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Human Rights In Health Equity: Cervical Cancer and HPV Vaccines

Joanna N. Erdman[†]

ABSTRACT

This article seeks to demonstrate that health equity, as an empirical and normative concept, is reflected in the human rights to health and equality under international law. The obligations on government that flow from health equity as a human right are then examined. These include the obligation to act in pursuit of health equity as a policy objective, and the obligation to enact measures to ensure health equity as a policy outcome. These obligations are considered in relation to a promising remedial measure for social disparities in cervical cancer: HPV vaccines.

INTRODUCTION

Cervical cancer is widely referred to as a striking and tragic case of health inequity.¹ There is no shortage of scientific knowledge or technical intervention. Cervical cancer is preventable and treatable through existing measures. These measures have dramatically decreased cervical cancer incidence and mortality, but their benefits have been unequally distributed within and across countries.

While cervical cancer rates have drastically fallen in developed countries due to effective prevention and treatment, socially disadvantaged women

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¹ See, e.g., Jan M. Agosti & Sue J. Goldie, *Introducing HPV Vaccine in Developing Countries — Key Challenges and Issues*, 356 NEW ENG. J. MED. 1908, 1908 (2007); Silvina Arrossi et al., *Social Inequality in Pap Smear Coverage: Identifying Under-Users of Cervical Cancer Screening in Argentina*, 16 REPRODUCTIVE HEALTH MATTERS 50, 50 (2008); Sue J. Goldie et al., *Health and Economic Outcomes of HPV 16, 18 Vaccination in 72 GAVI-Eligible Countries*, 26 VACCINE 4080, 4080 (2008); A.E. Pollack et al., *Cervical Cancer: A Call for Political Will*, 94 INT'L. J. GYNECOLOGY & OBSTETRICS 333, 333 (2006); Vivien Tsu & Carol Levin, *Making the Case for Cervical Cancer Prevention: What About Equity?*, 16 REPRODUCTIVE HEALTH MATTERS 104, 104 (2008); Scott Wittet & Vivien Tsu, *Cervical Cancer Prevention and the Millennium Development Goals*, 86 BULL. WORLD HEALTH ORG. 488, 488 (2008).

within these countries remain disproportionately more likely to develop and die of cervical cancer.² In most developing countries, in contrast, cervical cancer rates have risen or remained unchanged.³ More than eighty-three percent of the 493,000 incident cases of cervical cancer, and an even higher proportion of the 273,000 related annual deaths, occur in the developing countries of sub-Saharan Africa, Latin America and the Caribbean, South and South-East Asia, and Melanesia.⁴ Cervical cancer is the primary cause of cancer-related deaths⁵ and years of life lost⁶ among women in developing countries. These women are more likely to be diagnosed with late-stage disease, receive either no treatment or treatment that does not meet currently accepted standards of care, and suffer without the benefit of pain control and other palliative care.⁷ These social disparities in prevention, incidence, detection, treatment, and survival are avoidable, but are not avoided. For these reasons, cervical cancer is a health inequity.

The conceptualization of cervical cancer as a health inequity grounds ethical claims of injustice and political demands for action.⁸ The health inequity of cervical cancer also suggests a legal claim. This article seeks to articulate this legal claim under international human rights law.

Part I examines the reflection of health equity as an empirical and normative concept in the human rights to health and equality. Given health equity as a human right, social disparities in cervical cancer are reconceived as a violation of international human rights law.

Part II focuses on the legal obligations of government that flow from health equity as a human right, and social health disparities as a human rights violation.⁹ These obligations, broadly phrased, include the obligation to act in pursuit of health equity as a policy objective, and the obligation to enact measures to ensure health equity as a policy outcome. Part II considers these obligations in relation to a promising remedial measure for cervical cancer inequity: HPV vaccines.

While international law cannot itself remedy social disparities in cervical cancer, the framing of health equity as a human right may strengthen the normative commitment to ensure government action in pursuit of this goal.

² World Health Org., COMPREHENSIVE CERVICAL CANCER CONTROL: A GUIDE TO ESSENTIAL PRACTICE 18 (2005).

³ *Id.*

⁴ J. FERLAY ET AL., INT'L AGENCY FOR RESEARCH ON CANCER, GLOBOCAN 2002: CANCER INCIDENCE, MORTALITY AND PREVALENCE WORLDWIDE (2004), <http://www-dep.iarc.fr/>; D. Max Parkin et al., *Global Cancer Statistics, 2002*, 55 CA CANCER J. CLINICIANS 74, 78 (2005).

⁵ *See supra* note 4.

⁶ D. Maxwell Parkin & Freddie Bray, *Chapter 2: The Burden of HPV-Related Cancers*, 21 VACCINE S3/11, S3/12 (2006).

⁷ Nancy Krieger, *Defining and Investigating Social Disparities in Cancer: Critical Issues*, 16 CANCER CAUSES & CONTROLS 5, 5 (2005).

⁸ *See supra* note 1.

⁹ While human rights obligations attach to all members of society, including individuals, the private business sector, intergovernmental and non-governmental actors, this article limits its analysis to considerations of the human rights obligations attaching to government.

I. HEALTH EQUITY AS A HUMAN RIGHT

A. THE EMPIRICAL AND NORMATIVE DIMENSIONS OF HEALTH EQUITY

Health equity has a range of theoretical backgrounds and definitions.¹⁰ Margaret Whitehead's 1992 formulation remains a standard working definition of the term.¹¹ Health inequity refers to "differences in health that are not only unnecessary and avoidable, but in addition unfair and unjust."¹² Subsequent iterations retain the empirical and normative dimensions of health equity, but modify their relationships. Health inequity refers to health disparities that are unjust *because* they are avoidable and thus unnecessary.¹³ This definition raises questions of fact and value: whether differences in health are avoidable and thus unnecessary, and why are such differences unjust.

Paula Braveman and Sofia Gruskin answer these questions by focusing on social disadvantage as a key feature of health inequity.¹⁴ While Whitehead does not explicitly use the term "disadvantaged" in her definition, Braveman explains that Whitehead intended to refer to differences that adversely affect "disadvantaged nations and groups" as implied by her examples.¹⁵

Health inequity, Braveman argues, is identified by the systematic tracking of health disparities with the social hierarchy, which consists of the different relative positions of social advantage and disadvantage as defined by, for example, gender, race, ethnicity, wealth, income, education, occupation, and geographic residence.¹⁶ Social groups who have persistently experienced social disadvantage or discrimination in the past systematically experience greater health risk and worse health outcomes than the most advantaged social groups.¹⁷ Health inequity thus refers to health disparities between social groups categorized by some important feature of their underlying social position,¹⁸ *social health disparities* in short.

¹⁰ A.J. Culyer & Adam Wagstaff, *Equity and Equality in Health and Health Care*, 12 J. HEALTH ECON. 431, 432 (1993); Anthony J. Culyer, *Equity - Some Theory and its Policy Implications*, 27 J. MED. ETHICS 275, 275 (2001).

¹¹ Margaret Whitehead, *The Concepts and Principles of Equity in Health*, 22 INT'L J. HEALTH SERVICES 429 (1992).

¹² *Id.* at 431.

¹³ This concept tracks the general principle of horizontal equity insofar as avoidable and unnecessary differences suggest that the disparities in health status are capricious or related to irrelevant characteristics. Culyer, *supra* note 10, at 276.

¹⁴ Paula Braveman, *Health Disparities and Health Equity: Concepts and Measurement*, 27 ANN. REV. PUB. HEALTH 167, 167 (2006) [hereinafter Braveman, *Health Disparities*]; Paula A. Braveman, *Monitoring Equity in Health and Healthcare: A Conceptual Framework*, 21 J. HEALTH, POPULATION, & NUTRITION 181, 181 (2003) [hereinafter Braveman, *Monitoring Equity*]; P. Braveman & S. Gruskin, *Defining Equity in Health*, 57 J. EPIDEMIOLOGY & COMMUNITY HEALTH 254, 254 (2003) [hereinafter Braveman & Gruskin, *Defining Equity*]; Paula Braveman & Sofia Gruskin, *Poverty, Equity, Human Rights and Health*, 81 BULL. WORLD HEALTH ORG. 539, 539 (2003) [hereinafter Braveman & Gruskin, *Poverty*].

¹⁵ Braveman, *Health Disparities*, *supra* note 12, at 168.

¹⁶ Braveman, *Monitoring Equity*, *supra* note 12, at 181; Braveman & Gruskin, *Defining Equity*, *supra* note 12, at 254.

¹⁷ Braveman, *Monitoring Equity*, *supra* note 12, at 181.

¹⁸ *Id.* at 182.

