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A vaccine for everyone? Biosexual citizenship, LGBTQ+ health and sexual practice in HPV vaccination policy-settings for "high-risk groups"

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Abstract

In this article we draw upon the notion of *biosexual citizenship* to examine claims and assumptions about (LGBTQ+) health and sexuality, HPV transmission and the HPV vaccine in policy-actors' accounts about the potential need for men who have sex with men, trans people and people living with HIV to access the HPV vaccine. Building on interviews with public health officials and LGBTQ + health organisation employees in Sweden, the article shows how policy-actors problematise (hetero)normative assumptions about HPV transmission, stigmatisation and "proper" sexuality in relation to young LGBTQ + people and gay men's sexual practices. Policy-actors also articulate "legitimised" forms of scientific knowledge along with community-based practical knowledge and entangle such forms of knowledge with political claims about equal rights. The article contributes to existing research into the HPV vaccine and its sexual politics by showing how policy-actors claim right-based formulations of biosexual citizenship in relation to LGBTQ+ and HIV-positive people and the HPV vaccine.

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Introduction

Recently, the relation between the human papillomavirus (HPV) vaccine and predominantly men who have sex with men (MSM) but also other so-called high-risk groups[1] – typically sex workers, people living with HIV and trans people – has gained increased policy attention. The HPV vaccine protects against sexually transmitted HPV strains[2] that can cause anal, cervical, penile, throat, vaginal and vulva cancers (NCI, 2025). Originally the HPV vaccine was only offered to girls and marketed as "a vaccine against *cervical* cancer to the exclusion of other HPV related diseases such as oral and anal cancers, which affect both males and females" (Charles, 2013: 774). Nevertheless, as MSM were left unprotected in "girls only" HPV vaccination programmes, governmental authorities increasingly address the need to extend HPV vaccination to all children (Mamo, 2023; Paul, 2016; Wyndham-West et al., 2018). In fact, today 47 countries offer the vaccine to both boys and girls – typically recommended in age 11 to 12 – from being given to through national vaccination programmes, compared to the total of 144 countries with HPV vaccination schemes (WHO, 2024).[3] Also, to date, France, the UK, Australia have introduced targeted vaccination schemes for high-risk groups.

Drawing on interviews conducted in 2022-2023 with Swedish public health officials and LGBTQ + health advocacy organisation employees from a large-scale organisation we call "LGBTQ + RIGHTS", in this article we analyse assumptions and claims about sexuality, HPV transmission and the HPV vaccine in policy-actors' accounts of HPV protection and HPV vaccination for high-risk groups. We aim to contribute to social science literature in the nexus of the HPV vaccine, (LGBTQ+) sexuality and citizenship. We ask: What claims and assumptions about sexuality, HPV transmission and the HPV vaccine are articulated, enrolled and/or problematised in policy-related contexts of HPV protection for high-risk groups?

In Sweden, the HPV vaccine was originally introduced in 2012 to girls 11-12 years old, publicly funded and provided for free through the national childhood vaccination programme and it was extended to be publicly funded also to boys 11-12 years old in 2020 (PHAS, 2024c). Since December 2024, following a governmentally initiated investigation, the Public Health Agency of Sweden (PHAS) recommends catch-up and targeted HPV vaccination schemes for free to everyone up to age 26, but encourages the 21 Swedish regions to specifically prioritise MSM, trans men and women and people living with HIV regardless of gender identity (PHAS, 2024a; 2024b).[4] In line with examples like same-sex adoption, same-sex couples' rights to assisted reproduction and HIV-positive people's access to anti-viral HIV medication (Lennerhed and Rydström, 2023; Nyegaard et al., 2022), Sweden's well-established LGBTQ + right and HIV organisations – LGBTQ + RIGHTS being one of these – have been key actors in advocating for the rights

of LGBTQ + people to access the HPV vaccine, and reflects the increased LGBTQ + inclusion in Sweden (Liinason, 2017).

We start by examining social scientific research into HPV vaccination, sexuality and high-risk groups. Thereafter we introduce the notion of "biosexual citizenship" (Epstein, 2018) that we adopt as our key theoretical lens. From there, we analyse how heteronormativity was problematised in the interviews, as well as how high-risk groups' right to the vaccine was "made sense of" through the use of diverse sets of knowledge-claims as well as assumptions related to HPV transmission, sexuality, citizen rights and LGBTQ + histories and lives. Finally, we outline how the article contributes to the HPV vaccine and biosexual citizenship literature.

