

# Effectiveness of the 2011-12 Influenza Vaccine: Data from US Military Dependents and US-Mexico Border Civilians

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## Objective

To assess effectiveness of the influenza vaccine among US military dependents and US-Mexico Border populations during the 2011-12 influenza season.

## Introduction

As a result of antigenic drift of the influenza viruses, the composition of the influenza vaccine is updated yearly to match circulating strains. Consequently, there is need to assess the effectiveness of the influenza vaccine (VE) on a yearly basis. Ongoing febrile respiratory illness (FRI) surveillance captures data and specimens that are leveraged to estimate influenza VE on an annual basis.

## Methods

Data from ongoing FRI surveillance at US Military and US-Mexico border clinics were used to estimate VE. We conducted a case-control study between weeks 3 and 17 of the 2011-12 influenza season. Specimens were collected from individuals meeting FRI case definition (fever  $\geq 100.0$  F with either cough or sore throat). Cases were laboratory confirmed influenza infection and controls were negative for influenza. Interviewer-administered questionnaires collected information on patient demographics and clinical factors and vaccination status. Logistic regression was used to calculate the crude and adjusted odds ratios (OR) and VE was computed as  $(1-OR) \times 100\%$ . Vaccine protection was assumed to begin 14 days post-vaccination.

## Results

A total of 155 influenza positive cases and 429 influenza negative controls were included in the analysis - 72 cases were influenza A(H3N2), 38 cases were influenza A(H1N1), and 45 cases were influenza B. Overall adjusted VE against laboratory-confirmed influenza was 46% (95% CI, 19-64%); unadjusted was 39% (95% CI, 11-58%). Influenza subtype analyses revealed moderate protection against A/H3 and A/H1 and lower protection against B. Lowest estimated VE was seen in older individuals, age 65 and older.

## Conclusions

Influenza vaccination was moderately protective against laboratory confirmed influenza in this population. Continued surveillance is important in monitoring the effectiveness of the influenza vaccine.

## Keywords

Influenza; vaccine efficacy; Influenza-like illness surveillance

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