According to this definition, cervical cancer is a striking case of health inequity. Women belonging to disadvantaged social groups are disproportionately more likely to develop and die of cervical cancer across and within countries. The vast majority of the incident cases of cervical cancer and related deaths annually occur in developing countries.¹⁹ Cervical cancer is the primary cause of cancer-related deaths and years of life lost among women in these countries.²⁰ Within all countries, cervical cancer disparities track indicators of underlying social position. A meta-analysis of fifty-seven studies revealed an increased risk of approximately 100 percent between high and low social class categories for the development of invasive cervical cancer.²¹ This increased risk was apparent in all geographic regions, although it was stronger in Africa, Asia and Latin America and the Caribbean than in Europe.²² These measures of cervical cancer disparities, moreover, may be underrepresented given misclassification and underreporting along indicators of social disadvantage in the data itself.²³ Cervical cancer inequity cannot be effectively decreased without improving the information systems necessary to measure disparities and monitor progress.

What renders social health disparities avoidable and thus unnecessary? The answer lies in their cause. Causes of social health disparities are complex and multifactorial, with epidemiology rarely able to establish relationships between cause and effect. The systematic association of greater health risk and worse health outcomes with social disadvantage – the association being significant, frequent or persistent rather than random or occasional²⁴ – nevertheless allows for a plausible general inference that social health disparities are informed by the social hierarchy and the social institutions that create, maintain and give it force. One such institution is the health system, which converts the social hierarchy into unequal health resources, access to services and health outcomes. Health inequity is a function of how governments distribute health resources and design health programs.²⁵

The social hierarchy and the health distribution linked to this hierarchy are thus neither natural nor inevitable. Social health disparities result from an avoidable and unnecessary determinant: government action. Braveman explicitly defines health inequity as “a particular type of potentially avoidable

¹⁹ See, sources cited *supra* note 4.

²⁰ See, sources cited *supra* notes 4, 6.

²¹ Seema Parikh et al., *Meta-Analysis of Social Inequality and the Risk of Cervical Cancer*, 105 INT'L J. CANCER 687, 688 (2003).

²² *Id.*

²³ See *id.* at 687; see also Pollack et al., *supra* note 1, at 334 (noting that underreporting may result from an emphasis on maternal health that prejudices older women); Rose Anorlu, *Cervical Cancer: the sub-Saharan African Perspective*, 16 REPRODUCTIVE HEALTH MATTERS 41, 42 (2008) (noting that underreporting is common in many areas of Africa); Emmanuela Gakidou et al., *Coverage of Cervical Cancer Screening in 57 Countries: Low Average Levels and Large Inequalities*, 5 PLOS MED. 0864, 0867 (2008) (describing general problems with underreporting).

²⁴ Barbara Starfield, *Improving Equity in Health: A Research Agenda*, INT'L J. HEALTH SERVICES 545, 547 (2001); Braveman, *Health Disparities*, *supra* note 14, at 171.

²⁵ See Braveman, *Monitoring Equity*, *supra* note 12, at 188-90 (noting that equity is a matter of distributive justice); Braveman & Gruskin, *Defining Equity*, *supra* note 12, at 257 (noting that equity depends on the distribution and design of resources, policies, and programmes).

difference in health or in important influences on health that can be shaped by policies.”²⁶

Preventable diseases warrant a comment in relation to the criteria of avoidable and unnecessary. It is suggested that health equity is of particular relevance to diseases, such as cervical cancer, where there is no shortage of scientific knowledge or technical intervention to prevent the disease.²⁷ Preventable diseases are analytically valuable insofar as they indicate what is theoretically attainable, and therefore set a minimum standard for what is potentially avoidable through government action.²⁸ Braveman is careful to note, however, that empiric evidence of avoidability in this sense should not be a prerequisite for a health disparity to qualify as a health inequity.²⁹ The unavailability of prevention measures may itself, for example, be a consequence of government action.

Cervical cancer is a preventable disease, a characteristic relevant to the characterization of social disparities in cervical cancer as avoidable and unnecessary. The prevention of cervical cancer is based on the discovery that infection with one or more high-risk types of the human papillomavirus (“HPV”) is a necessary cause of cervical cancer.³⁰ HPV infection is a highly prevalent sexually transmitted infection. Most women will be infected with HPV during their lifetime, with high rates in young women following sexual debut.³¹ While most infections are asymptomatic and transient, persistent or chronic infection over decades with a high-risk HPV type is associated with pre-cancerous lesions of the cervix that may progress to cervical cancer.³²

Several factors are associated with increased risk of both initial infection with high-risk HPV types and developing cervical cancer once infected. Individual level factors include both biological factors (e.g. coinfection with other sexually transmitted agents and immunodeficiency) and behavioral factors (e.g. nonuse of condoms, multiple sexual partners,³³ young age at sexual debut).³⁴

While differences in individual level factors may have some effect on social disparities in cervical cancer,³⁵ they are not considered the dominant cause of the social distribution. The most important determinant of social

²⁶ Braveman, *Health Disparities*, *supra* note 12, at 180. *See also* Braveman & Gruskin *Poverty*, *supra* note 12, at 540 (noting that government should seek to address health inequities not only through health policy, but through policy addressing the underlying conditions of social disadvantage, such as education, living standards and environment).

²⁷ Pollack et al., *supra* note 1, at 337.

²⁸ *See generally* Braveman & Gruskin, *Defining Equity*, *supra* note 12, at 255, for a discussion of avoidability in relation to health equity.

²⁹ Braveman, *Health Disparities*, *supra* note 14, at 185.

³⁰ J.M. Walboomers et al., *Human Papillomavirus is a Necessary Cause of Invasive Cervical Cancer Worldwide*, 189 J. PATHOLOGY 12, 18 (1999); Nubia Muñoz et al., *Chapter 1: HPV in the Etiology of Human Cancer*, 24S3 VACCINE S3/1, S3/1 (2006).

³¹ F. Xavier Bosch et al., *Epidemiology and Natural History of Human Papillomavirus Infections and Type-Specific Implications in Cervical Neoplasia*, 26S VACCINE K1, K2 (2008).

³² M. Stanley, *Immune responses to human papillomavirus*, 24S1 VACCINE I6 (2006).

³³ This factor also includes the sexual behaviour of male partners. Women but not their male partners, for example, may be monogamous. Maribel Almonte, *Risk factors for Human Papillomavirus Exposure and Co-Factors for Cervical Cancer in Latin America and the Caribbean*, 26S VACCINE L16, L24 (2008).

³⁴ World Health Org., *supra* note 2, at 35.

³⁵ *See, e.g.*, Parikh et al., *supra* note 19, at 689.

disparities in cervical cancer is a health systems factor shaped by government action: social disparities in access to prevention measures, namely cervical screening.³⁶

Cervical screening allows for the early detection, follow-up and treatment of precancerous cervical abnormalities.³⁷ It is a viable and highly effective prevention strategy because of the prolonged progression from infection to disease.³⁸ In countries that have implemented high-quality screening programs using the Papanicolaou cytology method, societal average cervical cancer incidence and mortality rates have dramatically decreased.³⁹ These drastic reductions indicate the standard of health theoretically attainable among socially disadvantaged women, setting a minimum standard for what is possible through government action.

Central to health equity is thus not the association of health distribution with the social hierarchy, nor the fact of existing prevention measures, but the capacity of government to change the social hierarchy or to modify its effects on the distribution of health risks and outcomes. There are important reasons to empirically locate the cause of social health disparities in government action, among them, providing an explanation why social health disparities are unjust, the normative dimension of health equity.

Social health disparities are unjust, according to Braveman and Gruskin, because they result from government action that adversely affects the health risks and outcomes of groups already disadvantaged by virtue of their underlying social position.⁴⁰ Social health disparities result from government action that places already disadvantaged social groups at further disadvantage with respect to their health.⁴¹ For this reason, social health disparities violate ethical principles of distributive justice.⁴² These principles are widely interpreted to require that priority be given to improving the situation of the socially disadvantaged.⁴³

B. HEALTH EQUITY IN INTERNATIONAL HUMAN RIGHTS LAW

The empirical and normative dimensions of health equity – government action and distributive justice – support an additional claim of injustice grounded not in ethics or politics but in law. These dimensions of health equity are reflected in the human rights to health and equality. Health

³⁶ *Id.*; Lynette Denny, *Prevention of Cervical Cancer*, 16 REPRODUCTIVE HEALTH MATTERS 18, 19 (2008).

³⁷ R. Sankaranarayanan et al., *A Critical Assessment of Screening Methods for Cervical Neoplasia*, 89 INT'L J. GYNECOLOGY & OBSTETRICS S4, S4-5 (2005).

³⁸ *Id.* at S5; Lynette Denny, *The Prevention of Cervical Cancer in Developing Countries*, 112 BJOG: INT'L J. OBSTETRICS & GYNAECOLOGY 1204, 1204 (2005).

³⁹ World Health Org., *supra* note 2, at 18; Gakidou, *supra* note 23, at 0863.

