Human papillomavirus vaccines: 13 years later

Vacinas contra o papilomavírus humano: 13 anos depois

Mauro Romero Leal Passos[1]

ABSTRACT
This Editor's Letter, which some may interpret as a manifesto, is about the need to always recognize the progress made by public administrators. However, it is necessary, perhaps fundamental, to demand better public health actions for all population groups, continuously. Here, we discuss equality, equity, and effectiveness in access to HPV vaccination within the Brazilian Unified Health System (SUS). Here, we make demands regarding the updating of modern active pharmaceutical ingredients, the same ones used for populations in countries with a high Human Development Index (HDI). After all, Brazil will join this group of nations in 2026. Here, we recount history, memory, humanities, academic life trajectory, along with a tangle of extension activities and positions on public health policies. In this Letter, there are no restrictions on expressing concerns.
Keywords: Vaccine. Vaccination. HPV. Human papillomavirus. Public health. Brazil.

RESUMO
Esta Carta do Editor, que pode ser, para alguns, entendida como um manifesto, é sobre a necessidade de buscar, sempre, reconhecer os avanços de gestores públicos. Todavia, é necessário, quiçá fundamental, exigir melhores ações em saúde pública para todos os grupos populacionais, de forma contínua. Aqui discute-se sobre igualdade, equidade e efetividade no acesso à vacinação contra HPV no Sistema Único de Saúde brasileiro. Aqui há reivindicações sobre atualização de insumo farmacêutico ativo moderno, o mesmo utilizado para populações de países com alto Índice de Desenvolvimento Humano (IDH). Afinal, o Brasil, em 2026, passou a fazer parte do rol dessas nações. Aqui, relatam-se história, memória, humanidades, trajetória de vida acadêmica, junto com um emaranhado de atividades de extensão e posicionamentos em políticas de saúde pública. Nesta Carta, não há restrições em mostrar inquietações.
Palavras-chave: Vacina. Vacinação. HPV. Papilomavirus humano. Saúde pública. Brasil.

WHAT BRINGS ME HERE?

The year was 2012, and two HPV vaccines — the bivalent (types 16 and 18) and the quadrivalent (types 6, 11, 16, and 18; HPV4v) — were commercially launched in Brazil. Both manufacturers focused their campaigns almost exclusively on cervical cancer prevention.

As a venereologist, and one of the founders, in 1988, of the Brazilian Society of Sexually Transmitted Diseases and the STD Sector of the Federal Fluminense University — and, in 1989, of the Brazilian Journal of Sexually Transmitted Diseases — anogenital condylomata (anogenital warts) in men, women, and adolescents were at the center of my daily practice. Gonorrhea, trichomoniasis, herpes, and syphilis were equally common.

Trained in gynecology at the Gynecology Institute of the Federal University of Rio de Janeiro — founded by Professor Arnaldo de Moraes — I still recall radical hysterectomy (Wertheim-Meigs surgery) for cervical cancer and radical vulvectomy for vulvar cancer, vivid in my clinical memory (emotional scars?). It was natural, then, to engage fully in promoting, raising awareness of, and prescribing the HPV4v vaccine.

The commitment to individual prescription, however, was not enough. The public health impact required incorporation into the Unified Health System (SUS) — making it free and universally accessible.

Aware of the historic "Vaccine Revolt", which took place in Rio de Janeiro on November 10, 1904—a popular uprising against compulsory smallpox vaccination[1] —, I organized, along with many partners, a countermovement: the "Vaccine March." Held on Copacabana Beach on Sunday, May 19, 2013, the march drew national and international attention, with coverage by the Oswaldo Cruz Foundation (Fiocruz)[2], the *Correio Braziliense*[3], and a 26-minute live interview with journalist Ricardo Boechat on Rádio Band News FM[4]. The initiative was also featured in *HPV Today News* and on Brazilian civil-society platforms[5,6].

The most consequential development, however, occurred in health policy: in November 2013, the National Immunization Program of Brazil's Ministry of Health (PNI-MS) incorporated the HPV4v vaccine into the public immunization schedule[7]. For Brazilian public health, that was our victory — our "Oscar," our World Cup.

Initially, vaccination was offered only to girls aged 11 to 13 years, in line with the focus on cervical cancer prevention. Over time, and in response to accumulating scientific evidence, the PNI-MS gradually expanded eligibility to other population groups—a welcome, albeit incomplete, evolution.

WHERE DO WE STAND TODAY?

