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Title of Project: Pneumococcal Disease Prevention Initiative: Integrated Interventions for Improved Adult Immunization Rates

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Organization: Henry Ford Health System, Detroit, Michigan

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Structured Abstract (250 Words)

Purpose: To ascertain barriers to acceptance, receipt, and delivery of adult immunizations based on qualitative interviews and focus groups with health providers, patients and caregivers, provide education and measure trends in vaccine coverage in adults aged ≥ 65 years.

Scope: 18 outpatient clinics in a large integrated health system in urban Detroit.

Methods: Focus group discussions using interview guides were conducted with outpatient clinic clients (≥ 65 years) and providers. The data contributed to both patient and provider education materials to improve adult immunization up-take. The nine intervention and nine control outpatient clinic populations were compared for vaccine administration.

Results: Pre intervention pneumococcal immunization rates were 46.3% and improved to 62.3%. Intervention clinics had a 15.8% increase and control clinics a 13.7% increase. In intervention clinics there was a 33% increase in the number of immunizations given for pneumococcus, and in the control clinics 17%. 64% of respondents were familiar with pneumococcal vaccine, 66% were familiar with Zoster and 63% with Pertussis; 45% self-reported receiving the pneumococcal vaccine. Primary barriers among patients were concerns about side effects and social norms and social networks. Participants described past negative experiences, as well as stories from the media. Participants were more likely to use vaccines if others in their social network utilize adult vaccines and based on their disease history.

Conclusion: The results of this study showed identification of patient perceptions and barriers around adult immunization with targeted education programs improve adult immunization in a large urban outpatient population.

Key Words: immunization, attitudes, education.

Report Components

Purpose: The project established a proactive program for adult immunization that engaged key stakeholder groups and improved client-patient and provider knowledge throughout a large, integrated health system. In so doing, the project led to improved adult immunization coverage among adults ≥ 65 years of age. The project sought to ascertain barriers to acceptance, receipt, and delivery of adult immunizations based on qualitative interviews and focus groups with health providers, patients and caregivers, to provide education, and to measure trends in vaccine coverage in adults aged ≥ 65 years.

Scope: 18 outpatient clinics in a large integrated health system in urban Detroit.

Methods: As a part of the formative phase of the project, focus group discussions were conducted with outpatient clinic clients (aged ≥ 65 years) and providers. These data indicate facilitators and barriers for vaccine up-take include social network norms, physician-client communication, and information sources for vaccines and other pharmaceuticals. The data contributed to both patient and provider education materials for individual, group, and systemic intervention to improve adult immunization up-take for influenza and pneumococcal vaccines. Patients and providers were recruited at both urban and suburban outpatient clinics within the Henry Ford Health System.

Experienced qualitative researchers conducted the focus groups. Interview guides were developed for both patient and provider groups. Categories of questions within the guides included: 1) healthcare access and barriers to care; 2) knowledge, perceptions, and experience in relation to influenza and pneumonia; 3) knowledge, perceptions, and experience with vaccines; 4) information sources about vaccines; and, 5) desired content and mode of delivery for education about vaccines. Focus group discussions were audiotaped and transcribed by a professional transcription service. Focus group data were reviewed and coding dictionary developed for use with a qualitative management program (Ethnograph). While coding and analysis is being finalized, the following information is based on original research aims and preliminary reviews of the data.

Results:

1. Pre project pneumococcal immunization rates in 2013 were 46.3 percent in the clinics studied, and improved to 62.3 percent at the end of the project. Intervention clinics had a 15.8 percent increase and control clinics at 13.7 percent increase. In the intervention clinics there was a 33 percent increase in the number of immunizations given for pneumococcus, and in the control clinics 17 percent increase. All aims and interventions completed.
2. *Demographics.* A total of eight patient (N=49) and four provider groups (N=35) were conducted. Seventy percent of patient group participants were women. Mean age was 65 and 72 years for women and men respectively. Sixty-three percent of participants were African American, 2% Latino, and 35% white. Provider groups included physicians, physician assistants, nurses, and pharmacists. Seventy-four percent were women and 51% were African American.
3. *Knowledge about adult vaccines.* In a brief knowledge survey conducted prior to the focus group discussions with patients, 64% of respondents were familiar with pneumococcal vaccine, 66% were familiar with Zoster and 63% with Pertussis. Forty-five percent self-reported receiving the pneumococcal vaccine compared to 25% for Zoster and 18% for Pertussis.

