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Testimony

Of

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Before the Public Health Committee

February 14, 2007

Re: Bills No. 6977 and S.B. No.1097

Good morning, Senator Handley, Representative Sayers and distinguished members of the Public Health Committee. I am Dr. Susan Richman, and I am a Professor of General Gynecology and Director of the Section of Family Planning at the Department of Obstetrics, Gynecology and Reproductive Science at Yale University School of Medicine, and MPH eligible 5/07 from the Yale School of Epidemiology and Public Health, both in New Haven, Connecticut.

I am here today to provide comment and testimony on two bills and appreciate the opportunity to submit testimony in support of both **H.B. No. 6977 An Act Concerning Prevention Strategies for Diseases caused by Human Papilloma Virus** and **S.B. No. 1097 An Act Expanding Eligibility Under the Breast and Cervical Cancer Early Detection Treatment Referral Program.**

The Human Papilloma Viruses are a ubiquitous group of viruses that are transmitted sexually, with about 80% of women being asymptomatic carriers by the age of 26. While only a small percentage of women go on to develop frank Cervical Cancer, about 30% develop pre-cancerous lesions of the cervix that require surgical treatment, which itself has been shown to increase the risk of preterm birth. In men, the incidence of penile and ano-rectal cancer is associated with viral carriage. Thus, the public health and economic impact is very significant. The inclusion of the HPV vaccine among those required for school age children is a logical and cost-effective solution, as 46% of high school students surveyed between the years 2004-6 admitted to sexual activity; a disappointing 37% had not used condoms, despite the proliferation of school based health clinics, Planned Parenthoods, and other potential free sources of condom supply. (Eaton) This activity resulted in 831,000 pregnancies and 9.1 million cases of teen sexually transmitted diseases, including HPV.

Cervical neoplasia is the end result of a persistent infection with oncogenic HPV subtypes. The adolescent cervix is especially susceptible to infection due to the high rate of metaplasia in an enlarged transformation zone, that is characteristic of their still maturing genital tract. Cervical cancer risks increase with early onset of sexual activity, increasing numbers of sexual partners, and smoking. The cumulative incidence of cervical HPV infection rises over time to 50% by 36 months from first intercourse. (Winer)

In the US, most medical costs are associated with the detection and treatment of pre-malignant disease: cervical intraepithelial neoplasia or CIN.

The direct medical costs in 2001 US\$ for diagnosis and treatment are:

| | |
|-----------------------|-------|
| colposcopy and biopsy | 436 |
| CIN1 | 2010 |
| CIN2-3 | 3546 |
| cervix cancer | |
| Stage 1 | 20524 |
| Stage 2/3 | 31485 |
| Stage 4 | 46851 |

References:

- Eaton, D.K., Kann, L., Kinchen, S. et al. Youth risk behavior surveillance- US, 2005. MMWR 55;6/9/06.
- Winer RL, Lee SK, Hughes JP, Adam DE, Kiviat NB, Koutsky LA. Genital human papillomavirus infection: incidence and risk factors in a cohort of female university students. Am J Epidemiol. 2003 Feb 1;157(3):218-26.

The expansion of eligibility of the Breast and Cervical Cancer program is a logical extension of existing services, and an important step towards the eradication of the racial and socio-economic disparities that still plague access to healthcare in our state. We can hope that for the next generation of women, the HPV vaccine will greatly reduce the need for Cervical Cancer surveillance. However, the incidence of Breast Cancer will only increase, with the change in aging demographics expected to skew our population even more towards those above 75, when the likelihood of malignancy rises steadily with each passing year. The table that follows shows the rise in incidence in our state since 1990. Unfortunately, mammography screening represents only secondary prevention/early detection, and cannot approach the HPV vaccine for efficacy, but it is the best available tool for reducing costs and improving survival rates at the present time.



**Ten Most Frequently Diagnosed Invasive¹ Cancers In Connecticut
Estimated Age-Adjusted Annual Incidence Rates Per 100,000 Residents
(1970 U.S. Census Standard), 1990 to 2000**

| FEMALES | 1990 - 1994 | | 1995 - 1999 | | 2000 | |
|------------------------------|--|-------------------------|--|-------------------------|---|---------------|
| | Age-Adjusted ² Incidence Rate (per 100,000) | Number (%) ³ | Age-Adjusted ² Incidence Rate (per 100,000) | Number (%) ³ | Age-Adjusted Incidence Rate (per 100,000) | Number (%) |
| Breast | 115.9 | 12,581 (30.7%) | 124.3 | 13,751 (30.7%) | 115.0 | 2,805 (31.2%) |
| Lung | 45.3 | 5,034 (12.2%) | 49.4 | 5,719 (12.5%) | 47.4 | 1,120 (12.6%) |
| Colorectal | 41.7 | 5,437 (13.2%) | 42.9 | 5,885 (12.7%) | 41.5 | 1,149 (12.8%) |
| Cervix | 23.5 | 2,619 (6.1%) | 24.9 | 2,668 (6.0%) | 24.8 | 654 (6.2%) |
| Ovary | 15.3 | 1,627 (3.9%) | 14.9 | 1,612 (3.6%) | 13.9 | 318 (3.5%) |
| Non-Hodgkin's Lymphoma | 12.9 | 1,504 (3.6%) | 14.9 | 1,760 (3.9%) | 12.5 | 318 (3.5%) |
| Melanoma | 12.5 | 1,343 (3.3%) | 14.4 | 1,587 (3.5%) | 14.1 | 321 (3.6%) |
| Urinary Bladder ⁴ | 9.8 | 1,185 (2.9%) | 10.5 | 1,316 (2.9%) | 9.3 | 250 (2.8%) |
| Pancreas | 7.9 | 1,023 (2.5%) | 8.5 | 1,129 (2.5%) | 8.2 | 224 (2.5%) |
| Leukemia | 7.5 | 848 (2.1%) | 8.4 | 937 (2.1%) | 7.2 | 178 (2.0%) |
| Other ⁵ | - | 8,090 (19.8%) | - | 6,587 (19.2%) | - | 1,723 (19.2%) |

¹ Invasive cancers are those that have penetrated tissue around the organ or have traveled to distant parts of the body. ² Rates are the average per year for 1990-1994 and 1995-1999. ³ Total cancers for all five years. ⁴ Combined number of cancers for those not listed above. Incidence rates were not calculated due to the heterogeneous mix of cancer types. ⁵ Also includes cancers coded as not yet having invaded surrounding tissue; this practice, followed by the National Cancer Institute, is due to difficulties in accurately distinguishing between per-invasive cancers and invasive bladder cancers.

Source: Connecticut Department of Public Health - Connecticut Cancer Surveillance 1990-2000