Figure 1[8] and **Table 1** summarize who is currently eligible for HPV vaccination through the SUS, as of May 2026.

WHY THIS MATTERS — AND WHAT REMAINS UNRESOLVED

The data in **Table 1** reveal a critical inconsistency. For people living with human immunodeficiency virus (HIV), on pre-exposure prophylaxis (PrEP), or treated for cancer or recipients of solid organ transplants, the SUS offers HPV4v only up to age 45. Yet for individuals with recurrent respiratory papillomatosis (RRP), high-grade cervical intraepithelial neoplasia (CIN), adenocarcinoma *in situ* (AIS), or victims of sexual violence, there is no age limit. A 46-year-old in these latter categories can be vaccinated; a 46-year-old living with HIV or using PrEP, cannot. Is there a scientific justification for this asymmetry?

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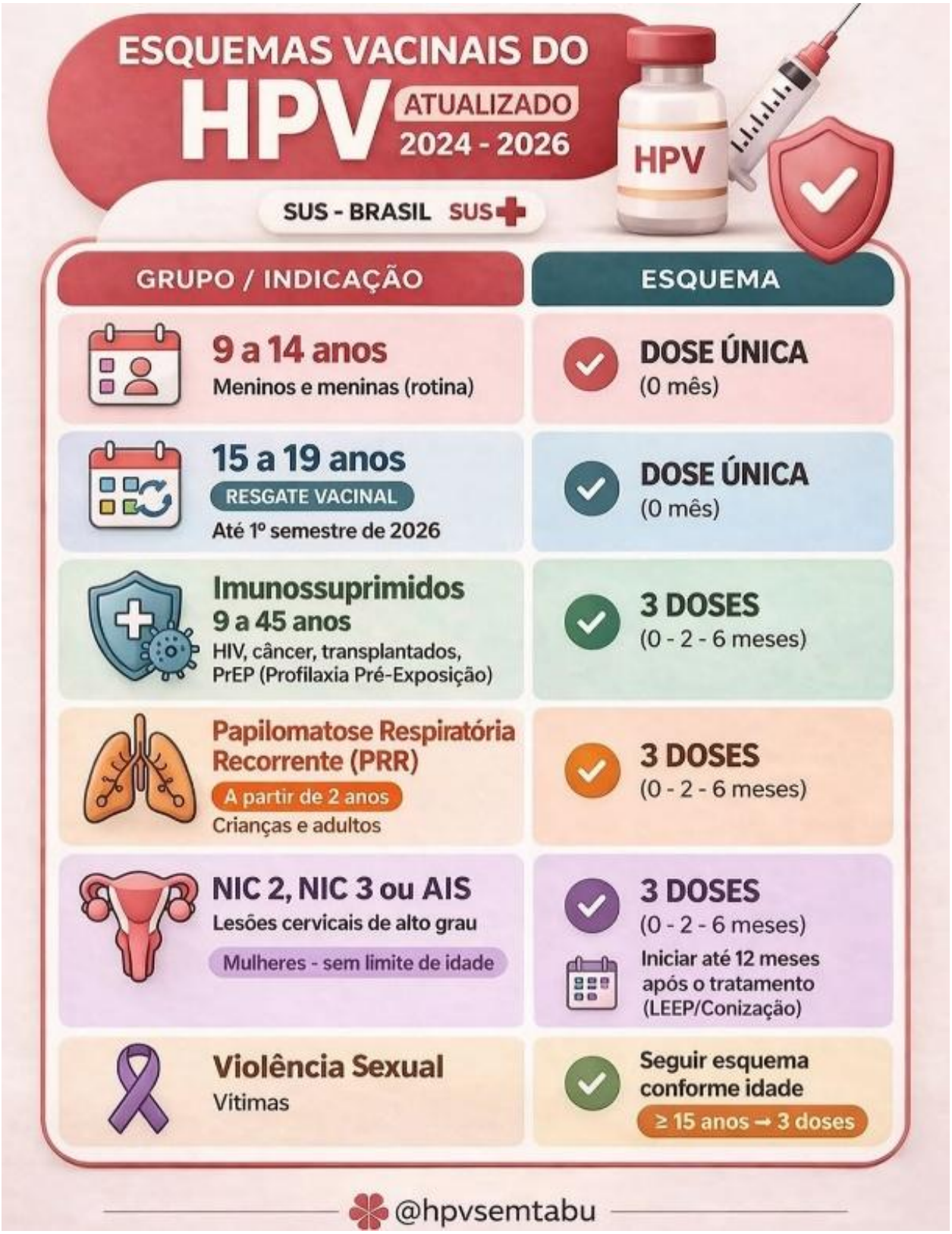

Source: @hpvsemtabu[8]
HPV: human papillomavirus; SUS: Unified Health System; HIV: human immunodeficiency virus; NIC: cervical intraepithelial neoplasia (CIN); AIS: adenocarcinoma *in situ*; LEEP: loop electrosurgical excision procedure.

