Fostering Interprofessional Education Through a Multidisciplinary, Community-Based Pandemic Mass Vaccination Exercise

We expanded health care services to economically disadvantaged individuals in an interprofessional, student-driven vaccination effort that also served as a pandemic planning drill. Health care professional students from colleges in and around Rockford, Illinois participated in implementing a mass vaccination event from 2011 to 2014 that targeted the underserved population. There was a 459% increase in total vaccinations administered to at-risk patients from year 1 to year 4. This interprofessional health care student–driven effort expanded medical service to disadvantaged individuals. (*Am J Public Health.* 2018;108:358–360. doi:10.2105/AJPH.2017.304240)

Annette Hays, PharmD, Christopher Schriever, PharmD, MS, John Rudzinski, MD, Janet L. Lynch, RN, MS, Ellen Genrich, and Allison Schriever, PharmD

Our program describes the four-year experience of a novel, health professional student–driven, community-based, pandemic planning exercise that served as a platform for providing health care services and immunizations to the uninsured and underserved.

INTERVENTION

Our objective was to administer influenza vaccinations to as many economically disadvantaged individuals as possible in a single day while expanding access to health care services that are otherwise unobtainable because of low socioeconomic status. The event also offered pharmacy, medical, and nursing students a real-world opportunity to enhance their clinical training and improve patient care.

PLACE AND TIME

The annual event took place from 2011 to 2014 in Northern Illinois. By 2014, efforts spanned across nine Northern Illinois counties (Jo Daviess, Stephenson, Winnebago, Carroll, Ogle, Whiteside, Lee, Boone, and DeKalb).

PERSON

The vaccination effort targeted economically disadvantaged, at-risk, medically underserved and uninsured individuals while serving as an educational, hands-on activity for health care professional students in the Northern Illinois region.

PURPOSE

Since 2010, there have been an estimated 12 000 to 56 000 influenza-related deaths annually in the United States alone.[1] As a first-line method for preventing the flu, the Centers for Disease Control and Prevention recommends that all individuals aged six months or older receive the annual influenza vaccine. Healthy People 2020 implemented a goal influenza vaccination rate of 70% across all age groups in an effort to reinforce this recommendation.[2] Despite these targets, the National Health Interview Survey demonstrated that influenza vaccination rates fell well below the 70% goal during the 2015 to 2016 flu season.[3]

Hard-to-reach populations, such as undocumented immigrants, homeless individuals, and substance users, may be less likely to receive the influenza vaccine than are groups that receive routine health care.[4] In a study performed by Ross et al., self-reported immunization rates demonstrated that having health insurance coverage had a positive correlation with receiving vaccinations.[5] Such findings demand sustainable programs and outreach activities to expand immunization access to the disadvantaged population. Recent literature has proven success with segmented pharmacy or medical student–driven immunization efforts to improve vaccination rates among the underserved and uninsured.[6,7] However, the literature has yet to describe community-based immunization programs that are driven by interdisciplinary teamwork among health care students from multiple disciplines.

IMPLEMENTATION

We asked regional four-year universities and colleges in and around the Rockford, Illinois

ABOUT THE AUTHORS

Annette Hays, Christopher Schriever, and Allison Schriever are with the College of Pharmacy, University of Illinois at Chicago, Rockford. John Rudzinski is with the College of Medicine, University of Illinois, Rockford. Janet L. Lynch is with Sauk Valley Community College. Ellen Genrich is with the Boone County Health Department.

Correspondence should be sent to Allison Schriever, PharmD, Department of Pharmacy Practice, University of Illinois at Chicago, College of Pharmacy, 1601 Parkview Ave., Room A302, Rockford, IL 61107 (e-mail: aes@uic.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This article was accepted November 13, 2017.

doi: 10.2105/AJPH.2017.304240

region to join the initial coalition. We recruited medical, pharmacy, and nursing student volunteers from participating schools to participate in the planning and execution of the event. All participants used Web-based (distance) or onsite just-in-time training designed by health care student leaders to prepare for the vaccination event. The training provided event rationale, workflow logistics, instructions regarding immunization and screening techniques, and bloodborne pathogen safety; it also defined the respective roles of participants staffing the event.

We assigned students duties regardless of professional affiliation, so responsibilities associated with one type of profession (e.g., acquiring blood pressure readings is often viewed as part of a nurse's role) could not be preserved. This technique prompted the students to learn about other disciplines (with college faculty and student leaders facilitating discussion) during the required training. All students were able to triage patients and perform blood pressure and glucose screenings. Medical, nursing, and fourth-year pharmacy students were able to administer vaccinations, as well. Faculty from participating colleges also attended training and supervised the event.

We chose local community outreach organizations (e.g., food banks, homeless shelters) as points of distribution on the basis of participation requests, location, and accessibility to the economically disadvantaged population. Student leaders for each discipline were tasked with soliciting vaccination and supply donations from local hospitals, community pharmacies, and health care organizations; recruiting and managing student volunteers; and acting as public information officers during the event, which included interviews for local news broadcasting. A designated planning committee held weekly meetings to discuss and address participating site selection, protocols, advertising, training, workflow design, inventory management, grant submissions, and assessment techniques.

