INTRODUCTION

Influenza is a highly contagious disease and one of the leading causes of death in the United States each year. Influenza has caused between 12,000 and 56,000 deaths annually since 2010. Vaccinations to protect against influenza infection have been available for decades and provide the best protection against influenza virus infection. Vulnerable populations, such as pregnant women and some racial and ethnic minorities, are at increased risk for severe illness and complications from influenza. Disparities in vaccination of racial and ethnic populations, and the increased risk to pregnant women warrants targeted interventions to increase awareness, knowledge, and promotion of influenza vaccination in those communities.

The Association of State and Territorial Health Officials (ASTHO), with support from CDC, has conducted a multi-year project, “Vulnerable Populations Planning: Mitigating the Impact of Seasonal and Pandemic Influenza Project (Vulnerable Populations Project),” which aims to improve immunization uptake among vulnerable populations by increasing awareness, improving education on influenza vaccinations, and expanding outreach to healthcare providers that serve these populations. As part of the Vulnerable Populations Project, ASTHO has partnered with several healthcare organizations including the Association of American Indian Physicians (AAIP), the American College of Nurse-Midwives (ACNM), the American College of Obstetricians and Gynecologists (ACOG), the National Medical Association (NMA), and the National Hispanic Medical Association (NHMA). Throughout this five-year project, ASTHO and its partners developed resources, conducted outreach, and strengthened partnerships to improve influenza immunization rates in target vulnerable populations.

In 2015, ACOG, with support from ASTHO and CDC, conducted a pilot program to review maternal hospitalizations due to influenza, identify barriers and system failures resulting in such hospitalizations, and provide recommendations to reduce or eliminate these barriers. As part of this effort, ACOG formed a Community Action Team (CAT) to determine and implement actions addressing system and resource barriers. In 2016, ASTHO embarked on a capacity building project inspired by ACOG’s pilot program. For this initiative, ASTHO partnered with two healthcare provider organizations, the National Hispanic Medical Association (NHMA) and the Association of American Indian Physicians (AAIP), to improve influenza immunization uptake among American Indian communities and Hispanic communities in defined geographical locales. The capacity building initiative was divided into two phases. Phase one involved convening two stakeholder meetings in select locales to identify barriers to influenza immunization uptake and strategies to address these barriers during the summer of 2016. In 2017, ASTHO, NHMA, and AAIP built upon lessons learned in Phase I. Phase II involved the development of the CATs, and the creation, execution, and evaluation of action plans.
To kick off the capacity building initiative, ASTHO convened two stakeholder meetings during the summer of 2016. One meeting (in collaboration with AAIP) focused on improving influenza immunization uptake among American Indian adults in Arizona, and the second meeting (in collaboration with NHMA) focused on improving uptake among Hispanic adults in New York state.

The one-day capacity building meetings brought together diverse groups of stakeholders, including state and local public health personnel, healthcare providers, community coalitions, and community representatives to discuss challenges and barriers to influenza immunization uptake, as well as share lessons learned. The first half of the meeting consisted of presentations from an array of meeting participants, while the second half of the meeting featured breakout groups to discuss barriers to influenza immunization uptake, and potential solutions.

ASTHO began phase two of the capacity building initiative in Fall 2016. This phase of the initiative involved the establishment of the CATs, as well as the development, execution, and analysis of action plans to improve influenza immunization uptake. Two CATs were established as part of this initiative: the NHMA CAT and the AAIP CAT. The CATs convened initial kick-off calls, where activities and priorities for the 2016-17 flu season were set and action plans developed. Monthly calls were scheduled to provide updates on CAT activities and upcoming events. A master calendar and member roster for each CAT were created and shared with members.

Having identified a diverse group of public health personnel, healthcare providers, and community coalition representatives for the capacity building stakeholder meetings, ASTHO and its partners extended invitations to these organizations to join the AAIP CAT or NHMA CAT. Other partners and stakeholders with a common interest and commitment to improving influenza immunization uptake were also identified and invited to join the CATs.