Social scientific research into the HPV vaccine, sexuality and citizenship

Social science research into the HPV vaccine makes clear that the nexus of sexuality and citizenship has been a consistent concern in HPV vaccine contexts. When only offered to girls HPV vaccination information materials and policy were clearly framed through a heterosexist gaze about female vulnerability (Mishra and Graham, 2012). Girls have been positioned as innocent, yet empowered, citizens capable of taking an individual responsibility for managing their *cervical cancer* risk by getting vaccinated (Lindén, 2013; Polzer and Knabe, 2012). Empowering girls, emphasising cancer and de-sexualising the vaccine have by policy-makers (Lindén, 2016) and cancer advocacy actors (Gottlieb, 2013; Mamo, 2023) also been strategies to de-stigmatise cervical cancer and dissociate it from cultural associations to sexual promiscuity.

The focus on girls and cervical cancer has implied an invisibilisation of MSM and trans people (Charles, 2014; Mamo and Pérez, 2021) and a lack of policy and scientific attention to anal, throat and penile cancers (Epstein, 2010; Mamo, 2023). All boys have, along heteronormative lines, been assumed to be indirectly protected against HPV via vaccinated girls (Charles, 2014; Mamo, 2023), such as through references to boys and girls infecting each other (Lindén, 2013; Mamo and Pérez, 2021). For example, Maldonado Castañeda (2018) shows how policy-makers have reproduced heteronormative assumptions by modelling cost-effectiveness based on the assumption that all boys are indirectly protected against HPV.

In the context of including boys in HPV vaccination, the HPV vaccine has remained de-sexualised in public settings (Mamo, 2023; Mamo and Pérez, 2021; Paul, 2016). For example, in Austria – which in 2013 was the first European country to introduce a "gender-neutral" HPV vaccine scheme – there has been an absence of public discussions about sexuality (Paul, 2016). Differently, in US policy, the HPV vaccine has been *re-sexualised* by articulating the need for direct protection against HPV for MSM (Mamo, 2023; Mamo and Pérez, 2021). Finally, it has been shown that policy-makers, to make decisions about HPV vaccination for boys in the midst of limited scientific evidence, engage in socially embedded sense-making (Wyndham-West et al., 2018). In Canada, a "gender-neutral" HPV vaccination was in 2016 made sense of as "a matter of equity" (Wyndham-West et al., 2018: 288) and in Austria it was decided upon through the framing of the vaccine as a cancer prevention that "saves lives" (Paul, 2016).

Social science research specifically into the HPV vaccine, MSM, trans people and/or people living with HIV is nearly non-existent. Nevertheless, Epstein (2010) shows how US health activists in the early 2000s framed the HPV vaccine as "a gay health issue" by associating the lack of policy and scientific attention to "HPV and anal cancer" to processes of stigmatisation of gay men. He reads anal cancer – the main cancer (culturally) associated with HPV and MSM – as "the great undiscussable" in public HPV vaccine discourse. He understands gay health activists' HPV vaccine advocacy as "a demand for full citizenship, on both medical and sexual ground" (Epstein, 2010: 63) and suggests that MSM "are positioned right at the boundaries of sexual and biopolitical citizenship" (Epstein, 2010: 81). Mamo (2023) shows how pharmaceutical companies, US scientists, policy-makers and LGBTQ + health advocates sometimes distance themselves from stigmatised sexual practices and identities (anal sex and LGBTQ + sexualities) and other times not. In the LGBTQ + politics of the HPV vaccine, MSM have typically been prioritised, not at least as anal sex, sexual infections and MSM are culturally associated with HIV/AIDS (Mamo, 2023).

Outside the social sciences, in applied public health research, MSM, trans people and people living with HIV and their attitudes and beliefs about HPV and the HPV vaccine have been examined. This research highlights that "social constructs of HPV as a cisgender women's issue" (Apaydin et al., 2018: 3873) contribute to limited knowledge about HPV transmission and high-risk groups in healthcare and among the target groups. The research shows that MSM "have low perceived risk from HPV" but, when informed, express positive views about targeted vaccination efforts (Naidu and Polonijo, 2023) and/or of vaccinating boys at school (Galea et al., 2017). Yet, concerns about sexual and gender discrimination (Ejaz et al., 2022; Galea et al., 2017) and stigmatisation (Fontenot et al., 2016; Naidu and Polonijo, 2023) make MSM, trans people and people living with HIV reluctant to disclose one's sexuality to get vaccinated. Finally, MSM and trans people typically prefer to get vaccinated via community-based sexual health and/or LGBTQ + clinics (Ejaz et al., 2022; Fontenot et al., 2016; Naidu and Polonijo, 2023).

We contribute to the above research by examining claims and assumptions related to sexual rights and responsibilities, sexualisation and stigmatisation in the context of policy politics around high-risk groups' access to the HPV vaccine. To do so, we turn to the notion of biosexual citizenship.

