

Surveillance Snapshot

Challenges of Statistical Power in High Coverage Populations:
Influenza Vaccine Effectiveness Trends Among U.S. Active Component
Service Members, 2016–2025

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TABLE. Influenza Vaccine Effectiveness Against Laboratory-Confirmed Influenza and Case-to-Control Ratio, Active Component, U.S. Armed Forces, 2016–2025

Mid-Season Vaccine Effectiveness, U.S. Department of War							
Influenza Season	Cases ^a		Controls ^b		Case: Control Ratio ^c	Adjusted ^d VE	
	No.	% Vaccinated	No.	% Vaccinated		Point Est.	95% CI
2016–2017	1,031	90	1,299	89	1 : 1.3	-7	-42, 19
2017–2018	2,926	89	2,557	90	1.2 : 1	19	3, 33
2018–2019	1,594	92	2,548	91	1 : 1.6	13	-11, 32
2019–2020	3,999	86	3,682	85	1 : 1	10	-3, 21
2020–2021	375	38	12,481	56	1 : 33	29	9, 44
2021–2022	1,459	65	48,813	69	1 : 33.4	36	28, 44
2022–2023	4,899	47	23,433	54	1 : 4.8	34	29, 39
2023–2024	3,540	82	16,411	85	1 : 4.6	21	13, 29
2024–2025	4,677	83	12,787	82	1 : 2.7	15	7, 23

Full Season Vaccine Effectiveness, U.S. Department of War								CDC	
Influenza Season	Cases ^a		Controls ^b		Case: Control Ratio ^c	Adjusted ^d VE		Adjusted ^e VE	
	No.	% Vaccinated	No.	% Vaccinated		Point Est.	95% CI	Point Est.	95% CI
2016–2017	1,778	92	2,378	92	1 : 1.3	5	-19, 25	40	32, 46
2017–2018	4,096	91	5,274	93	1 : 1.3	18	4, 30	38	31, 43
2018–2019	3,758	93	4,521	93	1 : 1.2	15	-2, 29	29	21, 35
2019–2020	Not Available							39	32, 44
2020–2021	Not Available							Insufficient Data	
2021–2022	3,977	86	56,881	85	1 : 14.3	26	19, 33	36	21, 48
2022–2023	6,355	54	44,560	70	1 : 7.0	35	30, 39	30	-9, 54
2023–2024	5,126	86	24,458	88	1 : 4.8	12	4, 20	44	36, 51
2024–2025	8,201	78	23,226	81	1 : 2.8	17	10, 23	56	54, 58

Abbreviations: VE, vaccine effectiveness; No., number; %, percent; Est., estimate; CI, confidence interval; CDC, Centers for Disease Control and Prevention.

^a Cases were defined as individuals with a positive influenza result from a rapid antigen, reverse transcription polymerase chain reaction (RT-PCR), or culture influenza assay.

^b Controls (test-negative) were defined as individuals with a negative influenza result from a RT-PCR or culture influenza assay.

^c Case:control ratio was defined as the ratio of cases to controls at mid-season and full season vaccine effectiveness calculations.

^d Adjusted for sex, age category, prior vaccination (any influenza vaccine in previous 5 years), and month of diagnosis.

^e Adjusted for study site, age, sex, underlying medical conditions, and days from illness onset to enrollment.