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Abstract:

Incredible advances in health care have been made over the past century. Despite its position as a powerful country which offers the opportunity for state-of-the-art high-quality patient-centered care, many people within the U.S. do not have access to or cannot afford health care. Recently, the U.S. has seen the passage and early implementation of the Affordable Care Act. Even with this recent reform and expanded access, many people living in the U.S. remain marginalized, uninsured and underinsured and are therefore challenged in accessing necessary health care services. Universities have a unique opportunity and responsibility to explore and identify solutions for such problems of society.

This paper describes the methodology and results of a novel campus-community partnership that serves to directly respond to an unmet yet important health care need of a marginalized patient population. The Urban Institute of the College of Pharmacy and Health Sciences at St. John's University was successful in developing a community outreach initiative that provided free flu vaccines to an underserved indigent patient population in New York City in an effort to decrease their risk for flu-related morbidity and mortality. The initiative utilized the knowledge, expertise and skills of pharmacy practice faculty (and student pharmacists) and provided the flu vaccine to 200 people at community partner sites of the University. This Urban Institute initiative serves as a model for other campus-community partnerships that will search out the causes of poverty and social injustice and provide effective concrete solutions for our community.

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INTRODUCTION

Improvements in health outcomes over the past century are a consequence of a multitude of factors, including, significant developments in scientific research, education, technology, nutrition, sanitation and policy. This increased knowledge has led to numerous paradigm shifts in health care delivery and measurement with the primary goal of improved health for people. While health care continues to encompass the provision of medical care for people that are acutely ill, there has been increased attention and resource allocation for supportive care, chronic disease state management, health promotion and disease prevention initiatives. Consequently, people living in the United States (U.S.) and many other countries have experienced an overall improved quality and duration of life. In 2013, life expectancy at birth in the U.S. was 78.8 years (Xu, Murphy, Kochenak, & Bastian, 2016). This estimate represents an increased life expectancy of more than 25 years from the start of the 20th century. Since 1979, the U.S. Department of Health and Human Services has developed a detailed national 10-year plan for improving and measuring the health of all Americans. The most current iteration, Healthy People 2020, has identified more than 1,200 distinct objectives to achieve its goal and provides interventions and resources to assist in attaining these objectives. Some of the topics of focus in Healthy People 2020 are disease-specific such as heart disease, cancer, and respiratory diseases, while others are focused on broader areas such as access to health services and immunizations. Healthy People 2020 essentially provides a blueprint for methodology and goals to enhance the health of Americans today (US Department of Health and Human Services).

Despite the significant advances in modern health care, inequities clearly exist on the global and national scale. High-quality care exists for some, but certainly not all. The World Health Organization (WHO) defines health inequity as "systematic differences in the health status of different population groups" (World Health Organization). The WHO cites countless examples of global health inequity, which is often intertwined with poverty. Although more commonly associated with the poorer developing countries, problems of health inequity and poverty also exist within the U.S. Despite its position as a globally powerful and wealthy country which offers the opportunity for state-of-the-art high-quality patient-centered care, the fact is that many people within the U.S. do not have access to or cannot afford health care and/or treatment. In 2012, the Commonwealth Fund estimated there were 47.3 million people uninsured and an additional 31.7 million people who were underinsured within the U.S. (Schoen, Hayes, Collins, Lippa, & Radley, 2014).

Despite the significant advances in modern health care, inequities clearly exist on the global and national scale. High-quality care exists for some, but certainly not all.

