# Increasing Vaccine Uptake Among Atlanta Veterans

*A modified clinical reminder did not increase patient vaccine uptake*

**Target a Priority Outcome** The Department of Veterans Affairs (VA) National Center for Health Promotion and Disease Prevention promotes vaccinations for Veterans, as in line with the Centers for Disease Control recommendations.[1,2] Despite the availability of free flu vaccines at VA health care facilities, rates of vaccination for flu and many other adult vaccinations fall below the HealthyPeople 2020 targets of 70%.[3]

**Translate Evidence-Based Insights** At the Atlanta VA Health Care System, primary care physicians, advanced practice providers, and nurses described experiencing high rates of vaccine refusal from patients, as well as difficulty viewing a patient's full vaccination history within the electronic health record (EHR) clinical reminders; these providers also noted that responding to multiple clinical reminders in the EHR took up a significant amount of time. The Atlanta VA and OES worked together to develop a modified clinical reminder to bundle individual clinical reminders together for three adult vaccinations (Influenza, Pneumococcal, and Tdap vaccines), which decreased the number of reminders clinicians are required to respond. This single reminder included a vaccination dashboard relaying patient vaccination history and status and talking points providers could use to address patient refusal or vaccine hesitancy. OES and the VA designed the reminder with the aim to make it easier for providers to recommend and order vaccines, thereby increasing patient vaccination rates.

**Embed Tests** This evidence-based insight was tested with a cluster-level randomized control trial. The VA identified primary care team clusters (consisting of physicians, advanced practice providers, and nurses) who saw 23,956 unique patients during the test period. After randomly assigning clusters, 84 had enough patients to remain in the study: 44 were assigned to receive the treatment (modified clinical reminders in the EHR system, vaccination dashboard, and suggested talking points); 40 were assigned to the control condition (existing EHR reminders, no vaccination dashboard, and no talking points).[4] The Atlanta VA implemented the treatment to the selected primary care teams between October 2018 and April 2019.

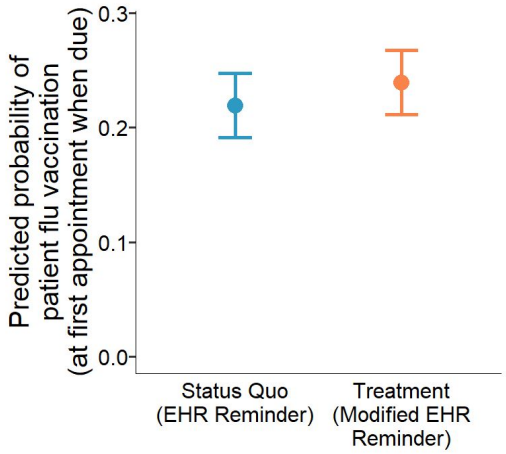
**Analyze Using Existing Data** Existing data from the Atlanta VA electronic health records, the Computerized Patient Record System, were used to measure vaccine receipt between October 1, 2018, and April 30, 2019.[5] The data included whether a patient received any of the three individual vaccines (Influenza, Pneumococcal, and Tdap), the patient's associated primary care team, and the date the patient received each vaccine, as well as information that enabled inferences whether the patient was due for each vaccine at each of their primary care visits. The data also included information about individual patient characteristics, such as age and rurality. In this analysis, researchers focused on receipt of flu vaccination.

**Results** Flu vaccination, at the first appointment when due for the flu vaccine, was higher among patients who saw primary care teams in the treatment group than patients who saw teams in the control group (24.3% versus 21.9%). However, when accounting for demographic characteristics and the clustering of patients within respective care teams, we observed a statistically insignificant difference of 2.2 percentage points between the treatment and control groups on flu vaccination rates (p = 0.191, 95% CI [-0.011, 0.055]). The original study design was powered to detect a

[1] "Public Health: Influenza (Flu)." U.S. Department of Veterans Affairs, December 4, 2013. Retrieved from: https://www.publichealth.va.gov/flu/index.asp.
[2] "Vaccine Information for Adults." Centers for Disease Control and Prevention. Accessed October 22, 2019. Retrieved from: https://www.cdc.gov/vaccines/adults/index.html.
[3] "Immunization and Infectious Diseases." Healthy People 2020. Accessed October 25, 2019. https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives.

[4] Pompa Debroy, Russ Burnett, Vincent Marconi, Saad Omer, and Joseph Wallace. (2019). Increasing Vaccine Uptake Among Veterans at the Atlanta VA Health Care System. Identification No. NCT03950986. Retrieved from: https://clinicaltrials.gov/ct2/show/NCT03950986.
[5] Unless noted otherwise, all of the analysis reported in this abstract was prespecified in an analysis plan, which can be found at https://oes.gsa.gov.

difference of 5.5 percentage points or more. Forthcoming analysis will include results on vaccinations for any of three vaccines at the initial appointment when due and results at the patient-level across all appointments.




**Build Evidence** This project demonstrated the ability to execute and test a change to the Atlanta VA's EHR system, with an intervention that focuses on provider behavior as a means to increase patient vaccinations. The project builds on OES's portfolio of evidence to learn what works to increase vaccination rates. Future work will continue to build upon these findings and test additional promising interventions.