



The gendered and gendering 'jab'

An analysis of HPV vaccination discourses as a public issue

Master Thesis Sociology, Grootstedelijke vraagstukken en beleid

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Abstract: In this study of HPV vaccine discourses documents that reflect recent discourses on HPV vaccination were scrutinized along the lines of the I-map (Schinkel, 2016). Using a Foucaultian inspired discourse analysis following articulations and interpellation, power and practices were scrutinized. The study focussed on imaginaries, infrastructures and identities, which underlie the issue or are produced by it. The analysis shows that the imaginary underlying the issue is risk, theorized from a biopolitical and governmentality perspective. Risk of HPV is rendered calculable and governable, therefor urgent and in need of action. The vaccine as a biopolitical tool, is being applied on the population on an infrastructure of gender, enabling some possibilities while constraining others. Together, risk and gender transform the HPV vaccine into a cervical cancer vaccine, producing *gendered at risk* identities, vulnerable in the face of HPV and responsible for preventing the virus to enter bodies and circulate in society. While men are put into the black box of the vaccination, they remain at risk. There is a compulsive focus on cervixes, the symbol of reproduction, that must be protected. Images of dominance are being confirmed and reproduced. This case reveals a gendered asymmetry in the governing of bodies.

Keywords: vaccination, HPV, cervical cancer, gender, risk, biopolitics, governmentality, public issue, imaginaries, infrastructures, identities.

1. Introduction

At the end of 2016 vaccination critique was again a hot topic. The issue has been controversial for quite some time and at this point it was announced that the government will spend 2 million euros on educating professionals in dealing with parents sceptical towards vaccination (Volkskrant, 2017). Despite controversy, the Netherlands has one of the highest vaccination degrees in the world (Schurink-van 't Klooster & de Melker, 2016). There is one exception though, the HPV-vaccine is lagging behind with a vaccination degree of 61 percent. The HPV vaccine was introduced into the Dutch National Vaccination Program (Rijksvaccinatieprogramma) in 2009. It protects against the sexual transmitted infection HPV, which affects about eighty percent of the sexually active population and is the most commonly occurring sexually transmitted infection (STI). In most cases HPV clears itself and people that are affected generally don't experience symptoms. However, in exceptional cases the body's immune system does not clear the virus. If this happens, the persisting HPV virus can, in exceptional cases, cause cancer of which cervical cancer is the most common kind (Bosch, 2013). Despite smaller numbers, a persisting HPV infection can also cause other types of cancer like cervical, anal, throat and penile cancer (Schurink-van 't Klooster & de Melker, 2016). This means that the HPV virus affects both women and men.

Although a vaccine exists for both girls and boys, the Dutch Health council (Gezondheidsraad) advises this vaccination exclusively for adolescent girls to prevent cervical cancer. The vaccine is advised prior to the first sexual activity and therefore introduced for a selective, female public at the age of 12-13 (Schurink-van 't Klooster & de Melker, 2016). This is the reason why the Dutch National Vaccination Program solely administers it to young girls. Since explicitly girls are summoned to get vaccinated because of the established link between HPV and cervical cancer, the vaccine is popularly known as the 'cervical cancer jab'.

Since the HPV vaccine has been covered in the media, it has been applauded as a lifesaver, a milestone in women's health, while at the other hand concern and critique was raised (Polzner & Knabe, 2012). Controversy and publics that have formed around the vaccine are multiple. There is critique from parents that question the necessity and the gendered application of the vaccine, or express concerns about the intrusiveness regarding the persuasive advice to get their daughters vaccinated. There is critique from some medical professionals and gay movement advocates, denouncing the exclusion of men who remain at risk when excluded of vaccination. Another public is formed by the experts, the people that are pro-vaccine, formed by the RIVM, medical professionals and the government promoting the vaccine as the responsible and right choice.

The central focus of this study will be on how HPV vaccine discourses, as a public issue, are constituted through gender. The issue is analysed along the elements of the conceptual framework of the I-map (Schinkel, 2016a) of which several elements will be identified and scrutinized. The main focus will be on the infrastructure, imaginaries and identities within HPV vaccination discourses. This leads to the following research question: *"How are HPV vaccination discourses co-constituted through gender?"*.

Next to insight in HPV vaccination itself, this study serves as a strategic case to reveal how gender operates through power and practices and how bodies are governed in modern day society. This study combines analysing power and practices through a discourse analysis. Practices will be scrutinized from a standpoint of the performative ontology of science and technology studies (STS) in which it is argued that science, technology and society are reciprocally intertwined. Power is analysed from a post-structural perspective in which the power/knowledge relationship is analysed to understand how knowledge is produced and how citizens are governed. Analysing the public issue according to the I-map means decomposing the different elements that together constitute the issue, revealing the different

elements and giving a better understanding of what is at stake. Inspired by Donna Haraway's 'situated knowledges' (1988), this analysis tries to reveal how knowledge is a condensed node within an agonistic field of power. Examining HPV vaccination discourses along the I-map contributes to a reflexive view on science and technology for this specific case, a reflexivity that is much needed within the established scientific community (Brian Wynne in Dehue, 2014).

In the next paragraphs I will lay out the structures of the conceptual framework of the I-map. After this I will elaborate on the methodology. Hereafter the analysis of the empirical data is described, followed by the conclusion and discussion of the case.

2. Conceptual framework: Public issues and the I-map

This thesis concerns the HPV vaccination as a public issue. The I-map (figure 1) as developed by Schinkel (2016), is being applied here as a conceptual framework, a tool of analysis to problematize the case of the HPV vaccine. Therefore, the relevant elements of this framework itself will be theorized first. The I-map contains of the elements *infrastructures*, *interfaces*, *interactions & identities*, *investments & interests*, *imaginaries*, *interrogations & interventions*, which together bring a public issue and its publics into being.

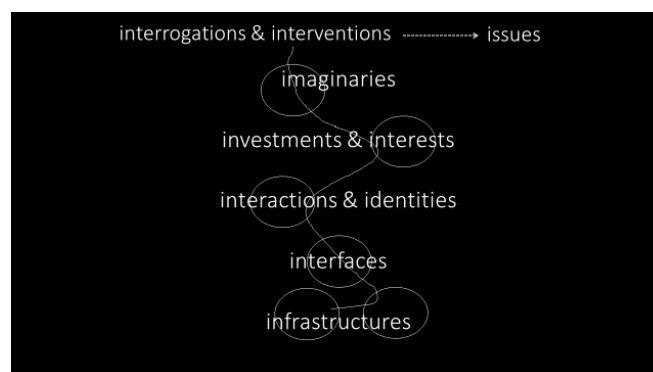


Figure 1: conceptual framework of the I-map

At the core of the I-map lies the *issue*, or better, the *public issue*. A public issue is a matter of public contestation. It can be a problem, a debate or anything that brings into being different publics that form around the issue (Schinkel, 2016a). C. Wright Mills (1959) writes about the essential distinction within the sociological imagination between ‘the personal troubles of milieu’ and ‘the public issues of social structure’. This indicates the importance of the distinction between the private and public sphere when defining public issues (Warner, 2002). Personal troubles occur in the personal sphere of individuals, they have to do with the individual self and the parts of social life of which he is personally and directly aware. Public issues on the other hand deal with matters that exceed these personal milieus of the individual and his inner life. An issue is a public matter, Mills argues, in which a particular value valued by publics is felt to be endangered (Mills, 1959, p.8).