The barriers to access have led the country into a continuous national debate on how best to provide health care to its residents. Recently, the U.S. has seen the passage and early implementation of the Affordable Care Act (ACA), which is intended to provide Americans with improved access to affordable, quality health insurance and to reduce the growth in health care spending within the U.S. The ACA is the most significant health insurance expansion and market reform since 1965, when Medicare and Medicaid were enacted. The success of the act is a matter of fierce debate within the country at this time and its assessment often appears to be largely based on political affiliation. In 2014, the ACA offered major coverage expansions, particularly through ACA marketplace plans or Medicaid expansions. The latest Commonwealth Fund ACA Tracking Survey indicated that the number of adults who are uninsured is significantly below

levels just prior to the ACA major coverage reforms taking effect (Collins, Rasmussen, Doty, & Beutel, 2015). The percentage of adults ages 19 to 64 who are uninsured was reported as 13 percent in March–May 2015, compared with 15 percent in April–June 2014, and 20 percent in July–September 2013. This finding represents an estimated decline of 12.1 million uninsured adults since the ACA coverage expansions took effect. Similar results have been reported by other recent surveys. The number of underinsured adults appears to have remained stable in 2014 at approximately 31 million people (Collins, Rasmussen, Beutel, & Doty, 2015). It is important to note that health care in the U.S. does not come inexpensively. In 2014, U.S. health care expenditures were estimated at $3 trillion, essentially doubling, since 1980, the percentage of U.S. gross domestic product to 17.5%. Spending increased by 5.3% in 2014, a faster growth than in the prior 5 consecutive years, primarily due to the major coverage expansions of the ACA (Martin, Hartman, Benson, Catlin, & National Health Expenditure Accounts Team, 2016). Health care in the U.S. is clearly an increasingly complex system and continues to draw attention and concern from those who receive, provide and finance care.

Despite the recent reform, many people living in the U.S. remain uninsured and underinsured and are therefore challenged to access necessary health care services. The health care "safety net" is focused on these individuals and plays a critical role in providing health care services to the marginalized. The safety net is a network of institutions, clinics and physician offices that provides care to patients, regardless of their ability to pay for those services, and maintains a substantial share of patients that are uninsured, underinsured, on Medicaid, and other vulnerable populations (Institute of Medicine, 2000). The safety net system often includes care provided at public hospitals, community health centers and local health departments. Unfortunately, the availability and funding of the safety net system varies greatly across the different regions of the U.S. and political landscapes. Particularly marginalized patient populations, including the homeless and undocumented immigrants, may still find it challenging to successfully navigate the safety net system and therefore may fall through the cracks, lacking access to a primary care provider (PCP) and to basic medical treatment and preventative care. A 2015 U.S. Department of Housing and Urban Development study using data from a count within the U.S. on a single night, found that 564,708 were homeless, 69% of which were sheltered and 31% of which were unsheltered (U.S. Department of Housing and Urban Development, 2015). Homelessness remains a pervasive problem in the U.S.

Universities have a unique opportunity and responsibility to explore and to identify solutions for problems of society. The development and dissemination of new knowledge through the practice of teaching, research and scholarship are fundamental to the university and to its relationship with society. The primary purpose of this paper is to describe a novel campus-community partnership model that serves to directly respond to an unmet yet important health care need of a marginalized patient population. More specifically, this paper will describe the development of a St. John's University community outreach initiative to provide free flu vaccines to an underserved indigent patient population in New York City (NYC). The initiative utilizes the knowledge, expertise and skills of pharmacy practice faculty (and student pharmacists) from the College of Pharmacy and Health Sciences. St. John's University is a Catholic and Vincentian University that in addition to being focused on academic excellence and the pursuit of wisdom, devotes it's "intellectual and physical resources to search out the causes of poverty and social injustice and to encourage solutions that are adaptable, effective, and concrete" (St. John's University, 2015). This initiative is a mission-aligned project at St. John's University.

URBAN INSTITUTE COMMUNITY OUTREACH PROJECT

The Urban Institute

In recognition of its mission as a metropolitan, Catholic, and Vincentian University, the College of Pharmacy and Health Sciences created The Urban Institute in 2004. The purpose of The Urban Institute is to serve as a hub for scientific inquiry, innovation and service that impacts the health of the medically indigent and poor of NYC. The Institute accomplishes its goal by fully engaging and leveraging expertise of the College/University community and by establishing partnerships, collaborations and strategic alliances with the external community. The Institute has developed and executed a variety of successful programs, including academic lectures and community service events focused on caring for the underserved, as well as the development of innovative and structured programs to engage NYC high school students interested in health professions. During the past two years the Institute has been proud to offer a novel flagship program, the Flu Vaccine Community Outreach Initiative. This initiative was developed to provide access to flu vaccines for the underserved patient population at NYC-based community partner sites of the University.