4. *Access to healthcare.* Primary barriers and concerns related to access to healthcare include cost and insurance coverage, waiting time at the clinics, and transportation to healthcare facilities. In addition, participants discussed how when they are sick, they often feel too weak to leave their home and may delay seeking treatment.
5. Patient participants expressed a strong preference to consult with a doctor or other provider with whom they had a history and felt a sense of trust. Patients also discussed barriers to following through on advice and use of medications as prescribed by a provider. These included concerns about side effects and not understanding the instructions given by the provider. In some instances, participants noted that pharmacists were an important source of information about medications.
6. *Perceptions of vaccines and barriers to use of vaccines.* Primary identified barriers among patient participants included concerns about side effects and social norms and social networks. Participants described both their own and others' past negative experiences with use of vaccines, as well as stories from the media. Participants were more likely to use vaccines if others in their social network (friends, family) utilize adult vaccines. Participants were also more likely to use vaccines based on disease history, e.g., personal experience with pneumonia. Provider participants reinforced these data in regards to how patients learn about vaccines and patients' perceptions of adverse events. Providers discussed limited time and opportunities to discuss vaccines in-depth with their patients. Some providers were also concerned about vaccine side effects and reported they were not necessarily supportive of adult vaccines.
7. *Information needed for decision-making regarding use of vaccines.* Patient participants discussed the need for information about adverse events, disease prevalence within their age group, and education about how vaccines are developed and tested, and outcomes from vaccine trials. Providers also discussed that patients are concerned about "the unknown" and in particular may express concerns that vaccines are being tested on residents in low-resource minority communities. The preferred method for receiving information about vaccines was written materials. This was generally preferred among the older adults compared to information on a web-site. To a lesser degree, participants wanted verbal information during a clinic visit – and recommendations from a trusted, known provider were important in the decision-making process.

The project established a cadre of HFHS patients who have actively participated in several focus group discussions addressing their knowledge and understanding of vaccines, particularly adult pneumococcal vaccine. Through the study we:

1. Obtained feedback, opinions, suggestions, advice, and impressions from a diverse group of adult patients who presented for routine clinical care at the outpatient facilities of Henry Ford.
2. Formulated analysis of immunization project focus group participant input in order to generate an assessment of important barriers for adult pneumococcal immunization in a diverse patient population served by a large integrated health system.
3. Engaged electronic health information systems managers at Henry Ford to implement available information technologies used to communicate with health care providers and patients across the health system, through alerts in the EMR.

4. Engaged practicing clinical pharmacists to identify current immunization practices within Henry Ford Health System and identify additional opportunities to deliver adult immunizations.
5. Provided education to physicians based on focus group discussion of physician barriers to immunization. These data were used to create educational materials for both patients and providers. Taking cues from the patients, the written information created included pamphlets and posters which were made available in the HFHS out-patient clinics. The pamphlets were produced in a large font for easy reading, included information that the focus group participants emphasized in the discussions (e.g., disease prevalence, side effects), and space available for them to write down questions for their provider. The poster emphasized both information about vaccines and the need to discuss adult vaccines with providers. The provider education included development of a 'vaccine champion' program within the clinics and a brief educational PowerPoint and discussion delivered to clinic staff by project investigators and staff.
6. Improved immunization rates from 46.3 percent in the clinics studied to 62.3 percent at the end of the project. Intervention clinics had a 15.8 percent increase and control clinics at 13.7 percent increase.

Since our last interim report, the project team has held productive meetings with a variety of staff within Henry Ford Health System. The clinical administrative staff have been very engaged in the process of project development, exploring best avenues for communication and outreach to clinicians, and in understanding best how to engage patients in the outpatient clinic setting. This extremely positive environment for engagement has been very important to our successful activities and is exemplary of truly multi-disciplinary collaboration. In preparing, organizing, scheduling and conducting the qualitative research activities (i.e., focus group discussions and healthcare personnel surveys), there have been no barriers. We believe that the smooth implementation of activities in collaboration with busy health care personnel results from excellent staff communication and a desire to continually improve the quality of service and healthcare delivery. The EMR alert for pneumococcal immunization has been implemented, and in response to physician feedback, data on clinic rates of adult immunization have been provided. The implementation of immunization champions has been completed. All interventions have been implemented.

Since our last interim report, the project staff have continued to receive positive feedback from patients who have been engaged as a result of this project. We are very encouraged by this response as it represents a good sign for our continuing provider and future patient engagement. Overall, there is a strong desire among patients to learn more and improve their health. The focus group discussions afforded patients an excellent opportunity to improve their understanding of pneumonia, pneumococcal disease and prevention of pneumococcal disease through immunization. The qualitative research conducted to date has also been extremely valuable as now there is an established track record of experience as well as patients who are very much interested to learn more about disease and how the vaccine can help.

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