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A Child Rights and Social Justice Framework for Analyzing Public Policy Related to HPV Vaccine

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Abstract

Human papilloma virus (HPV) is the most common viral infection of the reproductive tract and a well-established cause of cervical, anal, and oropharyngeal cancers in both women and men worldwide. Despite data that supports HPV vaccine as an effective measure to prevent such cancers, vaccine uptake has not been optimal in many countries. In the United States (US) for example, rates have stagnated over the past few years and only one-third of adolescents are fully immunized, in contrast to other adolescent vaccines such as Tdap and meningococcal that have double the rates of uptake. Current approaches to HPV vaccine education and delivery have not been successful at improving immunization rates. In this article we propose the implementation of a child rights, social justice, and health equity-based approach to HPV vaccine policy. This approach would promote youth's participation in medical decision-making and advance policies that allow for independent consent to HPV vaccination. We postulate that by empowering youth to be involved in issues pertaining to their health and well-being, they will be more likely to explore and discuss information about HPV with others, and be able to make informed decisions related to HPV vaccine.

Keywords: human papilloma virus, public policy, child rights, social justice, health equity

Introduction

Human papilloma virus (HPV) is the most common viral infection of the reproductive tract and a major public health concern worldwide. HPV causes genital warts, is responsible for virtually all cases of cervical cancer, and more recently, has been implicated in a large proportion of anal and oropharyngeal cancers in both men and women. Though secondary prevention of cervical cancer by screening and treatment of precancerous lesions has dramatically diminished the incidence of HPV-related cancers in many regions of the world, disparities still exist, including high-income countries. Although the overall incidence and mortality rates for cervical cancer are 8.1 and 2.4 cases per 100,000 women per year in the United States (US), respectively, rates for African-American/black women (11.4 and 4.9) and Hispanic/Latino women (13.8 and 3.3) are much higher compared to those in white women (8.5 and 2.3).^{1,2} Similarly, although the overall incidence rate of cervical cancer in Europe is 10.6 per 100,000, the rate in Central and Eastern Europe (14.9/100,000) is twice that of Western Europe (6.9/100,000).³ In the US, approximately 33,300 HPV-related cancers are diagnosed annually, one-third of which occur in men.⁴

The HPV vaccine provides an important means of primary prevention that could significantly decrease morbidity and mortality from HPV-related cancer worldwide. When administered to sexually naïve boys and girls aged 9 to 15 years, the HPV vaccine was found to provide clinically effective protection and sustained antibody titers over 8 years.⁵ Efficacy data for the quadrivalent vaccine in HPV-naïve individuals is promising, showing a 92% reduction in cervical precancerous lesions in females, a 75% reduction in anal precancerous lesions in males, and an 89% reduction in genital warts in both males and females.^{6,7} Other studies have also shown vaccine efficacy rates close to 100%, with regards to sustained antibody protection against vaccine strain HPV.⁸

HPV vaccine uptake rates have remained less than optimal since the introduction of the vaccine (2006), and countries throughout the world continue to struggle to promote immunization against this common and potentially devastating infection.^{9,10} Although a three-dose series of the HPV vaccine is effective at preventing vaccine strain virus infection and cervical, anal, and oropharyngeal cancer in females and males^{6,7} prior to exposure, only 38% of adolescents in the

US are fully immunized.¹¹ This compares to rates as high as 77% and 96% in other high-income countries, i.e., Australia and the United Kingdom.¹² However, even in these countries, disparities exist in coverage with some areas reporting vaccine uptake rates as low as 66% and 62%, respectively.¹²

Many individuals will acquire HPV soon after onset of sexual activity, with approximately 50% of women infected within the first three years of sexual relations.¹⁴ It is also the most common sexually transmitted infection among youth ages 14 to 19 years, with infection rates as high as 35% in African Americans.¹⁵ Among US high school students surveyed in 2013, 46.8% reported having sexual intercourse, and 5.6% of these students had their first sexual encounter before the age of 13 years.¹⁶ Thus, vaccine administration should ideally occur in pre-adolescents prior to the onset of sexual activity. The National Advisory Committee on Immunization (NACI) in Canada recommends initiation of the HPV vaccine in females and males ages 9 to 14 years.¹⁷ The US Advisory Committee on Immunization Practices (ACIP) and the American Academy of Pediatrics (AAP) currently recommend routine vaccination of males and females ages 11 or 12 years.¹⁸ Despite these recommendations, many parents will defer initiation of the HPV vaccine series until their children are in their mid to late teens.¹⁹

