

Influenza

Evaluating Vaccine Effectiveness and Monitoring Flu Immunizations for Improved Prevention Efforts



The ever-changing influenza virus provides its share of diverse presentations and spread patterns, making close tracking of its sometimes devastating effects an important public health endeavor. Abt Associates has a **solid track record in monitoring flu vaccination coverage** and **providing vital research and consultation** in the epidemiology and implementation of vaccine and antiviral effectiveness studies.

Stalking the Flu

Abt partners with premier health delivery systems to conduct studies for the Centers for Disease Control and Prevention (CDC).

Evaluating Antiviral and Vaccine Effectiveness

Abt Associates is in the process of establishing the research infrastructure for epidemiologic studies of novel influenza virus infection and evaluating antiviral and vaccine effectiveness for the CDC. Building on Abt's previous CDC-funded influenza studies, these studies of vaccine effectiveness in various settings and populations—inpatient, outpatient and communities and pregnant women and infants—will build upon an existing infrastructure so that studies can be launched in the event of a respiratory disease pandemic.

Assessing Flu Vaccine Effectiveness in Priority and High-Risk Populations

Abt's studies of flu vaccine effectiveness for the CDC have focused on identifying factors that may diminish the course and severity among both vaccinated and unvaccinated individuals in high-risk and priority populations—children, pregnant women and healthcare workers. Following is a description of the research we have done involving each of these populations.

Children

During the 2010–2012 flu seasons, Abt assessed the effectiveness of seasonal flu vaccination in preventing laboratory-confirmed influenza infection associated with admission to an intensive care unit (ICU) among children aged six months to 17 years.



These studies identified factors that may mitigate the course and severity of outcomes of influenza among vaccinated and unvaccinated individuals in this population. The Abt team also identified non-influenza sources of infections and co-infections in the ICU patients assessing how infecting organism type or presence of co-infection influences outcomes in comparison to infection with influenza.

Healthcare Workers

For this study covering the 2010–2012 influenza seasons, Abt enrolled and gathered data on 1,819 healthcare personnel at two sites. We also implemented and maintained a weekly web-based active surveillance system for these employees—achieving a 93 percent retention rate. In addition to interview data, we collected and shipped specimens to labs for study. Findings from this surveillance provided the CDC with crucial information about vaccine use among persons at high risk of viral exposure and transmission.

Pregnant Women

The Pregnancy and Influenza Project (PIP) is the first study of a heterogeneous cohort of pregnant women with active community surveillance by medical and laboratory confirmatory data of influenza infection. For this evaluation—Abt partnered with Kaiser Permanente to enroll about 5,000 pregnant women and follow them and their offspring through the 2010–2012 flu seasons. The study's objectives included estimating vaccine efficacy against laboratory-confirmed influenza among these women; and determining the extent to which immunizing pregnant women prevents influenza infection among infants during the first six months of life.

Monitoring Flu Immunizations Nationwide

For the past three years, Abt Associates has conducted twice yearly CDC-funded flu vaccine effectiveness studies of pregnant women, children and healthcare workers. The results of these studies, the most recent of which is scheduled for the end of the flu season in 2014, guide CDC's vaccine planning and development of population-specific communications encouraging vaccination.

Monitoring Flu Vaccination Coverage

Tracking Influenza Vaccination Coverage among Pregnant Women and Healthcare Personnel

Abt has determined influenza vaccination coverage among high-priority populations—pregnant women and healthcare workers—for CDC for three consecutive flu seasons. The primary objective of these pre- and post-flu season surveys has been to obtain information about influenza vaccine coverage and knowledge, attitudes, behaviors, and beliefs at two points during the flu season, and to provide these data as quickly as possible to the CDC to allow modification of its public health communication and partnership efforts before the beginning of the ensuing flu season. During the 2011–2012 influenza season, Abt collected data on over 4,000 pregnant women and 4,000 healthcare workers within a very short timeframe (two weeks for each survey). Our completion rate on all surveys has consistently been well above 90 percent. During the 2012–2013, Abt gathered data on 1,702 pregnant women and 1,944 healthcare workers. Our work has been published each year in the MMWR.

Preparing for Pandemic Influenza through Active Surveillance—the IVSS: Creating a Real-time, Self-reporting System

To support CDC's interest in establishing a safety monitoring system for mass vaccination in the event of pandemic influenza occurrence, Abt developed and pilot tested the Integrated Vaccine Surveillance System (IVSS). The IVSS is an active surveillance system for monitoring influenza vaccine adverse events. Likened to an electronic diary, it is a novel electronic reporting system that allows for real-time, daily, self-reported data on reactions to vaccinations, either online (via internet report) or over the telephone (via an interactive voice response system). The broader goal of the IVSS is to ensure the safety of vaccines and provide data to guide policy and planning for any future widespread vaccination. An article on IVSS was published in *Vaccine* in 2012.

Contact

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Abt Associates is a mission-driven, global leader in research and program implementation in the fields of health, social and environmental policy, and international development. Known for its rigorous approach to solving complex challenges, Abt Associates is regularly ranked as one of the top 20 global research firms and one of the top 40 international development innovators. The company has multiple offices in the U.S. and program offices in more than 40 countries.

