

Influenza Vaccine Effectiveness

Questions regarding the effectiveness of influenza vaccine often come up this time of year. A recently published article in *The Lancet Infectious Diseases* (October 26, 2011) entitled “Efficacy and effectiveness of influenza vaccines: a systematic review and meta-analysis,” provides an updated measure of how well flu vaccines work. The review concluded that flu vaccines can provide moderate protection against confirmed flu illness, but that protection varies by season.

Researchers at the University of Minnesota looked at data from 31 studies (out of 5,707 considered) in which two criteria were met: influenza virus was confirmed by RT-PCR or viral culture, plus efficacy and effectiveness against all circulating influenza viruses were reported during individual flu seasons. Seventeen randomized controlled studies (RTC) and 14 observational studies were examined.

Results from the data analysis showed that the flu shot (trivalent influenza vaccine or TIV) had 59% efficacy against flu in healthy adults. The nasal spray flu vaccine (live attenuated influenza vaccine or LAIV) prevented flu in 83% of children 6 months to 7 years of age.

The authors report that there is a general lack of evidence that flu vaccine provides sufficient coverage for adults aged 65 and older. Protection for this vulnerable population may improve as a result of the new Fluzone High-Dose indicated for people 65 years and older that was approved by the FDA in February 2010. Efficacy and effectiveness data for Fluzone is still pending.

Vaccine effectiveness can range widely season to season based on the degree of similarity between the viruses in the vaccine and those in circulation, as well as other factors. In years when the vaccine strains are not well-matched to circulating strains, vaccine effectiveness is generally lower. It is difficult to accurately predict how well the vaccine and circulating strains will be matched in advance of the influenza season, and how this match may affect vaccine effectiveness.

Despite the limitations in efficacy and effectiveness, the flu vaccine remains the best intervention available for seasonal influenza. It is clear that new vaccines for influenza with improved efficacy and effectiveness are needed, especially for high-risk populations.

The study is available at www.thelancet.com/journals/laninf/issue/current

Vermont – Selected Reportable Diseases – 2011

(Data through MMWR Week 39 – 10/1/2011) – Provisional

	Campylobacter	Cryptosporidium	E. coli*	Giardia	Group A Strep Inv	Hepatitis A	Hepatitis B - Acute	Hepatitis B - Chronic	Hepatitis C - Acute	Hepatitis C - Chronic	Legionellosis**	Listeriosis	Lyme §	Meningococcal Inf.	Pertussis**	Salmonella	Shigella	Tuberculosis**	Varicella §
Age																			
<5	16	8	7	14	0	1	0	0	0	3	0	0	16	1	4	5	0	0	33
5-14	18	8	1	26	2	0	0	0	0	2	0	0	67	0	7	6	0	1	41
15-24	39	10	2	19	1	2	0	4	3	38	0	0	32	1	3	12	0	1	6
25-39	33	8	2	23	1	0	0	10	1	138	0	0	54	2	1	8	2	1	1
40-64	62	9	2	57	3	2	0	15	0	266	5	0	251	1	4	22	1	0	1
65+	19	0	1	12	7	0	0	2	0	10	6	0	97	0	1	5	1	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (YTD)	187	43	15	151	14	5	0	31	4	457	11	0	517	5	20	58	4	3	82
5-yr Median (YTD)	126	54	17	147	15	2	1	†	1	†	7	1	†	3	11	58	3	3	82
County of Residence																			
Addison	33	11	0	11	1	0	0	0	1	17		0	35	1	1	4	0		4
Bennington	8	0	0	9	1	1	0	2	0	10		0	138	0	0	3	0		4
Caledonia	7	2	0	5	0	0	0	0	0	32		0	3	0	0	1	0		9
Chittenden	36	5	2	59	2	1	0	19	1	161		0	42	3	6	16	1		26
Essex	2	0	0	2	0	0	0	0	0	3		0	0	0	0	0	0		0
Franklin	18	1	1	3	1	0	0	0	0	22		0	8	0	1	9	0		4
Grand Isle	1	0	0	0	0	0	0	0	0	2		0	5	0	0	1	0		0
Lamoille	10	4	0	4	1	1	0	4	0	13		0	5	0	1	1	0		6
Orange	11	1	4	3	0	0	0	0	0	14		0	13	0	2	4	0		0
Orleans	8	6	1	5	0	0	0	2	0	19		0	1	0	0	4	0		3
Rutland	10	1	2	7	1	0	0	1	0	34		0	98	0	2	3	0		4
Washington	21	8	2	24	3	1	0	3	0	39		0	15	1	2	3	1		1
Windham	11	1	0	10	1	1	0	0	1	47		0	76	0	0	6	2		18
Windsor	11	3	3	9	3	0	0	0	1	44		0	78	0	5	3	0		3
Unknown	0	0	0	0	0	0	0	0	0	0		0	1	0	0	0	0		0
Total (YTD)	187	43	15	151	14	5	0	31	4	457	11	0	517	5	20	58	4	3	82

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**Shiga toxin-producing Escherichia coli (STEC)*

***This column partially obscured to protect patient confidentiality*

§ *Includes both confirmed & probable cases*

†*Data captured differently in previous years; no 5-year median available*