Optimizing HPV Vaccination Coverage through Targeted School Health Policies in the United States.

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(a) Abstract

Human Papillomavirus (HPV) as a prevalent sexually transmitted disease with serious implications for women's health globally. The study explored the effectiveness of specialized school health policies in enhancing HPV vaccination coverage among school-aged girls aged 11-25. The study scrutinized quantitative data from peer-reviewed literature, and various case studies on HPV vaccination. Preliminary findings suggest that states with HPV school vaccination policies e.g. Rhode Island, Virginia and D.C have done considerably well in optimizing vaccination coverage with Rhode Island leading the park at 83% of adolescent girls having received HPV vaccines. On the other hand, Mississippi is the lowest at 38.5% on HPV adolescent vaccination. Optimizing HPV vaccination coverage will require a different approach that goes beyond traditional health policy models, hence, this study recommended reforms that prioritize public health sensitization, vaccine accessibility, and community involvement to achieve universal HPV vaccination coverage for school-aged girls.

(b) Introduction

HPV vaccination rates have consistently fallen behind those of other adolescent vaccines, exacerbated by disruptions in routine childhood vaccine delivery caused by the coronavirus disease pandemic. Efforts to bolster HPV vaccination coverage in schools have involved implementing evidence-based practices and interventions, including provider education, incentives, school outreach and employing multidisciplinary approaches.

However, current interventions yield only marginal increases in vaccination coverage and necessitate frequent reinforcement. To address this challenge effectively, additional multi-faceted approaches pertaining to HPV vaccine access and uptake are necessary. Potential strategies encompass HPV vaccination mandates for school entry, expanding adolescent consent for vaccination, and facilitating pharmacist-administered vaccination.

For HPV-related policies to succeed, various conditions must be met, including adequate vaccine coverage and funding through programs like the Vaccines for Children (VFC) initiative, public acceptance of vaccine efficacy and safety, incorporation of the vaccine into immunization information systems, and endorsement from physicians/providers, alongside potential vaccine mandates.

Nonetheless, a comprehensive evaluation of vaccine mandates is crucial, considering diverse factors such as epidemiological, economic, and ethical considerations. Careful implementation is essential to prevent undermining support for

immunization programs and to uphold the progress achieved through existing policies and initiatives.

(c) Literature Review

Even with the existence of effective vaccines, reaching admired vaccination rates is still challenging, particularly for school-aged American girls. This study emphasizes on investigating prior research regarding the impact of various school health policies on optimizing HPV vaccination rates in school girls aged 11-25 years.

1. **HPV Vaccination, USA Case Scenario**.

The arrival of HPV vaccines marked a major advancement in preventive healthcare. Yet, vaccination rates in the United States have consistently failed to meet national goals. Different research has found obstacles to getting the HPV vaccine, such as worries about safety and effectiveness among parents, healthcare providers not recommending it, and difficulties in accessing and administering the vaccine.

2. **Impact of Targeted Policies on Vaccination Rates.**

Research probing the effects of specific school health policies on HPV vaccination coverage has shown mixed results. Some reports show that school-based vaccination programs can escalate vaccine acceptance rates, but other studies suggest that the impact of these strategies can be different based on factors like income, locality as well as parental concerns on vaccination.

3. **Role of School Health Policies in Vaccination Coverage.**

School health policies are critical for providing vaccines to adolescents, as schools are target locations for delivering healthcare services due ease of access and centralization. A number of States like Rhode Island and DC have introduced school-based HPV immunization initiatives, which either require vaccination or offer chances for vaccination at schools. These policies target problems related to convenience and parental knowledge by integration or routinizing HPV vaccination into regular healthcare services.

4. **Strategies for Enhancing Policy Effectiveness.**

Various interventions have been put forth by researchers and policymakers to improve HPV vaccination coverage through targeted school health policies. These consist of establishing rapid-result vaccination programs in schools, improving parental communication and education, tackling vaccine rumor tracking with evidence-based

messaging, and guaranteeing vaccines equity to disadvantaged populations.

(D) Data Collection: Review of existing documents.

This study reviewed the articles, journals and other documents list in the list of reference.

(E). Analysis & Results

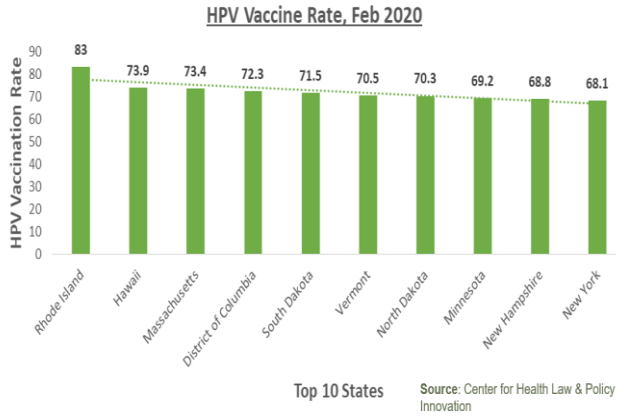

Figure 1.

