



Increasing Flu Shot Uptake Among St. Cloud Veterans

Postcards incorporating behavioral insights were not more effective than a basic informational postcard

Target a Priority Outcome Influenza (flu) causes more than 9 million illnesses and more than 12,000 deaths in the United States annually.¹ The Veteran population, being older on average than the general population, is at greater risk of serious complications from the flu. The VA provides free flu shots to enrolled Veterans and aims to increase flu vaccination rates nationwide.

Translate Evidence-Based Insights Despite the seriousness of the flu, many people do not get the annual flu shot. Reasons include motivational barriers (for example, hesitancy about vaccines or belief that the shot can make you sick) and implementational barriers (failure to follow through and actually get the shot despite intending to do so).² In collaboration with the St. Cloud VA Health Care System in Minnesota, the Office of Evaluation Sciences (OES) designed three different postcards to send to enrolled Veterans: a basic postcard, which provided details on how to get a flu shot, and two postcards informed by insights from the behavioral sciences. One of the evidence-based postcards was designed to increase motivation and included a statement about the number of St. Cloud Veterans who get the flu shot (known in behavioral science literature as a social norm).³ The second behaviorally informed postcard was designed to facilitate implementation and included a prompt to

write a concrete plan for getting a flu shot at a specific time and place.⁴

Embed Tests 43,413 patients of the St. Cloud VA with mailing addresses on file were assigned at random to receive one of the three postcards (there was not a no-postcard control group). Postcards were sent to all patients in mid-September 2017, prior to the opening of October walk-in flu shot clinics at the VA medical center in St. Cloud and in satellite clinics in three smaller towns.

Analyze Using Existing Data Data from VA electronic health records were used to compare flu shot uptake among the three groups between September 14, 2017, and May 1, 2018. The data included whether a patient received a flu shot, and also the date of the flu shot, which enabled an analysis of whether different postcards might prompt individuals to get shots earlier in the season. The data also included information about individual characteristics — including age, rurality, and prior flu shots — that enabled more precise estimates of the postcards' relative effectiveness.⁵

Results There were no significant differences among the three postcards in either uptake or timing of flu shots. In each of the three groups, flu shot uptake was about 40 percent. After a pre-specified adjustment for individual characteristics including age, rurality, and prior flu shots, the difference between each behaviorally

¹ Centers for Disease Control and Prevention (CDC), "Disease Burden of Influenza," accessed July 18, 2018, <https://www.cdc.gov/flu/about/disease/burden.htm>.

² CDC, "Surveillance of Influenza Vaccination Coverage," accessed March 24, 2017, <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm>. Ezequiel M. Galarce, Sara Minsky, and K. Viswanath, "Socioeconomic Status, Demographics, Beliefs and A(H1N1) Vaccine Uptake in the United States," *Vaccine* 29 (2011): 5284-5289.

³ Robert B. Cialdini, et al., "Managing Social Norms for Persuasive Impact," *Social Influence* 1 (2006): 3-15.

⁴ Katherine L. Milkman, John Beshears, James J. Choi, David Laibson, and Brigitte C. Madrian, "Using Implementation Intentions Prompts to Enhance Influenza Vaccination Rates," *Proceedings of the National Academy of Sciences* 108 (2011): 10415-10420.

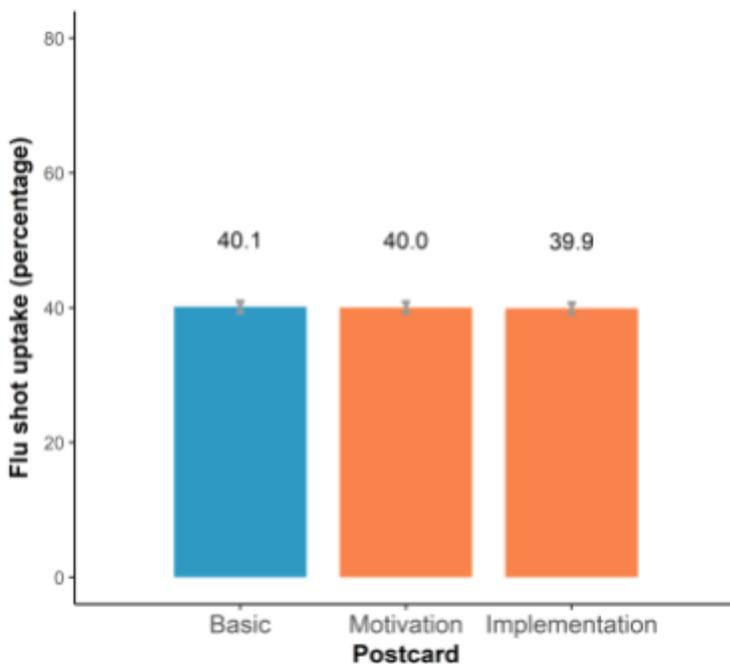
⁵ Unless noted otherwise, all of the analysis reported in this abstract was prespecified in an analysis plan, which can be found at <https://oes.gsa.gov>.

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informed postcard and the basic postcard was not statistically significant (motivation postcard: $p = .27$, 95% CI = [-.014, .004]; implementation postcard: $p = .53$, 95% CI = [-.012, .006]). The results rule out a difference as small as 0.9 percentage points between each behaviorally informed postcard and the basic postcard. The three groups were also similar in timing. In all three groups, those who got flu shots got them on average 38 days after postcards were sent (median = 27 days). The difference in average days elapsed from mailing to flu shot between each behaviorally informed postcard and the basic postcard was not statistically significant (motivation postcard: $p = .42$, 95% CI = [-0.73, 1.75]; implementation postcard: $p = .87$, 95% CI = [-1.33, 1.13]).

Build Evidence This study demonstrates the feasibility of rapidly testing a flu shot promotion effort, with results available in time to inform efforts in the next flu season. We conclude that the behaviorally informed postcards — one incorporating a social norm, the other an implementation prompt — were not more effective than an information-only postcard in promoting flu shot uptake among Veterans enrolled with the St. Cloud VA Health Care System.⁶ There are many possible reasons why we did not observe differences among the postcards, including that the motivational and implementational barriers we targeted are not the most significant barriers for this population. Future work might be directed at more precisely identifying behavioral barriers to flu shot uptake specifically for Veteran patients of the VA health care system.



⁶ Because this evaluation did not include a no-postcard condition, these results do not imply that the postcards were not effective, but only that the three postcards performed similarly.