Marres (2007) argues that to become a *public issue* the values that are endangered, the threats to the livelihoods of individuals, need to be articulated. According to her the concept of a public issue can be seen as a public affair, in line with the work of Dewey. According to this understanding issues are understood as people’s involvement in politics, mediated by the problems that affect them. A definition of public affairs is given by Dewey (in Marres, 2007, p. 15) describing it ‘as a problem that jointly affects an association of actors who were not directly involved in its production’. To Marres though, it seems more appropriate stating ‘that actors are jointly and antagonistically implicated in issues’. In this context the concept of controversy is also important. Lipmann (in Marres, 2007) argues that the emergence of controversy opens up the chance for public involvement. Controversy emerges when problems arise that seem resistant to definition and resolution by conventional knowledge and institutional procedures. Articulating the controversy or the matter at stake means publicizing the issue, thus making it a public issue.

2.1 Infrastructures

The term infrastructure is used in multiple ways. Breaking down the term leads to ‘infra’ which means underneath or below and ‘structure’ that can be explained as either enabling or constraining existing possibilities and choices (Giddens, 1984). Commonly, infrastructures are understood as big, structural, stable systems and services that generally are not visible in daily life, but do have a big impact on it. They are seen as invisible structures including the internet and the sewer, but can also be visible like the train rails or the highway. Schinkel (2016) makes a distinction between soft and hard infrastructures. Hard infrastructures consist of before mentioned highway, railway, internet(cables), while soft infrastructures have the same enabling power but are less tangible like a healthcare system, democracy and so on (Schinkel, 2016).

The infrastructure that can be identified as enabling and constraining the case of HPV vaccination, I argue, is *gender*. To understand how the HPV vaccination is constituted a sub question that will be answered is: “*How does gender operate as infrastructure to facilitate the HPV vaccination?*”

2.2 Imaginaries

Public issues come into being through *imaginaries*. Social imagination is described by Schinkel (2103) as ‘the routinized and professionalized ways in which social life is rendered visible’. Schinkel turns to Gaonkar (2002, p.4 as described in Schinkel, 2013) when he defines social imaginaries as ‘ways of understanding the social that become social entities themselves, mediating collective life’. According to Taylor (2002) in his essay *Modern Social Imaginaries* the social imaginary is that what enables practices in a society through making sense of them, the common understanding which enables common practices in a broadly shared idea of legitimacy. It consists of “*the ways in which people imagine their*

social existence, how they fit together with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations” (Taylor, 2002, p. 106). The common understanding is normative, aside objective. This means that people share an idea of how practices typically go but this is entwined with the notion of how things should go.

For the HPV vaccination I argue that the concept underlying the issue as an imaginary is *risk*. Here the concept of risk is approached from a perspective of biopolitics (Rose, 2007) and governmentality (Lupton, 1999; van Houdt, 2014) because it best fits the way the HPV vaccination has brought a new dimension to ways of thinking about and dealing with health risks and technologies. For the study of the HPV vaccination the sub question that is part of the analysis is: *“How does the imaginary underlying the HPV vaccination produce the issue and how does it interact with the infrastructure?”*

2.3 Interactions & Identities

When publics are brought into being, identities are as well. According to Fearon (1999) the current concept of identity has a double sense. In the first sense it refers to ‘a social category, defined by membership rules and (alleged) characteristic attributes or expected behaviour’. In the second sense it refers to ‘socially distinguishing features that a person takes a special pride in or views as unchangeable but socially consequential’ (Fearon, 1999, p.1) Both senses can operate in distinguished form or together at the same time.

Identities can be produced through the process of *interpellation*, the dual process in which subject positions are being produced and allocated to individuals with which they will identify themselves and through which individuals come into being (Althusser, 1971, as described in Laffey & Weldes, 2004). For the HPV vaccine case, I argue, this can be related to the theory of gender identities, the performativity of gender and gender as a social

construct (Butler, 1990; 1993). The sub question in regard to identities that sheds light on the constitution of the issue is: “*Which identities are being produced by the HPV vaccination through an interaction of the infrastructure and imaginary?*”.

3. Method

For this study the HPV vaccination is treated as a *casestudy*, which helps to gain insight in a complex problem or social phenomenon from different perspectives (Braster, 2000). Parallel to a multi-site ethnographic study, a method that trails a topic or social issue through different field sites either geographically, socially or both (Hannerz, 2003), this study trailed the issue through different fields of social actors and different locations where it takes place.

The issue was analysed through a document analyses. Analysed documents can be distinguished into different categories. There are official governmental documents regarding the vaccine and research and advisory rapports on which decision making was based. Next to that I analysed HPV vaccine promotion such as the invitation, educational information sent to parents and adolescent girls and the informational website of the RIVM. Also, I analysed documentaries, broadcastings, research papers, newspaper articles and websites that provide the public with a wider view on the issue. The documents stem from 2007 until 2017. This period was chosen because the vaccine was introduced into the Dutch vaccination program in 2009, but was already an argument of debate before that moment. The period 2007-2017 therefor gives a comprehensive picture of the issue. In total 26 documents¹ were found relevant and sufficient as saturation occurred.

All documents were studied using the analytical software Atlas.ti. The research question, the different elements of the I-map and the theoretical framework provided the initial sensitizing concepts (Blumer, 1969) for the coding scheme. Gradually through the

¹ An overview of the documents can be found in the annex.

process of analyses these sensitizing concepts were more narrowly focused. Validity, the truthfulness of the results (Golafshani, 2003) was increased through triangulation, the use of multiple research methods. Using different types of documents such as official documentation, newspaper articles, websites and broadcastings helped to increase the validity of this casestudy.

Analysing the issue, it became clear that it has multiple controversies and a complex range of remarkable elements. I have chosen to focus on gender and risk, because I feel these are the constitutive elements of the issue. This resulted in the negligence of, for example, the element of the ‘scientific experiment’, which would focus more on interests and investments within the I-map. Related is the element of public contestation that would focus on how publics interact within the public issue, also a very interesting but omitted element within this thesis.

3.1 Discourse analysis

The type of document analysis used was a discourse analysis. Discourse stems from political and social structures in which power structures do not appear naturally but instead are seen as socially constructed (Crawford, 2004). The type of discourse analyses that was conducted was a post-structural one inspired by Foucault. Within this social constructivist approach, power and power relations are an important part of analysis. In this approach text is regarded a place where reality is socially constructed. The aim is to identify the practices of the systematical production of the objects which are being spoken of and that are responsible for knowledge production (Marshall, 2004). Similar to Laffey and Weldes (2004) I approach a discourse analysis not only for the purpose of finding certain power structures within language and thus within the issue, but also of finding certain practices. Instead as equivalent to language, Laffey and Weldes (2004) define discourse as *structure* and *practice*. With

structure they mean that a discourse is a sociocultural resource used by people in creating meaning about their world and actions. As practice a discourse is the structure of ‘meaning in use’. According to Graham (2011) a Foucaultian discourse analysis doesn’t pursue revealing the true meaning by what has (not) been said. This type of analysis rather looks at statements for what they *do*, at what the constitutive effects of what is (not) being said is. The task is to determine, out of all the potential proclamations that could be made on a subject, how certain statements surfaced to the exclusion of all other possibilities and what function they serve (Graham, 2011).

Using this type of analysis allows me to combine scrutinising power and practices from a post-structural epistemology and practices from a view of performative ontology within science and technology studies. Furthermore, following Laffey and Weldes (2004) in their methodological steps of the discourse analysis allows for integrating the I-map elements (Schinkel, 2016) into the analysis. Discourse analysis here is understood to involve ‘the retrodution of a discourse through the empirical analysis of its realization in practices’ (Laffey & Weldes, 2004, p. 28). It examines how a particular discursive production was made possible and through which conditions of possibility. Next to that, it analyses how and in which manner discourses are naturalized in such a way that it becomes common sense. To make this retrodution possible Laffey en Weldes (2004) make use of the concepts *articulation* and *interpellation*.

