

Effect of outreach reminders on adolescent well child visits and COVID-19 vaccination rates: A randomized clinical trial

April 22 2022

Figure 1. Example of Outreach Messages

	Thursday Message	Friday Message
Standard Message - Text Message	Hi! [clinic name] misses you! [patient first name] is due for a checkup. Please call [clinic phone number], option 1 to schedule a visit.	Hi! If you haven't already, please call [clinic phone number], option 1 to schedule [patient first name]'s upcoming visit at [clinic name].
COVID-19 Vaccine Message - Text Message	Hi! [clinic name] misses you! [patient first name] is due for a checkup. Please call [clinic phone number], option 1 to schedule a visit. COVID vaccine is available if interested.	Hi! If you haven't already, please call [clinic phone number], option 1 to schedule [patient first name]'s upcoming visit at [clinic name]. COVID vaccine is available if interested.
Standard Message - Phone Call	This is Cincinnati Children's Hospital. [patient first name] is due for a checkup with [clinic name]. Please call [clinic phone number], option 1 to schedule a visit.	This is Cincinnati Children's Hospital. [patient first name] is due for a checkup with [clinic name]. If you haven't already, please call [clinic phone number], option 1 to schedule a visit.
COVID-19 Vaccine Message - Phone Call	This is Cincinnati Children's Hospital. [patient first name] is due for a checkup with [clinic name]. Please call [clinic phone number], option 1 to schedule a visit. COVID vaccine is available if interested.	This is Cincinnati Children's Hospital. [patient first name] is due for a checkup with [clinic name]. If you haven't already, please call [clinic phone number], option 1 to schedule a visit. COVID vaccine is available if interested.

Example of Outreach Messages. Credit: Cincinnati Children's Hospital Medical Center

Researchers with Cincinnati Children's Hospital Medical Center conducted a randomized clinical trial to determine the effectiveness of outreach reminders on adolescent well child visits and COVID-19 vaccination rates. Findings from the trial will be presented during the Pediatric Academic Societies (PAS) 2022 Meeting, taking place April 21-25 in Denver.

Many adolescents delayed preventative services during the COVID-19 pandemic. Outreach is a proven strategy for increasing preventative services, but it was uncertain whether this would be effective amid the pandemic.

The trial determined that outreach messages were minimally effective at re-engaging adolescents in preventative services. Efforts are needed to address widening disparities.

"We provide a [primary care](#) medical home for a low income Black population that was profoundly impacted by the pandemic," said Mary Burkhardt, MD, MHA, associate division director of primary care at Cincinnati Children's Hospital Medical Center. "We conducted this trial to better understand the impact of reminders to adolescents about care that was overdue and the opportunity to receive the COVID-19 vaccine. We found that our interventions did promote scheduling of adolescent well care visits, but were minimally effective at improving the completion of visits. Higher intensity interventions may be needed to re-engage patients and address widening disparities."

Table 1. Baseline Characteristics

Characteristic	Standard Message, No. (%)	COVID-19 Vaccine Message, No. (%)	Control Group, No. (%)	Total, No. (%)
Unique patients, No.	412	411	412	1235
Age				
12	74 (18.0)	72 (17.5)	78 (18.9)	224 (18.1)
13	103 (25.0)	110 (26.8)	99 (24.0)	312 (25.3)
14	105 (25.5)	106 (25.8)	98 (23.8)	309 (25.0)
15	57 (13.8)	54 (13.1)	61 (14.8)	172 (13.9)
16	39 (9.5)	29 (7.1)	33 (8.0)	101 (8.2)
17	34 (8.3)	40 (9.7)	43 (10.4)	117 (9.5)
Sex				
Female	192 (46.6)	210 (51.1)	196 (47.6)	598 (48.4)
Male	220 (53.4)	201 (48.9)	216 (52.4)	637 (51.6)
Race				
Black or African American	313 (76.0)	319 (77.6)	315 (76.5)	947 (76.7)
White	69 (16.8)	60 (14.6)	65 (15.8)	194 (15.7)
Multiracial	10 (2.4)	17 (4.1)	13 (3.2)	40 (3.2)
Asian	3 (0.7)	2 (0.5)	6 (1.5)	11 (0.9)
American Indian and Alaska Native	1 (0.2)	0 (0)	0 (0)	1 (0.1)
Missing Data	16 (3.9)	13 (3.2)	13 (3.2)	42 (3.4)
Ethnicity				
Non-Hispanic/Latinx	390 (94.7)	396 (96.4)	396 (96.1)	1182 (95.7)
Hispanic/Latinx	21 (5.1)	15 (3.6)	15 (3.6)	51 (4.1)
Not reported	1 (0.2)	0 (0)	1 (0.2)	2 (0.2)
Insurance				
Public (i.e., Medicaid)	375 (91.0)	357 (86.9)	358 (86.9)	1090 (88.3)
Private	30 (7.3)	47 (11.4)	44 (10.7)	121 (9.8)
Self-pay	7 (1.7)	7 (1.7)	10 (2.4)	24 (1.9)
Communication preference				
Text message	279 (67.7)	306 (74.5)	301 (73.1)	886 (71.7)
Phone call	133 (32.3)	105 (25.5)	111 (26.9)	349 (28.3)
Childhood vaccine refusal				
No past MMR or DTaP	3 (0.7)	4 (1.0)	2 (0.5)	9 (0.7)
Patient lifetime historical no-show rate, M (SD)	0.15 (0.3)	0.19 (0.4)	0.15 (0.3)	0.16 (0.3)