Figure 1. Human papillomavirus vaccination schedules – updated 2024–2026.

Two recent studies, published in indexed, peer-reviewed journals and conducted in Brazilian research subjects, reinforce the urgency of reform.

Beltrame et al.[9] analyzed HPV genotypes in oral specimens from 700 men living with HIV in Mexico, Brazil, and Puerto Rico, finding an HPV prevalence of 27.9%, of which 11% were high-risk. The types covered by HPV4v and HPV9v were detected in 4.9% and 8.9% of participants, respectively — that is, nearly twice as many men carried high-risk oncogenic types not included in HPV4v. Of the participants, 197 (28.1%) were between 41 and 50 years old, suggesting that a substantial proportion were above the SUS's current eligibility limit (May 2026).

Gomes et al.[10] — including researchers from Brazil's Ministry of Health — analyzed vaginal HPV in Brazilian cisgender women living with HIV and found an HPV prevalence of 72%, with 31% of HPV-positive cases occurring in women aged 46 or older. Moreover, 49.3% of the genotypes detected were not covered by HPV4v. These figures confirm that the current age limit leaves a broad, identifiable high-risk population unprotected.

Beyond biostatistics, there is a health-equity dimension that appears in no spreadsheet or protocol. How does a person aged 46, 47, 48, 49, 50 years or older — living with HIV, with cancer, or is a recipient of a solid-organ transplant, and sexually active — feel on hearing from their physician that the Ministry of Health does not authorize HPV vaccination because the schedule permits it only up to age 45? And how does someone feel when high-risk oncogenic HPV — arguably the first step toward malignancy — is detected at screening, yet they still cannot be vaccinated because no high-grade lesion has yet been established? These emotional burdens exist; they generate chronic stress and, in many cases, leave deep marks that will never be erased. They are health outcomes as real as the numbers — and, like them, preventable.

The dimension of waste also deserves attention: HPV4v doses are regularly discarded at Brazilian health centers, because they expire before use. A vaccine thrown away because of age-based eligibility restrictions, while high-risk individuals above the limit remain unprotected, represents a failure that is at once ethical and one of efficiency.

WHAT WE ARE CALLING FOR

We call for equality, equity, and effectiveness (complementing efficacy and efficiency) in access to HPV vaccination through the SUS, specifically requesting the elimination of the upper age limit for the three-dose schedule in people of both sexes belonging to the following groups:

- People living with HIV, on PrEP, undergoing cancer treatment, or who have received a solid-organ transplant;
- People with high-risk HPV detected at any anatomical site (cervix, vulva, vagina, anus, penis, oral cavity);
- People with a cytological diagnosis of atypical squamous cells of undetermined significance (ASCUS) or atypical squamous cells, cannot exclude high-grade lesion (ASC-H);
- People with condyloma acuminatum at any anatomical site.
- People who are sex workers.

THE CASE FOR REPLACING HPV4V WITH HPV9V IN THE BRAZILIAN UNIFIED HEALTH SYSTEM

The two studies cited[9,10] also support the need for an immediate transition, within the SUS, from HPV4v (types 6, 11, 16, and 18) to HPV9v (types 6, 11, 16, 18, 31, 33, 45, 52, and 58). HPV9v more than doubles the coverage of high-risk oncogenic types, directly reducing the burden of HPV-attributable neoplasms. The barrier to this transition is political, not financial: treating HPV-related cancers — including radical surgery, prolonged hospitalization, and palliative care — costs the Brazilian health system far more than reformulating vaccine procurement. One further argument is decisive: HPV4v is no longer available on the Brazilian private market; anyone seeking broader coverage must purchase HPV9v at their own expense. The current scenario thus creates a two-tier system: those who can afford it are better protected than those who depend only on the SUS.

The path to the necessary adjustments requires, first, a political decision — by health managers, scientific societies, and civil society — to demand these changes; and then, should HPV4v doses still appear in the 2026–2027 procurement cycles, the approval of a budgetary amendment to enable the transition without delay.

