



IPVS policy statement. Equity in cervical cancer prevention: for *all* and not just for some

Julia Brotherton^{a,b,*}, Cristyn Davies^{c,d}, on behalf of the IPVS Policy Committee (Suzanne M. Garland^{e,f,g}, Margaret Stanley^h, Anna-Barbara Moscickiⁱ, Anna R. Giuliano^j, Julia Brotherton^{a,b}, Andreas Kaufmann^k, Neerja Bhatla^l, Joel Palefsky^m, Karen Chanⁿ, Yin Ling Woo^o)

^a VCS Population Health, VCS Foundation Ltd, Level 6, 176 Wellington Parade, East Melbourne, VIC, 3002, Australia

^b Honorary Principal Fellow, Melbourne School of Population and Global Health, University of Melbourne, Australia

^c Justice of the Peace for NSW, The University of Sydney, NSW, Australia

^d Discipline of Child and Adolescent Health, Faculty of Medicine and Health, Australia

^e VCS Population Health, VCS Foundation Ltd, Level 6, 176 Wellington Parade, East Melbourne, VIC, 3002, Australia

^f Honorary Principal Fellow, Melbourne School of Population and Global Health, University of Melbourne, Australia

^g Prof. Reproductive & Neonatal Infectious Diseases, Department of Obstetrics and Gynaecology, University of Melbourne, Australia

^h Director Centre Women's Infectious Diseases Research, Australia

ⁱ Infection & Immunity, Murdoch Children's Research Institute, Parkville, VIC, 3052, Australia

^j Emeritus Professor Margaret Stanley OBE, FMed Sci, Dept of Pathology, Tennis Court Rd, Cambridge, CB2 1QP, UK

^k Adolescent and Young Adult Medicine, David Greffen School of Medicine, University of California, Los Angeles, USA

^l Dorothea Bennett Memorial, American Cancer Society (ACS) Clinical Research Professor, Center for Immunization and Infection Research in Cancer (CIIRC), Moffitt Cancer Center, 12902, Magnolia Drive, Tampa, FL, 33612, USA

^m Gynäkologische Tumorimmunologie, R. 4503, Gynäkologie Mit Hochschulambulanz, Charite Campus Benjamin Franklin, Hindenburgdamm 30, 12200, Berlin, Germany

ⁿ Department of Obstetrics & Gynaecology, Room 3101, Teaching Block, All India Institute of Medical Sciences, New Delhi, 110029, India

^o University of California, 513 Parnassus Ave Box 0654, Room S420, San Francisco, CA, 94143, USA

^p 6/F, Professorial Block, Queen Mary Hospital, 102 Pokfulam Road, Hong Kong

^q Department of Obstetric and Gynaecology, Faculty of Medicine, University of Malaya, 50603, Kuala Lumpur, W.Persekutuan Kuala Lumpur, Malaysia

The International Papillomavirus Society (IPVS) supports best practice and evidence-based research, strategies, and policies to prevent HPV-related diseases worldwide.

With the recent call from the World Health Organization (WHO) Director General, Dr Tedros, to global entities to work towards the elimination of cervical cancer as a public health problem globally, a call supported by IPVS [2], it is vital that principles of equity (fairness) are central to activity in all countries developing strategies to eliminate cervical cancer as a public health problem [3].

This statement calls upon all parties involved in cervical cancer prevention to ensure that elimination is for *all* and not just for some.

1. Cervical cancer is a disease of inequality

Globally cervical cancer is the fourth most common cause of female cancer incidence and mortality, with an estimated 570,000 new cases in

2018 and 311,000 deaths [4]. However, in lower Human Development Index countries, it is the second commonest cause of female cancer incidence and death [4] with a country's Human Development Index, Gender Inequality Index, poverty rate, health expenditure per capita, urbanization, and literacy rate all significantly related to cervical cancer incidence and mortality [5]. The Human Development Index and poverty rate at a country level each explain >52% of the global variance in cervical cancer mortality [5]. It is the most commonly diagnosed cancer in 28 countries and the most common cause of cancer death in 42 countries, the vast majority of which are in Sub-Saharan Africa and South-Eastern Asia [4]. Incidence rates are 7–10 times higher in high incidence regions of Africa compared to rates in the regions of North America, Australia/New Zealand and Western Asia (Saudi Arabia/Iraq) [4]. These stark differentials in cervical cancer burden by markers of poverty and inequality occur not only at national levels, but also within countries from across the economic spectrum.

* Corresponding author. VCS Population Health, VCS Foundation Ltd, Level 6, 176 Wellington Parade, East Melbourne, VIC, 3002, Australia.

E-mail addresses: jbrother@vcs.org.au (J. Brotherton), Cristyn.Davies@sydney.edu.au (C. Davies), Suzanne.Garland@thewomens.org.au, Suzanneg@unimelb.edu.au (S.M. Garland), mas1001@cam.ac.uk (M. Stanley), AMoscicki@mednet.ucla.edu (A.-B. Moscicki), anna.giuliano@moffitt.org (A.R. Giuliano), andreas.kaufmann@charite.de (A. Kaufmann), neerja.bhatla07@gmail.com, neerjabhatla@rediffmail.com (N. Bhatla), joel.palefsky@ucsf.edu (J. Palefsky), kkkchan@hkucc.hku.hk (K. Chan), yilwoo@ummc.edu.my (Y.L. Woo).

