/wp-content/uploads/2024/11/Respiratory-Virus-Outbreak-Toolkit_Final_24-25_Approved2.pdf Updated November 14, 2024. Accessed March 6, 2026.
4. Centers for Disease Control and Prevention. Norovirus. CDC. <https://www.cdc.gov/norovirus/causes/index.html>. Updated April 24, 2024. Accessed March 16, 2026.

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