Text message quality improvement intervention to increase influenza vaccination rate among pediatric patients with asthma

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Introduction

Children with asthma at Children’s Medical Practice (CMP) were not reliably receiving the influenza vaccine. Children with asthma have increased risk of influenza complications1 and warrant special attention for vaccination. CMP had no systematic reminder system.

In the U.S., 6.2 million children (8.4%) have asthma2. Influenza vaccination rates for 2015-16 were 59.3% in US children 6mo to 17yr2. Providers have used strategies such as phone, text, postcard, verbal, and mailings that have had some success improving influenza vaccination rates.4,5

Objectives

• Learn about prevalence of asthma within the pediatric patient population at CMP
• Define and implement a quality improvement project to increase the rate of influenza vaccination

Methods

Year 1

We queried the electronic health record (EHR) for patients in the past five years with a diagnosis of “asthma” and their telephone numbers, excluding those under the age of 6 months who were ineligible for influenza vaccination. We created a three-part text message in English and Spanish, and included a multimedia link to a public service announcement released by the CDC about influenza vaccination. The text message series was sent on February 16, 2016 using EZ Texting. We followed up with a phone call to each phone number that denied or was unsure of the child’s vaccination status. Phone calls were made in either English or Spanish as appropriate. Callers emphasized the importance of vaccination and scheduled an appointment at CMP.

Year 2 Improvements

• Launched campaign earlier in the influenza season
• Queried EHR for language preference and sent corresponding text
• Decreased reading level of text
• Sent a follow-up text 3 weeks later to all (Round 1 and Round 2)
• Simplified response instructions

Text Messages

Year 2 English

(1/3) From the Children’s Medical Practice at Bayview. It is important that kids with asthma get their FLU shot. / Es muy importante que jovenes con asma reciban su vacuna contra la influenza (gripe).

(2/3) Has your child gotten their FLU shot this season? Text back YES or NO. / Su hijo/a ha recibido su vacuna contra la influenza este ano? Favor de responder SI o NO en mensaje.


Year 2 Spanish

(1/3) Desde el Centro Médico Infantil de Bayview. Es importante que los niños con asma reciban su vacuna contra la influenza (gripe).

(2/3) ¿Tu hijo ha recibido su vacuna contra la influenza este año? Respuesta SÍ o NO.

(3/3) Si NO, llamenos al (410) 550-0967 para marcarnos una cita.

Results

Influenza Vaccination Rates for Children with Asthma

Year G, L, and 2 by Month of Administration

• Compared with the prior year, Year 1 with the text project showed an increase in vaccination coverage among Spanish-speaking (SS) families, & a slight decrease among English-speaking (ES) families.
• Year 2 had a lower rate of vaccination in both language groups.
• Each year, there was a significant difference between ES and SS families, with 14-16% higher rates of vaccination with the SS families.
• CMP vaccine coverage rates for Year 2 were lower than baseline and year 1 in spite of the improvements in the text message project.
• 2015-2016 national flu vaccine coverage (children) in the US was 59.3%; CMP was 53%. (No national data published yet for 2016-2017.) 2016-2017 flu vaccine coverage in CMP was 45%.

Discussion

• The lower coverage rate in year 2, in spite of the improved text program, may reflect national levels. The CDC reported low vaccination coverage early in the season (Reported CDC, December 2016); final coverage statistics are not yet published.
• Since this is a quality improvement project, it is not clear how much the vaccination coverage rate was influenced by the intervention. There likely are other factors involved, particularly in Year 2, that we are not aware of.
• The project engaged families in a unique way and can be built upon in future years and with other family health initiatives. Engagement with families is most certainly a positive factor in optimizing child health.

Conclusions

Text messaging families and patients may be an effective way to communicate health recommendations, particularly for preventive measures such as vaccines.

Families in the US who prefer Spanish language care and other vulnerable populations may be an important group to target for mHealth such as text messaging.

More exploration is needed to determine the drop in flu vaccine coverage in year 2 as well as other barriers to vaccination and preventive measures.

References


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