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Where to begin human papillomavirus vaccination?

The lifetime risk of cervical cancer among African American women is 0.25% higher than in white women (0.94% vs 0.69%).¹ More strikingly, these women have a lifetime risk of dying from cervical cancer that is two-fold higher than that of white women.² Clearly, human papillomavirus (HPV) does not affect all groups equally. The timely review by Jeffrey Partridge and Laura Koutsky³ and the accompanying Leading Edge⁴ outlines some of the virus's tendencies as we know them and the need to consider men in prevention efforts. However, the work is incomplete with respect to how current knowledge should guide vaccination strategies. Neither piece addresses the preference of HPV to affect one racial subgroup—ie, African Americans. Nor do they address possible ways to dramatically reduce the disparity.

HPV in African American women is not well understood,⁵ but understanding the causes of the disparity are not a prerequisite to action. Studies suggest there are socially mediated increased susceptibilities to infection⁶ and genetically mediated susceptibilities to oncogenesis.⁷ Others point to barriers to care⁸ and unequal treatment.⁹ Simply knowing that this group is disproportionately affected should lead to targeted vaccination efforts that administer the safe, effective, three-dose prevention tool to African Americans.

Historical experience with hepatitis B vaccine shows that there are major barriers to administration of multi-dose vaccines.^{10,11} Despite a vaccine being available since 1982, low vaccination rates influenced the Advisory Committee on Immunization Practices to adopt a strategy of universal infant vaccination in the early 1990s. At-risk adolescents remain more difficult to vaccinate. Today, a system to successfully vaccinate adolescents with multi-dose vaccines is still not in place. This must change.

Provider prompting, and personalised, or tailored interventions that address individual concerns have been successful at improving immunisation rates.¹² Although such interventions are recommended by the American Academy of Pediatrics, the American Association of Family Physicians, and the Advisory Committee on Immunization

Practices, the interventions are not used by most providers.^{13–15} School-based vaccine delivery surpasses traditional primary care provider vaccination rates, but this avenue is not widely used.^{16,17} The weapons to use in the battle are not being optimally engaged.

With the arrival of a prophylactic HPV vaccine, it is imperative that action be taken at a national level to fund tailored intervention programmes⁸ such as school-based vaccination clinics in schools with high percentages of African American students. Juvenile detention centres and jails that serve African American adolescents and young adults should also be earmarked for early and aggressive vaccine distribution. Parental consent ought to be waived for HPV vaccination as it is for other sexually transmitted infection-related health care. Reminder-recall plans for primary care providers ought to be mandated. The status quo is unacceptable and the most vulnerable groups must be reached from the start to avoid another generation of cervical cancer tragedies.

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The Lancet forum on preparing for pandemic influenza

In his opening address to the first Lancet Asia Medical Forum, Preparing for Pandemic Influenza: The Avian Dimension and Other Emerging Threats (Singapore, May 3–4), Kandiah Satkunantham (Director of Medical Services, Singapore Ministry of Health; figure 1) called for cooperation among nations affected by H5N1 avian influenza, sharing of critical information, and not a “beggar thy neighbour approach”.

Thijs Kuiken (Erasmus University, Rotterdam, Netherlands) described how highly pathogenic avian influenza (HPAI) is predominantly a disease of poultry and rarely affects other species. Mutation from low pathogenic (LPAI) viruses, whose natural reservoir is wild waterbirds, to HPAI forms occurs in poultry, but only viruses of the H5 and H7 haemagglutinin types cause highly pathogenic disease. The increase in size of HPAI outbreaks in the past decade is due to the growth of the poultry industry, with over 16 billion chickens and 1 billion duck being reared worldwide in 2004. Kuiken identified the unusual aspects of the current H5N1 outbreak as: direct transmission from birds to human beings and other mammals resulting in severe disease, systemic disease in human beings and other mammals, and free-living birds as a mode of virus spread, but without an evident link to poultry.

Hiroshi Kida (Hokkaido University, Sapporo, Japan) noted that in ducks, the virus replicates in the intestine and is therefore not under antibody selective pressure. Thus migratory ducks maintain apathogenic influenza viruses that cannot infect chickens, but passage through geese, turkey, or quail leads to LPAI that can infect chickens and hence mutate to HPAI. Kida noted that the 1957 H2N2 and 1968 H3N2 pandemic viruses were reassortants

between avian viruses and the preceding human strains. Thus, because avian viruses of any subtype can contribute genes for reassortants, none of the 15 haemagglutinin and nine neuraminidase subtypes—all of which occur in ducks—can be ruled out as potential candidates for future pandemics.

Kennedy Shortridge (University of Hong Kong, Hong Kong SAR, China) wondered why we don't have a pandemic every year, because southern China abounds in influenza virus? A better understanding of the genetics, molecular markers, and antigenic features of the influenza virus might answer this question, and, Shortridge believed, make prevention of pandemics an achievable objective. Shortridge also noted how the spread of H5N1 from Asia followed the trans-Siberia railway, rather than any known patterns of wild-bird migration, and is thus probably the result of human movement of poultry and poultry products.

Vietnam has been one of the countries worst affected by H5N1. Nguyen Tran Hien (National Institute of Hygiene and Epidemiology, Hanoi, Vietnam) described how human H5N1 disease occurred in three waves between Dec 2003 and Nov 2005. During this time, there were 93 human cases and 42 deaths, a case fatality rate of 45.2%, and 50 million poultry were killed. The incubation period for human infection was in the range 1–15 days, with a median of 3–5 days. However, there have been no new human or poultry cases since Nov 2005. Hien recommended that avian influenza should be considered a combined agricultural, public health, economic, and social threat. The H5N1 outbreak in Thailand also occurred in three waves between Nov 2003 and Dec 2005, resulting