Information Environments and Citizen Awareness; A Study of the Cervical Cancer Vaccine

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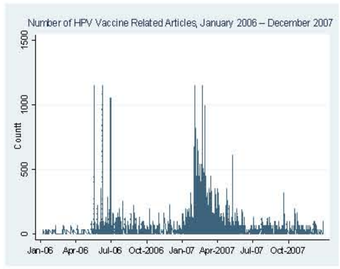
Introduction

In June 2006, a vaccine protecting against four strains of Human Papillomavirus, which can lead to cervical cancer, was approved. Media coverage increased in response to both vaccine approval and legislative discussions about the vacc. Several studies have explored depth of HPV knowledge, but very few investigate what raises *awareness* of this disease. Even fewer consider media environments across the country, including particularly heated discussions in TX, and selective exposure factors (e.g., strength of ideology) that may have contributed to awareness. Most typically, others have noted awareness differences by race [1,2,3], gender [1,2,3] and socioeconomic factors [1,3].



Methods

Logistic regressions were run to assess the impact of independent variables upon our constructs of interest, and predicted probabilities were calculated (binaries fixed).

Data

•Nationally representative internet-survey data was collected by Knowledge Networks (n=1216 participants) in June and July of 2009.

•Newspaper content data was collected in 2006 and 2007. Two major papers were selected for each state (with exception of HI and DE, in which only 1 paper was collected), and two national papers were considered (*USA Today* and *The New York Times*). All articles about HPV or cervical cancer vacc were coded.

Measures/main constructs

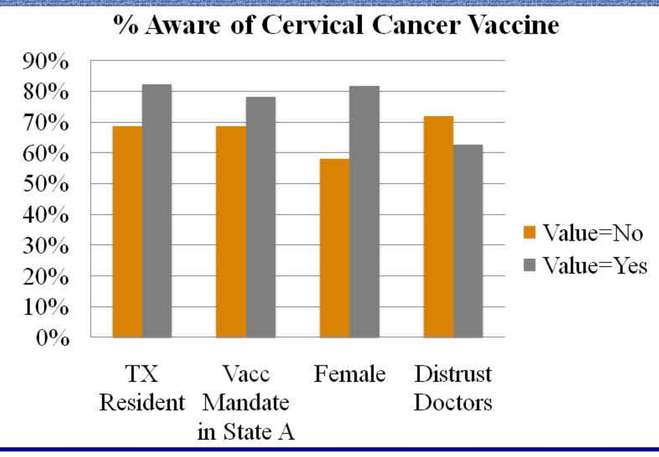
•Awareness of HPV and the cervical cancer vaccine were assessed by asking, "Have you ever heard anything about a vaccine which prevents cervical cancer?" and "Have you ever heard of the Human Papillomavirus or HPV?"

•News exposure variables are a multiplicative function of newspaper reading freq. and volume of HPV-related articles.

•"Low trust in doctors" was assigned if R trusts docs to do what is right "only some of the time" or "almost never."

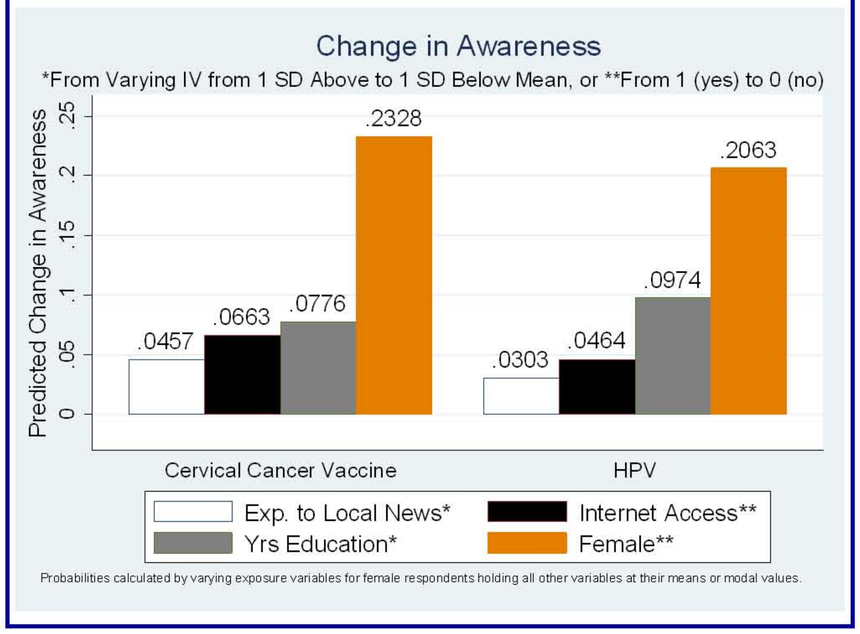
•Liberal/conservative range from 1-3 ("slightly" to "extremely" liberal/conservative), with value 0 representing moderates as well as the other side of the political spectrum.

Results



Variable	CC Vacc	HPV
Female	1.390***	1.273***
	(0.150)	(0.153)
Years of schooling	0.132***	0.166***
	(0.0305)	(0.0318)
Conservative	0.158*	0.103
	(0.0814)	(0.0826)
Liberal	0.194**	0.213**
	(0.0980)	(0.104)
Low trust in doctors	-0.358**	-0.578***
	(0.164)	(0.168)
Exposure to nat'l news	0.000818	0.000218
	(0.00136)	(0.00139)
Exposure to local news	0.00871**	0.00579*
	(0.00345)	(0.00331)
Internet Access	0.521***	0.384**
	(0.158)	(0.160)
Totals	1,190	1,188

Standard errors in parentheses. *** p<0.01 ** p<0.05, * p<0.1
Controlling for age, agesquared, TX residency, nonwhite-status, presence of school mandate legislation, education legislation, teengirl in household, vaccination status, and job in healthcare.



Discussion / Conclusions

•Being female, having higher education levels, being more liberal, not distrusting doctors, having internet access and being exposed to local news are significantly associated with HPV and vaccine awareness.

•This model gives no evidence that residents of states with more legislative activity (defined as those who passed a school-entry vaccine mandate or an education bill about the vaccine) are more aware than others. However, TX residents *were* more aware, likely due to the unprecedented media coverage (the governor mandated the vaccine for school-entry, which was later overturned).

•Despite lag in time between our content measure and the survey, exposure to HPV-info in *local* news sources still had an effect on awareness. Both constraints of the info. environment *and* citizen attention to news seem to matter.

•Though debate over the vacc. was portrayed as being btwn social conservatives and wmn's health advocates, conservatives seem no more aware of the vaccine and were in fact less likely than liberals to be aware of HPV.

Future Research

•Future iterations will include content info from 2008 thru June 2009 (for exposure vars) to ensure the results hold.

•Future research should investigate the influence of *television* and other news media on public health awareness. Additionally, examining the role of Merck's advertising campaign in relation to news media coverage could be fruitful; how much influence does news have when compared to advertising? This research could have implications for future public health initiatives.

References

[1] Hughes, Jessica et al.(2009). Disparities in How Parents Are Learning about the Human Papillomavirus Vaccine. *Cancer Epidemiology, Biomarkers & Prevention.* 18; 363.

[2] Ragin, Camille et al.(2009). Knowledge about human papillomavirus and the HPV vaccine – a survey of the general population. *Infectious Agents and Cancer*, *Suppl+1*(4), S10.

[3] Tiro, Jasmin A. et al.(2007). What do Women in the U.S. Know about Human Papillomavirus and Cervical Cancer? *Cancer Epidemiology, Biomarkers & Prevention.* 16; 288.

Acknowledgments

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