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Human Papillomavirus (HPV) Vaccines: 13 Years Later

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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, he was 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 — I had anogenital condylomata (warts) in men, women, and adolescents at the center of my daily practice. Gonorrhea, trichomoniasis, herpes, and syphilis were equally common.

Trained in gynecology at the Gynecology Institute of the Universidade Federal do Rio de Janeiro — founded by Professor Arnaldo de Moraes — I still recall the radical hysterectomy (Wertheim-Meigs surgery) for cervical cancer and the 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.

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

Aware of the historic “Vaccine Revolt” that 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, was 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 cervical-cancer-prevention framing. Over time, and in response to accumulating scientific evidence, the PNI-MS gradually expanded eligibility to other population groups — a welcome, if 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.

Figure 1. HPV vaccination schedules – updated 2024–2026.

ESQUEMAS VACINAIS DO HPV ATUALIZADO 2024 - 2026

SUS - BRASIL SUS

GRUPO / INDICAÇÃO	ESQUEMA
9 a 14 anos Meninos e meninas (rotina)	**DOSE ÚNICA** (0 mês)
15 a 19 anos RESGATE VACINAL Até 1º semestre de 2026	**DOSE ÚNICA** (0 mês)
Imunossuprimidos **9 a 45 anos** HIV, câncer, transplantados, PrEP (Profilaxia Pré-Exposição)	**3 DOSES** (0 - 2 - 6 meses)
Papilomatose Respiratória Recorrente (PRR) A partir de 2 anos Crianças e adultos	**3 DOSES** (0 - 2 - 6 meses)
NIC 2, NIC 3 ou AIS Lesões cervicais de alto grau Mulheres - sem limite de idade	**3 DOSES** (0 - 2 - 6 meses) Iniciar até 12 meses após o tratamento (LEEP/Conização)
Violência Sexual Vítimas	Seguir esquema conforme idade ≥ 15 anos → 3 doses

@hpvsemtabu

Source: @hpvsemtabu

Table 1. HPV 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 1st semester of 2026	Single dose (month 0)
Immunocompromised individuals aged 9–45 years (HIV, cancer, transplant recipients, PrEP users)	Three doses (months 0, 2, 6)
Recurrent Respiratory Papillomatosis (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 (Initiate within 12 months after treatment)	Three doses (months 0, 2, 6)
Sexual violence victims ≥ 15 years	Three doses (months 0, 2, 6) Follow schedule according to age

Source: Figure 1 text transcribed by the author for the English version.

Why this matters — and what remains unresolved

The data in Table 1 reveal a critical inconsistency. For people living with HIV, on PrEP, or treated for cancer or a solid organ transplant, the SUS offers HPV4v only up to age 45. Yet for individuals with recurrent respiratory papillomatosis, high-grade cervical intraepithelial neoplasia, adenocarcinoma in situ, 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 those using PrEP, cannot. Is there a scientific justification for this asymmetry?.

Two recent studies, published in indexed, peer-reviewed journals and based on 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 share was 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 the biostatistics, there is a health-equity dimension that appears in no spreadsheet or protocol. How does a person of 46, 47, 48, 49, 50 years or older — living with HIV, with cancer, or a solid-organ transplant recipient, sexually active — feel on hearing from her physician that the Ministry of Health does not authorize her HPV vaccination because the schedule permits it only up to age 45? And how does someone feel who has a high-risk oncogenic HPV — until proven otherwise, the first step toward malignancy — detected at screening, and who 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, expiring 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 effectiveness 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 the following groups:

- People of both biological sexes living with HIV, on PrEP, undergoing cancer treatment, or who have received a solid-organ transplant;

- People of both biological sexes with high-risk HPV detected at any anatomical site (cervix, vulva, vagina, anus, penis, oral cavity);
- People of both biological sexes with a cytological diagnosis of ASCUS (Squamous cell alteration of undetermined significance) or ASC-H (Squamous cell alteration not excluding high-grade lesion);
- People of both biological sexes with condyloma acuminatum at any anatomical site, regardless of age.
- People of both biological sexes who are sex workers.

The case for replacing HPV4v with HPV9v in the SUS

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 parliamentary budget amendment to enable the transition without delay.

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 measure 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 correct.

In 2024, 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 survey 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 lives and mutilations.

