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2800. Pragmatic Assessment of Influenza Vaccine Effectiveness in the DoD (PAIVED): Influenza-Like-Illness Rates in Year 1

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Background: Influenza-like illnesses (ILI) are common in military populations due to close living and working conditions, physical exertion, and exposure to novel viruses. The PAIVED trial aims to compare the effectiveness of 3 FDA approved influenza vaccines in active-duty military, retiree, and dependent populations, and will also provide information about the burden, impact, and severity of ILI.

Methods: Participants were enrolled in the 2018–2019 influenza season at 5 geographically diverse military facilities. Active duty, non-recruit military personnel, retirees, and dependents were randomized to receive influenza vaccine (egg-based, recombinant, or cell-culture derived) and then completed weekly electronic surveys throughout the influenza season. If a participant reported ILI symptoms during surveillance, 2 in-person visits with study personnel were scheduled for confirmed ILI. Nasal swabs and blood samples were collected for diagnostic and immunologic testing.

Results: Among the 852 non-recruit participants enrolled in PAIVED, 25% were active military, 36% retired military, and 39% dependents. Almost half (48%) were female, and 72% were white, 15% African American, 6% Asian, 4% multiple races, and 3% unknown or other race. 788 participants (92%) responded to at least one surveillance questionnaire. Participants reported 407 ILIs (Figure 1), of which 160 met the study case definition. Between 12 and 28% of the participants experienced an ILI during the surveillance period, and 12 people experienced 2 ILIs. Most sites reported a median 2–3 days of fever/feverishness or chills and 3–4 days of reduced activity associated with an ILI episode. No viruses were detected in 58% of nasal swabs, 1 virus in 40%, and 2 viruses in 1% of swabs (Figure 2 for pathogen data).

Conclusion: During the period under study, ILIs were common with 1 in 6 participants experiencing a confirmed ILI, many of which were 6–8 days in duration. ILIs resulted in reduced activity, although few individuals reported missing work or school, a situation that could result in greater likelihood of transmission to others. Planned analyses will provide additional information about the pathogens responsible for these illnesses and help guide effective prevention policies in these populations.

Figure 1. Confirmed ILI cases in PAIVED, by site

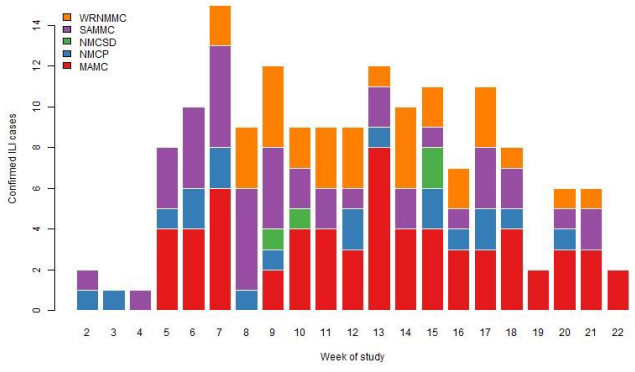
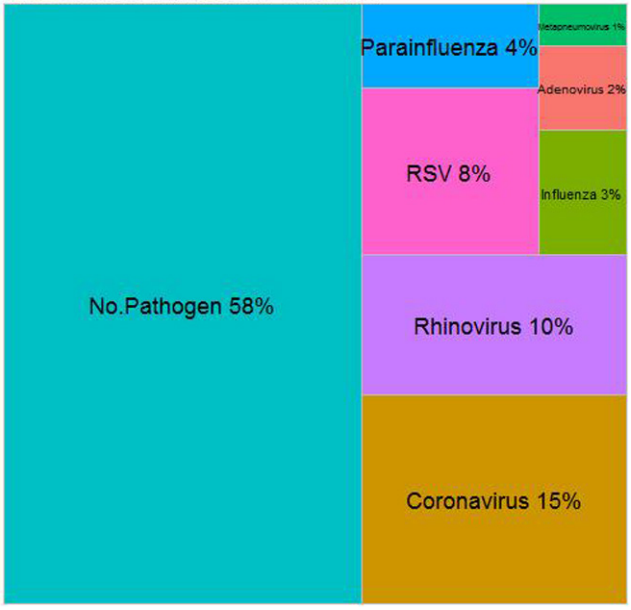


Figure 2. Lab results, non-recruits (N=104 samples)



Disclaimer
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The investigators have adhered to the policies for protection of human subjects as prescribed in 45CRF46.

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2801. Post-Natal Zika Virus Infection and Impact on Neurodevelopment Among a Cohort of Children in Rural Guatemala

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Background: The impact of early post-natal Zika virus (ZIKV) infection on neurodevelopment (ND) is unknown. A prospective study of post-natal ZIKV infection in rural Guatemala (ZIKV study) enrolled a cohort of children ages 1–5 years, including children previously enrolled in a dengue virus (DENV) study during the 2015–2016 ZIKV epidemic. We evaluated ND outcomes by age and ZIKV infection status.

Methods: Subjects enrolled in the ZIKV study June 2017–April 2018 underwent ND testing using the Mullen Scales of Early Learning (MSEL) at baseline and 12 months later. ZIKV/DENV-1/2 FRNT50 was performed on enrollment and on banked serum samples from the 2015 to 2016 subset. ZIKV serostatus and MSEL scores were correlated using multiple linear mixed models, adjusted for age and gender