⁴⁰ Braveman & Gruskin, *Defining Equity*, *supra* note 14, at 256; Braveman, *Health Disparities*, *supra* note 14, at 185.

⁴¹ Braveman & Gruskin, *Defining Equity*, *supra* note 14, at 254; Braveman, *Health Disparities*, *supra* note 14, at 182.

⁴² Braveman, *Monitoring Equity*, *supra* note 14, at 189.

⁴³ In the literature, the principle of distributive justice that priority be given to the least advantaged in society is often referenced to the work of political philosopher John Rawls. See, e.g., Braveman, *Health Disparities*, *supra* note 14, at 183; W-C Chang, *The Meaning and Goals of Equity in Health*, 56 J. EPIDEMIOLOGY & COMMUNITY HEALTH 488, 489 (2002).

inequity, including social disparities in cervical cancer, may thus be reconceived as a human rights violation.

International human rights law, based on a series of conventions to which States parties voluntarily adhere, reflects legally enforceable standards of government action that have their origins in ethical values.⁴⁴ Given this relationship, Braveman and Gruskin, among others, support the normative foundation of health equity by reference to both ethical principles and human rights.⁴⁵ The human rights to health and equality support the proposition that social health disparities are unjust.

The right to health is protected in several international and regional human rights conventions. Its content and meaning are most fully articulated with respect to Article 12 of the *International Covenant on Economic, Social and Cultural Rights* ("CESCR"),⁴⁶ which requires that States parties "recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."⁴⁷ The right to health is closely related to and dependent upon the realization of other human rights, including rights to equality and non-discrimination.⁴⁸ Under CESCR, States parties undertake to guarantee that the right to health will be exercised without discrimination of any kind, and in particular, on the basis of sex and gender.⁴⁹ The *Convention on the Elimination of All Forms of Discrimination against Women* ("CEDAW") expressly addresses equality in health care on these grounds.⁵⁰ Article 12 of CEDAW requires "States Parties . . . [to] take all appropriate measures to eliminate discrimination against women in the field of health care in order to ensure, on a basis of equality of men and women, access to health care services."⁵¹

While many other international human rights conventions are relevant to the conceptualization of health equity as a human right, the analysis in this article is limited to the right to health and the right to equality in CESCR and CEDAW, and their related commentary.⁵² Emphasis will be placed on *General Comment No. 14: the Right to the Highest Attainable Standard of Health*

⁴⁴ Rebecca J. Cook et al., *REPRODUCTIVE HEALTH AND HUMAN RIGHTS: INTEGRATING MEDICINE, ETHICS, AND LAW* 151 (2003).

⁴⁵ Braveman, *Health Disparities*, *supra* note 14, at 183; Braveman & Gruskin, *Defining Equity*, *supra* note 14, at 255; Braveman & Gruskin, *Poverty*, *supra* note 14, at 540.

⁴⁶ International Covenant on Economic, Social and Cultural Rights, Dec. 16, 1966, 993 U.N.T.S. 3, (*entered into force* Jan. 3, 1976) [hereinafter *CESCR*].

⁴⁷ *Id.* art. 12(1).

⁴⁸ In this article, the term "right to equality" refers to both the right to equality and the right to non-discrimination.

⁴⁹ CESCR, *supra* note 46, arts. 2.2, 3.

⁵⁰ Convention on the Elimination of All Forms of Discrimination against Women art. 12, Dec. 18, 1979, 1249 U.N.T.S. 13 (*entered into force* Sept. 3, 1981).

⁵¹ *Id.* art. 12(1).

⁵² U.N. bodies that monitor States parties' compliance with international human rights conventions issue General Comments or General Recommendations, which are authoritative commentary on aspects related to specific articles in the conventions. This commentary is intended to assist States parties in complying with their obligations under the Conventions.

("General Comment No. 14")⁵³ and *General Recommendation No. 24: Women and Health* ("General Recommendation No. 24").⁵⁴

Braveman and Gruskin assert that the right to health can be "operationalized as the right of all social groups . . . to attain the level of health enjoyed by the most privileged group in society."⁵⁵ This interpretation of the right to health, which can be extended to the right to equality, is well supported.

The right to health, as explained in General Comment No. 14, is not understood as a right to be healthy.⁵⁶ Differences in health status are not in themselves a human rights violation. Akin to the concept of health equity, the right to health concerns the systematic association of health disparities with underlying social advantage and disadvantage. Informed by the social hierarchy, these health disparities are created, maintained and given force by government action, including the design and implementation of health systems.

The right to health is defined in part as an entitlement to a "system of health protection which provides *equality of opportunity* for people to enjoy the highest attainable level of health."⁵⁷ Government action which converts underlying social position into unequal health resources, services and outcomes – a system which places already disadvantaged groups at further disadvantage with respect to their health – violates the right to health. General Recommendation No. 24, developed in reference to Article 12 of CEDAW, nicely captures this aspect of the right to health as related to the right to equality:

Studies such as those which emphasize the high maternal mortality and morbidity rates worldwide . . . provide an important indication for States parties of possible breaches of their [human rights] duties . . . States parties [are] to report on what they have done to address the magnitude of women's ill-health, in particular when it arises from preventable conditions . . . States parties should therefore report on what they have done *to organize governmental processes and all structures through which public power is exercised to promote and protect women's health*.⁵⁸

Central to the rights to health and equality is thus government action – including all structures and processes through which public power is exercised

⁵³ U.N. Comm. on Econ., Soc. and Cultural Rights, *General Comment No. 14. The Right to the Highest Attainable Standard of Health*, UN doc E/C.12/2000/4 (Aug. 11, 2000) [hereinafter *General Comment No. 14*].

⁵⁴ U.N. Comm. on the Elimination of all Forms of Discrimination against Women, *General Recommendation No. 24: Women and Health*, UN Doc. A/54/38/Rev.1 (1999) [hereinafter *General Recommendation No. 24*].

⁵⁵ Braveman, *Health Disparities*, *supra* note 14, at 184; *see also* Braveman & Gruskin *Defining Equity*, *supra* note 14, at 254.

⁵⁶ *General Comment No. 14*, *supra* note 53, ¶ 7. "There are a number of aspects which cannot be addressed solely within the relationship between States and individuals; in particular, good health cannot be ensured by a State, nor can States provide protection against every possible cause of human ill health." *Id.* ¶ 9.

⁵⁷ *Id.* ¶ 8 (emphasis added).

⁵⁸ *General Recommendation No. 24*, *supra* note 54, ¶ 17 (emphasis added).

– that seeks to modify the adverse distributive effects of underlying social position on health risks and outcomes, and to thus protect and promote the highest attainable standard of health among the socially disadvantaged.⁵⁹

These principles of distributive justice are reflected in the interrelated and essential elements of the right to health: availability, accessibility, acceptability and quality.⁶⁰ Functioning public health programs as well as medically appropriate and good quality health facilities, goods and services are to be sufficiently available to meet health needs.⁶¹ The elements of accessibility and acceptability, in particular, require selective concern for the vulnerable and marginalized. The right to health under CESCER requires that “health facilities, goods and services must be accessible to all, especially the most vulnerable or marginalized sections of the population, in law and in fact, without discrimination.”⁶² Facilities, goods and services must therefore “be within safe physical reach for all sections of the population, especially vulnerable or marginalized groups, such as ethnic minorities and indigenous populations, women . . . including in rural areas.”⁶³ Whether provided privately or publicly, services should be economically accessible, and “affordable for all, including socially disadvantaged groups.”⁶⁴ Acceptable health facilities, goods and services must also be “respectful of the culture of individuals, minorities, peoples and communities, sensitive to gender and life-cycle requirements . . . [and designed to] improve the health status of those concerned.”⁶⁵

Attention to underlying social disadvantage is also an essential feature of the right to equality. Government cannot enact a health system that places already disadvantaged groups at further disadvantage with respect to health whether by design or effect. General Comment No. 14 explicitly notes that

[i]nappropriate health resource allocation can lead to discrimination that may not be overt. For example, investments should not disproportionately favour expensive curative health services which are often accessible only to a small, privileged fraction of the population, rather than primary and preventive health care benefiting a far larger part of the population.⁶⁶

The facial neutrality of a health policy or program, government disregard for the adverse effects of underlying social disadvantage, may constitute discrimination. Government thus cannot enact a health system for the benefit of the general population without ensuring that disadvantaged social groups can enjoy the full benefits of the system. This selective concern for the socially disadvantaged applies to all aspects of the health system.

Articles 2.2 and 3 of CESCER, for example, proscribe any discrimination in access to health care, including the “means and entitlements for their procurement . . . which [have] the intention or effect of nullifying or

⁵⁹ *General Comment No. 14*, *supra* note 53, ¶ 9.

⁶⁰ *Id.* ¶ 12.

⁶¹ *Id.* ¶ 12(a) and (d).