Data from the 2013 National Immunization Survey-Teen (US) shows that despite a steady trend of increasing HPV vaccine uptake from 2007 to 2011, rates have begun to stagnate.¹¹ Estimated HPV vaccine coverage in 2013 for females ages 13 to 17 years was 57%, 48%, and 38%, for one or no dose, two doses, or three doses of the vaccine, respectively. In comparison, vaccine coverage rates for other recommended adolescent vaccines, such as meningococcal and Tdap vaccines, which were introduced into the routine vaccine schedule only one year (2005) prior to the HPV vaccine, are 78% and 86%, respectively, and both increased from 2012 to 2013.¹¹

The significantly higher rates of uptake for adolescent vaccines other than HPV suggests that this is not simply an issue of general vaccine hesitancy. There are other factors specific to HPV, primarily related to parental consent to vaccine administration, which result in lower rates of vaccine administration.¹¹ Parents are concerned about (1) the sexually transmitted nature of the

virus, (2) the vaccine acting as a gateway to promiscuous behavior, despite studies showing no link between increased sexual activity and the HPV vaccine,²⁰ (3) sexual activity not being imminent in their child and the vaccine not being necessary at the time it is offered, (4) safety as they may have inaccurate beliefs about the vaccine, and (5) the fact that cervical cancer develops many years after acquisition of HPV and therefore vaccination is not an immediate need.

Current approaches to HPV vaccination are failing and new strategies to increase vaccination rates must be implemented. From the public health perspective, HPV-related STIs and cancers are a significant health risk to society, and thus, HPV vaccination is an important primary prevention strategy. In this paper we argue for the implementation of a rights-, justice-, and equity-based framework for HPV vaccine policy that could potentially enhance the uptake of HPV vaccine in countries throughout the world. We use the policies and practices in the US as a case study to illustrate the potential utility of this approach to vaccine policy.

Child Rights and Social Justice Principles

The principles and norms of child rights, social justice, and health equity provide a framework to support the analysis of policies and guidelines to optimize HPV vaccine uptake. Countries such as the US, Canada, and the UK allow minors to access STI prevention, diagnosis, and treatment services independently.^{21,22} These laws provide youth access to vital health information and services, a voice in health decisions, and the opportunity to actively participate in their own care. Access to vaccines, however, typically requires parents to provide consent for such services. The ability for youth to independently access treatment for sexually transmitted infections (secondary prevention), but not to independently seek primary prevention services, is a paradox that can be addressed by translating the principles and norms of rights, justice, and equity into child health policies, systems and practice. The following sections present the rationale for a rights-based approach to HPV vaccine policy and practice.

The United Nations Convention on the Rights of the Child

The United Nations Convention on the Rights of the Child (UNCRC) came into force in 1989.²³ The UNCRC provides the foundation and framework required to support a rights-based approach to policies, systems, and practice related to the delivery of HPV vaccine to youth (Table 1). Fulfilling children's rights, as delineated in the 38 substantive articles of the UNCRC, ensures the prerequisites are established for achieving optimal health and well-being (health equity) and eliminating health disparities (social justice) across the life course of children and adults. Using the articles of the UNCRC, a rights-based approach to expand youth access to the HPV vaccine is framed by the child's right to (a) health and health care (Article 24), (b) an opinion that is respected and valued when deciding about receiving vaccines (Article 12), (c) access to vaccine related information to ensure their decisions are informed (Article 17), and (d) a place to share their views about vaccines (Article 13).

Table 1. Core Articles of the UN Convention on the Rights of the Child and How They Relate to the Rights of Youth to Independent Decisions Related to Access to HPV Vaccine.

Article 2 Non-Discrimination	Defines the obligation to protect children from any form of discrimination that will impact the fulfillment of their rights. Implementation: <ul style="list-style-type: none"> • Consider barriers to access related to income. • Consider gender equity issues related to HPV vaccine. • Consider issues of discrimination (childism) by not involving children in the decision-making process.
Article 3 Best Interests	Requires that all actions and societal decisions concerning children take full account of their best interests. Implementation: <ul style="list-style-type: none"> • Ensure that vaccine providers are well educated and that parents and children are well informed about the benefits of HPV vaccine. Inaccurate beliefs should be sensitively challenged.
Article 6 Survival and Development	Establishes the inherent right of children to optimal health and well-being, and obligates the state to fulfill this right to the maximum extent possible. Implementation: <ul style="list-style-type: none"> • Failure to prevent cancers caused by HPV infection in childhood is a violation of rights across the life course. • Denying access to vaccine that could be life-saving is in conflict with the right to survival and development.