Biosexual citizenship as a theoretical lens to analyse the nexus of the HPV vaccine, sexuality and governance

Biosexual citizenship addresses, on the one hand, the place of *the sexual* in conceptualizations of "biocitizenship" (Happe et al., 2018) and, on the other hand, the role of *the biomedical* in understandings of "sexual citizenship" (Richardson, 2017). Epstein (2018) defines it as the incorporation of individuals or groups, into a political community associated with a state, government or polity, in cases where sexual meanings or identities are related to biological and health-related processes. This can for example be about "how public health officials, in engagement with others, participate in defining sexual rights and

responsibilities" (Epstein, 2018: 26), and may include governance "from above" and civil society actions "from below".

Through the lens of biosexual citizenship we analyse claims and assumptions related to citizens' rights and responsibilities and contribute to research into HPV vaccine politics and individualised responsibility (Charles, 2013). Moreover, current biosexual governance is connected to a discourse on "evidence-based interventions" (Epstein, 2018: 37). Public health interventions are typically legitimised through references to science and evidence – Epstein (2018: 37) emphasises the randomised clinical trial (RCT) and how it has been adopted in settings of sexuality – such as that public health officials position biomedicine and epidemiology as the final arbiters of what public health and/or sexual health interventions to support (Epstein, 2018: 36-38). We analyse claims and assumptions connected to, for example, epidemiological and biomedical knowledge and, doing so, we wish to contribute to current understandings of "sense-making" (Paul, 2016; Wyndham-West et al., 2018) in HPV vaccination policy practices, including how political assumptions and claims about sexuality, equality and stigmatisation get entangled with epidemiological and biomedical knowledge-claims.

The study and its healthcare and LGBTQ + contexts

Healthcare in Sweden is largely state-funded, and this includes its HPV vaccination programme, part of the country's childhood vaccination programme. Vaccination acceptance is generally high, with HPV vaccination rates for girls on 87,3% in 2023 and 82,2 for boys in 2023 (PHAS, 2023). When the vaccination was introduced to girls, a catch-up vaccination was between 2012 and 2016 provided via the regions to girls up to 20 years old (in some regions up to 26 years old) (Lindén, 2016). Recently, new catch-up HPV vaccination schemes for girls up to 26 years old have been provided, part of a large-scale effort to "eradicate cervical cancer" (Cancerfonden, 2025). In contrast – and while this may change given PHAS' (2024b) recent recommendation of a catch-up vaccination – when it was extended to boys, no catch-up vaccination was included.

In relation to the extension of HPV vaccination access to new groups, Swedish civil society organisations – including LGBTQ+, HIV and gynaecological cancer organisations – have played a central role. Swedish civil society organisations – including LGBTQ + RIGHTS – are typically state-funded and have umbrella organisations with local chapters. LGBTQ + RIGHTS, like many other health- and sexuality-related civil society organisations, has become professionalised in recent times; it has both paid staff and volunteers and "a seat at the table" to advocate for LGBTQ + people's rights in relation to governmental agencies (Lennerhed and Rydström, 2023). In general, Sweden has a diverse LGBTQ + movement, ranging from large-scale professional organisations to loosely connected activist and community networks (Liinason, 2017; Nyegaard et al., 2022).

This article is part of a 4-year project on the introduction of HPV vaccination for everyone. Ethics approval was granted by the Swedish Ethical Review Authority (dnr-2020-06051). In the project, we have conducted observations of the vaccination at two primary schools and interviewed school nurses, students, parents and policy-actors. The

material used in this article consists of eight interviews, including follow-up interviews, with public health officials. The interviews were conducted between August 2022 and October 2023. It also consists of four interviews with LGBTQ + RIGHTS employees, conducted in January and October 2023. The public health officials were selected as they had been involved in investigating the issue of extending HPV vaccination to boys and, in addition, two of them were investigating a possible extension to MSM, trans people and people living with HIV as well as a catch-up vaccination for older boys. The public health officials have been given the pseudonyms Emelie (doctor), Fredrik (researcher and school nurse), Marie (epidemiologist), Mattias (investigator), Marcus (health economist) and Sandra (communicator). The LGBTQ + RIGHTS employees were selected as they had been involved in the organisation's advocacy work for extension of HPV vaccination to MSM, trans people and people living with HIV. They hold positions at different chapters of the organisation and have been given the pseudonyms Elsa, Hanna, Hugo and Peter.[5] All interviewees were contacted via email.

The interviews were semi-structured, lasted 30–70 minutes and were transcribed verbatim. All interviews in the current article have been conducted by Lisa Lindén. The aim with the first set of interviews with the public health officials was to learn about their work with the issue of extending the HPV vaccination programme to include boys. The two follow-up interviews with two public health officials focused on the, at the time, newly started work with investigating HPV vaccination to high-risk groups and older boys. The interviews with the LGBTQ + health organisation employees focused on their reflections on their work and its content, but did not include personal reflections connected to LGBTQ + health identity. All interviewees spoke on behalf of their respective organisations and/or from their professional positions. Lindén's long-standing experience of conducting interviews about sensitive topics made her well-prepared for the potentially sensitive nature of LGBTQ + health.