⁶² *Id.* ¶ 12(b).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.* ¶ 12(c).

⁶⁶ *Id.* ¶ 19.

impairing the equal enjoyment or exercise of the right to health.”⁶⁷ These Articles support the interpretation that the right to health imposes a special obligation on government to “provide those who do not have sufficient means with the necessary health insurance and health-care facilities.”⁶⁸

General Recommendation No. 24 draws particular attention to “societal factors which are determinative of the health status of women . . . [and] which can vary among women themselves . . . [S]pecial attention should be given to the health needs and rights of women belonging to vulnerable and disadvantaged groups.”⁶⁹ Acceptable health services are defined as services “delivered in a way that ensures that a woman gives her fully informed consent, respects her dignity, guarantees her confidentiality and is sensitive to her needs and perspectives.”⁷⁰

Conventional prevention measures in cervical cancer, namely screening programs, fail to reflect these human rights standards. There is an acute shortage of functional screening programs in most developing countries,⁷¹ and widespread failure to account for underlying factors that render screening less or inaccessible to socially disadvantaged women within countries.⁷²

Screening programs in most developing countries are insufficiently available and of poor quality, which results in much lower screening coverage⁷³ and contributes to higher cervical cancer incidence and mortality.⁷⁴ Screening coverage in developing countries is, on average, nineteen percent compared to sixty-three percent in developed countries.⁷⁵ “In women who have never been screened, cancer tends to be diagnosed in its later stages, when it is less easily treatable,” which leads to increased rates of mortality.⁷⁶

In countries with screening programs, disadvantaged social groups are disproportionately represented among the unscreened and the untreated.⁷⁷ Indigenous women in Latin America have lower screening utilization rates than societal averages.⁷⁸ In South Africa, cervical cancer disparities between race groups, urban and rural residence, and high and low wealth status is attributed to disparate screening coverage.⁷⁹

⁶⁷ *Id.* ¶ 18.

⁶⁸ *Id.* ¶ 19; *see also* General Recommendation No. 24, *supra* note 54, ¶ 22.

⁶⁹ General Recommendation No. 24, *supra* note 54, ¶¶ 6, 12(b).

⁷⁰ *Id.* ¶ 22.

⁷¹ Gakidou et al., *supra* note 23, at 0864.

⁷² *Id.* at 0865.

⁷³ The term “coverage” refers to “the proportion of women in the target age group who are screened at the recommended intervals during a given time period. The number of screening tests done is not coverage, since this number may include women outside the target age, and women screened more often than recommended.” World Health Org., *supra* note 2, at 83.

⁷⁴ *Id.* at 18; Lynette Denny et al., *Screening for Cervical Cancer in Developing Countries*, 24S3 Vaccine S3/71, S3/71-72 (2006).

⁷⁵ Gakidou et al., *supra* note 23, at 0863.

⁷⁶ World Health Org., *supra* note 2, at 16.

⁷⁷ *See, e.g.*, Arrossi & Goldie, *supra* note 1, at 51; Denny, *supra* note 36, at 19.

⁷⁸ *See* Silvana Luciani & Jon Kim Andrus, *A Pan American Health Organization Strategy for Cervical Cancer Prevention and Control in Latin America and the Caribbean*, 16 REPRODUCTIVE HEALTH MATTERS 59, 64 (2008) (Stating the utilization rates for indigenous women).

⁷⁹ Mary Kawonga & Sharon Fonn, *Achieving Effective Cervical Screening Coverage in South Africa through Human Resources and Health Systems Development*, 16 REPRODUCTIVE HEALTH MATTERS 32, 32-33 (2008).

Social disparities in demand and utilization result from government failure to ensure screening programs are accessible and acceptable to all. Programs are implemented without sufficient attention to the conditions that render screening less or inaccessible to disadvantaged social groups, including: lack of information, undervaluing of preventive care, opportunistic delivery in limited health care settings, sexual health stigma and related privacy concerns.

Information is an important dimension of accessibility.⁸⁰ Underutilization of screening services is commonly attributed to poor awareness of and information about cervical cancer⁸¹ and the benefits of screening in prevention and early detection.⁸² Failure to appropriately distinguish among screening, diagnosis and treatment, for example, may adversely affect demand for screening.⁸³ A positive HPV test may be mistaken as a diagnosis of cancer, falsely regarded as an untreatable disease. The psychological and financial burden of a perceived fatal diagnosis may deter women from screening. A mistaken understanding of cervical cancer screening as preventive care can itself be a barrier to access, given the low priority assigned to asymptomatic screening.⁸⁴ Economic barriers and social norms contribute to the undervaluing of preventive care. Given that screening does not provide any immediate health benefit, its value may be discounted and deemed insufficient to warrant expenditure of scarce private resources. Cost sharing, for example, has a significant adverse effect on social disparities in preventive care.⁸⁵ In Latin America and the Caribbean, health insurance, an indicator of social advantage, is positively associated with cervical cancer screening among older women.⁸⁶ Gender and age may exacerbate economic barriers. Within the household, social norms may favor expenditure on health services for males over females, and the young over the old.⁸⁷

Cervical screening is often opportunistic, offered by providers to relatively young women who attend family planning, antenatal and child health clinics.⁸⁸ Restricting screening services to clinic facilities disadvantages rural women, whose physical access to institutional healthcare is often restricted to health emergencies.⁸⁹ In Latin America, for example, “transportation costs and distance played a significant role in access to screening services. Rates

⁸⁰ *General Comment No. 14*, *supra* note 53, ¶ 12(b); *see also* N. Wellensiek et al., *Knowledge of Cervical Cancer Screening and Use of Cervical Screening Facilities among Women from Various Socioeconomic Backgrounds in Durban, Kwazulu Natal, South Africa*, 12 INT’L J. GYNECOLOGICAL CANCER 376, 377 (2002).

⁸¹ World Health Org., *supra* note 2, at 20.

⁸² J. Bradley et al., *Widening the Cervical Cancer Screening Net in a South African Township: Who are the Underserved?*, 25 HEALTH CARE WOMEN INT’L 227, 238 (2004).

⁸³ V. Lorant et al., *Equity in Prevention and Health Care*, 56 J. EPIDEMIOLOGY & COMMUNITY HEALTH 510, 515 (2002).

⁸⁴ *Id.*

⁸⁵ *Id.* at 514-15.

⁸⁶ Carlos A. Reyes-Ortiz et al., *Health Insurance and Cervical Cancer Screening Among Older Women in Latin American and Caribbean Cities*, 37 INT’L J. EPIDEMIOLOGY 870, 874-76 (2008).

⁸⁷ Tsu & Levin, *supra* note 1, at 105, 107.

⁸⁸ World Health Org., *supra* note 2, at 84.

⁸⁹ Pollack, *supra* note 1, at 334.

were much higher where clinics were more accessible or where mobile clinics brought services to women.”⁹⁰

The limited availability of cervical cancer screening in family planning, antenatal and child care clinics also disadvantages older women, who are at the greatest health risk but least likely to be screened.⁹¹ The association between HPV, a sexually transmitted infection, and cervical cancer contributes to this bias. The reproductive and sexual health of older women is often undervalued.⁹² Older women themselves undervalue their health needs, accepting “the physical discomforts associated with gynecological problems, menopause, and ageing as natural.”⁹³ Women at the end of their reproductive years are less likely to seek family planning, antenatal and child care services, and opportunistic screening is seldom provided in health facilities where older women are more likely to seek services, such as management of hypertension, heart disease, and diabetes.⁹⁴

The association of screening programs with a sexual transmitted infection poses a further social barrier to access. There is a stigma related to diseases of the reproductive tract, particularly sexually transmitted infections such as HPV. General Recommendation No. 24 emphasizes guaranteed confidentiality as an important determinant of accessible and acceptable care, in particular respecting sexual health services: “lack of respect for the confidentiality . . . may deter women from seeking advice and treatment and thereby adversely affect their health and well-being. Women will be less willing, for that reason, to seek medical care for diseases of the genital tract”⁹⁵ Fear and embarrassment of genital examinations, association with a sexually transmitted infection, and lack of confidentiality adversely affect screening demand and utilization.⁹⁶ In rural Mexico, for example, anxiety regarding physical privacy was the most frequent reason for not seeking or delaying screening.⁹⁷ Women may also be uncomfortable seeking and receiving screening from male health care providers, yet female providers are underrepresented in the health system.⁹⁸

Health systems, in the design and implementation of cervical cancer screening programs, may thus place socially disadvantaged women at further disadvantage with respect to their health. Cervical cancer inequity, for this reason, violates the rights to health and equality under international law.

⁹⁰ Arrossi, *supra* note 1, at 54.

⁹¹ World Health Org., *supra* note 2, at 19; Arrossi et al., *supra* note 1, at 51; *see also* Pollack et al., *supra* note 1, at 334.

