

Flu2Text: How Text Messaging Improved Rates of Influenza Vaccination in Kids

[Population Health Sciences](#)

Date Posted:

Nov 30, 2022



It's no surprise to the public that [vaccine hesitancy has increased during the COVID-19 pandemic](#). Vaccine hesitancy especially limits flu vaccination in children. However, [getting vaccinated against the flu is important](#), especially for young children who are considered at high risk for severe complications of infection. Children can also expose other family members to the virus.

Many young children—who are getting vaccinated for the first time or only previously received one dose—actually need two doses of the influenza vaccine in a given season, at least four weeks apart. However, only about half of children who need both doses and receive the [first](#) one end up getting the second. For those young children in need of two doses, receiving both doses cuts the chances of getting the flu [by half](#) compared with just receiving one dose. The timeliness of vaccination also matters, with the goal of administering both doses before influenza begins circulating in the community in the late fall/early winter. Below we'll discuss one strategy that we found successful in boosting second dose flu vaccination.

How Can Text Messaging Encourage Receipt of the Second Flu Vaccine Dose?

Text messaging has become a routine part of our everyday lives, from communicating with our family and friends to getting alerts for food delivery and reminders from the doctor. Text messages can also remind families to return for the second flu vaccine dose and can provide other educational information regarding vaccination. Yet evidence for how best to broadly utilize texting in the health care context, particularly vaccination, is not well understood. In fact, we lack studies on the impact of text messaging on key child health outcomes, like childhood vaccination, on a national scale.

To address this problem, we launched a collaborative study between Columbia University, Children's Hospital of Philadelphia (CHOP) and the American Academy of Pediatrics (AAP). [The Flu2Text study](#) implemented behaviorally informed and personalized text message reminders for the second dose of influenza vaccine for caregivers of children at 50 practices across 24 states, including 46 from AAP's national Pediatric Research in Office Settings (PROS) primary care network, three from CHOP and one from Columbia University. [Text messages](#) were sent in either English or Spanish, depending on caregiver preference, and were personalized with a child's first name, gender, practice name and due date for the second dose.

Additionally, texts included educational information about the importance of getting the second flu shot in a timely manner. Text messages were sent to more than 2,000 families across two years of the study when a child received the first dose and then again following the first dose on days 14, 21, 25 and 28 (the last immediately before the second dose was due) as well as on day 42 (two weeks after the due date for the second dose if it had not yet been received).

Did Text Messaging Improve Vaccination?

Results of the study showed the promise of text messaging to improve vaccination across a wide range of practices and settings. We confirmed that text message reminders do help more families get the second flu shot by the end of the flu season. The study demonstrated a nearly 4 percentage point improvement in season-end vaccination. In addition, text messages had the largest impact on timely vaccination, resulting in a more than 8 percentage point improvement.

Interestingly, we saw that text messages worked especially well for families from the practices with primarily walk-in flu vaccine hours in comparison to practices that primarily scheduled second dose appointments at the time the first dose was received. While walk-in hours for vaccination offer convenience, they put the responsibility for remembering to return for the second dose on the family's shoulders. For these families, text messages might have served as a cue-to-action to get the second flu shot for their child during walk-in hours.

Text messages also led to more timely vaccine receipt among those who were commercially insured, suggesting that additional support and resources might be needed for Medicaid-insured families to access a second dose for their child. An encouraging finding was that text messages worked similarly for both English- and Spanish-speaking families, although most participants were English speaking. Such results are an especially important indicator that text messaging is an effective strategy for families with emerging English proficiency.

Overall, in this national study, we demonstrated that personalized text messages effectively increased timeliness and uptake of the second flu shot. To best limit the impact of the flu on children and families, future work will focus on scaling this successful approach to promote vaccination. Results may inform practice policies to boost flu vaccination at a time of growing vaccine hesitancy.

Katya Nekrasova, MPH, is a former researcher at PolicyLab and Clinical Futures at Children's Hospital of Philadelphia (CHOP) and currently serves as an enterprise improvement advisor at the Center for Healthcare Quality and Analytics at CHOP.

[Melissa Stockwell, MD, MPH](#), is chief of the Division of Child and Adolescent Health and associate professor of Pediatrics and Population and Family Health at Columbia University. She is also the medical director of the New York-Presbyterian Hospital Immunization Registry (EzVac), director of the Columbia University Primary Care Clinician Research Fellowship in Community Health, and associate director of the American Academy of Pediatrics Pediatric Research in Office Settings practice-based research network.

The study was supported by a grant from the National Institutes of Health National Institute of Child Health and Health Development grant number R01HD086045 to principal investigators Melissa Stockwell, MD, MPH, FAAP, and Alex Fiks, MD, MSCE, FAAP. The PROS network receives funding from the AAP and the Health Resources and Services Administration awards UA6MC15585 and U5DMC39344.

Alexander Fiks MD, MSCE

Faculty Member



Alexander Fiks
MD, MSCE

Email: Fiks@chop.edu

Katya Nekrasova MPH

Melissa Stockwell MD, MPH