EVALUATION

We evaluated the success of the event by analyzing growth in the number of sites, student participants, services, and vaccinations administered. During the four-year progression of the event, participating sites grew from 1 to 13 and community partners increased from 3 to 28. In addition, student participants increased from 30 volunteers the first year to more than 200 the fourth year. As participating site requests increased from year to year, so did the need for student volunteers. This increase in volunteers from multiple health professions contributed to the 459% increase in total vaccinations administered from year 1 to year 4. In addition, blood glucose and blood pressure screening services were offered during years 2, 3, and 4. The fourth year also included Tdap (diphtheria, pertussis, and tetanus) vaccine administration.

The outcomes listed in Table 1 support the measures that demonstrate successful expansion of services. By increasing the number of sites, more patients in the Northern Illinois region had access to the services offered. Such expansion required greater manpower, as demonstrated by a 567% increase in student volunteers participating from year 1 to year 4. Because of that increase in volunteers, 459% more vaccinations could be given in the same one-day period. By combining health care professional students from multiple specialties, more services could be provided.

ADVERSE EFFECTS

We did not document adverse effects or unintended consequences during the events.

SUSTAINABILITY

The program received grant funding but was sustained because of the volunteer efforts of the students and faculty as well as supply donations from multiple organizations and companies. The low cost, along with the benefits of expanded services to our target population, provided the foundation for program sustainability.

PUBLIC HEALTH SIGNIFICANCE

Our method, to our knowledge the first of its kind, is an annual mass vaccination event organized and implemented by pharmacy, medical, and nursing students with the goal of administering the influenza vaccine to as many disadvantaged individuals as possible in a single day while expanding access to other health care services (e.g., screenings). The one-day event grew rapidly and offered an opportunity for interprofessional health care student collaboration.

By the end of the fourth year, the program extended to seven regional counties consisting of multiple collaborating agencies with members from diverse professional backgrounds (e.g., pharmacy, nursing, medicine, public health). The growth in health care student volunteers and regional expansion provided the resources required to increase vaccines administered (459% increase in total vaccinations) from year 1 to year 4. The efforts demonstrated positive public health implications for the

TABLE 1—Student-Driven Mass Vaccination Event Results: Rockford, IL, 2011–2014

	Year 1: 2011, No.	Year 2: 2012, No.	Year 3: 2013, No.	Year 4: 2014, No.
Sites	1	4	12	13
Partners	3	6	9	28
Student volunteers	30	150	150	>200
Vaccinations administered				
Total	150	430	650	839
Flu	150	430	650	524
Tdap	0	0	0	315
Blood glucose screening	NA	69	82	105
Blood pressure screening	NA	97	116	148

Note. NA = not available; Tdap = diphtheria, pertussis, and tetanus.

underserved and uninsured population, as measured by the increase in vaccinations administered, number of sites, student volunteers, and services offered.

The ability of the students to embrace each other's roles—as evidenced by their ability to perform any assigned duty regardless of professional affiliation and perform as a multidisciplinary team with one common goal—allowed the expansion of services that would not have been possible if students siloed themselves into the traditional roles of each discipline. By capitalizing on the multiple disciplines of health care professional students, we were able to implement our program to include the entire geographic region of Northern Illinois. We believe that adopting the principles of interdisciplinary health care professional student–driven programs similar to the one we have described may provide a platform for success with other public health initiatives. AJPH

CONTRIBUTORS

A. Hays, C. Schriever, and A. Schriever drafted the article and designed the table. All authors planned and supervised the event, provided feedback, and contributed to the evolution of the project.

ACKNOWLEDGMENTS

We thank the following academic partners: Kishwaukee Community College, Northern Illinois University College of Nursing, OSF St. Anthony College of Nursing, Rockford Public Schools Nurses, Rockford University, Rock Valley Community College, Sauk Valley Community College, University of Illinois at Chicago College of Pharmacy, University of Illinois College of Medicine at Rockford. We thank the following regional community partners: Belvidere-Boone Food Pantry, Boone County Health Department, Carpenter's Place, Carroll County Health Department, DeKalb County Health Department, First General Baptist Church, Jo Daviess County Health Department, Lee County Health Department, Ogle County Health Department, Rockford Rescue Mission, Rock River Food Pantry, Salvation Army, Shelter Care Ministries, St. Elizabeth Center, St. Bridget Food Pantry, Stephenson County Health Department, Whiteside County Health Department, Winnebago County Health Department. We thank the following materials, services, and vaccine donors: Bridge Clinic of Rockford, CVS, FHN Memorial Hospital, Freeport, IL, Lehan Drugs, DeKalb, IL, Napleton Auto Group, Rockford, IL, North Park Pharmacy, Machesney Park, IL, OSF St. Anthony Medical Center, Rockford, IL, Rockford Health System, Rockford, IL, Sanofi-Pasteur, Inc., Swedish American Hospital, Rockford, IL.

For their tireless efforts and commitment to the Rockford community, we also give special thanks to Karla Chester, BS, Aaron Jannings, MD, Stephanie Kuschel, BS, MPA, IPEM, and Amanda Patterson, MD.

HUMAN PARTICIPANT PROTECTION

No protocol approval was necessary because no human participants were involved in this study.

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