

Cultural Failings in America's HPV Vaccination Campaign: A Global Perspective

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Introduction

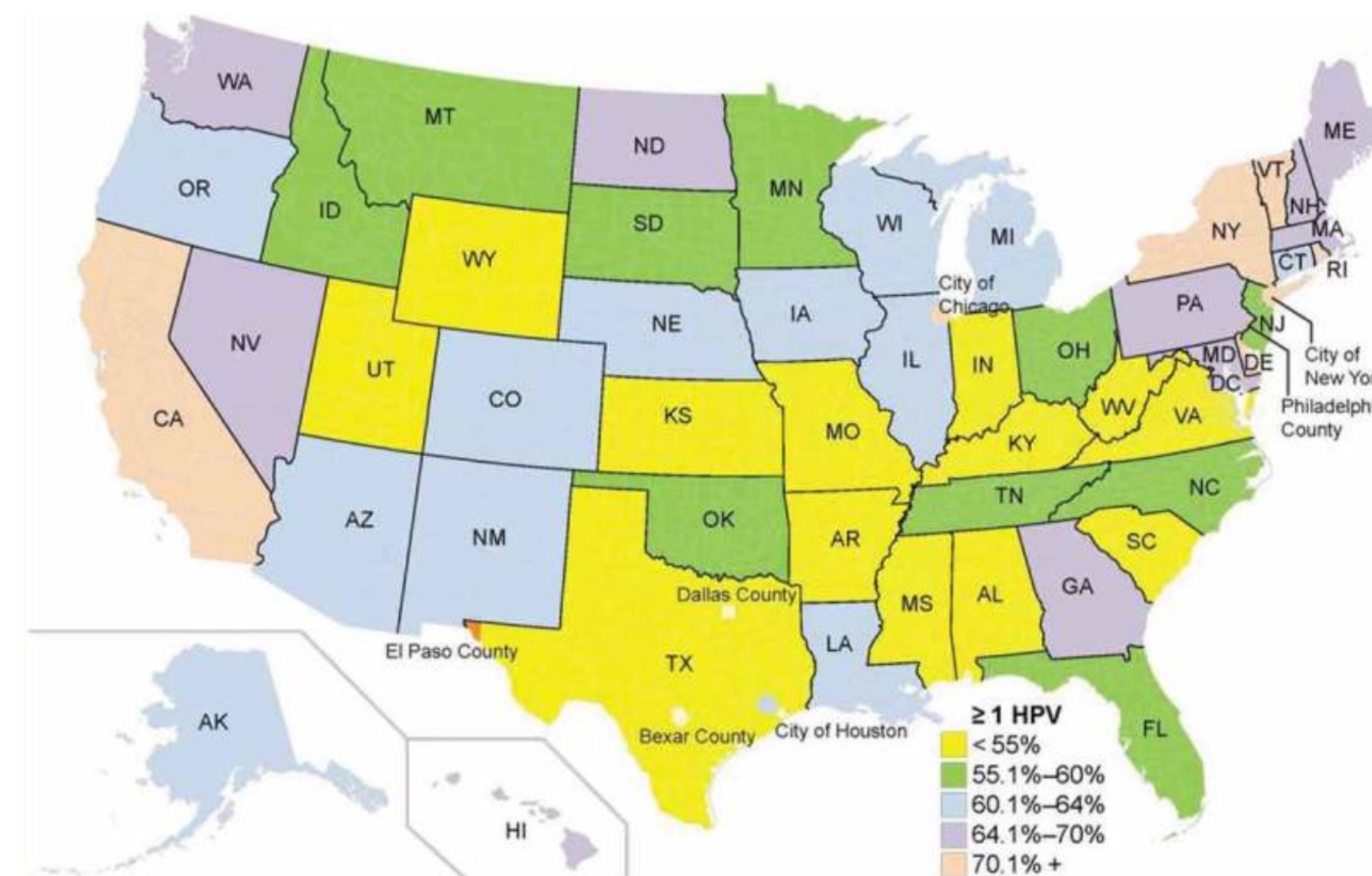
HPV is the world's most common sexually transmitted infection and is the primary cause of most cervical cancers.¹ While the bulk of cervical cancer burden is carried by low and middle income countries (LMIC's), the majority of HPV vaccination occurs in high-income countries (HIC's).² This might shed a favorable light on vaccination programs in high income nations, but disparities within the United States are reflective of the tragic disparities that exist on a global scale. The US has failed to extend its vaccination efforts to those populations most in need. Three vital mistakes in the USA's vaccination program have led to disparities in vaccination rates amongst Americans: 1) Not mandating vaccination for school age children 2) marketing the vaccine as a 'vaccine for a sexually transmitted infection (STI)' and 3) marketing it as a vaccine for women.