With articulation they aim at the practices of momentarily fixing and creating meaning through a contingent association of signifying components. Articulation links terms, symbols and meaning together in a connotative relationship and fuses them into a chain of association. It also refers to the association between these meanings on the one hand and social relations and institutions on the other. These associations are therefore historically contingent and socially constructed. This means that it requires ideological labor to create

and maintain them. Nevertheless, it also means that these articulations aren't fixed and can be rearticulated.

The second concept, interpellation, refers to the twofold process whereby subject positions are produced and particular individuals are 'hailed' by those positions (Althusser, 1971 in Laffey & Weldes, 2004). It means 'that specific identities are created when social relations are depicted'. A certain representation of the world involves a certain identity because they make sense from a specific position. These identities bring with them distinctive means of functioning in the world, they are situated in certain power relations and they make possible certain interests. Also, when a process of interpellation is successful particular individuals will identify themselves with the ascribed subject positions. When they do, the representation in which these subject positions emerge make sense and there is a naturalization of the the power relations and interests involved. The representations become common sense, taken for granted as 'the way the world really is' (Laffey & Weldes, 2004, p.29).

3.2 Analytical steps

The two concepts articulation and interpellation are at the core of the analysis of the HPV vaccine case. I've examined these concepts according to the methodical steps as provided by Laffey and Weldes (2004). Articulations are analyzed through a few analytical steps. First, representational practices are scrutinized. This means that I've identified the main signifying elements of the discourse and the chains of connotations among them. Within these chains I have identified nodes where different chains of connotation come together. Here it becomes clear which infrastructure and imaginary underlie the issue. A next step in the analysis entailed detecting the connection of articulations of the representations and institutions. Discourses that are articulated to, and element of, institutional power are more powerful than

others. Thus it entailed examining the power/knowledge relations, the mechanisms that naturalize or conceal relations of power. Because the ideological effects of representations are tied to their context it is necessary to study social relations next to the representations themselves.

After scrutinizing articulations, I have analysed the concept of interpellation. The most fundamental step was to detect the subject positions, the identities of subjects and objects and the position they hold relative to others. In this step I have also analysed the linking of qualities to subjects and objects, which shows the meanings that are attached to them. Next to that, critical in examining interpellation is the question ‘who speaks?’. This means asking by which subject the discourse is being authored. Investigating interpellation means investigating the making sense that results in common sense, the moment of naturalization and normalization, when individuals that are being hailed by the discourse go along because they experience it as the way the world naturally is. This analysis also emphasizes other power relations. Some actors and voices are privileged at the expense of marginalizing others through power/knowledge practices (Laffey & Weldes, 2004). I have investigated which subjects were being privileged over others through discourses and how this established itself in practices. This led me to detect which identities were being produced within the issue.

4. Results

Analysing the issue, it immediately becomes clear that gendered knowledges and gendered practices play a leading role. Below I shall demonstrate that the concept of *gender* as a comprehensive infrastructure is at interplay with an imaginary of *risk*, which is theorized from a biopolitics and governmentality perspective. Because notions of risk and biopolitics are structured by and operate along the lines of gendered knowledges, as I will show here, the vaccine against the sexually transmitted virus HPV that affects both women and men,

transforms into a ‘cervical cancer jab’ for young girls, a gendered vaccine, contributing in the process of marking bodies and gendering identities.

4.1 Articulations of the HPV-vaccine: imagining and acting upon risky women

The first step of this study was examining representational practices, the articulations, which means identifying the main signifying elements of the discourse and the chains of connotations among them. Within these connotative chains not only *power* structures, but also *practices* come to the fore, simultaneously producing and affirming the discourse.

4.1.1 Gendered knowledge and practices: a performative infrastructure of HPV vaccination

The first signifying elements within this case are *medical knowledge*, the *performative focus on women* and *gender*. Together they form a connotative chain that produces meaning and practices. In this case I argue the concept of gender is operating as an infrastructure, enabling some, while constraining other knowledges and practices to develop and come into being. For the analysis the definition of gender by Scott (1986) is used:

“Gender is a constitutive element of social relationships based on perceived differences between the sexes, and a gender is primary way of signifying relationships of power.” (Scott, 1986, p. 1067)

This definition is partly based on social constructivism, in which gender is seen as the result of mutual social agreements and communication. The second part refers to power, in this way gender is seen as giving meaning to power relations. Ideas about gender are regarded as facts that form social life and thereby are also responsible for producing power relations (Scott, 1972, as in Halsema & Scheurs, 1998). This explanation shows how the concept can be

theorised as giving meaning and producing facts about gender, thus producing knowledge. I will show how this concept gives meaning to and produces facts about HPV vaccination.

When the discovery was made that HPV was related to cancer, this was established by examining cervical cancer lesions. Therefore, the first established link between cancer and HPV was specifically with cervical cancer (Gezondheidsraad, 2008). Later it became clear that HPV was also linked to other types of cancer, like anal, throat, vulvar and penile cancer. This means the link between HPV and cancer in men is now known. However, this relationship was never, and still is not as much examined as the relationship with cervical cancer. Also, the manufacturers of the vaccine all did their clinical research on women. This means that with this information, advisors are only able to recommend the vaccine for women:

“Op dit moment zijn er naar haar mening te weinig gegevens over de werkzaamheid bij jongens en mannen om ook voor hen vaccinatie aan te raden” Document 3, p. 60

It can be argued that this lack of knowledge, but also the discovery of the link between HPV and specifically cervical cancer, was made possible because of an initial focus on women and cervixes. With this focus, in the words of Michelle Murphy (2012), there seems to be a need for preserving marriageable heterosexuality.

Discussing this gendered application of the vaccine there is a sense of unfairness but the Health council concludes that:

“Ten derde is er de beslissing om meisjes wel en jongens niet te vaccineren. Wetenschappelijk gezien is daar volgens de commissie alle redenen voor, maar bij het publiek zou dat gezien de rol van jongens bij de verspreiding van HPV tot onbegrip kunnen leiden”.
Document 3, p.83

This phrase is remarkable for several reasons. It obscures male vulnerability relating HPV and shows a heterosexual assumption about the spreading HPV and the protection against this virus. Furthermore, it shows how this gendered knowledge results in the deceptive neutral objectivity of scientific knowledge. A frequent used phrase in documents is ‘according to the best scientific knowledge’; the decision to only vaccinate girls had been made, according to scientists and advisors, using the best scientific knowledge. Camouflaging the ways this knowledge about the virus and the vaccine is socially constructed. but also the way for example cost-effectiveness analyses are executed with use of the best scientific knowledge, which will be treated in paragraph 4.1.2, obscures that instead it deals with partial knowledge from a gendered perspective.

When examining a biotechnology like this vaccine, it is important to note that (bio)technological innovations are not invented and produced in a cultural vacuum or as a logical response to society’s needs. Because the HPV vaccine is such a biotechnological innovation, giving women the opportunity to choose protection against the HPV virus that can cause cervical cancer and because of the gendered aspect of the application of the vaccine, it is important to pay attention to the way feminist scholars approach technology and technological inventions (Murphy, 2012). Wajcman (2007) describes that according to feminists there was not just a problem of a male monopoly on technology, but furthermore the means in which gender is embedded in technology itself. A central principle of radical and cultural feminism is that science and technology are profoundly implicated in the masculine project of the control and domination of nature and women. Within the field of feminist science and technology studies (STS) the connection between technology and gender has been theorized as one of mutual shaping, whereby technological innovation is seen as a contingent process in which society and technology are mutually constituted. In this view the

idea that technological innovations are the product of rational technical logic has been disposed. Technology, according to this direction, is shaped by the social conditions in which it takes place. Technological objects cannot be separated from society, but need to be viewed as part of the social fabric that binds it. This is a constructivist or social shaping approach which sees technology as a sociotechnical product, like a network combining knowledge, people, organizations, objects and cultural meaning (Wajcman, 2007).