Table 1. Human papillomavirus vaccination schedules in Brazil – April, 2026.

Group / Indication	Schedule
Girls and boys aged 9–14 years (routine)	Single dose (month 0)
Girls and boys aged 15–19 years (Catch-up vaccination) Through the first half of 2026	Single dose (month 0)
Immunocompromised individuals aged 9–45 years (HIV, cancer, transplant recipients, PrEP users)	Three doses (months 0, 2, 6)
RRP From 2 years of age	Three doses (months 0, 2, 6)
CIN 2, CIN 3, or AIS – high-grade cervical lesions Women – no upper age limit	Three doses (months 0, 2, 6) Initiate within 12 months after treatment (LEEP/Conization)
Sexual violence Victims	Follow schedule according to age ≥15 years → 3 doses

Source: Figure 1 text transcribed by the author for the English version.
HIV: human immunodeficiency virus; PrEP: pre-exposure prophylaxis; RRP: Recurrent respiratory papillomatosis; CIN: cervical intraepithelial neoplasia; AIS: adenocarcinoma *in situ*; LEEP: loop electrosurgical excision procedure.

THE WEIGHT IN NUMBERS

I yield, at the end, to the need to provide some auditable data — drawn from national records — on the gravest outcomes borne by Brazilians infected with HPV at some point in their lives. These are numbers that quantify what is at stake. In 2021, the age-standardized cervical cancer mortality rate in Brazil's North region reached 9.07 deaths per 100,000 women — the leading cause of cancer death among women in that region[11]. In the Northeast (5.61/100,000) and Central-West (4.60/100,000), cervical cancer ranked third. More women die of this disease in Brazil's poorer regions — a disparity that vaccination can directly address.

In 2024, the Mortality Information System of the Department of Informatics of the Brazilian Unified Health System (DATASUS-SIM) data recorded approximately 7,500 cervical cancer deaths in Brazil — 20.5 per day[12]. Penile cancer, also HPV-associated, affects Brazil disproportionately: incidence ranges from 2.9 to 6.8 per 100,000 inhabitants, reaching 6.8/100,000 in the North region[13]. About 486 penile amputations are performed in the country each year[14]. A report by the Brazilian Society of Urology, published in *O Globo* in February 2026, documented, between 2021 and 2025, more than 2,900 amputations (an average of 580 per year) and 2,359 deaths attributable to penile cancer (an average of 472 per year)[15]. These are not abstract statistics. They are preventable deaths and mutilations.

IN CLOSING

The act of writing such a letter, which can be understood as a manifesto, did not just fall from the sky. If that is the case, great. But let it be a manifesto that continues to evolve. After all, it did not begin to be written today.

Thirteen years of HPV vaccination in Brazil represent real progress. The Vaccine March, the incorporation of HPV4v into the SUS, and the gradual broadening of eligibility are milestones that deserve recognition. But the current framework leaves identifiable high-risk populations unprotected — by arbitrary age limits and an outdated vaccine formulation. The scientific case for broadening eligibility and transitioning to HPV9v is robust. The ethical case is compelling. The financial argument favors action. What is lacking is the political will to decide now.

This commitment to health education — about HPV and about all sexually transmitted infections, once called venereal diseases — has always extended beyond clinical and academic settings. In 1998, HPV was the first topic discussed in an important television interview — on the Jô Soares's nationally broadcast program[16,17]. Our book *HPV Que Bicho É Esse?* reached eight editions between 2003 and 2011, with more than 50,000 copies distributed free of charge to the public and to health and education professionals[18]. The short film *Programa da Larah*, adapted from the book, resulted in more than 30,000 DVDs distributed at events across Brazil and remains available on YouTube[19]. In 2026, our CineDebate project continues to bring HPV education to public schools in Niterói, in Rio de Janeiro state[20].

We have supplemented our manuscript with **Figures 2–6**.

Approval by the Human Research Ethics Committee

Not applicable for this type of manuscript.

Approval by the Human Research Ethics Committee

Not applicable for this type of manuscript.

