

Using SMS Technology to Improve Childhood Immunization Rates

Study Overview

Text messaging to improve healthcare management has shown to be promising in several areas including weight control and smoking cessation. The purpose of this pilot study is to determine the impact and cost effectiveness of text messaging to improve child vaccination rates (i.e. children who receive all of the shots they are supposed to get by the time they are supposed to get them). Parents of children 9-13 months of age will be recruited to participate in the study and will either receive text message vaccination and appointment reminders or general milestone health messages. We expect that a higher percentage of children in the intervention group will receive all of their recommended shots by 19-months of age compared to children in the control group.

Study Participants

The project will target English and Spanish speaking parents and caregivers with children 9-13 months of age who visit one of the participating community clinics in San Diego County. The study recruitment goal is set at 600 participants, with approximately 300 participants in the intervention group and 300 participants in a control group. Although the majority of participants for this study will consist of mothers, recruitment will be open to all caregivers including fathers, grandparents, aunts/uncles, and step-/foster parents, as long as they have primary control over and knowledge of the child's primary care. Participating caregivers must meet the minimum eligibility criteria to be consented into the study:

- 1) Visit a participating clinic between the child's 9 and 13 month of age
- 2) Be at least 18 years of age
- 3) Have a personal cell phone
- 4) Have an ability to send and receive text messaging on this cell phone
- 5) Indicate English or Spanish as primary language

Participant Recruitment

To recruit participants, bilingual (English/Spanish) study recruitment staff will set up a station at each participating clinic to actively identify caregivers with children 9-13 months of age interested in participating in a child vaccination reminder study. Participants will be asked a set of enrollment screening questions to assess study eligibility. An interview administered consent form, brief contact information sheet, demographics questionnaire and study survey will be provided for participants who meet all eligibility criteria; thus, ensuring that individuals with low literacy skills are included.

Whenever two caregivers are present and willing to participate, only the caregiver self-identified as most likely to bring the child to a primary care visit will be consented into the study. All families who agree to participate in the study will receive \$10 per month of participation (up to \$70) to offset texting costs throughout the study period.

Intervention

Participants will receive monthly text message reminders to schedule or keep an existing appointment for their child's 15- and 18-month well-baby visit. Clinic appointment dates will be incorporated into the text messages if available. If appointment information is not available from the clinic, participants will receive a text message asking if they have scheduled an appointment. Based on the participant's response (Y/N), participants will receive an additional text message, either reminding them to keep the appointment, or asking them to schedule an appointment (clinic phone number provided). If a participant does not respond, follow-up messages will be delivered. Messages will also be based on the child's immunization status as documented in the San Diego Immunization Registry (SDIR). Additionally, educational text messages focusing on the importance of vaccinations as well as other health education texts will be sent weekly throughout the study period.

Control

Participants will receive general milestone and health information during the study period. They will receive about the same number of text messages as the intervention group. The first message of each month will require a response. If participant does not respond, follow-up messages will be delivered.

Outcome Measures

Documented child immunization up-to-date status, as indicated in the San Diego Immunization Registry (SDIR), will be assessed monthly between 13 and 19 months of age. For this study, up-to-date status is based on National Quality Forum (NQF) recommendations and is defined as children having the following documented immunizations series:

- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) – 4 doses or equivalent
- Inactivated Polio Vaccine (IPV) – 3 doses or equivalent
- Measles, mumps, and rubella vaccine (MMR) – 1 dose
- Haemophilus influenzae type b conjugate vaccine (Hib) - 3 doses or equivalent
- Hepatitis B vaccine (HepB) – 3 doses or equivalent
- Varicella vaccine – 1 dose
- Pneumococcal vaccine – 4 doses or equivalent

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