This is how this vaccine can be theorized. The introduction of the vaccine was not an answer to an urgent or major problem regarding cervical cancer. The vaccine is introduced as a cervical cancer vaccine through the interplay of gender and technology. Furthermore, this interplay results in performativity. Butler (1993) defines performativity as “that reiterative power of discourse to produce the phenomena that it regulates and constrains”. The fact that there is a lack of scientific research of the relationship between HPV and cancer in men, is much mentioned in the analysed data. The Health council’s advice about cervical cancer is exemplary for this focus and the performativity it produces. Here, first it is argued that the focus of the advice regarding the vaccine is specifically on cervical cancer. The reason for this is a lack of scientific evidence regarding the vaccination of boys. Because of the urgency of the advice request by the minister, the Health council argues that there is no time to wait for research results regarding the vaccination for boys and decides to focus solely on women. But this urgency is also constructed, nowhere in the documents an urgent health problem is noted. Furthermore, the council argues:

“In dit advies spreekt de commissie alleen over preventieve vaccinatie tegen HPV- infectie, en dan nog alleen over vaccinatie met als doel het tegengaan van baarmoederhalskanker. Deze ziekte vormt immers het ernstigste gezondheidsprobleem bij HPV-infectie; bovendien zijn daarover de meeste gegevens beschikbaar”. Document 3, p. 27

What is striking is that the two parts of the second phrase can be turned around, giving insight in how knowledge is produced: most is known about the cervical cancer, because this disease got the most attention and therefore this disease is regarded the most serious health problem regarding HPV infection. When most is known about a disease, it creates the most awareness. This is a reciprocal relationship and because of it the particular disease will be regarded as the most serious one and the focus will be on that specific disease. Framing cervical cancer as the most urgent one in policy, because of a lack of scientific evidence on other types of cancer, will make it the most urgent one in knowledge and practices.

This is one example of the many moments of performativity within the case. Also evident within the case is repeatedly framing risks in the female form. In the brochure provided by the RIVM to inform girls there is a paragraph called ‘How do you get HPV?’ The answer begins as follows:

“HPV wordt overgedragen via seks. Bijna alle vrouwen krijgen ooit een HPV-infectie”.

Document 10, p. 7

The official RIVM website claims that:

“Ongeveer 8 op de 10 vrouwen die seksueel actief zijn, krijgen ooit een HPV-infectie in hun leven”. Document 11

Constantly framing the virus in female terms produces knowledge about women. By stating that women are at risk they get treated as being at risk. Through performativity this virus becomes a gendered public health threat instead of a threat of general public health.

While knowledge may generally be produced from a viewpoint from the unmarked category (Haraway, 1988) without a conscious motivation to mark or dominate another

category, the performativity in this case is also executed at an intentional level. The discussion of implementing the vaccine is exemplary. Here, the question of how to promote the goal of the vaccine, is raised. The Health council concludes with stating that although the vaccine aims at preventing a sexually transmitted infection that can result in cancer, this may be problematic for the public and could create resistance. They presume that a vaccine aimed at preventing cervical cancer will receive less resistance:

“Mogelijk zal een vaccinatie tegen kanker op minder weerstand stuiten dan vaccinatie tegen een infectie die wordt overgedragen via seksueel contact”. Document 3, p. 84

Quite literally turning it into a cervical cancer vaccine. This raises the question, is cervical cancer in need of a vaccine, or is the vaccine in need of cervical cancer?

4.1.2 A vulnerable cervix: creating an imaginary of risk

A next chain of signifying elements are *risk*, *urgency* and *cost-effectiveness* within *gendered knowledges*. Here, the concept of risk underlies the issue as an imaginary, thinking and communicating about the HPV and vaccination in such a way that it creates a sense of urgency and a public health threat that requires action. In order to make the act of getting vaccinated against HPV the (only) comprehensible choice, biopolitics and governmentality come at play, not only using risk and urgency as a discursive practice but also cost-effectiveness analyses play a remarkable role. Together the elements form a chain of connotation that brings a gendered risk into being, as a problem that needs to be acted upon.

The following citation illustrates the gendered aspect of the HPV risk:

“Op dit moment zijn er naar haar mening te weinig gegevens over de werkzaamheid bij jongens en mannen om ook voor hen een vaccinatie aan te raden. De commissie kan zich

voorstellen dat dit tot gevoelens van onrechtvaardigheid leidt: jongens dragen immers wel bij aan de verspreiding van het virus.” Document 3, p. 60

This passage is remarkable. The phrase ‘boys after all do contribute to spreading the disease’ is peculiar because this makes it seem like boys do spread, but do not get affected by the virus. The phrase appears to stand for the discourse of the vulnerable woman, in need of protection. Men are being framed as active spreaders, being responsible for spreading the virus, while only women are regarded at risk. Let us now turn to the concept of risk related to the case.

For this case I see the concept of risk operating as an imaginary. Risk here, is approached as a result of biopolitics, causing governmentality practices in which risk management plays a central role. Foucault (1990) argued that we live in a biopolitical age. In this respect he writes about the bipolar diagram of biopower, through which neoliberal governmentalities can be traced. Being part of biopower, biopolitics is about the regulatory controls, the biopolitics of the population with attention to the body imbued with life’s mechanisms such as birth, illness, death and longevity. It is concerned with the population as a social body, obtaining the necessary forces to address public health issues, maximise bodily performances and modify life processes of the population as a whole via clearly defined strategies and practices that operate through state and society. Biopolitics gives way to governmentality.

Governmentality is also introduced to us by Foucault by which he aimed at the *“techniques and procedures for directing human behaviour”* (Foucault, in Rose, O’Malley & Valverde, 2006). Van Houdt (2014) explains governmentality as a grid that studies the combination of government and mentalities. According to this explanation ‘government is about the conduct of conducts’ (van Houdt, 2014, 37), the manners in which human conduct

is being managed. It refers to the leading, guiding, directing and constraining of a variety of phenomena. The other part of the concept, *mentality*, refers to rationality, calculation, reflection. Zinn (2016) argues that governmentality communicates a new way of governing through social practices and knowledge discourses. Within this perspective risk is part of a strategy to govern people. Therefore, it is often related with calculative technologies, statistics and probability analysis in which the term risk is used as a technical term instead of using it to refer to a threat or danger. Risk in this perspective, can be understood as a governmental strategy of regulatory power that monitors and manages individuals and populations (Lupton, 1999). Through heterogeneous network of institutions, interactive actors, knowledges and practices, risk is being governed. Statisticians, medical researchers and other experts collect and analyse information about risk. Risk is being problematized. Rendering risk as both calculable and governable, brings it into being as a problem that requires action. As Rose (2007) argues, the biopolitics of modern day societies can be seen as risk politics. The binary opposition of sickness and health gave way to strategies for governing risk. Risk thinking in this process contains calculations about a probable future in the present and requires interventions in the present in order to manipulate and control that probable future (Rose, 2007). These efforts lead to identifying certain groups within the population as a being at risk, part of a high or low risk category, that requires certain forms of knowledges and interferences (Lupton, 1999).

