

- Prevention Issues in Depth, #3. Alliance for Cervical Cancer Prevention (ACCP). Seattle, WA, USA.
3. Villa, L. L., Costa, R. L. R., Petta, C. A., *et al.* 2005. Prophylactic quadrivalent human papillomavirus (types 6, 11, 16, and 18) L1 virus-like particle vaccine in young women: a randomized double-blind placebo-controlled multicentre phase II efficacy trial. *Lancet Oncol.* 6(5): 271-278.
 4. Harper, D. M. and Dubin, G. 2007. Sustained HPV-16 and 18 antibody levels through 5.5 years in women vaccinated with the HPV-16/18 L1 VLP ASO4 candidate vaccine [abstract]. The HPV vaccine Study Group 15th International Meeting of the European Society for Gynaecological Oncology.
 5. UNICEF website. Available at: [http://www.unicef.org/immunization/index_coverage.html].
 6. WHO. 2010. New Vaccine Post-introduction Evaluation (PIE) Tool. WHO/IVB/10.3 [<http://www.who.int/vaccines-documents/DocsPDF05/795.pdf>].
 7. Ho, M. M., Mawas, F., Bolgiano, B., Lemercinier, X., Crane, D. T., Huskisson, R. and Corbel, M. J. 2002. Physico-chemical and immunological examination of the thermal stability of tetanus toxoid conjugate vaccines. *Vaccine* 20(29-30): 3509-3522.

Post-Market Surveillance of Human Papilloma Virus Vaccines in Taiwan

HUI-CHIA CHAN, TING-NI WU, KUANG-CHUNG CHU, HUEY-JEN DUH,
DER-YUAN WANG AND DANIEL YANG-CHIH SHIH

Division of Research and Analysis, FDA

ABSTRACT

Vaccines are sensitive to environmental temperature. Potency can be adversely affected if vaccines are left out too long or exposed to various temperature excursions (out-of-range temperatures) that could have a cumulative negative effect. In order to survey the quality of the marketed HPV vaccines in Taiwan, total of 23 samples were collected by the local health authorities from hospitals, clinics and manufacturers in various counties from January to July, 2011. Samples were analyzed by test methods originated from manufactures. The results revealed that the potency and completeness of adsorption of all samples met the approved criteria.

Key words: HPV vaccines, post-market surveillance