Baseline Characteristics. Credit: Cincinnati Children's Hospital Medical Center

Table 2. Intention-to-treat analysis

Outcome	Comparison	OR (95% CI)	P Value
AWC visit scheduled within 2 weeks	Standard Message vs. Control Group	2.07 (1.21 - 3.52)	0.008
	COVID-19 Vaccine Message vs. Control Group	1.25 (0.70 - 2.23)	0.457
	Standard Message vs. COVID-19 Vaccine Message	1.66 (1.00 - 2.74)	0.049
AWC visit completed within 8 weeks	Standard Message vs. Control Group	1.35 (0.88 - 2.06)	0.165
	COVID-19 Vaccine Message vs. Control Group	1.33 (0.87 - 2.03)	0.193
	Standard Message vs. COVID-19 Vaccine Message	1.02 (0.68 - 1.52)	0.930
Receipt of Tdap within 8 weeks ^a	Standard Message vs. Control Group	6.50 (0.74 - 311.21)	0.117
	COVID-19 Vaccine Message vs. Control Group	8.66 (1.03 - 408.04)	0.045
	Standard Message vs. COVID-19 Vaccine Message	0.75 (0.19 - 2.89)	0.854
Receipt of HPV within 8 weeks ^b	Standard Message vs. Control Group	1.86 (0.94 - 3.70)	0.075
	COVID-19 Vaccine Message vs. Control Group	1.47 (0.72 - 3.03)	0.292
	Standard Message vs. COVID-19 Vaccine Message	1.27 (0.67 - 2.38)	0.465
Receipt of MCV4 within 8 weeks ^c	Standard Message vs. Control Group	5.44 (1.52 - 19.48)	0.009
	COVID-19 Vaccine Message vs. Control Group	4.59 (1.25 - 16.93)	0.022
	Standard Message vs. COVID-19 Vaccine Message	1.19 (0.51 - 2.74)	0.691
Receipt of COVID vaccination within 8 weeks	Standard Message vs. Control Group	2.04 (0.86 - 4.82)	0.104
	COVID-19 Vaccine Message vs. Control Group	1.26 (0.49 - 3.22)	0.631
	Standard Message vs. COVID-19 Vaccine Message	1.62 (0.73 - 3.61)	0.238

OR=Odds Ratio; 95% CI=95% Confidence Interval

^a We only included patients eligible to receive the Tdap during the 8-week study period (Total, *n* = 130; Standard Message group, *n* = 45; COVID-19 Vaccine Message group, *n* = 41; Control Group, *n* = 44). Odds ratios estimated from exact logistic regression analysis, and wide 95%CI due to data with small cell counts.

^b We only included patients eligible to receive the HPV series during the 8-week study period (Total, *n* = 608; Standard Message group, *n* = 208; COVID-19 Vaccine Message group, *n* = 195; Control Group, *n* = 205).

^c We only included patients eligible to receive the MCV4 vaccine or booster during the 8-week study period (Total, *n* = 344; Standard Message group, *n* = 116; COVID-19 Vaccine Message group, *n* = 106; Control Group, *n* = 122).

Intention to Treat Analysis. Credit: Cincinnati Children's Hospital Medical Center

The trial included text and telephone outreach messages, with and without information about COVID-19 vaccine availability, on the scheduling and completion of adolescent well-care visits among adolescents due for preventative services.

More information: Conference: www.pas-meeting.org/

Provided by American Pediatric Society

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