As mentioned, HPV is the most commonly occurring STI. But in order to become 'at risk' and for risk to become imaginable, individuals need to be part of a probability analysis, a statistical interface that links risk to the lives of individuals. The statistical probability for sexually active people of getting infected with the HPV-virus is around eighty percent. This probability is much communicated; in almost all documents it is mentioned. The brochure

sends to girls, urging them to get vaccinated, places the following two sentences in a summary:

“-Ongeveer 8 op de 10 vrouwen die seksueel actief zijn, krijgen ooit een HPV-infectie in hun leven”

“-Door een HPV-infectie kun je baarmoederhalskanker krijgen”. Document 11, p. 6

It shows how a technical understanding of risk produces the idea of a public health risk and is communicated as such in order to produce a sense of urgency. According to Lupton (1999) the concept of risk firstly deflects attention away from individuals towards populations on the aggregate level. This extracted information is then employed in advice to individuals about their conduct. In this case, the high numbers of the HPV virus are alarming and will trigger people in believing that there is a high possibility that they themselves will be affected and therefore, that they need to protect themselves. The probability of actually developing cancer due to HPV is much smaller, 0,1 percent, but is never communicated to the public.

Relatively, the prevalence and prevention numbers of cervical cancer do not produce the same urgency for vaccination, as the percentages surrounding the HPV-virus, creating a deceptive perception of risk and protection.

Furthermore, there is a shift in focus between the HPV-virus and cervical cancer. While in the first connotative chain within the case the focus was on cervical cancer, when communicating risk and probabilities it is the HPV-virus that comes to the fore. It communicates the large percentage of the population that will actually get this virus, while at the same time obscures the probability of actually developing cervical cancer. Although this study by no means underestimates the impact cervical cancer has on actual patients, it does pose that the risk of actually developing cervical cancer is small and only half of the two hundred yearly deaths in the Netherlands are supposedly preventable by the vaccine. Besides,

other ways of reducing the risk of cervical cancer, less governable practices like abstinence, a low variety in sexual partners or a higher degree of screening practices, are never communicated to the public. Those alternatives seem to be obscured within the black box (Latour, 1987) of this bio-technology.

Rendering the risk as both calculable and governable brings it into being as a problem that requires action (Lupton, 1999). This way the risk of getting infected by the HPV virus and getting cervical cancer becomes a health threat through the help of numbers and statistics, while the vaccine provides a tangible and governable action. Here it becomes clear that governmentality practices, techniques of guiding people's behaviour, are being applied in regard to the public promotion of the vaccination. By using the high probabilities in communicating the virus and leaving out the probabilities of this virus resulting in cervical cancer, an urgent public health risk is presented, one that can and needs to be avoided.

But not only probabilities and urgency are part of risk discourses. According to Lupton, some scholars drawing upon Foucault view risk as a *dispositif*, 'a term used to encompass the governing of social problems, configuring a heterogeneous assemblage of discursive, administrative, technical, legal, institutional and material elements' (Lupton, 1999, 118). It relates to the connection of these heterogeneous components as part of exercised power and refers the system of relationships among them. Within this *dispositif* of risk, cost-effectiveness analyses also play a remarkable role, especially regarding gender. The risk is only rendered governable, as part of a health practice in need of action, when it is cost-effective. But who exactly is made responsible for the uptake of this health improvement or preventive vaccine as biopolitical tool?

Cost-effectiveness analyses are performed by considering vaccine prices, implementation costs and so on, compared with the health benefits. But those health benefits are measured for cervical cancer only. Cost-effectiveness analyses are done from a female

perspective. Since there is a relationship between HPV and other types of cancer, some cost-effectiveness analyses to measure the benefits for men have been done. In 2015 researchers provided a cost-effectiveness analysis in which the vaccination of men was deemed beneficial. Examining different cost-effectiveness analyses, it became clear that the way benefits for men are measured and expressed is in *additional* benefits. This means that scientists consider the vaccination of women as a condition for measuring the benefits for men, therefor expressing terms as incremental benefits like is stated in the following phrase:

“On the other hand, if the participation rate in girls is high, the effect of herd immunity will be high in boys as well, and the additional effect of vaccinating boys might be limited”.

Document 1, p. 173

Moreover, some scientists even go as far as to say that getting a higher degree of vaccination among girls has a better cost-effectiveness ratio for men, than if men were to get vaccinated. That’s why one article states that:

“Authorities should first and foremost strive to vaccinate as many girls as possible”.

Document 15, p. 8

This way of thinking is not only preserved for scientific articles or advisory documents, it is also directly communicated to the public:

“Alle vaccinaties zijn hetzelfde en veranderen niet door leeftijd of geslacht. Dit is ook niet nodig. Het feit dat alleen de meisjes gevaccineerd worden tegen HPV heeft te maken met kosteneffectiviteit”. Document 21

What is striking is not only that this presumes a heterosexual perspective, thus excluding homosexual men from protection, but also reveals the order in which is being spoken about women. Leading to the question if it's about first getting the facts straight or is it about getting the straight facts? (Latour, 1987). The fact that women should get vaccinated and that this urgency is apparently bigger than for men to get vaccinated, is naturalized. It assumes a neutral objective type of knowledge, a rational analysis in which cost and effects are neutrally and objectively measured according to the best scientific knowledge, while it actually is a gendered knowledge that is applied on this health discourse of rendering risk as calculable and governable.

4.1.3 Articulations of representation and their connection with institutions

The next step in this analysis is detecting the connection between articulations of the representations and institutions. This gives a better understanding why this gendered knowledge is so powerful and seems to be naturalized. Knowledge about HPV and cervical cancer is scientific knowledge and thus understood by the public as objective knowledge. The Health council, a renowned institute, advises about vaccinating girls. Then, the vaccine is embedded in the national vaccination program. Both a positive advice and embeddedness in a national program gives the vaccine a sense of neutral and objective technology developed according to the best scientific knowledge. Discourses that are articulated to, and element of, institutional power are more powerful than others (Laffey & Weldes, 2004). This is why this gendered discourse is so powerful and a development like this vaccine is taken seriously. The Health council even argues literally that urging (*drang* in Dutch) is allowed within the vaccination program. They argue that vaccination should be equally accessible to everyone, which means their task includes removing barriers, one of them being incorrect assumptions about vaccination. Because the goal of the vaccination program is to get the highest

vaccination degree possible and because vaccination still is an individual free choice, the Health council argues that proportional urge is legitimized. What this means is that the discourse is not only connected to institutionalized power but also that power is consciously being deployed, obscuring the fact that the way this vaccine is administered doesn't stem from a neutral, objective technology, the most logical choice per se.

Not only the connection of the vaccine to the national vaccination program, but the produced knowledge about the vaccine itself is political. Knowledge is both objective and subjective at the same time. It is political because power is being exercised in deciding over life. Although HPV and cervical cancer have always existed in bodies of individuals, the vaccine is responsible for the awareness of this virus and its possible deadly consequence. Because the vaccine is articulated by renowned institutions and is embedded within the national vaccination program, both HPV related cancer and the vaccine itself is connected to the public. Young girls and their parents have to relate to this vaccine and its political power field, choosing to vaccinate or not to vaccinate.

4.2 The interpellation of gendered subjects

The second part of this analysis contains of interpellation; detecting the subject positions, the identities of subjects and objects and the position they hold relative to others. This step also contains analysing the linking of qualities to subjects and objects, which shows the meanings that are attached to them.

4.2.1 Hailing and naturalizing gendered at risk identities

Scrutinizing the case, the subject identities that become visible are *gendered at risk identities*. For this concept, I turn to Judith Butler. According to Butler (1990) there is nothing natural about gender. Within this social constructivism approach, gender is seen as socially

constructed and dependent on societal and cultural values. Butler (1993) speaks of the performativity of gender by which she refers to the processes of subjectification, the process in which certain groups of people are being controlled and disciplined through power mechanisms, to act conforming the ways in which the dominant power/culture expects them to. Besides, Butler argues that gender identities and roles don't exist prior to the subject. Therefore, instead of representing objective gender identities, political actions are responsible for creating them.