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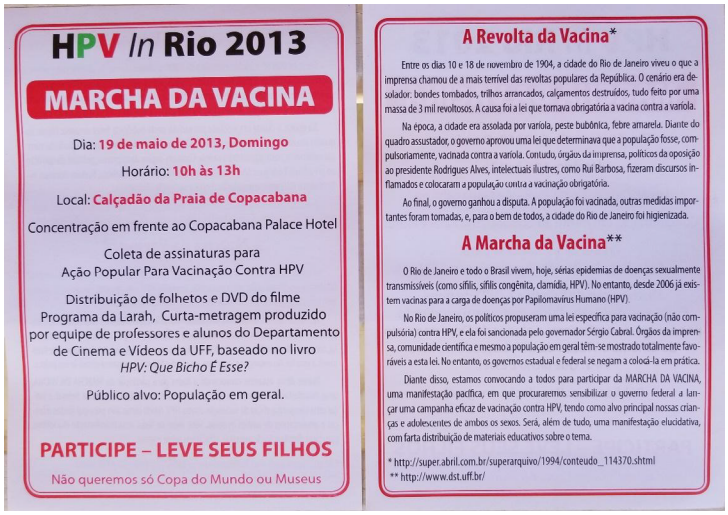
Not applicable, as there was no funding.

Source: Publication of the Butantan Institute[1].

Figure 2. The Vaccine Revolt, viewed from Praça da República on November 14, 1904. Marian da Silva. Phot.-Ouvidor 91[1].

Source: Photo by Rubem de Avelar Goulart Filho. Author's personal collection.

Figure 3. Demonstrators on Copacabana Beach, Rio de Janeiro, on May 19, 2013, calling for access to human papillomavirus vaccination through the Brazilian Unified Health System.



HPV *In* Rio 2013

MARCHA DA VACINA

Dia: **19 de maio de 2013, Domingo**

Horário: **10h às 13h**

Local: **Calçadão da Praia de Copacabana**

Concentração em frente ao Copacabana Palace Hotel

Coleta de assinaturas para
Ação Popular Para Vacinação Contra HPV

Distribuição de folhetos e DVD do filme
Programa da Larah, Curta-metragem produzido por equipe de professores e alunos do Departamento de Cinema e Vídeos da UFF, baseado no livro *HPV: Que Bicho É Esse?*

Público alvo: População em geral.

PARTICIPE – LEVE SEUS FILHOS

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A Revolta da Vacina*

Entre os dias 10 e 18 de novembro de 1904, a cidade do Rio de Janeiro viveu o que a imprensa chamou de a mais terrível das revoltas populares da República. O cenário era desolador: bondes tombados, trilhos arrancados, calçamentos destruídos, tudo feito por uma massa de 3 mil revoltosos. A causa foi a lei que tornava obrigatória a vacina contra a varíola.

Na época, a cidade era assolada por varíola, peste bubônica, febre amarela. Diante do quadro assustador, o governo aprovou uma lei que determinava que a população fosse, compulsoriamente, vacinada contra a varíola. Contudo, órgãos da imprensa, políticos da oposição ao presidente Rodrigues Alves, intelectuais ilustres, como Rui Barbosa, fizeram discursos inflamados e colocaram a população contra a vacinação obrigatória.

Ao final, o governo ganhou a disputa. A população foi vacinada, outras medidas importantes foram tomadas, e, para o bem de todos, a cidade do Rio de Janeiro foi higienizada.

A Marcha da Vacina**

O Rio de Janeiro e todo o Brasil vivem, hoje, sérias epidemias de doenças sexualmente transmissíveis (como sífilis, sífilis congênita, clamídia, HPV). No entanto, desde 2006 já existem vacinas para a carga de doenças por Papilomavírus Humano (HPV).

No Rio de Janeiro, os políticos propuseram uma lei específica para vacinação (não compulsória) contra HPV, e ela foi sancionada pelo governador Sérgio Cabral. Órgãos da imprensa, comunidade científica e mesmo a população em geral têm-se mostrado totalmente favoráveis a esta lei. No entanto, os governos estadual e federal se negam a colocá-la em prática.

Diante disso, estamos convocando a todos para participar da MARCHA DA VACINA, uma manifestação pacífica, em que procuraremos sensibilizar o governo federal a lançar uma campanha eficaz de vacinação contra HPV, tendo como alvo principal nossas crianças e adolescentes de ambos os sexos. Será, além de tudo, uma manifestação elucidativa, com farta distribuição de materiais educativos sobre o tema.

* http://super.abril.com.br/superarquivo/1994/conteudo_114370.shtml
** http://www.dst.uff.br/

Source: Author's personal collection.

Figure 4. Flyer promoting the Vaccine March, Copacabana Beach, Rio de Janeiro.