The interviews were analysed thematically (Braun and Clarke, 2006). Thematic analysis is a step-by-step process and for the current article the analysis has included five steps: (1) reading the transcripts multiple times, (2) coding the material, (3) analysing recurrent themes connected to HPV transmission, sexuality, high-risk groups, MSM and stigma (4) analysing and organising the data into main themes and, finally, (5) theorising and analysing the material. Three main themes were teased out: (1) problematising the heteronormativity of HPV vaccine policies; (2) rights to equal health and the usage of scientific knowledge-claims to support this; (3) stigma and the relation to HIV/AIDS histories and infrastructures.

Results

Problematising heteronormativity and the HPV vaccine as a "cis-women's issue"

In the interviews with the LGBTQ + RIGHTS employees, the heteronormativity of the previous "girls only" HPV vaccination scheme was articulated. The employee Hanna explained that she during the earlier days of the HPV vaccine encountered claims about boys being *indirectly* protected against HPV via vaccinated girls.

> **Hanna, LGBTQ + RIGHTS employee:** What provoked me quite a lot [when the HPV vaccine was provided only to girls] was the reasoning that this […] half of the population would somehow, through herd immunity, protect the others who did not get access to the vaccines. Then you sit… […] and wonder, what kind of magical rituals are these women, girls doing? […] Is it rain dancing or something else?

Hanna explained that she in policy-settings had questioned the assumption of the vaccine as a *cervical cancer* vaccine and had problematised that boys would be indirectly protected through herd immunity: it would require "rain dancing" to protect MSM by vaccinating only girls. "I raise my hand and ask, why don't we push for this [the inclusion of boys] or why don't we do that? Back then, I was one of those who raised my hand early on regarding the HPV vaccine issue" (Hanna). Instead of "getting around the gay" through claims about indirect protection (Charles, 2014: 1081), Hanna's account suggests that she early on articulated MSM as, what we interpret as, biosexual citizens with a right to HPV protection.

Hanna said that the media and governmental experts, also today, "almost refuse to mention other cancer forms than cervical cancer". They almost haven't, she continued, wanted to listen to LGBTQ + RIGHTS as the organisation has pushed for HPV protection for groups associated with risk for cancers other than cervical cancer. Similarly, the LGBTQ + RIGHTS employee Hugo said that there is a "knowledge gap" in Sweden; "the idea is that HPV is equalised with cervical cancer". He underscored that they have been forced to start with explaining that HPV is not the same thing as cervical cancer, making their work more challenging. Our data specify that this assumption of the HPV vaccine as "a cisgender women's issue" (Apaydin, 2018: 3873) does not only contribute to limited knowledge about HPV and high-risk groups in healthcare (Naidu and Polonijo, 2023) or among high-risk groups (Sullivan-Blum et al., 2022), but that it also has implications for how LGBTQ+-related HPV vaccine health advocacy unfolds.

In the interviews with the public health officials, the MSM group was mentioned as important for why the PHAS in 2017 – back then, this was the group typically in focus – recommended inclusion of boys (PHAS, 2017). Similar to the LGBTQ + health organisation employees, the public health officials problematised the assumption of an indirect protection for all boys.

> **Mattias, public health official:** There are some boys who don't benefit from girls being vaccinated, it's their own protection that counts as well.
>
> **Lisa:** Which boys are we talking about here?
>
> **Mattias, public health official:** Well, men who have sex with men, they don't get much protection from girls being vaccinated and [from] the circulation [of HPV infections] among girls being reduced.

In previous research on policy-officials and HPV vaccination for boys there are typically only brief mentionings of MSM (Paul, 2016: 197; Wyndham-West et al., 2018: 289). Differently, the public health officials we interviewed talked quite a lot about MSM.

We argue that both they and the LGBTQ + RIGHTS employees incorporated MSM as biocitizens with a right to protection against HPV and sexualised the vaccine by highlighting MSM's need for a direct protection. However – and differently from the LGBTQ + RIGHTS employees – the public health officials articulated a hope that a "gender-neutral" vaccination would further enable a distancing of the HPV vaccine from sex. They assumed a need to publicly de-sexualise the vaccine, similar to policy-actors elsewhere in the context of "gender-neutral" HPV vaccination (Odenbring and Lindén, 2023; Paul, 2016).

> **Marie, public health official:** We hoped that offering it to all children, would normalise it. It's not about vaccinating only girls who will become sexually promiscuous or vaccinating only boys who will have sex with men, but it is about protecting everyone against cancer.

Public health official Marie emphasised that they hoped that a "gender-neutral" programme would allow the HPV vaccine to be communicated fully as a cancer issue. Marie said that, when the PHAS investigated an extension to boys, "[t]he very question of sexuality haunted us"; there were concerns about parental attitudes such as "my boy won't need this", i.e., that "my boy" will not have (anal) sex with other boys.

