

Title of Intervention: Improving immunization rates at inner-city health centers

Intervention Strategies: Campaigns and Promotions, Provider Education, Individual Education, Environments and Policies

Purpose of the Intervention: To increase influenza and pneumococcal immunization rates

Population: Children between 6 and 23 months old, children ages 2 to 17 years old, adults age 50 years and older

Setting: Inner-city health centers in Pittsburgh, Pennsylvania; health care facility-based

Partners: Faith-based health centers, University of Pittsburgh Medical School residency training sites and faculty practices, University of Pittsburgh Center for Minority Health

Intervention Description: There were two types of interventions: those initiated by the investigators (comparable for all health centers) and those designed and executed by the staff of each health center (differed across sites). The intervention team visited each site to present a menu of intervention options and to brainstorm about the best set of interventions to use for their particular site. All of the sites used at least 1 patient-oriented, 1 provider-oriented and 1 system-oriented strategy. The number of interventions varied among sites from 6 to 11.

- Campaigns and Promotions: Some sites used promotional posters, fliers or brochures in waiting and examination rooms or competitions among providers.
- Provider Education: Some sites used electronic or paper chart reminders or sent emails to medical and nursing staff. Educational sessions were held at all intervention sites to educate physicians and nursing staff about influenza in general, about the safety and efficacy of the vaccine, about the new Advisory Committee on Immunization Practices (ACIP) recommendations and about the objectives and specifics of the study.
- Individual Education: Some sites sent mail reminders to all eligible patients.
- Environments and Policies: All sites were encouraged to establish standing orders to allow nursing staff to vaccinate eligible children without requiring a visit with or a written order from a physician. Some sites instituted walk-in influenza immunizations during regular office hours or during special sessions of flu shot clinics. Some sites provided the vaccine free of charge to uninsured patients.

Theory: Theory of Reasoned Action

Resources Required:

- Staff/Volunteers: Design expert for low literacy media, support staff for mailings and phone calls
- Training: Not mentioned
- Technology: Computers, CASA immunization software
- Space: Not mentioned
- Budget: All centers received stipends of \$3,000 for participation in the research investigation
- Intervention: Educational brochures, posters, fliers, buttons, supply of vaccines, chart stickers, education materials
- Evaluation: Phones, survey, incentives for completing survey, space to conduct evaluation focus groups

Evaluation:

- Design: Quasi-experimental (studies 1 and 2), cross sectional (study 3)
- Methods and Measures:
 - Study 1: Focus groups with representatives from the nursing staff assessed efficacy of each strategy used, suggestions for improvement, the nursing staff's feelings about immunizing very young healthy children and why they thought that parents accepted or refused influenza immunization.
 - Studies 1,2,3: Intervention rate data was gathered through electronic medical records, electronic vaccine registries, manual medical record reviews.

- Study 3: Data gathered through flu questionnaire consisting of attitude about the activity, social influences and the value of the consequences of the activity

Outcomes:

- Short Term Impact: The focus group process revealed that not all nursing staff were supportive of the program. Many did not consider the recommendation to encourage immunization as a routine part of care. Some nurses expressed reluctance to add another immunization to the childhood immunization schedule and indicated that they did not vaccinate children without a physician's visit and order. Posters advertising flu shot clinics were significantly associated with receiving both the flu and pneumococcal vaccines in older adult populations.
- Long Term Impact: For young children, flu vaccine rates were significantly improved. The immunization rates increased in all age, racial and insurance type groups.

Maintenance: Not mentioned

Lessons Learned: The study demonstrated the value of appropriate and effective communication for modifying health behavior. The use of patient-, provider- and system-oriented strategies, as well as enthusiastic staff support, communicates to parents that influenza immunization is important and can result in higher immunization rates. Focus group feedback revealed that letters/fliers to parents may be cost prohibitive for some health centers. Return visit reminder postcards are less expensive than first-class mailings. Staff availability and nonfunctional telephone numbers limit effectiveness of phone call intervention. Provider education needed more emphasis on eligibility, dosing and justification for immunization of healthy young children because not all staff were convinced of the benefits. Saturday flu shot clinics are unnecessary as there are other walk-in options in the neighborhood. Time and expense required for small target population cannot be justified. Walk-in flu shots during office hours are convenient for patients but disrupted regular clinic flow.

Citation(s):

Nowalk, M. P., C. J. Lin, et al. (2005). "Tailored interventions to introduce influenza vaccination among 6- to 23-month-old children at inner-city health centers." *Am J Manag Care* 11(11): 717-24.

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