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The Flu and Opportunity for Prevention Intervention

Influenza (also known as the flu) is a contagious respiratory infection that is caused by different types and subtypes of influenza viruses (Centers for Disease Control, 2015). The symptoms of the flu can range from mild self-limiting symptoms to severe illness and death. People with the flu often experience some (or many) of the following symptoms which will resolve within a few days to less than 14 days: fever, chills, cough, sore throat, muscle/body aches, headaches and fatigue. However, some people may experience progression of the flu and develop complications such as sinus infections, bronchitis and pneumonia. The flu can also exacerbate certain chronic medical problems like asthma and heart failure. Each year, more than 200,000 people in the U.S. are hospitalized for respiratory and heart condition illnesses associated with seasonal influenza infections (Thompson et al., 2004). A wide range of estimates of flu- associated deaths in the U.S. have been reported, from 3,000-49,000 people each year (Centers for Disease Control, 2015). All people are susceptible to the flu but people with the highest risk for complications include those 65 years of age or older, people of any age with certain chronic disease states (e.g. asthma, diabetes, heart disease), pregnant women and young children. The direct medical costs of the influenza epidemic have been estimated at more than $10 billion, not including the projected cost of lost earnings due to illness and loss of life (Molinari et al., 2007).

Flu season within the U.S. can begin as early as October and last as late as May (Centers for Disease Control, 2015). A variety of different flu vaccines are available and when administered, induce the development of antibodies which can provide protection against the influenza viruses. Each year, flu vaccines are modified to include the virus types and subtypes predicted to be most prevalent in the U.S. for that particular flu season based on research. Current guidelines from the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommend routine annual influenza vaccination for all persons aged ≥ 6 months who do not have contraindications (Grohskopf et al., 2015). This guidance for universal flu vaccination has been in place since 2010. When possible, it is recommended that vaccination should occur before the onset of influenza activity in the community.

Vaccination should continue to be offered as long as influenza viruses are circulating. There are numerous potential benefits of flu vaccination, including prevention of the flu, milder illness if the person does get the flu, and reduced risk for more serious flu outcomes, like hospitalization. During the 2011-2012 flu season, flu vaccination was associated with a 71% reduction in flu-related hospitalizations among adults of all ages and a 77% reduction among adults 50 years of age and older (Centers for Disease Control, 2015).

The annual flu vaccine is a critical tool to successfully prevent the flu and its associated morbidity, mortality and costs. Patients may access the flu vaccine at their PCP's office, community health centers and urgent care centers. In an effort to further expand access to immunizations, and to capitalize on the expertise and accessibility of pharmacists within the community, all states as of the year 2009 provided authority for pharmacists to administer certain immunizations. New York State currently allows immunization-credentialed and licensed pharmacists to administer the flu vaccine (and immunizing agents to prevent six other vaccine-preventable diseases) to patients 18 years of age or older, pursuant to a patient specific order or non-patient specific order (New York State Education Department-Office of the Professions, 2015). Despite this generally enhanced accessibility to the flu vaccine in the community for the insured and/or financially secure, accessibility is hindered or prevented for those who are uninsured and/or unable to afford the costs of the vaccination. Recognizing this access gap for the urban indigent of NYC, the Institute developed its Flu Vaccine Community Outreach Initiative as an intervention to close the gap for affected people at community partner sites of the University.

