

Presenter: Millie Long, MD, MPH

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A Randomized Trial of Electronic (E-mail) Educational Prevention Messages within the CCFA Partners Cohort

Long MD, Kappelman MD, Martin C, Chen W, Anton K, and Sandler RS

Background and Aims: Recommended preventive care in patients with inflammatory bowel disease (IBD) includes annual influenza vaccination. Vaccination is particularly important among patients treated with immunosuppression. Electronic (e-mail) educational interventions may be one avenue to improve preventive care in IBD.

Methods: CCFA Partners is an ongoing internet cohort study of patients with IBD. In September 2011, coinciding with the influenza vaccination season, individuals within the cohort were randomized to receive e-mail notifications on the importance of influenza vaccine (active arm) or general education regarding bone health (placebo arm). These messages included information on indications for vaccination or bone health screening, complications of these disorders within IBD patients, rates of vaccination or bone health preventive activities within the IBD population, and references for further reading. After 6 months, receipt of influenza vaccine was measured. Data were stratified by age, disease type, immunosuppression status and by whether the patient had a primary care provider. Pearson's chi squared test statistic was used to compare vaccine receipt in those randomized to the vaccine message as compared to those randomized to the bone health message.

Results: A total of 4186 individuals were 1) enrolled in the partners cohort in the fall of 2011, 2) received an e-mail educational intervention, and 3) completed a follow-up survey 6 months later. Of these individuals, 2064 received the vaccine educational message, and 2122 received a bone health message. The study population was 62.9% Crohn's disease (CD) and 37.1% ulcerative colitis (UC). The median age was 45 years old (IQR 32-57) and 53.5% were on a form of immunosuppression during the study period. A total of 65.7% of the cohort received an influenza vaccine (66.5% for CD and 61.4% for UC, $p=0.31$). There was significantly higher vaccine receipt among those on immunosuppression, older individuals (\geq median age of 45) and among those with a primary care physician ($p<0.001$ for each). The vaccination rate among those receiving the e-mail vaccine intervention was no different than that of the placebo arm (65.9% versus 65.5%, $p=0.94$). There was no difference in vaccine receipt by educational intervention within strata of age, immunosuppression, disease type or primary care physician.

Conclusions: Widespread electronic (e-mail) educational messages on the benefits of influenza vaccine were not effective in improving influenza vaccination utilization in this large cohort of individuals with IBD. Multi-component preventive interventions, beyond patient education, are needed in the future.