Background

Cervical cancer is the most prevalent female cancer in developing nations and the second most common cancer worldwide.³ Australia and New Zealand, as well as Latin America have the highest global vaccination rates (77 and 61% respectively), with North America and Europe at 35%. The lowest vaccination rates are in some of the poorest countries of the world in Sub Saharan Africa and Oceania.² Each year over 500,000 women are diagnosed with cervical cancer and approximately 300,000 women lose their lives to the disease. 80% of these deaths occur in developing countries.³

By some metrics, HPV vaccination in the United States has far outpaced other countries. In 2019, the HPV vaccination introduction rates for North America and Europe were 85% and 77% respectively, with LMIC's at a rate of 41%.² However, while vaccination introduction has remained high in North America, tragic disparities exist based on race, location and socioeconomic status.⁴

Similar to LMIC's across the globe, underserved communities in Southern states not only have the lowest rates of vaccination, they also have higher rates of cervical cancer. Adolescents in the South and Southwestern states from 2008-2010 were less likely to initiate the HPV vaccine series compared to states in the rest of the US.⁴ Even within cities these disparities are apparent. In a study of teens in Minneapolis, MN, the HPV vaccination rates varied by zip code, with lower income communities carrying the bulk of cervical cancer burden and the lowest HPV vaccination rates.⁵ While there are likely a multitude of factors that contribute to these disparities, a few salient failings in the United States' initial vaccination campaign are primary contributors to the disparities we see today.



HPV vaccination rate among 13-17 year-old males and females in the United States, NIS-Teen 2016.⁴



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"Vaccines are one of our most important tools for preventing outbreaks and keeping the world safe. While most children today are being vaccinated, far too many are left behind..."

"Unacceptably, it's often those who are most at risk—the poorest, the most marginalized, those touched by conflict or forced from their homes—who are persistently missed."
- Tedros Adhanom Ghebreyesus, MD.
WHO-Director General

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Cultural Failings

- School Based Programs
 - Rwanda, an exemplar of HPV vaccine implementation, has succeeded in launching a national campaign has focused on community engagement and education, but especially implementation through school-based programs.⁶
 - School-based delivery strategies and single-cohort approaches on average performed better (HPV Program coverage 56% and 58% respectively) than facility-based programs (38%).²
 - Higher income countries smore often engage facility-based vaccination strategies while LMICs are primarily school-based (90%).²
 - Most states in the US do not require HPV vaccination for school enrollment.⁴
- Sexually transmitted infection
 - When the HPV vaccine was initially rolled out, it was marketed as a vaccine to prevent HPV—a well-known cause of genital warts. By not emphasizing the cancer-prevention qualities of the vaccine, there was low initial uptake.⁴
 - The stigma connected to a vaccine intended to prevent a sexually transmitted infection has made parents reticent to expose their children.
 - Even in states in the US where a mandate has been made for HPV vaccination in school-aged children, parents are able to easily opt out.
- Gender based promotion
 - The Advisory Committee on Immunization Practices (ACIP) at the CDC didn't recommend the HPV vaccine for routine use among males until 2011.⁴
 - These recommendations likely arose from the theory that HPV prevention amongst males wouldn't be cost effective given the lower burden of HPV related cancers among men.
 - These gendered recommendations have colored the United States' vaccination campaign and made it difficult to recover public opinion even as recommendations have changed.

Conclusions

In May 2018, WHO Director-General called for global action to eliminate cervical cancer as a public health issue. He aims to reduce the annual incidence to below 4 cases per 100,000.² HPV vaccination in the United States has, in many ways leapt ahead of lower resource countries, but even with some of the most advanced resources in the world, we have failed to reach many of our most at-risk populations. While global efforts should continue to target low and middle income countries for new vaccination campaign efforts and resources, the US must confront its own failings and repair the damage done in reaching those most in need of this life saving preventative measure.