**AAIP CAT**
- Arizona Department of Health Services (ADHS)
- The Arizona Partnership for Immunizations (TAPI)
- Association of American Indian Physicians (AAIP)
- Association of State and Territorial Health Officials (ASTHO)
- Gila River Indian Community Tribal Health Department
- Intertribal Council of Arizona
- Maricopa County Department of Public Health
- Native Health of Phoenix
- Phoenix Indian Medical Center (IHS)

**NHMA CAT**
- Association of State and Territorial Health Officials (ASTHO)
- National Hispanic Health Foundation (NHHF)
- National Hispanic Medical Association (NHMA)
- New York State Department of Health (NYSDOH)
- New York City Department of Health and Mental Hygiene (NYCDOHMH)
During an initial kick-off call, CAT members identified an overarching goal and key priorities of focus for the CAT for the 2016-17 flu season. The overarching goal for both CATs was to strengthen public health and healthcare provider partnerships to promote practices, policies, and activities to help improve influenza immunization uptake. However, both CATs identified different priorities to achieve this goal.

**AAIP CAT Priorities**

- Distribute culturally relevant information and resources utilizing relationships with IHS, 638 facilities, tribal health directors, healthcare providers, and other relevant stakeholders.
- Host a webinar to disseminate information related to flu coverage rates in Arizona, promising practices and flu initiatives for the 2016-17 flu season, as well as available resources for healthcare providers.
- Utilize current partnerships with IHS, tribal health directors, and other relevant stakeholders to gather information on how flu data is being collected and reported and disseminate to appropriate audiences.

**NHMA CAT Priorities**

- Increase promotion of new and existing influenza related resources and materials to healthcare providers who serve Hispanic communities in New York state.
- Increase promotion and distribution of flu related resources and materials to Hispanic adults in New York state.
- Strengthen provider recommendations for flu vaccines through peer education and advocacy.
COMMUNITY ACTION TEAM ACTIVITIES

The CATs created action plans for the 2016-17 flu season which featured several activities to help improve influenza immunization uptake. Activities focused on two overarching themes: increasing educational outreach to communities and strengthening provider recommendations for influenza immunizations.

INCREASE EDUCATIONAL OUTREACH

Vaccine hesitancy has been identified as a major barrier to uptake of influenza vaccination. Misinformation and misconceptions about influenza and influenza vaccines are critical components of vaccine hesitancy, which can result in reduced vaccine acceptance especially among racial/ethnic minorities. Culturally sensitive information delivered using relevant mechanisms, and recommendations from trusted healthcare providers can help improve influenza vaccination acceptance and uptake.

Common culturally relevant mechanisms for consideration:

- Social media (e.g., Facebook, Twitter, etc.).
- Radio and television advertisements or PSAs.
- Printed educational materials in community hotspots (e.g., doctor offices, grocery stores, etc.).
- Attendance at community events or popular gathering spaces (e.g., community centers, transportation hubs, etc.)

The CATs identified several state and local mechanisms to disseminate current materials and resources to target communities to help combat misinformation and misconceptions about the flu. CAT members completed several activities to raise awareness and improve knowledge, including disseminating flu educational materials, utilizing social media to spread facts and information on influenza, and sending out text message assistance information. The tables below describe a full list of education and outreach activities completed by CAT members during the 2016-17 flu season.
AAIP CAT - EDUCATIONAL OUTREACH

ADHS disseminated influenza messages to IHS and the Intertribal Council of Arizona throughout the 2016-17 flu season. These messages were then distributed throughout IHS regions and to tribal health departments and clinics.

IHS members attended community events (e.g., farmer’s markets) to provide education and raise awareness about the importance of influenza vaccinations.

AAIP created and disseminated waiting room videos, brochures, and a factsheet to promote influenza vaccinations among American Indians populations. Materials were disseminated to AAIP members, as well as IHS facilities and tribal clinics.

TAPI participated in the CDC’s National Influenza Vaccination Week, an awareness week focused on highlighting the importance of influenza vaccination.

NHMA CAT - EDUCATIONAL OUTREACH

NYSDOH created new simplified flu posters. NYSDOH disseminated over 34,000 influenza and pneumococcal prevention posters and fliers, reaching approximately 56 percent of the counties NYSDOH serves.

NYCDOHMH held a press event at the Concord Baptist Church in Central Brooklyn on Oct. 31, 2017 to raise awareness about influenza. Mary Bassett, commissioner of health for the NYCDOHMH, and other influenza champions spoke to New York City residents about the importance of influenza vaccination.

NYCDOHMH posted flu advertisements on transportation systems throughout New York City.