It is through the process of interpellation, the dual process in which subject positions or identities are being produced and allocated to individuals with which they will identify themselves, that individuals come into being (Althusser, 1971, as described in Laffey & Weldes, 2004). It is exactly these processes that operate in this case, turning individuals into gendered identities. The above mentioned connection of medical knowledge within a gendered infrastructure, results in performativity, a focus on women and HPV and the production of knowledge about women. This is a political action because it is responsible for creating low and high risk identities; a female-at risk identity, which is being naturalized with the help of the objective, neutral face of scientific knowledge. It is through ascribing this medical knowledge and the sense of risk and urgency, to the concrete danger of a HPV-virus and a concrete high risk group, that gendered, at risk individuals are hailed and come into being.

Examining interpellation reveals a remarkable parallel with the work of Bourdieu's *Masculine Domination* (2001) in which he claims that biological differences are being abused to socially differentiate male and female bodies. He writes that a natural disposition is constructed through which an embodiment of the dominant relation is being naturally legitimized, which creates a typical male and female habitus. Men are seen as strong and active, while women are depicted as receiving and weak. The case of the HPV-vaccination

contributes to this process. The analysed documents clearly have a parallel with this type of thought, depicting men as spreaders of HPV while women are framed and treated as being at risk. It shows how knowledges of the vaccine contribute to creating a relationally differentiated gender. In this construction the order in which the female gender is being approached within this case is naturally legitimized, creating a naturally high and low risk, gendered identity. But as well as a high and low risk identity, it also an identity that is made responsible for the protection against a virus: the responsible moral gendered identity that makes females responsible for the right choice about health. In this process girls are being hailed into this identity.

That this naturalization is real, manifested itself for example in a Dutch talkshow, where a medical professional pleaded for awareness of HPV and throat cancer. She explained that this disease is partly linked to HPV and that it effects men. The scene is illustrative for multiple reasons. First of all, just like mentioned earlier, this professional too claims that:

“Ik denk dat de boodschap moet zijn dat vooral alle meisjes van twaalf hun HPV-vaccinatie moeten gaan halen”. Document 22

Then it becomes apparent that the host of the show and all other guests are shocked to learn that HPV can also affect men and put them at risk of cancer. This shows that the construction of a high and low risk gender is indeed part of the view of life that is taken for granted: the way in which people view the world as it naturally is. The medical professional then answers the question if girls are actually responsible for cancer in men, stating that:

“Nou, in die zin, als alle meisjes zich laten inenten voorkom je sowieso baarmoederhalskanker bij de meisjes, hopelijk dus ook keelkanker, want het is hetzelfde type HPV en dan hoop je op termijn dat het vaccin ook beschikbaar komt voor mannen. Maar dat

vaccin is nu nog niet beschikbaar, dus op dit moment moet je roeien met de riemen die je hebt en moet je zorgen dat zoveel mogelijk meisjes worden ingeënt en dat is op dit moment nog niet het geval”. Document 22

This shows that even when a connection between HPV and risk in men is so apparent, there is still no actual plea for male vaccination. The plea is for more girls to get vaccinated, because this will help prevent HPV in men, but also again their risk is being mentioned, emphasising the risk and urgency for girls. So once more, girls are being hailed into a responsible and at risk gendered identity.

4.2.2 Who speaks? The hailing of identities through the role of the expert and the self

Scrutinizing interpellation also means asking the question ‘who speaks?’. In this case the role of *the expert* comes to the fore. Because the vaccine is allocated by renowned institutions and is embedded in the national vaccination program, subjects are being hailed and knowledge and subject identities are naturalized. The expert knows best. This becomes apparent in much of the analysed documents. Critique is not tolerated and the implication is made that medical professionals understand this matter while the public does not. Medical professionals, the Health council and the RIVM all appeal to their expert status. This results in arguments like in this example where a professional in pathologic anatomy responds to a mother who asks questions about the necessity and urgency of the vaccine, stating that:

“Doe je het niet voor je dochter, doe het dan voor de wereld. Hier heb ik de kennis van, en jij niet”. Document 24

Marginalizing critical voices and urging to get vaccinated. ‘The experts’ also marginalise the voices that advocate male vaccination, publics like SOA and Aids Netherlands, and scientists

that claim men should be vaccinated. When stating that decisions about new vaccinations are not made overnight and that the process of male vaccination can take years, they ignore homosexuals that are still at risk and marginalize male risk and vulnerability.

Next to the role of the expert in hailing gendered at risk individuals through exercising power, there is the role of individuals themselves. This brings the case back to governmentality. According to Zinn (2016), scholars in governmentality frequently stress the neoliberal influence for the extensiveness of risk discourse. In this domain the neoliberal image of the state as facilitating, animating and enabling emerges, where every citizen must accept their responsibility for ensuring their own well-being and must become an active partner in the pursuit of health. Rose (2007) argues that the beginning of the 21st century a life of prudence, responsibility and choice was influenced by shaping hopes, fears, decisions and life-routines in terms of risks and possibilities in biological and corporeal life. Moreover, biopolitics had merged with 'ethopolitics' which refers to the politics of life itself and the way in which it should be lived. It is concerned with self-techniques through which individuals should judge and act upon themselves in order to make them better versions of themselves. These biological identity practices are active practices imbued with notions of self-actualizing, responsible personhood. Biological identity produces biological responsibility, because knowledges about one's genetic complement becomes part of the complex choices that careful, responsible beings are compelled to make in their lives (Rose, 2007).

The modern day risk dispositif of governmentality includes not only direct, forced practices to regulate populations, but more importantly also less direct practices that rely on voluntary obedience. Kemshall (2002, in Zinn, 2016) describes an enlarged *responsibilisation* of individuals in institutional practices. The threat and use of punishment and surveillance to manage populations have become supplemented with indirect forms of government with the

use of calculative technologies and with overall norms of self-improvement. People are handed over the responsibility to make the right decision. This results in a combination of normative expectations and calculative technologies to govern populations (Zinn, 2016). Power is gradually exerted through risk knowledge and technology is carried by normative discourses about appropriate behaviour in which citizens are cultivated in self-government and focus on self-actualization (Lupton, 1999). Because institutions such as the RIVM and the Health council produce and communicate gendered knowledges, hailing women into gendered at risk identities, women are given information about their biological existence at risk. That this results in active practices imbued with notions of responsabilisation, becomes clear in the citation by the expert mentioned earlier. The entire documentary from which this citation stems, shines a light on this enlarged responsabilisation. Within the documentary, we witness a mother searching for answers to help her make the right decision about vaccinating her daughter against HPV. She has conversations with many different types of experts, lay people and her daughter. In the end the mother decides to vaccinate her daughter because she wants to protect her. Here the responsabilisation for healthiness, the ethopolitics has Rose calls it, becomes apparent. As Lupton (1999) argues, individuals come to police themselves, as normalized subjects they exercise power over themselves in the search for self-improvement, happiness and healthiness.

4.3 Visualisation

Summarizing the study of articulations and interpellation within HPV discourses in a visualisation (figure 2), brings to the fore the Foucauldian power-knowledge-subject concept as visualised in a triangle by van Houdt (2014). For this case both imaginary and infrastructure are placed at the top. Representing a reciprocal relation between power and knowledge, the risk imaginary and infrastructure of gender can be seen as both power and

knowledge. However, they work together, directing downwards to the third point of the triangle, producing the subject position of the gendered at risk identity.

