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

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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.

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