

## The Feasibility of Pertussis Immunization in a Canadian Emergency Department

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### Introduction

Despite clear health benefits, and Public Health Agency of Canada recommendations, vaccination rates among Canadian adults are low. Frequent patient contacts, wait times, and the availability of trained staff make the emergency department (ED) a potential location to target specific populations and administer vaccinations. We evaluated the feasibility of two strategies to administer the Tdap vaccine to adult patients presenting to a single referral ED.

### Methods

This study included adult patients presenting to the Queen Elizabeth Hospital (Charlottetown PEI) over 15 consecutive weekdays (Monday-Friday, 0730-1530) in July 2017. Eligible patients were assigned to one of three study groups (two immunization strategies, one control group) based on day of the week. On intervention days, adult patients were screened during the triage process for eligibility to receive the Tdap vaccine. An ED based (EDB) strategy offered patients vaccination during that visit. The second strategy offered eligible patients a public health nurse referral (PHR) to receive the vaccine at a later date. On all study days, patient triage times (TT), as well as markers of ED efficiency (number of patient registrations, Time to Physician, Length of Stay, Left Without Being Seen, number of admissions, number of boarded patients) were recorded.

### Results

The primary outcome, the proportion of eligible adults immunized, was significantly higher at 66% (n=81) for the EDB strategy (227 screened, 122 eligible), compared with 21% (n=20) for the PHR strategy (214 screened, 94 eligible;  $\chi^2(2, n = 216) = 43.41, p < 0.00001$ ). In addition, 10 participants in the PHR group received a second vaccine (Pneumococcal (7), Influenza (2), Human Papillomavirus (1)). Reasons for vaccine ineligibility included having an up-to-date Tdap (EDB n=47 (21%), PHR n=46 (21%)) and being considered in too much distress by the triage nurse (EDB n=26 (11%), PHR n=19 (9%)). Triage time was less for the control group (M=5:55 [mins:secs], SD=2:48) than for the EDB (M=6:31, SD=3:08) and PHR (M= 7:25, SD=2:45) strategies.

### Conclusion

An ED based screening and immunization strategy was highly effective in providing eligible adult patients with the Tdap vaccine. A resulting small increase in triage time was not clinically significant. Further studies are required to generalize these results.