NHMA disseminated influenza messages via social media and NHMA listervs to members and students to combat myths and misconceptions and speak to patients about influenza immunizations.

STRENGTHEN PROVIDER RECOMMENDATIONS

Studies have shown that a leading motivator for patients who receive an influenza vaccination is a recommendation from a trusted healthcare provider. Recognizing the critical role of healthcare providers in influenza vaccination is important in order to achieve increased rates of influenza immunization uptake.

Both CATs promoted new and existing flu-related resources and materials to trusted and visible healthcare providers utilizing several mechanisms including social media platforms, email listservs, newsletters, as well as established communication systems such as Health Alert Network. NHMA reported receiving approximately 12,000 Twitter impressions and approximately 3,000 Facebook views on promoted flu resources. A complete list of activities by CAT members during the 2016-17 flu season to strengthen provider recommendations for influenza vaccination is below.

CONCLUSION
AAIP CAT - PROVIDER RECOMMENDATIONS

ADHS and IHS members presented on monthly calls with healthcare providers and healthcare professionals. Also, ADHS presented on Arizona American Indian vaccination at the ADHS-IHS quarterly meeting.

AAIP created and disseminated brochures and factsheets to strengthen healthcare provider recommendations. Materials were disseminated to AAIP members, as well as IHS facilities and tribal clinics.

IHS promoted educational webinars and influenza updates hosted by the IHS Immunization Program, the IHS Division of Epidemiology and Disease Prevention, and the IHS National Supply Service Center.

TAPI updated and promoted their resource webpage that includes information on influenza surveillance data, current recommendations from ACIP, as well as bilingual flyers and posters for healthcare providers.

TAPI hosted their annual Big Shots for Arizona awards dinner on April 19, 2017. The Dr. Daniel T. Cloud Outstanding Practices in Arizona and Big Shots Awards, which recognize individuals and organizations in Arizona who display exceptional efforts and innovative strategies to improve immunization coverage.

The AAIP CAT hosted one educational webinar for healthcare providers serving the Arizona American Indian population. The webinar, Leveraging Public Health and Healthcare Provider Partnerships to Improve Influenza Immunization Uptake in American Indian Communities in Arizona, focused on raising awareness on current flu trends and coverage rates, discussing promising practices, initiatives, and efforts regarding influenza immunizations, as well as providing useful resources and materials for healthcare providers to use to help improve influenza immunization uptake among patients.

NHMA CAT - PROVIDER RECOMMENDATIONS

The NHMA CAT hosted two educational webinars for healthcare providers serving the New York Hispanic population to provide peer to peer support to empower healthcare providers to recommend the flu vaccine and address issues of vaccine hesitancy that might appear during medical appointments.

- Leveraging Public Health and Healthcare Provider Partnerships to Improve Influenza Immunization Uptake in Hispanic Communities in New York, focused on raising awareness on current flu trends and coverage rates, as well as strategies for healthcare providers to improve influenza immunization uptake among patients.
- Combating Myths and Misconceptions to Improve Influenza Immunization Uptake in Hispanic Communities in New York, highlighted ways to incorporate cultural competency into flu immunization recommendations to reach high risk populations and discussed tips on addressing patients’ and families’ concerns and misconceptions about the flu vaccine.

NYSDOH and NYCDOHMH host online portals for healthcare providers. The NYSDOH portal is called the Health Provider Network (HPN) and the NYCDOHMH portal is called NYC MED. Both NYSDOH and NYCDOHMH operate Health Alert Networks (HANs) which disseminate important information for healthcare providers.

NYCDOHMH disseminated the City Health Bulletin to physician offices across New York City.

NHMA disseminated an adult vaccination toolkit to NHMA members.

NHMA disseminated resources from NYSDOH and NYCDOHMH to NHMA members.

The CATs successfully conducted several activities and efforts to improve flu vaccination uptake among identified vulnerable populations. The partnerships established and strengthened through the CAT allowed for greater dissemination of flu-related resources and pneumococcal disease prevention materials at both the state and local levels. The CAT model, which can be instituted in different states focused on different populations, also enabled peer-to-peer advocacy and education to help strengthen healthcare provider recommendations for influenza immunizations. CAT partners will continue efforts to improve flu immunization uptake and remain committed to reducing morbidity and mortality from flu and other immunization-preventable diseases in their jurisdictions.