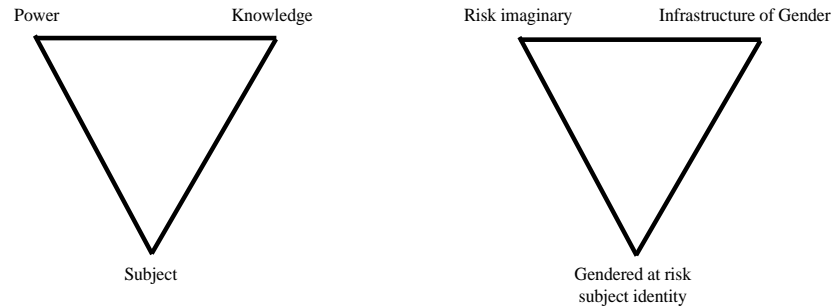


Figure 2 Power-knowledge-subject triangle

5. Conclusion and discussion

In this biopolitical age, more and more aspects of life are monitored and managed through regulatory power. Biopolitics have become risk politics (Rose, 2007). Discourses on risk are directed at regulating the body (Lupton, 1999). When bodies interact with each other, this can result in the spreading of viruses, some of them with a possible deadly outcome. For this reason, both bodies and viruses become subject of monitoring and management. The central focus of this case study were discourses of HPV vaccination, a vaccine against the sexually transmitted Human Papillomavirus. Studying this case not only revealed the micro level of the case but also macro level structures of how gender and biopolitics operate and together, through the HPV vaccine, produce gendered at risk identities. The issue was scrutinized along the lines of the conceptual framework of the I-map as developed by Schinkel (2016a), with a focus on the infrastructures, imaginaries and identities. The document analysis consisted of a Foucaultian inspired discourse analysis, in which articulations and interpellation within the issue were scrutinized, answering the research question: “*How are HPV vaccination discourses co-constituted through gender?*” The analysis of the main

signifying elements of the discourses shows that there are several chains of connotation. In the light of the research question two chains of connotation can be identified. The first consisting of the signifying elements *medical knowledge*, the *performative focus on women* and *gender*. A second chain of connotation is formed by the signifying elements of *risk*, *urgency* and *cost-effectiveness* within *gendered knowledges*. They produce both power and practices.

The analysis shows how *gender* operates as a comprehensive infrastructure within the issue. While gender can also be regarded an imaginary, because of the structuring quality I position it in this case as an infrastructure. Using a science and technology perspective (STS), gender and technology are seen as intertwined in a reciprocal relationship. Gender forms the structure on which certain possibilities are conceivable, enabling the development of gendered (bio-)technological innovations. This infrastructure is at interplay with an imaginary of *risk*, which is theorized from a biopolitical and governmentality perspective. This perspective reveals how rendering a risk as both calculable and governable transforms it in a risk that requires action. Probability analyses of getting infected by HPV urge the public into action, whilst cost-effectiveness analyses make the solution also governable, bringing cervical cancer into being as an urgent problem in need of an intervention. The concepts operate together, enabling some while constraining other possibilities regarding the application of the HPV vaccine to the public, resulting in producing gendered knowledge and a gendered performativity, while the process of interpellation produces *gendered at risk identities*. HPV vaccination is gendered by the discourse and in turn, it genders the discourse. Combining this biopolitical governing of people with a gendered infrastructure reveals how cervical cancer is brought into being, *through* the vaccine, as an urgent problem that needs to be acted upon. This raises the question whether cervical cancer is in need of a vaccine, or the vaccine is in need of cervical cancer?

The focus on cervical cancer could also be the reason why broadening the program to male vaccination still is not accomplished. Fitting men into the program means letting go of cervical cancer as *the* urgent health problem which requires action, turning it into a vaccine for a sexually transmitted infection, sexualising the vaccine and opening the black box of other diseases, the other gender and other possibilities. Even when there is growing knowledge concerning the link between HPV and other types of cancer, questions about broadening the program to male vaccination are answered by stating that a decision for a new vaccine isn't taken overnight and that this is a process that can take years. The black box of the vaccine seems to be closed and opening it up is laborious.

Indeed, science and technology seem implicated in the masculine project of the control and domination of nature and women (Wacjman, 2007). Images of dominance are being confirmed and reproduced through the vaccine. Framing men as spreaders of the HPV virus and women as at risk for cervical cancer, reminds of the 'scientific' images of the passive egg and the active sperm cell in which the relationship of dominance is obvious. This focus in turn, excludes men from vaccination and leaves them unprotected against a potentially lethal disease. There seems to be a compulsive focus on the cervix, the symbol of female reproduction, that is vulnerable and in need of protection. Therefore, HPV discourses reveal a gendered asymmetry in the governing of bodies.

References

- Bosch FX, Broker TR, Forman D, Moscicki AB, Gillison ML, Doorbar J, et al. (2013). Comprehensive control of human papillomavirus infections and related diseases. *Vaccine*, 31 7, 1-131.
- Blumer H. (1969). *Symbolic Interactionism: perspective and methods*. Englewood Cliffs, N.J.: Prentice Hall.
- Boeije, H. (2014). *Analyseren in kwalitatief onderzoek: Denken en doen*. Den Haag, Nederland: Boom Lemma uitgevers.
- Bourdieu, P. (2001). *Masculine Domination*. Polity Press: Cambridge, UK.
- Braster, J.F.A. (2000). *De kern van casestudy's*. Assen: Van Gorcum & Comp bv.
- Butler, J. (1990). *Gender trouble: feminism and the subversion of identity*. Routledge: New York.
- Butler, J. (1993). *Bodies that matter. On the discursive limits of "sex"*. Routledge: New York & London.
- Crawford Camiciootoli, B. (2004). Interactive discourse structuring in L2 guest lectures: Some insights from a comparative corpus-based study. *Journal of English for Academic*.
- Daley, E.M., Vamos, C.A., Zimet, G.D., Rosberger, Z., Thompson, E.L., Merrel, L. (2016). The feminization of HPV: reversing gender biases in US Human Papillomavirus vaccine policy. *AJPH Perspectives*, 106, 6, 983-984.
- Dehue, T. (2014). *Betere mensen. Gezondheid als keuze en koopwaar*. Uitgeverij Augustus: Amsterdam.
- Fearon, J. D. (1999). Draft: *What is identity (as we now use the word)*. Stanford, CA: Stanford University.
- Foucault, M. (1979). *The history of sexuality: an introduction*. London: Allen Lane.
- Giddens, A. (1984). *The Constitution of Society*, Polity Press: Cambridge.

- Golafshani, N. (2003). *Understanding Reliability and Validity in Qualitative Research. The Qualitative Report*, 8(4), 597-606.
- Graham, L. J. (2011). The product of text and 'other' statements: Discourse analysis and the critical use of Foucault. *Educational Philosophy and Theory*, 43, 6, 663-674.
- Halsema, L., & Schreurs, P. (1998). Genderherfst. Kanttekeningen bij de theoretische ruimte en verklarende kracht van het begrip gender, *Tijdschrift voor genderstudies*, 1, 10-12.
- Hannerz, U. (2003). 'Being there...and there...and there! Reflections on multi-site ethnography', *Ethnography* 4(2): 201-216.
- Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist studies*, 14, 3, 575-599.
- Laffey, M., & Weldes, J. (2004). Methodological reflections on discourse analysis. *Qualitative methods*, 2, 1, 28-31.
- Latour, B. (1987). *Science in action. How to follow scientists and engineers through society.* Harvard University Press.
- Lupton, D. (1999). *Risk. Second edition.* Routledge, London and New York.
- Marres, N. S. (2007). The issue deserves more credit: Pragmatist contributions to the study of public involvement in controversy. *Social Studies of Science*, 37(5), 759-780.
- Marshall, E. (2004). Stripping for the wolf: Rethinking representations of gender in children's literature. *Reading Research Quarterly*, 39 (3), 256-270
- Mills, C. W. (1959). *The sociological imagination.* New York: Oxford University Press.
- Murphy, M. (2012). *Seizing the means of reproduction: entanglements of feminism, health and technoscience.* Durham: Duke University Press.
- Polzer, J.C. & Knabe, S.M. (2012). From desire to disease: Human Papillomavirus (HPV) and the Medicalization of Nascent Female Sexuality. *The Journal of Sex Research*, 49, 4, 344-352.