NEWS

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THE HPV VACCINE MARCH, RIO DE JANEIRO 2013

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Rio de Janeiro, and indeed Brazil as a whole, is currently experiencing a serious STI epidemic (syphilis, congenital syphilis, chlamydia, HPV). As vaccines against HPV have been available since 2006, politicians in Rio de Janeiro have recently proposed a specific law making HPV vaccination compulsory. Press agencies, the scientific community and the general population are fully supportive of this bill. However, the government did not approved the HPV vaccine. As such, we held a Pro-Vaccine March, on May 19, on the sidewalk of Copacabana beach. This was a peaceful demonstration that aimed to convince the government of the urgent need to offer HPV vaccination for adolescents of both sexes. After the march we distributed educational materials such as a DVD of the short film: Larah's Show, "HPV What's That Bug?", available in You Tube.

Two weeks later, Brazil was brought to a halt by a huge wave of popular demonstrations with varying demands, ranging from better public transport to better conditions for education and health.

One month after the Pro-Vaccine March, the Federal Government announced that it will launch a comprehensive HPV information campaign and begin to administer HPV vaccine to girls aged 10 and 11 years early in 2014. The aim of this program is to achieve a coverage of 80%, for a total of 3.3 million girls. On this occasion, doctors left their comfort zone and went out onto the streets to fight for one of the basic tenets of public health, namely disease prevention.

Some people claim that the Pro-Vaccine March may have been one of the triggers that sparked the subsequent wider ranging demonstrations of dissatisfaction with Brazilian public administrations as this was something that had never occurred before in Brazil: a popular demonstration demanding a specific vaccine.

HPV *In* RIO 2013 Marcha da Vacina

Figure 1: *Health professionals and the general population, including many children, taking part in the Pro-Vaccine March on Copacabana Beach, Rio de Janeiro (19 May 2013).*

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www.hpvtoday.com

HPV Today INDEX

Source: Author's personal collection.

Figura 5. Publication in *HPV Today News*, n. 30–31, p. 26; 2013.

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Maio/2013

No início do século XX, o Rio de Janeiro era assolado por doenças como varíola, peste bubônica e febre amarela. O governo então aprovou uma lei que obrigava a vacinação de toda a população contra varíola.

Mas a ideia de abrir as portas para agentes "armados" de seringas não agradou ao povo, que, incitado por intelectuais e políticos da oposição, revoltou-se. Entre os dias 10 e 18 de novembro de 1904, cerca de três mil pessoas tombaram bondes, arrancaram trilhos, destruíram calçadas.

No desenho de Lélénides, publicado na revista O Malho de 29 de outubro de 1904, a legenda reproduzida a seguir antecipava a Revolta da Vacina, que viria a ocorrer dias depois, entre 12 e 15 de novembro, quando a população enfrentou Oswaldo Cruz e sua guarda: "Espetáculo para breve nas ruas desta cidade. Oswaldo Cruz, o Napoleão da seringa e lanceta, à frente das suas forças obrigatórias, será recebido e manifestado com denodo pela população. O intermezzo dos combates deixará a perder de vista o das batalhas de Flores e o da guerra russo-japonesa. E veremos no fim da festa quem será o vacinador à força!..."
Fonte: C. Falcão (org.). Oswaldo Cruz Monumenta Histórica: a iconografia de uma epopeia. Oswaldo Cruz e caricatura. Brasília: Documenta, vol. VI, tomo 1, São Paulo. Acervo da biblioteca da Casa de Oswaldo Cruz, 1991.

Apesar do episódio que ficou conhecido como a Revolta da Vacina, a população foi vacinada e a cidade imunizada contra varíola.

Mais de um século depois, a situação se inverteu: o povo foi à rua pedir vacina. Um grupo de médicos, enfermeiros, estudantes de ensino médio e universitários da área de saúde marchou no calçadão da Praia de Copacabana, no domingo, 19 de maio, reivindicando uma campanha de vacinação contra o papilomavírus humano (HPV), transmitido por via sexual. O HPV provoca verrugas genitais que podem evoluir para cânceres como o de colo de útero – o que mais mata mulheres depois do câncer de mama. As lesões podem surgir na vagina, no ânus, no pênis e na boca, segundo o Instituto Nacional de

Source: Author's personal collection.

Figure 6. Screenshot of the *História, Ciência, Saúde-Manguinhos* journal webpage – Oswaldo Cruz Foundation (Fiocruz), May 2013[2].

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