Project Development and Logistics

An important step following identification of the Institute initiative, was engagement of the project stakeholders to assess interest and feasibility of the project. Numerous stakeholders were identified, including the Dean of the College of Pharmacy and Health Sciences, University's General Counsel, University Provost, NYC Department of Health and Mental Hygiene (DOHMH), Department Chairperson and pharmacy practice faculty, Directors of the University's Vincentian Institute for Social Action (VISA), mission-aligned community partner sites and student pharmacists. The engagement of each of these stakeholders was critical to the successful development and execution of the project. The College Dean and VISA Directors were strong champions of the project due to its alignment with university mission and provided budgetary support for the initiative. The Urban Institute collaborated with the NYC DOHMH, University General Counsel, University Provost and Supervising Pharmacist of the College's Pharmacy, to have a cooperative agreement reviewed and executed that allowed the College to become the first pharmacy school in the state to obtain a "non-patient specific standing order" for its appropriately credentialed pharmacy practice faculty to administer flu vaccines to adults in NYC. The College's pharmacy practice faculty were engaged by the Urban Institute to determine interest in volunteering their time and expertise for this initiative and they responded with a strong level of interest. Faculty requested to engage student pharmacists in this initiative as an academic service-learning experience during their experiential coursework and the students responded enthusiastically to this opportunity. VISA maintains contact with many University community partners that primarily focus on serving the indigent, and assisted the Institute in connecting with such partners to assess their level of interest in offering free flu vaccine clinics at their locations. Several community partners expressed their interest in hosting such clinics that would provide the flu vaccine at no cost to their clients who would not otherwise have such access.

Additionally, the Urban Institute initiative required a myriad of logistics and planning to successfully execute the program. New written procedures, processes and documentation forms (e.g. patient informed consent form for the flu vaccine) were created and approved to

ensure legal and regulatory compliance. The vaccines and related supplies were purchased from the appropriate vendors. A refrigerator and thermometer were necessary since the flu vaccines require storage at controlled refrigerated temperature. Since the flu vaccine clinics were scheduled at off-campus locations, a large cooler, ice packs and travel bag were purchased to transport the necessary items to the community partner sites. The travel bag required sufficient copies of all written materials that was to be provided to the patients. Furthermore, due to the ethnic diversity of the patient population in NYC, written materials on the flu vaccine needed to be available in a variety of languages for patient use. Physical space at the College needed to be allocated to store all of the necessary supplies. The timing of flu vaccine clinics required coordination with the community partner site so as to maximize their client participation, sometimes requiring evening and weekend hours. Each flu vaccine clinic included the participation of two pharmacy practice faculty. The faculty were provided with an orientation program to review necessary procedures for the initiative and to review eligibility criteria and contraindications for immunizing patients. The flu vaccine clinics were advertised (via flyers and word of mouth) at the community partner site in advance of the scheduled date. The community partner sites were asked to provide translators when needed.

In receiving the standing order, the Urban Institute committed to providing the NYC DOHMH with monthly updates on the number of vaccines administered and to request patient consent to have the administered vaccines recorded in a patient profile within the NYC Citywide Immunization Registry (CIR). The CIR provides a web-based central portal whereby all vaccines received by a patient can be documented, allowing healthcare providers to access such records to maximize awareness of administered vaccinations, prevent unnecessary confusion of vaccination history and potential vaccination errors, and provide optimal care. All patients immunized by the Institute's program needed to be provided with documentation of their vaccination that they could share with medical providers and offered the opportunity to have their PCP contacted to confirm vaccination. Additionally, if the patient consented to the CIR, their data for their flu vaccine needed to be entered. Hard copy signed informed consent forms needed to be stored for all immunized patients in a locked file cabinet at the University.

Project Assessment

The Urban Institute Flu Vaccine Community Outreach Initiative has run consecutively for two flu seasons (2014-2015 and 2015-2016). The evaluation of the initiative has been approved as exempt by the St. John's University Institutional Review Board (IRB). Data presented here represent the complete results to date for this program.