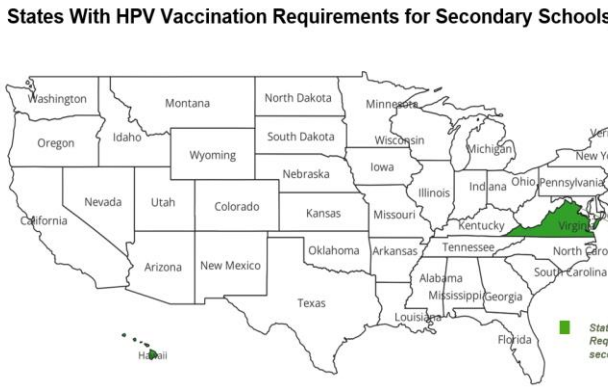

Figure 2.

(F) Impacts of optimized HPV Vaccination on population

1. Health Impact

Low HPV vaccination rates contribute to increased vulnerability to HPV-related diseases, including certain types of cancers. Improving vaccination coverage can significantly reduce the incidence of these diseases, leading to better health outcomes for the population.

2. Economic Impact

HPV-related diseases impose substantial economic burdens on healthcare systems and individuals. Increased vaccination coverage can alleviate some of these burdens by reducing the need for costly treatments and medical interventions associated with HPV-related conditions.

3. Educational Impact

Mandating HPV vaccination for school entry can ensure that adolescents receive necessary vaccinations, contributing to a healthier school environment. However, implementation may face resistance from certain segments of the population, necessitating education and outreach efforts to address concerns and promote acceptance.

4. Social Impact/Safety net

Improved HPV vaccination rates can have broader social benefits by reducing the transmission of HPV infections within communities. This can contribute to overall public health and well-being by preventing the spread of infectious diseases.

5. Equity Impact

Efforts to increase HPV vaccination rates should also consider equity implications,

ensuring that all segments of the population have access to vaccination services. Addressing barriers to vaccination, such as cost, accessibility, and awareness, can help reduce disparities in HPV-related disease burden among different demographic groups.

6. Long-Term Impact

By increasing HPV vaccination rates and implementing comprehensive strategies, such as vaccine mandates and provider education, the population can experience long-term benefits in terms of reduced HPV-related disease burden, improved public health outcomes, and potentially lower healthcare costs over time.

(G) Challenges

1. ***Parental Consent Requirements***- Many states require parental consent for vaccination, which can be a barrier if parents are unaware of the importance of HPV vaccination or hold misconceptions about its safety and efficacy.

2. ***Lack of Education and Awareness***- There may be a lack of education and awareness among parents, students, and even healthcare providers about the importance of HPV vaccination in preventing certain types of cancers.

3. ***Stigma and Misinformation***- HPV vaccination has faced stigma and misinformation regarding its safety and association with sexual activity. Addressing these misconceptions is crucial in increasing vaccination rates.

4. ***Healthcare Access and Equity***- Disparities in healthcare access and availability of vaccination services can lead to unequal vaccination rates across different demographic groups, exacerbating health inequities.

5. ***Opt-out Provision***s- Some states allow parents to opt their children out of school vaccination requirements for personal or philosophical reasons, which can undermine efforts to achieve high vaccination coverage rates.

(H) Related work conducted by others

1."Increasing HPV vaccination coverage through provider-based interventions" by Gilkey et al. This study explores the effectiveness of provider-based interventions, such as reminders and recalls, in improving HPV vaccination rates among adolescents. It compares different strategies and their impact on vaccination coverage.

2."The role of school-based health centers in promoting HPV vaccination: A systematic review" by Patel et al. This systematic review evaluates the effectiveness of school-based health centers in promoting HPV vaccination uptake. It synthesizes evidence from various studies to assess the impact of different interventions implemented in school settings.

3. "Using GIS mapping to target public health interventions: Examining disparities in HPV vaccination coverage among adolescents in the United States"

by Smith et al. This study utilizes Geographic Information Systems (GIS) mapping to identify geographical areas with low HPV vaccination coverage among adolescents. It highlights the potential of targeted interventions in addressing disparities in vaccination uptake.

(I) Opportunities for New Research

1. **Technology Integration**: Leveraging technology, such as mobile apps, telemedicine, and electronic health records, can improve communication, streamline vaccine delivery, and facilitate tracking of vaccination rates. There's an opportunity to explore how technology can be integrated into school health policies to enhance HPV vaccination efforts.

2. **Addressing Equity:** Research can focus on addressing disparities in HPV vaccination coverage among different demographic groups, including racial/ethnic minorities, low-income populations, and rural communities. Understanding the underlying factors contributing to these disparities and developing targeted interventions to address them is crucial.

3. **Parent and Community Engagement**: Engaging parents, caregivers, and community members is essential for increasing HPV vaccination acceptance and uptake. Research can explore effective strategies for engaging these stakeholders, addressing concerns and misconceptions, and promoting vaccine acceptance within communities.

4.

Recommendation

1. Enactment of a nationwide policy that mandates schools to have HPV vaccination requirement during admission.
    - The Federal government should allocate a substantial amount of funding to facilitate HPV vaccine manufacturing and distribution to schools.
    - Conducting campaigns targeted at students, parents and educator to increase awareness of the impacts of HPV vaccination and addressing myths and misconceptions about the vaccine.

Conclusion

Targeted school health policies can greatly improve HPV vaccination rates among adolescents and young adults. These policies can influence the uptake of vaccines and help avert HPV-related diseases by overcoming hindrances to access and incorporating the school system's infrastructure. However, continuous studies and collaborations are essential to guarantee that these efforts are effectively promoting population health and are decreasing the impact of HPV infection and related diseases.

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