⁹² *See* C. Elias & J. Sherris, *Reproductive and Sexual Health of Older Women in Developing Countries*, 327 *BMJ* 64, 64-65 (2003).

⁹³ *Id.* at 64.

⁹⁴ World Health Org., *supra* note 2, at 88.

⁹⁵ *General Recommendation No. 24*, *supra* note 54, ¶ 12(d).

⁹⁶ World Health Org., *supra* note 2, at 48.

⁹⁷ M.M. Watkins et al., *Barriers to Cervical Cancer Screening in Rural Mexico*, 12 *INT’L J. GYNECOLOGICAL CANCER* 475, 477 (2002).

⁹⁸ World Health Org., *supra* note 2, at 91.

II. THE OBLIGATIONS OF HEALTH EQUITY AS A HUMAN RIGHT

Human rights ground health equity as a normative concept and are principally used to this effect in the literature. Social health disparities are unjust because they result from government action in violation of the rights to health and equality. International human rights law, however, offers more than an additional claim of injustice. As a formal body of law, its strength resides in the attachment of legal obligations and accountability to the injustice of health inequity.⁹⁹ Health inequity by law rather than by ethics, charity or good practice requires remedial government action. International human rights law legally obligates governments of States parties to account for and to remedy social health disparities, and provides the practical basis for policy-making in pursuit of this objective.

Part II of the article focuses on the legal obligations of government that flow from health equity as a human right. These obligations, broadly phrased, include the obligation to act in pursuit of health equity as a policy objective, and the obligation to enact measures to ensure health equity as a policy outcome. Both obligations are considered in relation to a particularly promising remedial measure for cervical cancer inequity: HPV vaccines.

Conventional cytology-based HPV screening programs require a strong health infrastructure, sophisticated equipment, and technical expertise.¹⁰⁰ These programs are widely held to be beyond the capacity of many developing countries given limited human and financial resources and weak infrastructures.¹⁰¹

The claim that conventional screening programs cannot be implemented must be distinguished from a claim that government cannot reduce social disparities in cervical cancer. The right to health requires government to take whatever steps are necessary to the maximum of its available resources and by all appropriate means to reduce health inequities.¹⁰² General Comment No. 14 nevertheless acknowledges that the most appropriate measures to implement the right to health will vary from one jurisdiction to another: “Every State has a margin of discretion in assessing which measures are most suitable to meet its specific circumstances.”¹⁰³ The question asked of governments under international human rights law is thus whether alternative cervical cancer prevention measures, more suitable to meeting the needs of socially disadvantaged women, can be implemented. Two such alternative measures are low-technology non-cytologic screening methods and HPV vaccines.¹⁰⁴

Non-cytologic screening methods including visual inspection screening and “screen-and-treat” approaches are regarded as promising measures to

⁹⁹ Braveman & Gruskin, *Poverty*, *supra* note 14, at 541. *General Comment No. 14* further notes that the right to health includes certain components which are legally enforceable in national jurisdictions through domestic law including constitutional rights to equality and non-discrimination. *General Comment No. 14*, *supra* note 53, ¶ 1.

¹⁰⁰ Denny et al., *supra* note 82, at S3/71-72.

¹⁰¹ See, e.g., Denny et al., *supra* note 36, at 18.

¹⁰² CESCR, *supra* note 4, art. 2.1; *General Comment No. 14*, *supra* note 53, ¶ 53.

¹⁰³ *General Comment No. 14*, *supra* note 53, ¶ 53.

¹⁰⁴ A.E. Pollack and V.D. Tsu, *Preventing Cervical Cancer in Low-Resource Settings: Building a Case for the Possible*, 89 INT’L J. GYNECOLOGY & OBSTETRICS S1, S1 (2005).

reduce cervical cancer inequity.¹⁰⁵ These simpler and less expensive screening measures do not depend on a sophisticated health infrastructure, require modest equipment, and can be used at the primary health care level by a range of health providers in urban and rural settings.¹⁰⁶ Studies show that alternative screening methods can reduce global incidence of cervical cancer by as much as fifty percent.¹⁰⁷ Countries in Africa, Asia and Latin America have allocated government funding to support alternative screening approaches and have incorporated visual inspection methods into national cancer guidelines.¹⁰⁸

A second and complementary alternative measure focuses on the primary prevention of cervical cancer: HPV vaccines. The two vaccines developed to date are highly effective in preventing infection with two high-risk HPV types, which cause appropriately seventy percent of cervical cancer.¹⁰⁹ The vaccines are most effective prior to initial infection and thus sexual debut, and have therefore been recommended for priority administration among young adolescent women.¹¹⁰ Vaccines may place considerably fewer demands on health systems than screening, utilizing established infrastructure, logistics networks and information systems of immunization service delivery.¹¹¹ Studies indicate that HPV vaccines, if made available and accessible to adolescent women in developing countries, can prevent almost four million cervical cancer deaths in the next decade.¹¹²

The mere opportunity of these prevention measures to remedy cervical cancer inequity does not guarantee they will be used to this end. Governments must pursue health equity as a policy objective, and enact measures to ensure health equity as a policy outcome. The following Sections

¹⁰⁵ Denny, *supra* note 74, at S371; Sue J. Goldie et al., *Cost-Effectiveness of Cervical-Cancer Screening in Five Developing Countries*, 353 N. ENG. J. MED. 2158, 2158 (2005); Sankaranarayanan et al., *supra* note 42, at S8 (2005).

¹⁰⁶ Denny, *supra* note 74, at S3/73-74.

¹⁰⁷ Goldie et al., *supra* note 105, at 2167.

¹⁰⁸ Luciani & Andrus, *supra* note 78, at 61-62; Tsu & Levin, *supra* note 1, at 108.

¹⁰⁹ Gary Clifford et al., *Chapter 3: HPV Type-Distribution in Women with and without Cervical Neoplastic Diseases*, 24S VACCINE S26, S27 (2006).

¹¹⁰ Anna Koulova et al., *Country Recommendations on the Inclusion of HPV Vaccines in National Immunization Programmes among High-Income Countries, June 2006-January 2008*, 26 VACCINE 6529, 6534 (2008).

¹¹¹ F.X. Bosch et al., *HPV and Cervical Cancer: Screening or Vaccination?*, 98 BRITISH J. CANCER 15, 16 (2008); Mark A. Kane et al., *Chapter 15: HPV Vaccine Use in the Developing World*, 24S VACCINE S132, S135 (2006).

¹¹² Sue J. Goldie et al., *Benefits, Cost Requirements and Cost-Effectiveness of the HPV 16, 18 Vaccine for Cervical Cancer Prevention in Developing Countries: Policy Implications*, 16 REPRODUCTIVE HEALTH MATTERS 86, 93 (2008). The projection is based on making an HPV 16, 18 vaccine accessible to 70% of young adolescent girls in the 72 GAVI-eligible countries (countries with a Gross National Income (GNI) per capita below US \$1,000 in 2003) and non-GAVI eligible countries in the Latin American and Caribbean region as well as China and Thailand. GAVI-eligibility refers to eligibility for technical assistance and financial support from the GAVI Alliance (formerly the Global Alliance for Vaccines and Immunization), a partnership of national governments, research and technical health institutes, the World Health Organization, the World Bank, UNICEF, the Bill & Melinda Gates Foundation, the vaccine industry, and civil society organizations. *Id.*

consider these government actions as human rights obligations in relation to HPV vaccines.¹¹³

A. THE OBLIGATION TO ACT IN THE PURSUIT OF HEALTH EQUITY AS A POLICY OBJECTIVE

The importance of shifting policy objectives to achieve equitable health outcomes is well-recognized.¹¹⁴ Health policy objectives are often stated in terms of efficiency and improvement of societal average health status.¹¹⁵ These objectives, however, can be achieved by improving the health of any social group, whether advantaged or disadvantaged. Progress toward an increased average may thus widen social health disparities.

The reorientation of health systems toward health equity requires policy objectives that prioritize improving the health of the disadvantaged. International human rights law achieves this reorientation. Health equity is set as an objective to be taken into account in concert with, and sometimes as a foil to, other policy objectives in resource allocation and program design.¹¹⁶

Article 12.2 of CESCR references two policy objectives of particular relevance to health equity.¹¹⁷ The first policy objective is the prevention, treatment and control of disease.¹¹⁸ The second policy objective is the creation of conditions that assure to all health facilities, goods and services.¹¹⁹ The latter objective implicates two core government obligations: to ensure the right of access to and the equitable distribution of health facilities, goods and services on a non-discriminatory basis, especially for vulnerable or marginalized groups.¹²⁰

General Comment No. 14 emphasizes preventive health care in reference to both policy objectives. Infectious disease burden disproportionately falls on disadvantaged social groups. By setting the prevention and control of disease, including immunization programs, as a policy priority, international human rights law privileges a health equity objective.¹²¹ The control of diseases requires government efforts to “make available relevant technologies, using and improving epidemiological surveillance and data collection on a disaggregated basis.”¹²² Preventive health services, regular screening programs, and essential drugs are expressly listed among the health goods and services to be equitably distributed and accessible on a non-discriminatory basis.¹²³ These include, moreover, prevention measures “for behaviour-related

¹¹³ These obligations and much of the related analysis in Part II can be equally applied to low-technology non-cytologic screening methods.