- Rose, N., P. O'Malley & M. Valverde (2006). Governmentality. *Annual Review of Law and Social Science*, 2: 83-104.
- Rose, N. (2007). *The politics of life itself. Biomedicine, power and subjectivity in the twenty-first century*. Princeton and Oxford: Princeton University Press.
- Schinkel, W. (2013). The imagination of 'society' in measurements of immigrant integration. *Ethnic and Racial Studies*, 36(7), 1142-1161.
- Schinkel, W. (2016a). Course manual 'Public Issue'. Master program Sociology, 2016-2017 Term 1. Erasmus Universiteit Rotterdam.
- Schinkel, W. (2016b). Elective Master Course *Public Issues*. Sociology, Erasmus University: Rotterdam.
- Schurink-van 't Klooster, T.M. & de Melker, H.E. (2016) *The National Immunisation Programme in the Netherlands : Surveillance and developments in 2015-2016*. RIVM rapport, Nederland.
- Taylor, C. (2002). Modern Social Imaginaries. *Public Culture*, 14(1). 99-124.
- Van Houdt, J. F. (2014). *Governing citizens: The government of citizenship, crime and migration in the Netherlands*. Rotterdam: Erasmus University Rotterdam.
- Volkskrant (2017). Overheid trekt 2 miljoen uit voor gesprekken met vaccinatiewijfelaars. *Volkskrant*. Retrieved at march 6th from:
<http://www.volkskrant.nl/wetenschap/overheid-trekt-2-miljoen-uit-voor-gesprekken-met-vaccinatiewijfelaars~a4416646/>.
- Wajcman, J. (2007). From women and technology to gendered technoscience. *Information, Communication & Society* 10, (3), 287-298.
- Warner, M. (2002). *Publics and counterpublics*. New York: Zone Books.
- Zinn, J. O. (2016). The sociology of risk. In Korgen, K. (ed.): *The Cambridge handbook of sociology*. Cambridge University Press, Cambridge.

Appendix A: Overview of analysed document

1. Kok, I.M.C.M. (2011). *Vaccination and Screening for the Prevention of Cervical Cancer: Health Effects and Cost-effectiveness*. Erasmus University Rotterdam.
2. Gezondheidsraad advies (2007). *De toekomst van het rijksvaccinatieprogramma: naar een programma van alle leeftijden*. Gezondheidsraad, Den Haag.
3. Gezondheidsraad (2008). *Vaccinatie tegen baarmoederhalskanker*. Gezondheidsraad, Den Haag.
4. Schippers, E.I. (2016). *Adviesaanvraag HPV*. Ministerie van Volksgezondheid, Welzijn en Sport, Den Haag.
5. Gezondheidsraad (2013). *Het individuele, collectieve en publieke belang van vaccinatie*. Gezondheidsraad, Den Haag.
6. Van Lier, E.A., Oomen, P.J., Giesbers, H., van Vliet, J.A., Drijfhout, I.H., Zonneberg-Hoff, I.F & de Melker, H.E. (2016). *Vaccinatiegraad rijksvaccinatieprogramma Nederland. Verslagjaar 2016*. Rijksinstituut voor Volksgezondheid en Milieu, Den Haag.
7. Gefenaite, G., Smit, M., Nijman, H.W., Tami, A., Drijfhout, I.H., Pascal, A. Postma, M.H., Wolters, B.A., van Delden, J.J.M., Wilschut, J.C. & Hak, E. (2011). Waarom ging de eerste ronde HPV-vaccinatie mis? Inzicht vanuit gedragsonderzoek onder Nederlandse ouders. *Infectieziekten bulletin*, 22, 5, 167-169.
8. European Leaflet (bijsluiter) Human papilloma virus vaccine Cervarix.
9. Dutch Leaflet (bijsluiter) Human papilloma virus vaccine Cervarix.
10. RIVM Brochure, information for girls. Vaccinatie tegen HPV voor meisjes vanaf 12 jaar. Rijksvaccinatieprogramma.

11. RIVM Website, frequently asked questions:
http://www.rivm.nl/Onderwerpen/B/Bevolkingsonderzoek_baarmoederhalskanker/HPV#Veelgestelde%20vragen%20over%20HPV.
12. RIVM call-up. Invitational letter for parents and girls.
13. RIVM (2017) Factsheet voor professionals. HPV vaccinatie buiten het rijksvaccinatieprogramma.
14. Dossier HPV vaccinatie (2007). Instituut Reinier de Graaf , België.
15. Boogaards, J.A., Wallinga, J., Brakenhoff, R.H., Meijer, C.L. M.L. & Berkhof, J. (2015). Direct benefit of vaccinating boy along with girls against oncogenic human papilloma virus: Bayesian evidence synthesis. *BMJ* 2015; 350: h2016. doi: 10.1136/bmj.h2016
16. SOA Aids Nederland website: www.soaids.nl
17. RIVM public reaction on zorg.nu broadcasting about the HPV vaccine:
http://www.rivm.nl/Documenten_en_publicaties/Algemeen_Actueel/Nieuwsberichten/2016/Onjuiste_informatie_in_uitzending_Zorg_nu
18. Public response Zorg.nu on reaction RIVM on broadcasting:
<https://zorgnu.avrotros.nl/uitzendingen/achtergrondartikelen/detail/reactie-op-hpv-vaccin-rivm/>
19. Public response expert Dick Bijl, director of genesmiddelenbulletin on reaction RIVM on broadcasting:
<https://zorgnu.avrotros.nl/uitzendingen/achtergrondartikelen/detail/dick-bijl-reageert-op-reactie-rivm-over-hpv-vaccin/>
20. Akbarali, S., & de Vries, T.J. (2016). Vaccinatie tegen human papillomavirus. *Geneesmiddelen bulletin*, 50, 10, 112-122.

21. CJG Rijnmond website, frequently asked questions:
<https://cjgrijnmond.nl/veelgestelde-vragen-vaccinaties/>
22. Broadcasting RTL Late Night 05-08-2014. Meisjes vaccineren tegen HPV:
<https://www.rtl.nl/video/84cf9bdd-494e-1a32-c08b-9c5c41f23701/>
23. Broadcasting Zorg.nu 11-15-2016. HPV-vaccin:
<https://zorgnu.avrotros.nl/uitzendingen/achtergrondartikelen/detail/hpv-vaccin-engelse-ondertiteling/>
24. Nevejan, M. (2011). Documentary De prik en het meisje. https://www.npo.nl/human-doc/19-05-2011/POW_00243805
25. Radio broadcasting De kennis van nu. Researchers VU talk about HPV vaccination for boys: <https://www.npo.nl/de-kennis-van-nu/13-05-2015>
26. VUMC (2015). Ook voor mannen kan HPV vaccinatie gezondheidswinst opleveren.
Vrije Universiteit Medisch Centrum:
<https://www.vumc.nl/afdelingen/over-vumc/nieuws/hpv-vaccinatie-bij-mannen/>