This public side-stepping of sex in the public health officials' accounts suggests that anal sex, also in Sweden as a perceived "forerunner" into sexual rights (Liinason, 2017), "remain[s] the 'great undiscussable' in public discussions of HPV vaccines" (Mamo, 2023: 77). Moreover, it highlights that "gender-neutral" vaccination as means to protect MSM, seemingly paradoxically, came with a hope of *a further public distancing* from sexual risk group politics. Interestingly, this is reminiscent of trajectories of the Hepatitis B vaccine that, when it was introduced to all children and disentangled from stigmatised (sexual) identities, went from a vaccine with "gay" and "high-risk" cultural resonances to a fully de-sexualised vaccine, incorporated as part of a "health citizenship" (Conis, 2011; Mamo and Epstein, 2014). Similarly, while our public health official interviewees extensively emphasised the need for a direct protection for MSM, they articulated that the reasons for this could be made invisible through a "gender-neutral" vaccination – similar to the desexualisation of the vaccine in other contexts (Mamo, 2023; Paul, 2016) and in the Hepatitis B vaccine setting (Conis, 2011; Mamo and Epstein, 2014). This suggests that an assumption about *the public implications of* "MSM and anal sex" as "the great undiscussable" (Epstein, 2010) impacts on how public health officials negotiate biosexual citizenship and HPV vaccination governance.

High-risk groups' rights and the production of economic knowledge-claims

In the interviews conducted ahead of the governmental decision to investigate an extension of HPV vaccination to high-risk groups, the public health officials emphasised that the question of a catch-up vaccination and/or high-risk group vaccination is important but needs to be investigated. For example, the public health official Emelie said that it is important to "look at different aspects" of the question, such as vaccination costs and issues of equal healthcare; it is "a very important question" that, if it would be up to her,

should be investigated. For her and several of the others, this was a matter of securing the delivery of "equal healthcare"; similar to how Wyndham-West et al. (2018) have described HPV vaccination policy-making as "sense-making" she talked about such investigation as a next step that "makes sense" after the extension to boys. Here, MSM, trans people and people living with HIV are articulated as citizens with *potential* biosexual rights, because of their epidemiologically justified high-risk for HPV-related cancers (Epstein, 2018; Rose, 2007). Similarly, when being asked about a possible extension to MSM, the public health official and health economist Marcus responded that "I would like to see an analysis of that" and that it would come down to looking at the data and evidence. He contrasted public health officials with how clinicians to his experience feel strong for their specific patient groups and want to reduce their suffering by extending medical interventions. Instead, Marcus said that a cost-efficiency analysis is needed.

> **Marcus, public health official:** Our resources are limited so we cannot spend money on things that won't have any effect. They [clinical experts] want to see where it is possible… if we increase this parameter, won't it become cost-efficient then? Often it's like that we [public health officials] think that this is something we are going to investigate and see if it's a good idea. […] Whereas [instead] clinicals and experts involved, they are like, it's awesome that this is investigated, we will now get this as part of the vaccination programme.

The emphasis on cost-efficiency, evidence and the need to investigate the issue is in line with the "emphasis on the evidentiary basis and methodological warrants for proper action" (Epstein, 2018: 36) in current biosexual governance. Yet, Marcus' reference to cost-effectiveness problematises heteronormativity since *the very need to* investigate the issue implies a non-heteronormative assumption of HPV transmission – and differs from how Maldonado Castañeda (2018) has shown that policy-makers reproduce heteronormative assumptions when modelling cost-effectiveness by assuming herd immunity for all boys. Marcus' attention to cost-efficiency suggests that calls for "evidence-based interventions" in biosexual governance (Epstein, 2018) – here in the form of health economics – might be enrolled by governmental officials to *challenge* previous policy-assumptions of disease transmission, and its relation to what groups are considered legitimate biosexual citizens.

Whereas the public health officials articulated the need for an investigation, the LGBTQ + RIGHTS employees had already done their own investigations. For them, access for high-risk groups to the HPV vaccine was a matter of equal rights: "we have generations of [affected individuals] that would benefit from it [the vaccine], but that [currently] are not provided it on equal terms" (Hanna) and "what has happened now is that there is huge inequality in access to healthcare" (Hugo). While politicians and policy-makers, they said, typically agree with them about this economic counter-arguments were made – arguments in line with the above "our resources are limited" from the public health official Marcus. Therefore, they had decided to "respond to counter-arguments because of economic reasons with our own analysis" (Peter).