¹¹⁴ See Davidson R. Gwatkin et al., *Making Health Systems More Equitable*, 364 LANCET 1273, 1277 (2004).

¹¹⁵ Fatima Alvarez-Castillo et al., *Priority Setting*, in THE RIGHT REFORMS? HEALTH SECTOR REFORMS AND SEXUAL AND REPRODUCTIVE HEALTH 137, 139-140 (T.K. Sundri Ravindarn & Helen de Pinho eds., 2005).

¹¹⁶ *Id.* 168.

¹¹⁷ CESCR, *supra* note 46, art. 12.2.

¹¹⁸ CESCR, *supra* note 41, art. 12.2(c).

¹¹⁹ CESCR, *supra* note 41, art. 12.2(d).

¹²⁰ General Comment No. 14, *supra* note 53, ¶ 43(a),(e).

¹²¹ See FE Andre et al., *Vaccination Greatly Reduces Disease, Disability, Death and Inequity Worldwide*, 86 BULL. WORLD HEALTH ORG. 140, 143 (2008).

¹²² General Comment No. 14, *supra* note 53, ¶ 16.

¹²³ *Id.* ¶ 17.

health concerns such as sexually transmitted diseases, in particular . . . those adversely affecting sexual and reproductive health.”¹²⁴ Prioritization of cervical cancer and HPV vaccines should thus not be affected by their association with a sexually transmitted infection.

A core obligation under the right to health ensures that societal average improvements in health status are not the sole objective of prevention programs. Government is required to adopt and implement a national public health strategy and plan of action that address the health concerns of the whole population, but which also “give particular attention to all vulnerable or marginalized groups.”¹²⁵ This obligation ensures that an objective of all HPV vaccination programs is to improve the health status of the socially disadvantaged, and that progress is monitored in terms of this objective.

The obligation to give particular attention to disadvantaged social groups is consistent with the more specific requirement of the rights to health and equality to integrate a gender perspective into all health-related policies.¹²⁶ These rights require that government abstain “from enforcing discriminatory practices as a State policy; and . . . from imposing discriminatory practices relating to women's health status and needs.”¹²⁷ These discriminatory practices extend to resource allocation. Government is obligated to ensure that women's health receives an equitable share of budgetary, human and administrative resources, taking into account women's different health needs.¹²⁸ That HPV vaccines target a sex-specific disease – cervical cancer – should thus not diminish vaccination as a public health priority. On the contrary, the elimination of discrimination against women requires “interventions aimed at both the prevention and treatment of diseases affecting women,” as well as policies to provide access “for all women to a full range of high quality and affordable health care, including sexual and reproductive services.”¹²⁹

The importance of a legally binding obligation to set health equity as a policy objective cannot be underestimated. Economic and epidemiological evidence, no matter how scientific, objective and technically sound, can inform but cannot determine policy priorities.¹³⁰ Priority setting is a function of many factors with different capacities to influence health policy decision-makers.¹³¹

Economic efficiency is one such factor. Cost-effectiveness studies are regarded as potent ammunition to support expanded vaccination programs.¹³² Research on HPV vaccines demonstrates that even at costs somewhat higher than traditional vaccines, HPV vaccination is a cost-effective measure even for

¹²⁴ *Id.* ¶ 16.

¹²⁵ *Id.* ¶ 43(f).

¹²⁶ *Id.* ¶ 20; *General Recommendation No. 24*, *supra* note 54, ¶¶ 24, 31.

¹²⁷ *General Comment No. 14*, *supra* note 53, ¶ 34.

¹²⁸ *General Recommendation No. 24*, *supra* note 54, ¶ 30.

¹²⁹ *Id.* ¶ 29.

¹³⁰ Braveman, *Monitoring Equity*, *supra* note 14, at 185.

¹³¹ Fatima Alvarez-Castillo et al., *supra* note 130 at 138.

¹³² Richard T. Mahoney & James E. Maynard, *The Introduction of New Vaccines into Developing Countries*, 17 *VACCINE* 646, 648 (1999).

the poorest countries.¹³³ Such research is especially valuable given that consensus among technical experts supported by or affiliated with international agencies is influential in the field of immunization.¹³⁴

Disease burden is also an important factor.¹³⁵ Decision-makers may be unaware of the burden of cervical cancer.¹³⁶ Burden of disease that is inadequately quantified, the case with many gynecological diseases in developing countries, can adversely affect priority setting.¹³⁷ Even where disease burden is measured, “cervical cancer has still not received sufficient attention in many countries, despite its high incidence, morbidity and mortality.”¹³⁸ Cervical cancer and HPV vaccines remain low on priority setting agendas, which may be explained by value judgments of both the disease and the persons burdened. Value judgment is among the highest-ranking factors influencing priority setting.¹³⁹

Priority setting is a government process through which the social hierarchy is converted into unequal health resources. Value judgment within priority setting tracks the social hierarchy. The health status and needs of groups lower on the social hierarchy are accordingly judged of lesser social value, warranting lower priority and fewer resources within the health system. As Braveman astutely observes, “It would be disingenuous to suggest that the policy-making process — which determines resource allocation — represents the interests of all social groups equally.”¹⁴⁰ The women who disproportionately develop and die of cervical cancer are the very women who have suffered from the lifelong effects of gender bias and low social status, those with the least political and economic influence.¹⁴¹ Many sexual health issues, including HPV infection and cervical cancer, are wrongly associated with illicit sexual behavior and poor genital hygiene.¹⁴² These health issues in consequence are undervalued by communities and neglected by the health system.¹⁴³ To combat in part this prejudice against sexual health, HPV vaccines are referred to and promoted as vaccines against cancer rather than HPV infection.

¹³³ See, e.g., Sue J. Goldie et al., *Health and Economic Outcomes of HPV 16, 18 Vaccination in 72 GAVI-Eligible Countries*, 26 VACCINE 4080, 4080 (2008).

¹³⁴ Varun Gauri & Peyvand Khaleghian, *Immunization in Developing Countries: Its Political and Organizational Determinants*, 30 WORLD DEV. 2109, 2110 (2002); W.P. Hausdorff, *Prospects for the Use of New Vaccines in Developing Countries: Cost is Not the Only Impediment*, 14 VACCINE 1179, 1182 (1996).

¹³⁵ Mahoney & Maynard, *supra* note 132, at 648.

¹³⁶ World Health Org., *supra* note 2, at 20; Jennifer L. Winkler et al., *Determinants of Human Papillomavirus Vaccine Acceptability in Latin America and the Caribbean*, 26S VACCINE L73, L73 (2008).

¹³⁷ Gijs Walraven et al., *The Silent Burden of Gynecological Disease in Low Income Countries*, 112 BJOG: INT'L J. OBSTETRICS & GYNECOLOGY 1177, 1177 (2005).

¹³⁸ World Health Org., *supra* note 2, at 19.

¹³⁹ Alvarez-Castillo et al., *supra* note 131, at 138-39.

¹⁴⁰ Braveman, *Monitoring Equity*, *supra* note 12, at 184.

¹⁴¹ Elias & Sherris, *supra* note 88, at 64.

¹⁴² Laura Reichenbach, *The Politics of Priority Setting for Reproductive Health: Breast and Cervical Cancer in Ghana*, 10 REPRODUCTIVE HEALTH MATTERS 47, 55-56 (2002); Winkler et al., *supra* note 125, at L76, L77.

¹⁴³ Asha George, *Using Accountability to Improve Reproductive Health Care*, 11 REPRODUCTIVE HEALTH MATTERS 161, 165 (2003).

Health equity as a human right redefines the health status and needs of disadvantaged social groups: how they are perceived and valued by decision-makers. Government obligations, especially those of legally binding nature, are factors that influence priority setting.¹⁴⁴ The human rights to health and equality legally obligate government to ensure that women's health, especially the prevention and treatment of diseases disproportionately affecting socially disadvantaged women, receives an equitable share of resources. HPV vaccines, as a remedy to cervical cancer inequity, may thus be revalued and reprioritized within health systems.