Sixteen pharmacy practice faculty from the College of Pharmacy and Health Sciences have participated as immunizers for this program. Many of the faculty invited student pharmacists to their scheduled flu vaccine clinics as an academic service-learning project for their experiential courses. Students did not serve as immunizers but instead supported the clinics with logistical assistance and provided faculty-supervised educational counseling to patients. Eighteen separate flu vaccine clinic sessions were scheduled at five different community partner sites. The community partner sites were largely located in Queens, New York and included Catholic Charities Queens Community Center, New Life Community Health Center, Homes for the Homeless-Saratoga Family Inn (a family homeless shelter), Immigrant Advancement Matters and Bed-Stuy Campaign Against Hunger. All community partner sites were focused on serving the urban indigent population.

The Urban Institute Flu Vaccine Community Outreach Initiative has provided 200 people with flu vaccinations. Baseline characteristics of the patients that were immunized are included in the Table 1. The assessment of the baseline characteristics demonstrates that the initiative did focus on the intended underserved urban indigent patient population. More than 70% of

patients reported that they did not have a PCP. Only 32.2% of the patients reported receiving the flu vaccine in the prior year. Furthermore, 37.2% of the patients reported having never received the flu vaccine prior to this Urban Institute initiative. Eighty-five percent of immunized patients provided consent to report this flu vaccination to the NYC CIR and this data was subsequently entered.

SUMMARY

Incredible advances in health care have been made over the past century. Despite its position as a globally powerful and wealthy country which offers the opportunity for state-of-the-art high-quality patient-centered care, many people within the U.S. do not have access to or cannot afford health care. Recently, the U.S. has seen the passage and early implementation of the Affordable Care Act (ACA), which is intended to provide Americans with improved access to affordable, quality health insurance and to reduce the growth in health care. Despite the recent health care reform and expanded access, many people living in the U.S. remain uninsured and underinsured and are therefore challenged to access necessary health care services. Universities have a unique opportunity and responsibility to explore and to identify solutions for problems of society. This paper describes a novel campus-community partnership that serves to directly respond to an unmet yet important health care need of a marginalized patient population. The Urban Institute of the College of Pharmacy and Health Sciences at St. John's University was successful in developing a community outreach initiative that provided free flu vaccines to an underserved indigent patient population in NYC in an effort to decrease their risk for flu-related morbidity and mortality. The initiative utilized the knowledge, expertise and skills of pharmacy practice faculty (and student pharmacists) and provided the flu vaccine to 200 people at community partner sites of the University. The initiative demonstrated the important public health role of pharmacists and the University's commitment to its Vincentian mission. It is the hope of the author that this Urban Institute initiative serves as a model for

Table 1

Baseline Characteristics for Urban Institute Flu Vaccination Initiative (n= 200 patients)

Mean Age	41.2 years (range: 18-81)
Female	55.3%
Report Having a Primary Care Provider (PCP)	28%
Report Receiving the Flu Vaccine in the Year Prior to the Urban Institute Initiative	32.2%
Report to Have Never Received the Flu Vaccine before the Urban Institute Initiative	37.2%
Provided Consent to Report Flu Vaccination to NYC Citywide Immunization Registry (CIR)	84.9%

other campus-community partnerships that will search out the causes of poverty and social injustice and provide effective concrete solutions for our community.

The Urban Institute Flu Vaccine Community Outreach Initiative is dedicated to the loving memory of the late Dr. Pamela Shea-Byrnes who was Vice President for Campus Ministry and University Events at St. John's University. Pam was a loving and beloved member of the St. John's University family who lived its Catholic and Vincentian mission and worked to instill the spirit of service, compassion, and caring into the lives of all whom she touched. Pam is deeply missed and will forever remain an inspiration.

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(Back row, left to right) Russell DiGate, Ph.D., dean; Conry; Olga Hilas '03Pharm.D., associate professor; Maria Mantione '96P, '98Pharm.D., associate clinical professor; Danielle Ezzo '01P, '02Pharm.D.; Nissa Mazzola '06Pharm.D., assistant clinical professor; Sum Lam, Pharm.D., associate clinical professor; Samantha Jellinek-Cohen, Pharm.D., assistant clinical professor; William Maidhof '03Pharm.D., assistant clinical professor.

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