The employees described how they had done their own health economic investigations, for example resulting in a public report, media coverage and meetings with

politicians. Peter said that they within his LGBTQ + RIGHTS chapter had written a debate article and had been present in other venues – such as meetings with politicians – where they had presented this data. Their data, he explained, showed that it was possible to reduce the costs for a high-risk group vaccination considerably. "It was diverse reasons for that", he said, and explained that it, for example, was possible to get a discount if one would be in closer dialogue with the pharmaceutical company behind the vaccine. Similarly, the LGBTQ + RIGHTS employee Elsa, talked about how she and her colleagues had produced data about vaccination costs for high-risk groups and older boys, which they published in a public report.

> **Elsa, LGBTQ + RIGHTS employee:** We made a distinct connection to health economic issues. To be able to present how we made our calculations, we made calculations on the vaccination costs for these two groups [catch-up and high-risk groups] and compared how much HPV-related cancer costs the society. "It will cost so and so many millions, we will save so and so many millions for the ten, twenty, hundred upcoming years".

This supports Epstein (2018: 37-38) who argues that, in biosexual governance, community-based organisations, to be seen as legitimate, might feel the need to adopt to calls for "evidence-based investigations", such as the adoption of biomedical and epidemiological claims. To this we add economics as a form of "legitimatised" knowledge utilised not only by governmental agencies but in biosexual citizenship "from below". Moreover, our data show that LGBTQ + health organisations do not simply *use* "legitimised" evidence but also adopt (their own version of) institutionalised methods to *produce* knowledge-claims to push for biosexual rights. We suggest that this production of data is likely a key part of biosexual citizenship "from below" given how others have shown how civil society actors – such as patient activists – engage in *conducting* research and *producing* "legitimised" evidence (Rabeharisoa et al., 2014).

Stigma and HIV/AIDS hauntings and infrastructures

Concerns related to stigmatisation in relation to vaccination of high-risk groups were addressed by both the public health officials and the LGBTQ + RIGHTS employees. The public health officials talked about how they had examined vaccination for MSM as an alternative to including all boys in the vaccination programme. However, as such vaccination would require concerned boys to self-identify as MSM, they had been concerned about "the potential stigma that can be involved in… [saying] 'I have a sexual risk behaviour'" (Marie). This assumption of a stigma makes sense: while particular discourses of LGBTQ + sexual rights have been incorporated as part of Swedish mainstream culture, stigma connected to LGBTQ + people in relation to risk and health remain (Lennerhed and Rydström, 2023). Concerns about a stigma also need be understood in light of the "hauntings" of the 1980s HIV/AIDS epidemic in HPV settings (Mamo, 2023) and MSM's own reported concerns about stigma if having to disclose one's sexuality to access the vaccine (Fontenot et al., 2016; Naidu and Polonijo, 2023).

The public health official Marie underscored that she and her colleagues related concerns about stigma to data showing that "vaccinating also becomes more effective before sexual debut and at a young age"; it would be difficult to identify the MSM group before sexual debut. That is, age along with sexuality were core knowledge-claims: "You can't ask an eleven-year-old if he will ever sleep with a man", the public health official Marcus said. This is supported by research on MSM's vaccination preferences that suggests that a "gender-neutral" vaccination is the most feasible option (Galea et al., 2017; Kesten et al., 2019). Moreover, and while Epstein (2010: 81) might be correct in that "[n]o one is about to advocate a targeted effort to vaccinate 'pre-gay' boys", this claim *also* articulates discussing LGBTQ + sexuality with boys as something impossible. This positions the "pre-gay" boy in HPV vaccination contexts as a concern that is "solved" through a "gender-neutral" vaccination. As we will show, the LGBTQ + RIGHTS employees articulated this partly differently.

In two interviews with public health officials conducted after the government had decided for a high-risk group and catch-up vaccination investigation, the assumption of stigma was problematised. The public health official Emelie highlighted new knowledge she and her colleagues had gained from LGBTQ + civil society organisations. Emelie expressed that "it doesn't seem like the question is stigmatising, but rather that the target groups are demanding the vaccination". She positioned LGBTQ + health civil society organisations as legitimate experts in biosexual governance and enrolled their knowledge to make sense of the relation between stigma, LGBTQ + people and the HPV vaccine. Similarly, in the interviews with the LGBTQ + RIGHTS employees, the assumption about stigma, regardless of whether it was in a context of "pre-gay" boys or MSM, was viewed as not properly based on knowledge from the LGBTQ + community. Instead, the LGBTQ + RIGHTS employees articulated that concerns about stigma are related to assumptions about LGBTQ + lives and proper sexuality, such as in relation to young LGBTQ + people.

> **Hanna, LGBTQ + RIGHTS employee:** Well, I think there is a fear associated with young people and same-sex sex. As a teenager you don't have to wait for the sexual debut to happen to know where you heart is. That's my firm belief, but it mirrors the political discourse… the outsiders, you know, they must debut [sexually] first to confirm their sexual orientation.

