Analysis of the strengths and weaknesses of the available evidence to support a r...

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(Insert Human Papillomavirus In the United s today, genital human papillomavirus (HPV) is the most common sexually transmitted infection. It is estimated that the number of people that are newly infected on an annual basis stands at 6. 2 million. This infection, in majority of the cases causes no symptoms and is self-limited. However, if this infection occurs persistently, then it poses a danger to the health of the victim. Persistent infection raises the possibility of women being diagnosed with cervical cancer and other types of ano-genital cancers and genital warts in both men and women. As at the current findings, about 100 types of HPV have been discovered. A majority of these identified types infect the genital area (Makowitz et al. 1). It is therefore imperative that medical recommendations be made for the purpose of helping in the avoidance of the condition getting severe. The vaccination that exists for treatment of HPV is referred to as the quadrivalent HPV vaccine. This vaccine is administered in three separate intramuscular doses. The second dose should be administered 2 months after the first dose and the 3rd dose should be administered 6 months after the first dose. A patient can take the dose in two options. The first option in which the vaccine is available is the sterile suspension for injection in a single dose vial. The second available option for taking the dose is a prefilled syringe. This vaccine has been proven to have a high efficacy for the prevention of vaccine HPV type HPV 16-, 11-, 16-, and 18-related persistent infection, vaccine type related CIN, CIN 2/3, and external genital lesions (genital warts, VIN and VaIN). A study that was conducted on several patients evidenced that there is no protection that exists against diseases that are caused by vaccine types for which the participants were PCR positive at the beginning

of the study. However, the participants that were infected with one or more HPV types before vaccination were protected against diseases caused by other vaccine HPV types. This shows that if an individual is infected with one or two vaccine HPV types, taking the recommended dosage will help in protecting them against contracting diseases that can be contracted if one is infected with other vaccine type HPV's. This therefore shows the efficacy of the vaccine treatment as recommendation of medical intervention. There are various models that have been developed to determine the impact of HPV vaccine. Markov models have suggested that if an entire cohort of females that are aged 12 is vaccinated, then the risk of cervical cancer within that cohort will be reduced by rates between 20% and 66%. This therefore shows that if the vaccines are administered at an early age, then the patients are more likely to avoid the occurrence of contracting diseases and being diagnosed with diseases that are caused by different vaccine HPV types. This therefore is an evidence that recommended medical intervention helps the reduce occurrence of cases of cervical cancer among the female patients. These models have also vaccination can lead to a decrease in pap test abnormalities and cervical cancer lesions. Still taking the 12 year females cohort as an example, vaccination can reduce pap test abnormalities throughout the life of the cohorts by rates of up to 21%. There are other models that incorporate HPV transmission dynamics. According to these models, HPV vaccination on cervical cancer and cancer precursors has an even greater impact of reducing cervical cancer incidences and cancer precursors. Catch-up vaccination is however the only way in which this reduction can occur quickly. Cost Effectiveness Four studies have been

carried out in the United States to assess the cost effectiveness of HPV vaccines. Of these four, two were based on the dynamic transmission models and analyzed the cost effectiveness of vaccinating a cohort of females, 12 years old, against the implications of the vaccine. The cohort was simply an estimate. According to one of the analyses, the cost of vaccination per series was $300 and an additional $100 for a booster. This was based on the assumption that the vaccine was administered to 70% of the cohort. The vaccine was targeted at HPV 16/18 and it recorded 90% efficacy and a period of protection of 10 years and an additional 10 years with a booster (Haas et al. 291). According to the 2nd study, the assumption was that vaccination was administered before the age of 12 with a coverage of 70%. This vaccination cost $360 per series and was targeted at HPV types 16, 6, 11, and 18. This vaccine was 90% efficient in the prevention of infection and 100% efficient in preventing diseases that were HPV related and attributed to HPV types with lifelong duration and protection. According to another study that was conducted in Switzerland and other countries, an uptake rate of 80% at a cost of $143 produced a cost per QALY gained of $15, 757. From the above discussion, it is evident that HPV vaccination as a recommendation of medical intervention is efficient in reducing the cases of cervical cancer in patients that have been diagnosed with different vaccine HPV types. It is also evident that though the cost of vaccination may be considered to be extremely high, it is beneficial considering that there is a reduced possibility of cancer cases and there is a lifetime protection against diseases that can be caused by different vaccine HPV types. Works Cited

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