URLs: <http://www.vcs.org.au> (J. Brotherton), <http://sydney.edu.au> (C. Davies).

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For example, a clear gradient in cervical cancer incidence by socioeconomic status has been documented in Australia, England, and the USA [6–8]. A meta-analysis of cervical cancer case-control studies reporting individual level socioeconomic status data, confirmed a strong relationship between socioeconomic status and cervical cancer risk [9]. The strong association between socioeconomic status and cervical cancer demonstrate that the health inequality observed for cervical cancer is a social inequity in health i.e. it is systematic, socially produced and unfair [10].

National and subnational statistics can hide significant differences in risk for subpopulations, especially smaller, more marginalised groups who may be Indigenous or from diverse cultural, ethnic, religious or faith backgrounds, to the majority of the population. For example, populations with higher cervical cancer incidence include: African American and Latina/Hispanic women in the USA [11], Indigenous women in Australia, New Zealand, and Canada [12], and women who have undergone female genital mutilation/cutting in Senegal [13].

Close attention and systematic data disaggregation will be required to ensure that achievement of elimination targets or scale up milestones, do not hide remaining populations with continuing high burdens of cervical cancer.

2. Explaining the increased burden in disadvantaged groups

The reasons for higher rates of cervical cancer incidence and mortality amongst disadvantaged groups are likely to be multifactorial and closely related to the social determinants of health [14]. Some established biological risk factors that are often associated with disadvantage are likely causally related, such as increased rates of smoking [15], earlier and greater parity [16], and, in some countries, HIV burden [17]. Others relate to poorer access to, or use of, prevention, diagnostic and treatment services [15,18,19]. Populations who may be less likely to engage in cervical screening include:

- Women of lower socioeconomic status or education [20].
- Women with mental health illnesses [19,21].
- Homeless women [22].
- Disabled women [23].
- Less educated women [24].
- Women who have undergone female genital mutilation/cutting [25].
- Women who experience racism [26].
- Transgender and gender diverse people with a cervix [27].
- Same-sex attracted women with a cervix [28–30].
- Women who have experienced domestic violence [31] and/or sexual violence [32,33].
- Ethnic minority populations [34,35].
- Immigrants [36,37] and refugees [38].

Social isolation, stigmatisation and marginalisation are also associated with poorer health status and outcomes across a range of diseases, including cancer [39]. Some people may hold multiple disadvantaged identities, which can result in poorer health outcomes than groups with a single marginalised identity [40].

3. Addressing inequalities: key principles

Human rights-based principles are central to addressing and reducing local, subnational, national, regional, and global health inequalities. As part of the 2030 Agenda for Sustainable Development adopted at the United Nations Summit in September 2015, 193 Member States agreed that *no one will be left behind* [1]. States pledged to undertake systematic data disaggregation, in an effort to help measure implementation of the Sustainable Development Goals (SDGs), including goals of relevance to cervical cancer prevention [1]. A strategic priority of the Immunization Agenda 2030 is: ‘To ensure that everyone has

equitable access to vaccines, irrespective of their geographical location, gender, socioeconomic status or any other factor, that might prejudice their access to services’ (P.13) [41]. Identifying who is missing out on HPV vaccination and cervical screening and understanding why requires disaggregated data, attention to the root causes of exclusion, addressing gender inequity, and the development and implementation of interventions in partnership with affected communities that benefit marginalised populations [42,43].

Recommendations for action to reduce disparity in the cervical cancer burden.

IPVS supports action by IPVS members and stakeholders (healthcare and research communities, research funding bodies, relevant non-government organizations, governments and policy makers) to:

- Acknowledge the right of all women, transgender, and gender diverse people with a cervix, to equal protection against, and treatment of, cervical cancer and other HPV-related diseases, consistent with the United Nations Declaration of Human Rights [44] and the International Covenant on Economic, Social and Cultural Rights (Article 12: The Right to Health) [45].
- Ensure that equity considerations are front and centre in all strategies designed to deliver cervical cancer elimination at local, subnational, national, regional and global levels. Best practice principles for addressing social inequities in health can provide useful frameworks for the development of systematic effective strategies [10,46,47].
- Support Universal Health Coverage, which should be a driving force to prevent disparity in cancer outcomes caused by lack of access to health care. Equally, advocacy for the rights of girls and women globally, and for effective measures to reduce poverty, are integral parts of any sustained solution to address inequity in cervical cancer prevention.
- Explore the utility of self-sampling in their setting. Self-sampling for genital HPV based cervical screening is a promising, scalable strategy to extend the reach of cervical screening programs to more women, especially those who currently have barriers to acceptance of a speculum examination [48,49]. Policies and implementation research to provide self-sampling, and the associated screening pathway, in an accessible, safe, culturally appropriate, and affordable way to all women, transgender and gender diverse people should be a priority.
- Strive for the participation and leadership of marginalised populations in research design, implementation of interventions, data collection, analysis, disaggregation, dissemination, self-identification, transparency, privacy and accountability in order to achieve equity in cervical cancer prevention as part of the Sustainable Development Goals.

Prepared by Julia Brotherton and Cristyn Davies, on behalf of IPVS Policy Committee (Suzanne M Garland, Margaret Stanley, Anna-Barbara Moscicki, Anna R Giuliano, Julia Brotherton, Andreas Kaufmann; Neerja Bhatla; Joel Palefsky; Karen Chan; Yin Ling Woo).

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