The interviewees connected concerns about stigma to assumptions about gay men's sexual practice. Talking about their experience from advocacy work targeting local politicians, Hanna and Peter similarly articulated how politicians had expressed concerns that a targeted high-risk group vaccination might be stigmatising as the boys/men would have to self-identify as and know that they are queer. Hanna expressed that this reminds of "the old 80s", referring to the HIV/AIDS crisis and the handling of gay men during this period. Similarly, Hugo said that the exclusion of high-risk groups affords the LGBTQ + community "pretty much anger, which becomes bigger because of the neglect of in particular gay men and bi-sexual men since the AIDS epidemic; it's a little bit history repeating itself, this question". In turn, Peter emphasised that assumptions about stigmatisation are to be considered "ideological" and contrasted "promoting health for a

minority group" with calling *the mpox* "a gay spread"[6]. Similar to the connections made to the HIV/AIDS epidemic, this exemplifies how the LGBTQ + RIGHTS employees called upon histories of discrimination of gay men to problematise assumptions about stigma that according to them were used to exclude high-risk groups from HPV vaccination.

The LGBTQ + RIGHTS employees articulated the importance of knowledge from the community and argued that, if this is utilised, a targeted vaccination for high-risk groups would not be stigmatising. Such knowledge, they emphasised, exists among civil society organisations and sexual health clinics. A key example was Hepatitis B. Hanna said:

> **Hanna, LGBTQ + RIGHTS employee:** We have very good existing networks of youth health care centres […]. I know that they in [name of a region] have made efforts to find young queer boys and offering them Hepatitis B vaccination. That was what they had in mind, just like they did already in the 1980s, a very focused and selective risk group vaccination. So, there is already experience of risk group vaccinations.

Reminiscent of how research shows that MSM and trans people, to avoid discrimination, prefer to get vaccinated at community-based and/or LGBTQ+-oriented sexual health clinics (Apaydin et al., 2018; Fontenot et al., 2016), Hanna and Hugo brought up that there is an existing infrastructure of HIV clinics that the target groups visit, as well as practical experience from the Hepatitis B vaccination. Given the historical and cultural associations between Hepatitis B, HIV/AIDS and gay health politics (Conis, 2011; Mamo and Epstein, 2014), we assert that they articulated this "community-based" knowledge to argue for, what we term, the *infrastructural feasibility* of extending biosexual citizenship to high-risk groups. We suggest that such knowledge can be understood as a combination of experiential, practical and historical knowledge, built out of the professionalisation of LGBTQ+ and HIV organisations, in light of the 1980s HIV/AIDS epidemic (Lennerhed and Rydström, 2023; Mamo, 2023). Drawing on Science and Technology Studies (STS) work on infrastructures we understand this "community-based" knowledge as socio-materially embedded in existing HIV/AIDS medical practice (Jensen and Morita, 2015). In line with STS – and expanding work on "infrastructural citizenship" (Lemanski, 2019) – we assert that the notion of *infrastructural feasibility* allows us to shed light on historically embedded, material and practical aspects of struggles for biosexual citizenship.

Finally, the LGBTQ + RIGHTS employees articulated scientific knowledge-claims against assumptions about stigma. Hugo, for example, said that "MSM living with HIV are at over hundred times higher risk for HPV-related cancer and you cannot talk about that you because of a possible increased stigmatisation would deprive a vulnerable group, people, a health promoting intervention". Peter, similarly, said that "sometimes we have to remind about that it's not stigmatising to promote health for a minority group that is at significant higher risk". He said that "extensive research material" does not only show that MSM, trans people and people living with HIV are at high-risk of HPV-related cancers but also underscores the efficiency of vaccinating risk groups in older ages. As a form of "risk politics" (Rose, 2007) where epidemiological risk is given priority in public health interventions, the employees articulated biosexual citizenship as a matter of protection against risk, based on sexual practice.

Discussion

This article has highlighted HPV vaccination access for high-risk groups as a case of "biosexual citizenship" (Epstein, 2018) and shown how claims and assumptions about (hetero)sexuality, LGBTQ + lives and sexuality, HPV transmission and the HPV vaccine are articulated, enrolled and/or problematised in policy-related contexts of HPV protection for so-called high-risk groups.

We add to existing research on the HPV vaccine and high-risk groups (Epstein, 2010; Fontenot et al., 2016; Mamo, 2023; Naidu and Polonijo, 2023) through detailed attention to how policy-actors – both public health officials and LGBTQ + health organisation employees – "make sense of" issues of HPV transmission and HPV vaccine access by entangling political claims about LGBTQ + people's right to equal health and assumptions about sexual lifestyle and discrimination/stigmatisation with biomedical, epidemiological and health economic knowledge-claims. This supports Epstein (2018) attention to the dominant role afforded to "evidence-based interventions" in current sexual health governance. However, whereas Epstein (2018: 37) emphasises the dominant role of the RCT, our study suggests the productivity of exploring how struggles for biosexual citizenship unfold in relation to *a variety of* knowledge practices encompassing biomedical, epidemiological, health economic and community-based knowledge. Some of these may, as Epstein (2018: 37) suggests, fit poorly with multidimensional issues of sexuality and, as HPV vaccine research indicates, reproduce normative assumptions about gender and sexuality (Maldonado Castañeda, 2018). However, how our interviewees enrolled scientific knowledge – such as health economics – to articulate issues of equal health and LGBTQ + people's right to the HPV vaccine, suggests that such "legitimised" knowledge may also challenge normative assumptions about sex and sexuality.

