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RESEARCH NOTES

Training pharmacy technicians to administer immunizations

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ABSTRACT

Objectives: To evaluate the effectiveness of an immunization training program for pharmacy technicians on technicians' self-reported confidence, knowledge, and number of vaccines administered.

Methods: A one-group pre- and posttest study was conducted with certified pharmacy technicians from Albertsons and Safeway community pharmacies in Idaho. Thirty pharmacy technicians were recruited to participate in an immunization administration training program comprising a 2-hour home study and a 2-hour live training. Pharmacy technician scores on a 10-question knowledge assessment, responses on a pre- and posttraining survey, and number of immunizations administered in the 6-month period following the training were collected.

Results: Twenty-five pharmacy technicians completed the home study and live portions of the immunization training program. All 29 pharmacy technicians who took the home study assessment passed with greater than 70% competency on the first attempt. Technicians self-reported increased confidence with immunization skills between the pretraining survey and the posttraining survey. From December 2016 to May 2017, the technicians administered 953 immunizations with 0 adverse events reported.

Conclusion: For the first time, pharmacy technicians have legally administered immunizations in the United States. Trained pharmacy technicians demonstrated knowledge of vaccination procedures and self-reported improved confidence in immunization skills and administered immunizations after participating in a 4-hour training program.

Vaccine-preventable diseases cause long-term illness and hospitalization and account for the deaths of approximately 42,000 people in the United States annually.[1,2] The Centers for Disease Control and Prevention's (CDC) Healthy People 2020 target for influenza vaccination is set at 70%, and currently only 45.6% of people in the United States receive an annual influenza vaccination.[3]

One possible cause of low vaccination rates is limited access to vaccines. Approximately 43.3% of people in the United States live in medically underserved areas or are among medically underserved populations.[4] Medically underserved areas and populations are defined as having "too few primary care providers, high infant mortality, high poverty, or a high elderly population."[5] With its 39.2% vaccination rate, Idaho is among the bottom 5 states for influenza vaccination coverage.[3] Data from the National Center for Health Statistics Mortality Surveillance System report that during the 2016–17 flu season, influenza and pneumonia were reported as the cause of death for 371 people in Idaho, 7% of the state's deaths for this time period.[6] In 2016, Idaho estimated that 71% of its land area is either a medically underserved area or contains a medically underserved population.[7] Increasing access to preventive care in underserved areas across the state could be the key to increasing immunization rates.[4]

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CDC reports that pharmacies are the second most common location for adults to receive flu vaccinations (24.3%) after doctor's offices (37.4%).[8] With convenient hours of operation and locations leading to patient accessibility, pharmacies are having a positive impact on vaccination rates.[4,9,10] However, pharmacists face obstacles to immunizing, including lack of time and reimbursement.[11]

The health care movement to decrease expenditures and improve patient outcomes has led to an increased demand for pharmacists in clinical roles. This shift has created an opportunity for ancillary staff to support pharmacists by taking on advanced roles. Idaho has been an early adopter in expanding the pharmacy technician role.[12] The Idaho Board of Pharmacy created new administrative rules allowing advanced practice roles for certified pharmacy technicians, including instituting tech-check-tech, accepting verbal prescriptions, transferring prescriptions, performing remote data entry, and immunization administration.[13-16] Technicians were already involved in billing, documentation, and patient scheduling, and they could now be more engaged in the immunization process.[17] This change does not imply additional clinical responsibilities for technicians but instead allows delegation of the technical task of administering the immunization. Patient screening, counseling, and prescription verification remain solely the responsibility of the pharmacist. There are no specific limitations for technician immunization administration for specific vaccines, administration routes or sites, or patient age.[13] The present paper describes the development and impact of the first immunization administration training course for pharmacy technicians in the United States on technicians' knowledge and self-reported confidence as well as the number of vaccine doses administered by the trained technicians.

Objective

The objective of this research was to evaluate the effectiveness of a training program designed to teach pharmacy technicians to administer immunizations, through analysis of knowledge assessment results, self-reported confidence in immunization skills, and number of vaccines administered by the first trained technicians in a 6-month period.

Methods

Design

Idaho Rule 330.04 states in part that "an immunizing pharmacist may delegate the technical task of administering an immunization to a technician under their supervision who: holds a current certification in basic life support for health care providers, has successfully completed an ACPE [Accreditation Council for Pharmacy Education]—accredited or comparable course on immunization technique, and is a certified pharmacy technician."[13] Since there was not, to the authors' knowledge, an ACPE-accredited training program for pharmacy technicians in existence, a program meeting this criteria was developed.

After creating the program, Drs. McKeirnan and Frazier sought and were granted ACPE to ensure that the program was aligned with Rule 330.04. The authors were not involved in the legislative movement but rather requested a waiver from the Idaho Board of Pharmacy once the accreditation was complete. The Washington State University (WSU) College of Pharmacy (COP) and Albertsons Companies received a waiver from the Idaho Board of Pharmacy on October 26, 2016, to conduct this pilot before the adoption of Idaho Rule 330.04. The waiver allowed up to 30 pharmacy technicians to become trained and to begin administering immunizations before the change to Rule 330.04. Piloting the training program allowed the program developers to refine and improve the training before widespread participation.

Intervention

After lengthy discussion among the authors, representing both pharmacists and immunization educators, regarding what content to include in a technician immunization training program, Drs. McKeirnan and Frazier created a 4-hour program using a combined home study and live content model. The American Pharmacists Association's Pharmacy-Based Immunization Delivery program provides 20 hours of continuing education, including some devoted to vaccine-preventable diseases and immunology.[18] This is an excellent program for pharmacists, but the authors thought that technician training should focus on safe and accurate administration of the vaccine rather than detailed background about the vaccines and diseases they prevent. If technicians are interested in more information about vaccines, other programs are available for that purpose.[19] Instead, the authors modified the administration training content currently taught to PharmD students at the WSU COP. The 2-hour on-line home study included a narrated presentation, delivered via the Panopto video platform (Seattle, WA), designed to ensure technician understanding of vaccination basics. The content is summarized in Supplemental Table 1 (available online).

A combined model was chosen to ensure that technicians would arrive at the live portion of the training with foundational knowledge for immunization administration. After completing the home study, participants were required to pass a knowledge assessment delivered online via Qualtrics (Provo, UT). A minimum score of 70% on a 10-question assessment was required. A second attempt was allowed for those who did not meet minimum competency on the first attempt. See Supplemental Table 2 (available online) for examples of questions and learning objectives. Questions were in multiple-choice format, developed to assess participant knowledge of content covered in the home study, and similar in difficulty to questions used during administration training for student pharmacists. The authors reviewed the completed exams to determine which questions were most frequently missed to decide if any material needed extra emphasis during the live portion of the program to correct.

After completing the home study module, participants attended a live 2-hour training session. The focus of the live portion was to ensure safe administration of an injection and emergency management. While emergency management is still considered to be under the scope of the pharmacist, the authors thought that anyone involved in immunization administration should be trained to respond to an emergency. Content covered during the live session is summarized in Supplemental Table 1. After an overview of appropriate immunization administration techniques, technicians were given