Tracking HPV
Disparities persist in Connecticut despite promising new vaccines.

By Denise Meyer

As a public health issue, human papillomavirus (HPV) is recognized as a serious threat. Millions of people become infected each year in the United States alone, and younger men and women are most affected by this sexually transmitted infection.

Even in its milder forms, infection causes substantial symptoms, such as warts in the genital region. Other people face an even more devastating diagnosis: cancer—including cervical, throat, head and neck. Cervical cancer alone causes the death of over 4,000 women in the United States every year.

Two HPV vaccines introduced in the past few years were welcomed by the public health community as important tools in fighting the spread of the virus and in addressing the wide racial and economic disparities associated with HPV infections. But narrowing that gap may be tougher than some thought.

Ongoing monitoring of HPV vaccine impact in the state by Connecticut’s Emerging Infections Program (EIP), a program within the School of Public Health, shows that significant racial, ethnic and economic disparities in the incidence of cervical disease associated with HPV persist. As alarming, researchers have documented significant racial and socioeconomic differences in who does and does not get the vaccine as recommended.

“The degree to which the HPV vaccine can narrow disparities in cervical cancer depends on adequate and targeted vaccine uptake for those at greatest risk, namely low-income women and racial and ethnic minorities,” says Linda M. Niccolai, Ph.D., lead researcher on the monitoring project and associate professor in the division of Epidemiology of Microbial Diseases. “The development and licensure of these highly efficacious vaccines represent a tremendous public health achievement. Now we must work to ensure that they reduce not only the overall burden of disease but also the striking health disparities. Clearly, enhanced efforts are needed to achieve this goal.”

Researchers at EIP started monitoring the vaccine’s impact in 2008, two years after Gardasil, the primary vaccine being used in the United States, became available for use. A second vaccine, Cervarix, was licensed in 2009. Both require three doses and offer protection against two strains of HPV that cause the majority of cervical cancers.

The vaccine is recommended for 11- and 12-year-old girls and as a “catch-up” immunization for women through the age of 26. The data, however, suggest that it is not reaching the populations at greatest risk—minorities and girls from low-income households.

One barrier to vaccination is the necessity of three doses. While the cost is generally covered by either private insurance or the federal Vaccines for Children program, data from national studies reveal that rates of compliance in getting all three doses are significantly lower among African-Americans (47 percent) and Hispanics (42 percent) than among Caucasians (62 percent).

Furthermore, adolescents living below the poverty level are much less likely to complete the three-dose course than those with a household income greater than $75,000 (41 percent versus 63 percent). Interventions that could help with compliance rates include more parental and provider education, implementation of reminder systems and computerized immunization registries or flagging of charts. Interventions that address financial barriers to repeat visits to a health care provider and culturally relevant measures may also be called for.

Niccolai and her colleagues also found other barriers to vaccination, including the lack of a recommendation by a health provider, and women’s beliefs that they were “too old” for the vaccine or that they did not need it because of a previous HPV diagnosis—neither of which is accurate. Furthermore, racial disparities emerged in the timing of vaccination: African-American women were significantly more likely to receive their first dose after a diagnosis of cervical disease than were Caucasian women. “This racial disparity suggests that black women are remaining disproportionately vulnerable to the consequences of HPV infection.”

Human papillomavirus (HPV) particles are revealed under a powerful microscope. HPV causes warts, and some strains are associated with cancers, especially cervical cancer.