<p>Article 12 Opinion and Consideration</p>	<p>Ensures the child’s right to express his or her opinion freely, and to have that opinion considered in any manner or procedure affecting the child. Implementation:</p> <ul style="list-style-type: none"> • Allow children to explore their views about the HPV vaccine in a non-judgmental setting, with the option to discuss questions and concerns alone without parents/caregivers (Article 16, Privacy). • Ensure that children’s opinions and views regarding vaccine are respected and listened to. • Give children the opportunity to participate in the decision-making process of whether or not to receive the HPV vaccine.
<p>Article 24 Health and Health Care</p>	<p>Ensures the right of the child to the highest standard of health and medical care, in particular, the provision of primary and preventive care, public health education, and the reduction of infant mortality. Implementation:</p> <ul style="list-style-type: none"> • Adults must work with children to advocate for their right to optimal health and health services. This includes access to the HPV vaccine as it is a health intervention targeted at improving health in the long term.

Principles of a Child Rights–based Approach to Health

Six child rights principles provide important context to the analysis and application of the relevant UNCRC articles to a rights-based approach to adolescent consent to vaccines.

Best interests.

“Best interests” is both a principle and among the four core rights of the UNCRC (Article 3). As stated in Article 3, “in all actions concerning children, the best interests of the child shall be a primary consideration.” Thus, in all decisions related to public policies, health systems development, and clinical practice related to HPV vaccination, the best interests of the individual child and children in general must be considered.

Evolving capacities.

This principle acknowledges that as children gain skills and insights in life, they will need less adult protection and have the ability to take more responsibility for life decisions. As a child’s capacities increase, they should have more independence to exercise their rights. As duty bearers (individuals or institutions obligated to fulfill the rights of rights holders), it is our responsibility to consider the evolving capacity of youth and ensure they have the capacity to

fulfill their rights. For instance, in the context of a child's evolving capacity, it is the responsibility of health professionals to ensure vaccine information is written in a language and at a developmental level that will ensure the child understands the information being provided. In practice, this can be operationalized, even among young children, by requiring their assent to vaccines when young, and allowing them to consent to vaccines as they develop the cognitive capacity to do so.

While this paper projects that vaccine rates would increase by providing youth the right to independent consent, it is possible that some youth may refuse vaccination. While it is important to consider the voice and decisions of youth in this regard (Article 12), it is necessary to determine, in the context of a child's evolving capacity (Article 5), other relevant articles of the UNCRC, whether the child has the full capacity to make an informed decision that is in his or her best interests. This analysis reflects the principle of child rights that all rights are interrelated and indivisible. Thus, one may argue that refusal of vaccine by an adolescent solely on the basis that he or she does not want a painful injection, without recognizing the long-term benefits of this short-term pain (Article 3, Best Interests. and Article 6, Survival and Development) indicates that the decision may be related to either a lack of cognitive capacity (Article 5, Evolving Capacity) or of access to developmentally appropriate information (Article 17, Access to Information). However, an adolescent who is able to express reasons for refusal in an informed and articulate manner, with a clear and accurate understanding of the risks and benefits of such a decision, should be given the right to refuse HPV vaccination if they appear competent to do so.

In the UK, for example, a criterion known as "Gillick Competence" is used to determine if a child has the capacity to consent to medical treatment without parental involvement.²² A child must demonstrate a complete understanding of the purpose of a treatment and what the treatment involves, in addition to any consequences of the treatment, including adverse events and possible treatment failure. The child must also fully understand the consequences of refusing or not having the proposed treatment. In addition, the child must also demonstrate an ability to use this information to generate an independent decision that has not been influenced by pressure from any informing parties. This approach is taken in the UK with children suffering from terminal illness who may either choose to receive aggressive treatment or choose only comfort therapy. It is imperative that the children are fully informed of the risks and benefits of both options and that they have the cognitive and developmental capacity to make this choice.

Parental responsibility.