B. THE OBLIGATION TO ENACT MEASURES TO ENSURE HEALTH EQUITY AS A POLICY OUTCOME

Policy objectives alone do not dictate policy outcomes. Policy objectives stated in terms of efficiency and improvement of societal average health status may, for example, inadvertently reduce social health disparities. This is true where the health policy concerns diseases and interventions that disproportionately affect disadvantaged social groups, such as infectious diseases and immunization programs.¹⁴⁵ These health equity effects require, however, that disadvantaged social groups with the greatest need derive the greatest benefit of intervention.¹⁴⁶ Absent a concerted effort or legal obligation to ensure health equity in policy outcomes, the inverse equity hypothesis predicts the likely benefit distribution.¹⁴⁷

The inverse equity hypothesis is a corollary to the inverse care law, which maintains that "the availability of good medical care tends to vary inversely with the need for it in the population served."¹⁴⁸ According to the inverse equity hypothesis, advantaged social groups with the most resources will derive the initial and maximum benefit of any new public health intervention, increasing social health disparities.¹⁴⁹ Health equity will only improve when advantaged social groups reach minimum achievable levels of morbidity and mortality, beyond which there are unlikely to be substantial further improvements, their capacity to benefit exhausted.¹⁵⁰ Only when disadvantaged social groups gain access to the intervention in the final stages towards universal coverage will social health disparities decrease.¹⁵¹

¹⁴⁴ See Alvarez-Castillo et al., *supra* note 131, at 138.

¹⁴⁵ See *id.* at 155-56.

¹⁴⁶ See *id.* The term benefit does not refer to the therapeutic value of the intervention, its effect on the health status of social groups, but service utilization or the monetary value of the intervention. Benefit-incidence analysis, which combines measures of the cost of health services with information on utilization distribution, is the equity analogue of cost-effective analysis for efficiency. Davidson R. Gwatkin, *10 Best Resources on . . . Health Equity*, 22 HEALTH POL'Y & PLAN 348, 349 (2007).

¹⁴⁷ Cesar G. Victora et al., *Explaining Trends in Inequities: Evidence from Brazilian Child Health Studies*, 356 LANCET 1093, 1098 (2000); Gwatkin, *supra* note 112, at 1276 (2004).

¹⁴⁸ J. Tudor Hart, *The Inverse Care Law*, 297 LANCET 405, 405-12 (1971); Victoria et al., *supra* note 147, at 1093.

¹⁴⁹ Victora et al., *supra* note 147, at 1093.

¹⁵⁰ *Id.*

¹⁵¹ *Id.*; Gwatkin et al., *supra* note 114, at 1276.

The inverse equity hypothesis is expected to prove true in the case of HPV vaccines and cervical cancer.¹⁵² The introduction of new vaccines, generally, begins in the private and public sectors of developed countries, progresses to the relatively small private sectors of developing countries, and eventually reaches the public sectors of these countries.¹⁵³ The evidence to date indicates that HPV vaccines have followed this course.

Although HPV vaccines are licensed in countries worldwide, they have yet to be widely introduced into the public sectors in developing countries.¹⁵⁴ The vaccines are largely restricted to the private sector, and thus affordable only to the economically advantaged. Several developed countries, in contrast, have issued formal recommendations about the large-scale use of HPV vaccines in immunization programs as well as national and public sector health systems.¹⁵⁵

It is expected that for some time access to HPV vaccines will track underlying social position, increasing rather than decreasing cervical cancer inequity. It can take nearly two decades from first licensure in a developed country before new vaccines are introduced into the public sector of developing countries.¹⁵⁶ Without “mechanisms for accelerated introduction, developing countries find themselves at the distal end of an introduction cascade . . . with the public sectors of those countries lagging far behind in last place.”¹⁵⁷ This delay, requiring disadvantaged social groups to wait and be the last to benefit from HPV vaccines, is itself inequitable.¹⁵⁸

Advantaged and disadvantaged social groups moreover are unequally situated with respect to need. Although individual-level risk factors may be relatively similar across the social hierarchy, disparate access to conventional screening programs creates a greater need for HPV vaccines among the socially disadvantaged. Developed countries that have issued formal recommendations on public sector use of HPV vaccines, it is noted, have “cervical cancer screening programs with moderate or high population coverage . . . and consequently, they have a relatively lower burden of cervical cancer than many other countries with limited or no screening.”¹⁵⁹ It is inequitable that those with the least rather than greatest need receive the initial and maximum benefit of HPV vaccination.¹⁶⁰

For these reasons, it is of crucial importance that international human rights law imposes health equity obligations of both objectives and outcomes. The rights to health and equality require that government enact measures to ensure health equity as a policy outcome.

¹⁵² See Bosch et al., *supra* note 126 at 17; E.L. Franco, Health Inequity Could Increase in Poor Countries if Universal HPV Vaccination is Not Adopted, 335 *BMJ* 378, 378 (2007); Kane et al., *supra* note 126 at S132.

¹⁵³ Mahoney & Maynard, *supra* note 132, at 646.

¹⁵⁴ See, e.g., Efren J. Domingo et al., *Epidemiology and Prevention of Cervical Cancer in Indonesia, Malaysia, the Philippines, Thailand and Vietnam*, 26S *VACCINE* M71, M77-78 (2008).

¹⁵⁵ Koulova et al., *supra* note 125 at 6530.

¹⁵⁶ Kane et al., *supra* note 152, at S135; Mahoney & Maynard, *supra* note 132, at 646.

¹⁵⁷ Mahoney & Maynard, *supra* note 132, at 646.

¹⁵⁸ Gwatkin et al., *supra* note 114, at 1276.

¹⁵⁹ Koulova et al., *supra* note 155, at 6534.

¹⁶⁰ Gwatkin et al., *supra* note 114, at 1276.

Article 12 of CESCER obligates government “to adopt appropriate legislative, administrative, budgetary, judicial, promotional, and other measures towards the full realization of the right to health.”¹⁶¹ Article 12 of CEDAW requires similar measures to the extent of available resources to ensure realization of women’s right to health.¹⁶² International human rights law acknowledges, however, that the “appropriateness” of measures will not always be self-evident and will vary from one jurisdiction to another.¹⁶³ Government is thus obligated to demonstrate why the measures chosen are considered the most “appropriate” under the circumstances.¹⁶⁴ Article 12 of CEDAW, for example, requires government to “demonstrate that health legislation, plans and policies are based on . . . assessment of the health status and needs of women in that country”¹⁶⁵ in a way that recognizes the “distinctive features and factors which differ for women in comparison to men.”¹⁶⁶

The rights to health and equality, in summary, obligate government to adopt appropriate measures to ensure in *outcome* the equitable distribution of and access to health facilities, goods and services. To ensure that HPV vaccines are distributed and accessible to disadvantaged social groups, this obligation requires government to account for and address the following considerations: affordability, social and sexual norms, information and education, and delivery systems.

Affordability is an essential component of equitable HPV vaccination programs.¹⁶⁷ Given the high price of HPV vaccines, if available only in the private sector, disadvantaged social groups will be effectively denied access. Advantaged social groups will take up opportunistic vaccination, increasing social disparities in cervical cancer.¹⁶⁸ To ensure equitable use, HPV vaccines must be made available through publicly funded programs or systems.

International law recognizes that while resource constraints may “render it impossible for a State to comply fully with its . . . [human rights] obligations, it has the burden of justifying that every effort has nevertheless been made to use all available resources at its disposal in order to satisfy, as a matter of priority, the[se] obligations.”¹⁶⁹ All available resources are defined as “both the resources existing within a State and those available from the international community through international co-operation and assistance.”¹⁷⁰ International financial mechanisms, such as the GAVI Alliance and the Pan American Health Organization (“PAHO”) Revolving Fund, are

¹⁶¹ *General Comment No. 14*, *supra* note 53, ¶ 33; *see also id.* ¶ 53 (noting that individualized national strategies will have to be developed).

¹⁶² *General Recommendation No. 24*, *supra* note 54, at ¶ 17.

¹⁶³ U.N. Comm. on Econ., Soc. & Cultural Rights, *General Comment No. 3. The Nature of States Parties’ Obligations*, ¶ 4 UN Doc. E/1991/23 (1990), [hereinafter *General Comment No. 3*]; *see General Comment No. 14*, *supra* note 53, ¶ 53.

¹⁶⁴ *General Comment No. 3*, *supra* note 163, ¶ 4.

¹⁶⁵ *General Recommendation No. 24*, *supra* note 54, at ¶ 9.

¹⁶⁶ *Id.* at ¶ 12.

¹⁶⁷ Agosti & Goldie, *supra* note 1, at 1909.

¹⁶⁸ *See Franco*, *supra* note 152, at 379; Rengaswamy Sankaranarayanan et al., *Human Papillomavirus Infection and Cervical Cancer Prevention in India, Bangladesh, Sri Lanka and Nepal*, 26S VACCINE M43, M48 (2008).

¹⁶⁹ *General Comment No. 14*, *supra* note 53, ¶ 47.