In closing

The idea of writing such a letter, which can be understood as a manifesto, didn't just fall from the sky. If that's the case, great. But let it be a manifesto in continuous construction. Because this one didn't begin to be written now.

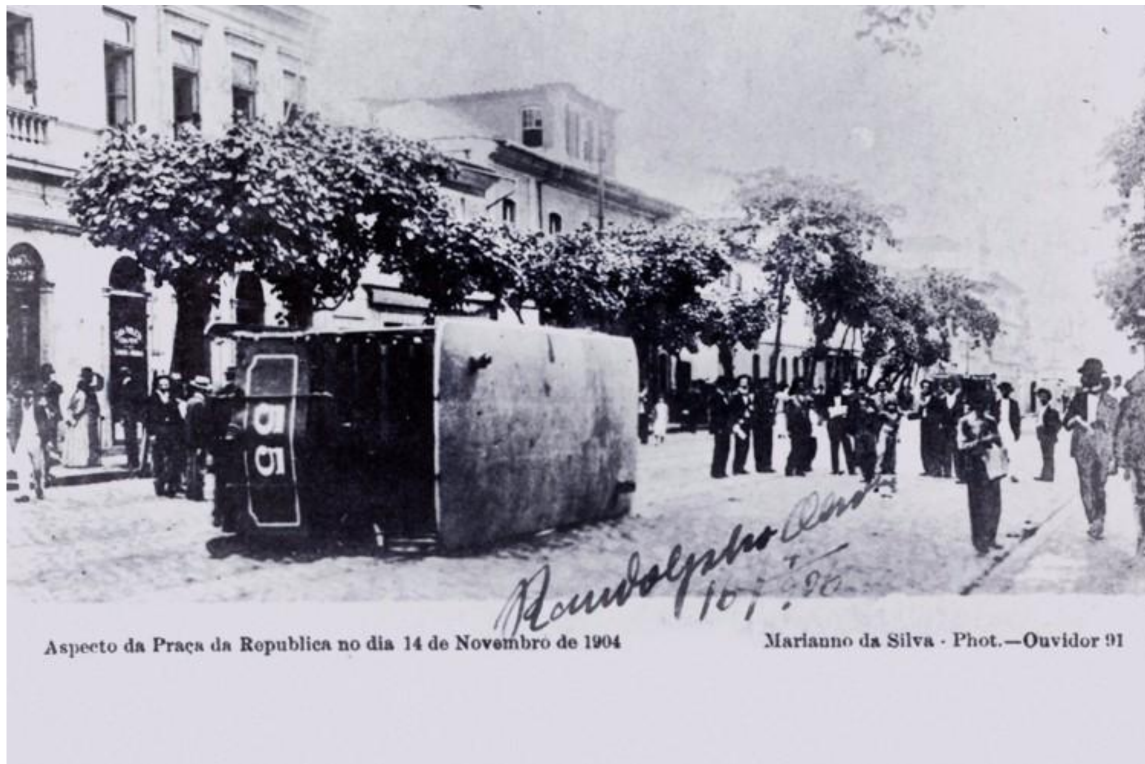
Thirteen years of HPV vaccination in Brazil represent real progress. The Vaccine March, the incorporation of HPV4v into the SUS, and the gradual broadening of eligibility are milestones that deserve recognition. But the current framework leaves identifiable high-risk populations unprotected — by arbitrary 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's 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 nationally broadcast program of Jô Soares.[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, generated 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.[20]

SUPPLEMENTARY FIGURES

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



Source: Publication of the Butantan Institute[1]

Figure 3. Demonstrators on Copacabana Beach, Rio de Janeiro, on May 19, 2013, calling for access to HPV vaccination through the SUS.

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

Figure 4. Flyer promoting the Vaccine March, Copacabana Beach, Rio de Janeiro. Author’s personal collection.

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

Não queremos só Copa do Mundo ou Museus

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 5. Publication in HPV Today News, nos. 30–31, p. 26; 2013. Author’s personal collection.

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NEWS

THE HPV VACCINE MARCH, RIO DE JANEIRO 2013

HPV *In* RIO 2013
Marcha da Vacina

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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.

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).*

Source: Author's personal collection.

Conflict of interest: None to declare.

Ethics committee approval: Not applicable for this type of manuscript.

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Keywords: Vaccine; Vaccination; HPV; Human papillomavirus; Public health; Brazil.

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