The UNCRC places great emphasis on the critical role parents and families play in optimizing the health and well-being of their children. Article 5 states explicitly that “the State has a duty to support and guide parents to provide their children direction and guidance in exercising their rights in a manner that is developmentally appropriate.” The state also has a responsibility to ensure that the rights of children without parents, in state care, are fulfilled and that state agencies are provided with the resources needed to achieve this goal. Some opponents to the UNCRC have suggested that it is anti-family and pits children's rights against parental rights. However, the Preamble of the UNCRC and nearly a quarter of its substantive articles (nine) detail the primary responsibilities and roles parents play in fulfilling the rights of their children to optimal survival and development. In this context, a rights-based approach to the HPV vaccine has the potential to increase communication and discussion among parents and children related to HPV vaccination, sexual activity, and privacy.

Parental capacity.

Parents are primarily responsible for ensuring that the rights of their children are respected and the state has the responsibility to support them in this regard (Articles 18, 26, and 27). In the context of the present discussion—physicians, nurses, other health care professionals, public health systems, and institutions must provide parents with the information and resources required for them to educate and support the decision-making capabilities of their children.

Indivisibility.

All rights within the UNCRC have equal status. All rights must be addressed and none take priority over others in the lives of children. Denial of one right will directly affect the enjoyment of another. Physicians, health systems, and institutions must strive to fulfill all rights delineated in the CRC to optimize HPV-associated infection and cancer prevention. For example, if we solely applied Article 12 of the UNCRC, the right to participation, without also considering Article 17, the right to developmentally appropriate information, to justify allowing adolescent consent to the HPV vaccine, we would risk having groups of youth making uninformed decisions about the HPV vaccine. Similarly, Article 2, the right to non-discrimination, must also be

considered in order to ensure equitable access to the HPV vaccine, especially in communities of children marginalized by race, income, ethnicity, and immigration status. It would not make sense to educate children about HPV prevention and the vaccine if they would not have access to it.

Responsibility.

With rights come responsibilities. Youth extended rights required to independently consent to the HPV vaccine must fulfill their responsibilities to exercise these rights by accessing and processing relevant information to ensure they make informed decisions with respect to accepting or rejecting HPV vaccination. As rights bearers, they must exercise their right to access information related to vaccine risks and benefits. As duty bearers, the system must provide them this information in the context of their evolving capacities and in accessible formats. The information must be accurate, free from coercive advertising tactics, and transparent with regards to profit-driven pharmaceutical marketing.

Rights-based HPV Vaccine Public Policy

The following analysis uses the UNCRC and the six core principles noted in the previous section to demonstrate a rights-, justice-, and equity-based approach to optimize HPV vaccine uptake in children.

Article 2: Non-discrimination

The development of vaccine policy that is non-discriminatory in content and implementation is critical. Policies must consider barriers to vaccine access in communities of children marginalized by race, income, and/or immigration status. In the US, for example, despite federal (Vaccines for Children) and state (Children's Health Insurance Program) funded initiatives to provide vaccines to eligible children, many remain unvaccinated due to other barriers to access and uptake that current public policy fails to address. Such concerns include issues of transportation, availability of healthcare providers, and/or costs of vaccine administration.^{24,25} The high cost of HPV vaccine (approximately \$375 for a 3-dose series) is also a significant barrier for families who do not qualify for government subsidized programs.^{26,27}

Barriers to vaccine access for all children must be identified (using rights- and equity-based tools, including root cause analysis and child rights- and health-equity impact assessments) and mitigated.

Historically, HPV has been packaged as a woman's issue, placing the responsibility of sexual health on females only. This focus on women is concerning with regard to gender equity. Although a third of all deaths due to HPV infection occur in males—and vaccination of males is an effective strategy to prevent transmission of HPV to females—controversies related to vaccinating males for HPV persist and most prevention and vaccine efforts are focused on girls.^{28,29} Current HPV vaccine policies must be amended to be inclusive of both males and females. There is also a paucity of studies that examine the role, thoughts, and views of males related to the HPV vaccine.

By not allowing youth capable of providing informed consent for vaccines the opportunity to consent or assent, we are discriminating based on age. Public policy and child health practice must recognize that most pre-adolescents have developed the capacity for abstract thought, critical thinking skills, an understanding of cause and effect, and concern for the future³⁰⁻³² required to make independent decisions related to HPV vaccination. If given the necessary tools, including age-appropriate information delivered in a developmentally appropriate manner, to make an informed decision about HPV vaccine, youth should be afforded this right.

Article 3: Best Interests of the Child

By not prioritizing or uniformly ensuring HPV vaccination for all youth, current public policy fails to consider the best interests of children. As a measure of social justice, budget analyses should be implemented to monitor the allocation and distribution of resources expended on the implementation of HPV vaccine policies. Health systems need to consider and integrate strategies to identify and address the best interests of children and youth with respect to vaccine access.