Our study contributes to literature on biosexual citizenship (Epstein, 2018) and research on the HPV vaccine and individualised health responsibility (Charles, 2013; Polzer and Knabe, 2012). To date, the notion of biosexual citizenship has empirically been utilised first and foremost in relation to PrEP (pre-exposure prophylaxis) – a HIV prevention pharmaceutical used by HIV-negative people (Jones et al., 2020; Langer Primdahl and Skovdal, 2023; Orne and Gall, 2019). Reading our findings through the lens of this research elucidates similarities between PrEP and the HPV vaccine: HIV/AIDS epidemic histories and infrastructures take part in configuring biosexual citizenship in both settings. We suggest that LGBTQ + health organisation employees call upon the histories and effects of the HIV/AIDS epidemic to politicise HPV vaccine access, to problematise policy-assumptions about stigmatisation that may serve to exclude high-risk groups and to articulate what we have defined as an *infrastructural feasibility* to extend biosexual citizenship to high-risk groups. We propose the notion of *infrastructural feasibility* to highlight feasibility as an important facet in how people enrol infrastructures in struggles for people's right to biosexual citizenship.

Both conceptualisations of biosexual citizenship (Epstein, 2018; Langer Primdahl and Skovdal, 2023; Orne and Gall, 2019) and the HPV vaccine (Charles, 2013) have emphasised a biopolitics of individualised responsibility focused on producing "healthy"

sexual citizens. Notably, Epstein (2018: 41) argues that current LGBTQ + inclusive right-based language in sexual health governance configures biosexual citizenship as a matter of the "inculcation of authorized ways of behaving responsibility so as to be granted access to the status of the good citizen". Extending this, Orne and Gall (2019: 658) argue that PrEP biopolitics "co-opt queer practices of nonnormative sexual experimentation", this "to create a more responsible sexual citizen to be looked up to, who is working toward health at all times". Similarly, Charles (2013) argues that the HPV vaccine functions as a biopolitical tool that configures a responsibilised citizenship. In contrast, our study highlights that, in the case of protection against HPV for high-risk groups, policy-actors seem to reason through attention to group-based *rights to* equal health and freedom of stigmatisation rather than citizens' responsibility to follow governmental recommendations.

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Ethical approval

The study the research is based on has been granted ethical approval from the Swedish Ethical Review Authority.

Informed consent

Written informed consent has been given by the research participants.

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Data Availability Statement

Research data are not shared because of ethical restrictions.

Notes

1. We use the wording "high-risk groups" with reluctance as the notion easily reproduces normative ideals of proper and deviant sexual actions and serves as a form of biopolitical governance where some groups' sexual behavior is deemed riskier (Epstein, 2018; Rose, 2007). In our empirics,

"risk groups" is typically used, but to avoid confusion from previous HPV vaccine research articulating girls as a "risk group", we use the wording "high-risk group".

2. There are more than 200 types of HPV; HPV 16, 18, 31, 33, and 42 are considered "high-risk HPV" and can cause cancer (NCI, 2025). HPV can be "transmitted through any intimate skin-to-skin contact, including vaginal–penile sex, penile–anal sex, penile–oral sex, and vaginal–oral sex" (NCI, 2025).
3. We use "boys" and "girls" to refer to anyone up to age 18.
4. So far, to the best of our knowledge, two Swedish regions follow the PHAS's new recommendation, but more are likely to come. Australia, France and the UK alike include MSM in their targeted efforts. In Australia the vaccination offer also extends to people living with HIV and in the UK it includes trans men and women, people living with HIV and sex-workers. Trans men with a cervix are deemed at higher risk of cancer because of a risk of lower adherence to cervical cancer screening (PHAS, 2024a: 6). Policies sometimes define "immunosuppressed people" as high-risk for HPV-related cancers, but other times only people living with HIV. Typically, it is emphasised that an HIV infection makes it more difficult for the body to fight off infections and illnesses, including HPV. However, at other times "risky behaviours" of having sex without a condom and having many sexual partners are articulated as increasing the risk of both HIV and HPV (HIVinfo, 2025).
5. Gender identities of the interviewees have been randomly selected due to anonymity reasons.
6. This was used as a recent example of governance in the intersection of health and gay and/or queer sexuality.

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