¹⁷⁰ *General Comment No. 3*, *supra* note 163, ¶ 13.

therefore relevant to fulfilling human rights obligations.¹⁷¹ Government is obligated “to take steps, individually and through international assistance and co-operation, especially economic and technical, towards the full realization . . . of the right to health.”¹⁷² The obligation to protect the right to health further requires government “to take measures that prevent third parties from interfering with article 12 guarantees” including economic accessibility.¹⁷³ These measures may include negotiated pricing and subsidies from the vaccine industry.

To ensure equitable health outcomes, HPV vaccination programs must account for social norms, including sexual norms, relevant to vaccine demand and utilization. This requirement is reflected under the right to equality, which obligates government to ensure preventive health services are acceptable, “delivered in a way that ensures that a woman gives her fully informed consent . . . [and] sensitive to her needs and perspectives.”¹⁷⁴

As a vaccine against HPV, a sexually transmitted infection, it may be wrongly assumed, including by health providers, that relative need for vaccination is a consequence of individual-level factors, such as stigmatized sexual and other social behaviors.¹⁷⁵ Socially disadvantaged women may be unwilling to associate themselves and their adolescent daughters with stigmatized behaviors, thereby reducing demand for HPV vaccines.¹⁷⁶ The association of HPV vaccines with sexual health may also lead to fears, especially among disadvantaged social groups subject to past coercive government practices, that HPV vaccination is a form of sterilization or fertility control.¹⁷⁷

General Recommendation No. 24 recognizes that “[a]dolescent girls and women in many countries lack adequate access to information and services necessary to ensure sexual health.”¹⁷⁸ Evidence on information and knowledge respecting HPV infection, cervical cancer and HPV vaccines supports this statement.¹⁷⁹ The rights to health and equality obligate government to promote education and develop information campaigns.¹⁸⁰ A core obligation under the right to health, as identified in *General Comment No. 14*, is the provision of “education and access to information concerning the main health problems in the community, including methods of preventing and controlling them.”¹⁸¹ HPV vaccination programs must thus not only meet existing

¹⁷¹ See Jon Kim Andrus et al., *Introduction of Human Papillomavirus Vaccines into Developing Countries - International Strategies for Funding and Procurement*, 26S VACCINE K87, K92 (2008).

¹⁷² CESCR, *supra* note 46, art. 2.1; *General Comment No. 14*, *supra* note 53, ¶ 38.

¹⁷³ *General Comment No. 14*, *supra* note 53, ¶ 33.

¹⁷⁴ *General Recommendation No. 24*, *supra* note 49, ¶ 22.

¹⁷⁵ See Winkler et al., *supra* note 125, at L76-77.

¹⁷⁶ Richard K. Zimmerman, *Ethical Analysis of HPV Vaccine Policy Options*, 24 VACCINE 4812, 4814 (2006).

¹⁷⁷ Agosti & Goldie, *supra* note 1, at 1908; Gauri & Khaleghian, *supra* note 134, at 2113; Kane et al., *supra* note 152, at 138; Mark Nichter, *Vaccinations in the Third World: A Consideration of Community Demand*, 41 Soc. Sci. & Med. 617, 618 (1995).

¹⁷⁸ *General Recommendation No. 24*, *supra* note 54, ¶ 18.

¹⁷⁹ Domingo et al., *supra* note 140, at M77-78; Sankaranarayanan et al., *supra* note 153, at M48; Winkler et al., *supra* note 125, at L77.

¹⁸⁰ *General Comment No. 14*, *supra* note 53, ¶ 36; *General Recommendation No. 24*, *supra* note 54, ¶ 18.

¹⁸¹ *General Comment No. 14*, *supra* note 53, 44(d).

demand, but stimulate demand among disadvantaged social groups through information and education about HPV infection, the purposes and benefits of HPV vaccines, and sexual health more generally.¹⁸²

Physical accessibility is an important consideration in delivery systems. Community-based programs, as a complement to school-based delivery, may be required to ensure that HPV vaccination coverage does not reflect social disparities in school enrollment.¹⁸³ The design and implementation of new measures to reach adolescents for HPV vaccination may moreover strengthen the delivery of adolescent sexual health services more broadly.¹⁸⁴ HPV vaccination programs may thus function as part of a larger set of “allocate[d] resources for programmes directed at adolescents for the prevention and treatment of sexually transmitted diseases, including HIV/AIDS” as recommended under the right to equality.¹⁸⁵

This consideration leads to a final but important concern respecting HPV vaccination programs and equitable health outcomes. HPV vaccines are not substitutes for routine screening. Many women will not receive the vaccines, which moreover, do not protect against infection with all high-risk HPV types. HPV vaccines, most importantly, will not affect the cervical cancer risk of the millions of women worldwide already infected with HPV. With the adoption of HPV vaccines, government is thus obligated not to abandon alternative measures to improve cervical cancer prevention, such as “technologically appropriate, accessible and effective” screening methods.¹⁸⁶ HPV vaccination programs should be treated as one component of a cervical cancer prevention strategy, and integrated within a comprehensive delivery structure for sexual and reproductive health care.

Measures to realize health equity as a human right must not be reduced to narrow disease-specific interventions divorced from the health system and broader determinants that drive social health disparities.¹⁸⁷ HPV vaccines can and should be implemented as a measure to strengthen health systems, and thereby improve the situation of the disadvantaged across health outcomes. Government obligations respecting health equity as a human right extend to all levels of policy-making that affect social health disparities, from micro to macro, from viral to societal.¹⁸⁸

¹⁸² See Domingo et al., *supra* note 154, at M77.

¹⁸³ Agosti et al., *supra* note 1, at 1908-09; Domingo et al., *supra* note 154, at M78; Jane Harries et al., *Preparing for HPV Vaccination in South Africa: Key Challenges and Opinions*, 27 VACCINE 38, 41 (2009); Kane et al., *supra* note 152, at 135; Amy E. Pollack et al., *Ensuring Access to HPV Vaccines through Integrated Services: A Reproductive Health Perspective*, 85 BULL. WORLD HEALTH ORG. 57, 60 (2007).

¹⁸⁴ Agosti & Goldie, *supra* note 1, at 1908-09; Pollack et al., *supra* note 168, at 60; Winkler et al., *supra* note 125, at L75.

¹⁸⁵ General Recommendation No. 24, *supra* note 54, ¶ 31(b).

¹⁸⁶ Denny, *supra* note 43 at 1210.

¹⁸⁷ Anne-Emanuelle Birn, *Gates's Grandest Challenge: Transcending Technology as Public Health Ideology*, 266 LANCET 514, 515 (2005).

¹⁸⁸ See Nancy Krieger, *Proximal, Distal, and the Politics of Causation: What's Level Got to Do with It?*, 98 AM. J. PUB. HEALTH 221, 227 (2008).

CONCLUSION

The concept of “child survival” is a “potent and galvanizing platform” that mobilizes global public sentiment in support of early childhood immunization programs.¹⁸⁹ Health equity serves a similar function respecting cervical cancer and access to HPV vaccines. The objective of this article is to translate health equity from an ethical and political claim into a legal claim under international human rights law. Health equity is a human right. Its empirical and normative dimensions – government action and distributive justice – are reflected in the human rights to health and equality. Social disparities in cervical cancer, a health inequity, may thus be reconceived as a human rights violation. Social health disparities are unjust because they result from government action in violation of international human rights law.

International human rights law offers more than an additional claim of injustice. It requires remedial action. Government is legally obligated to account for and to remedy social health disparities. The obligations that flow from health equity as a human right, broadly phrased, include the obligation to act in pursuit of health equity as a policy objective, and the obligation to enact measures to ensure health equity as a policy outcome.

International human rights law sets health equity as a policy objective to be taken into account in resource allocation and program design. The obligation to act in pursuit of health equity as a policy objective redefines the health status and needs of disadvantaged social groups, how they are perceived and valued, within priority setting. Government is legally obligated to ensure that women’s health, especially the prevention and treatment of diseases disproportionately affecting socially disadvantaged women, receives an equitable share of resources. HPV vaccines, as a remedy to cervical cancer inequity, may thus be revalued and reprioritized within health systems worldwide.

Policy objectives alone, however, cannot guarantee policy outcomes. Absent measures to ensure equitable distribution and access, advantaged social groups will derive the initial and maximum benefit of HPV vaccines, increasing rather than decreasing social disparities in cervical cancer. It is therefore of crucial importance that international human rights law obligates government to adopt appropriate measures to ensure HPV vaccines are distributed and accessible to disadvantaged social groups.

Health inequity is not inevitable. There are many promising remedial actions that can be taken.¹⁹⁰ By situating new health interventions, such as HPV vaccines, within a framework of legal rights and obligations, this article seeks to strengthen the normative commitment to ensure these actions are taken.

¹⁸⁹ Mahoney & Maynard, *supra* note 132, at 651.

¹⁹⁰ Gwatkin et al., *supra* note 114, at 1279-80.