Practice-based policies and protocols related to the HPV vaccine need to be developed, implemented, and monitored to ensure child health professionals receive unbiased training and education about HPV prevention and vaccination. Providers must have the knowledge and capacity to fulfill the best interests of their patients. All vaccines must be prioritized, including

the HPV vaccine, despite hesitancy among parents and providers. Families must be provided with an evidence-based description of the benefits of vaccine and inaccurate beliefs must be challenged in a sensitive manner.

Article 6: Survival and Development

Article 6 is a statement of the relevance of human rights to the public's health. Though delayed by decades, failure to prevent cancers caused by HPV infection in childhood is an infringement of individuals' human rights across the life course. There is sufficient data to support the HPV vaccine as a means to decrease the risk of cancer in the future. Denying youth access to a vaccine that could potentially be life-saving is in conflict with the right to survival and development, especially in groups where disparities in the prevalence of HPV-related cancer exists. The analyses of HPV vaccine policy needs to include years of life lost, economic impact, quality of life, and so on as examples of rights- and equity-based public health indicators. HPV vaccination is a strategy for prevention of cancer throughout the life course.

Article 12: Youth Participation

Among the core rights of the UNCRC, Articles 12, 13, 16, and 17 assure children the right to (a) form an opinion, (b) express their views, (c) have those views considered, and (d) have the freedom to seek, receive, and impart information in a confidential manner. With the requisite information (Article 17, Access to Information), children can develop their opinions about the HPV vaccine and the risk of cancer. There is a need to generate data that examines and analyzes adolescents' concerns and knowledge about the HPV vaccine. The National Immunization Survey-Teen, the largest survey of vaccines in adolescents administered by the Centers for Disease Control and Prevention, is a survey of the parents of teens across the US.¹¹ There are no questions in the survey to assess the knowledge, attitudes, or behaviours of pre-teens or teens about HPV or any other vaccine. Most studies that describe youth perspectives on HPV examine young adult opinions, many of which are beyond the recommended initiation age for the HPV vaccine and who may already be sexually active.^{33,34} There are even fewer studies examining adolescent male knowledge and understanding of HPV prevention and the benefits of vaccination.

Developmentally, most 11- and 12-year-olds have some capacity for abstract thought, critical thinking skills, an understanding of cause and effect, and concern for the future.³⁰⁻³² Most youth in this age group have the capacity to synthesize an opinion about the HPV vaccine and should be given a voice in the matter. Crucial to this is the availability and delivery of all relevant information. As described by Article 17, Access to Information, in order to ensure they are making an informed decision, all children have the right to access information about the risks and benefits of the HPV vaccine. This information must be transparent, accurate, understandable, accessible, and developmentally appropriate, as well as culturally and linguistically sensitive, in order to effectively communicate with all youth.

Evidence-based public policy must respond to studies that substantiate the need to educate youth about HPV and associated cancers. These studies have found adolescents' concern for risk of acquiring HPV to be as low as 4% to 15%.³³⁻³⁵ Although there is debate about the appropriate age to begin HPV education, there should be no lower age limit to educating youth—curricula should be based on evolving capacities. A good example is the HIV/AIDS curriculum in New York (US) that includes kindergarten to grade twelve students.³⁶ All states should invest in HPV awareness and inclusion of HPV education in school curricula. A strategy to increase acceptance of HPV curricula could be to shift the focus away from STIs and towards cancer prevention. This shift in focus from STI to cancer prevention could also be extended to advertising and social media campaigns. HPV educational materials must be accessible. Interventions using technology and social media would provide more opportunity to promote youth awareness and prevention of HPV.^{37,38} In keeping with a child's right to information, programs that provide direct-to-child information about HPV and its consequences should be developed and studied for effectiveness.

Expanding opportunities for open and informed dialogue between parents and youth is a critical strategy for increasing HPV vaccine uptake. Decision-making studies^{35,39} show that (a) parental attitudes are a predictor of adolescent attitudes, (b) HPV vaccine acceptability is generally concordant among parents and children, and (c) most adolescents report they would seek either parental or physician advice prior to receiving the HPV vaccine.³³ As youth report they obtain much of their sex-related information from teachers, parents, and media,^{40,41} these sources of information must respond to the needs of youth at all ages in the context of their evolving capacities. HPV information, awareness, and education programs for adults and youth must be expanded, and they must consider the context of culture and the evolving capacity of the

child. The media has a critical role in informing parents and youth about the HPV vaccine and the consequences of failing to vaccinate prior to sexual activity.

Youth must be extended the privacy and confidentiality (Article 16, Privacy) required to ensure they can access reliable information and are comfortable in their decisions related to the prevention of HPV. Despite guidelines recommending that at least a portion of the adolescent physician encounters occur without the parent present, the frequency at which this occurs is uncertain. Time and space constraints within the clinical setting may limit physicians' ability to ensure adequate privacy. Physicians and clinic staff must overcome such barriers in order to respect the child's right to privacy. There are no studies that explore youth preferences related to HPV vaccine discussions and privacy. Considering the importance of vaccine administration prior to exposure to HPV and the sexual nature of transmission, conversations related to HPV should be conducted in private during routine adolescent health-maintenance visits.

Article 24: Health and Health Services

Children have the right to the highest standard of health and medical care, in particular the provision of primary and preventive care and public health education. Academic organizations, such as the AAP and the Canadian Pediatric Society (CPS), must continue to facilitate training for clinicians such that health professionals are knowledgeable and comfortable when having HPV-related discussions with children and parents. Healthcare policy must consider barriers to healthcare access and ensure equitable provision of health services, including HPV vaccine for all youth. As presented in a recent position statement by the Society for Adolescent Health and Medicine, policies in the US should allow minor adolescents with the capacity for informed consent to give their own consent to vaccination.⁴² California is the only state in the US that allows adolescents to explicitly consent for the HPV vaccine.⁴³

Conclusion

Despite near universal ratification of the UNCRC, many countries still lack policies related to the HPV vaccine that are consistent with the framework of children's rights. In Turkey, for example, the current legal system does not allow minors to consent for their own medical care even if it pertains to the treatment of an STI. Parental authorization is always required except in

the event of a medical emergency. In discussing the case of HPV vaccine consent and administration with pediatricians in Turkey, many providers who are guided by the principles of the UNCRC offer confidential age-appropriate information related to the HPV vaccine, and encourage youth to discuss vaccine administration with their parents. In Canada, similar policies regarding the need for parental consent for the HPV vaccine exist—policies that are inconsistent with the articles of the UNCRC. In the UK, physicians may offer vaccine without parental consent under the “Gillick Competence” principle.²²

The failure of US public policy to consider the best interests of youth, and to extend to them the same independent consent options for prevention of HPV disease as allowed for its treatment, is an infringement on children's rights to optimal survival and development (Article 6). Disparities in HPV vaccine coverage, and subsequent morbidity and mortality from related diseases, are fundamental issues of health equity. Inadequate allocation of resources—financial, political, social, and educational—required to optimize HPV vaccine uptake for all youth is an essential matter of social justice. The consequences in adulthood of failing to immunize youth with the HPV vaccine prior to initiation of sexual activities are critical life course concerns. Rights-, equity-, and justice-based HPV vaccine policies will be necessary if we are to advance global HPV vaccine uptake. The goal of an HPV vaccine policy should be to create an environment in which the rights of youth are respected, social justice is affirmed, and health equity is achieved.

Policy-makers can translate the principles and norms of rights, equity, and justice into practice by (a) creating conditions that allow for equitable access of vaccine to all children without discrimination (Article 2); (b) ensuring that all policies related to the HPV vaccine consider children's best interests and their optimal survival and development (Articles 3 and 6); (c) providing youth developmentally appropriate information about the HPV vaccine, a voice in developing relevant policies and protocols, and the option to independently consent to vaccine administration (Articles 12, 13, and 17); (d) supporting parents as the primary protectors of their children's rights (Articles 5 and 18); (e) increasing resources required to advance HPV awareness and education programs for youth and adults (Article 24); and (f) promoting the creation of HPV educational materials that are developmentally appropriate, as well as culturally and linguistically sensitive to effectively capture a range of children (Article 17).

Ultimately, a rights-, justice-, and equity-based approach to vaccine policy will promote children's participation in medical decision-making. By ensuring children's rights are fulfilled in relation to HPV vaccine access, health equity can be maximized and disparities minimized with respect to HPV-associated medical conditions. Caregivers and states have a duty to ensure that youth are not treated as passive recipients of adult care, but are empowered to be involved in issues pertaining to their health and well-being. If provided this opportunity, children will be more likely to discuss HPV with their peers and/or families, and will be able to make informed independent decisions related to the HPV vaccine.

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