WHY GARDASIL? UNDERSTANDING DECISIONS FOR VACCINATION

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Sandalia Genus

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APPROVAL

Name: Sandalia Genus
Degree: Master of Arts
Title of Thesis: Why Gardasil? Understanding Decisions for Vaccination

Examine Committee:

Dr. Ann Travers
Chair
Associate Professor of Sociology
Simon Fraser University

Dr. Stacy Pigg
Senior Supervisor
Professor of Anthropology
Simon Fraser University

Dr. Susan Erikson
Committee Member
Assistant Professor of Medical Anthropology
Faculty of Health Sciences
Simon Fraser University

Dr. Lisa Mitchell
External Examiner
Associate Professor of Anthropology
Department of Anthropology
University of Victoria

Date Defended/Approved: October 8, 2010
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ABSTRACT

This thesis describes how university students, aged 19 to 30, come to see the human papillomavirus (HPV) vaccine Gardasil as a worthwhile investment for their health. First, the science behind Gardasil and the social, political, and economic impacts of the vaccine in Canada are explored. Then, drawing on semi-structured interviews and a focus group with students and health care practitioners, I find risk is communicated through various discourses surrounding Gardasil. Once participants learn they are at risk for HPV and cervical cancer, they view their health as at risk through unsafe sexual practices. Ultimately, some participants express a need to practice ‘safe’ sex and access preventative health care, including vaccination with Gardasil. Gardasil is framed as an individual choice and a way to obtain empowerment for young women. Yet, decisions for vaccination related more to the influence of risk discourse and the encouragement of kin, peers and health care providers.

Keywords: Gardasil; HPV vaccine; women’s health; decision-making; risk; sexuality; gender
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There are over 100 different strains of the human papillomavirus found in humans with 40 of them being transmitted sexually (Public Health Perspectives, 2007). HPV is one of the most common sexually transmitted infections and about 75% of sexually active people will have at least one HPV infection in their lifetime (Human Papillomavirus Vaccines Launch, 2007; Public Health Fact Sheet, 2007). A great number of strains are termed “low-risk” and will not cause cancer. Ten of the forty “high risk” genital HPV types can lead to cancer of the cervical, penis, anus, vagina and vulva (Public Health Fact Sheet, 2007; Wynia, 2007).

Cervical cancer is caused by several strains of the human papillomavirus and it takes about ten years for the disease to develop. Cervical cancer is generally not an invasive, quick progressing cancer. If caught early, the cancer responds well to treatment and is not fatal (Gulli, 2007). It is the second most common cancer for women worldwide and there are
approximately 493,000 new cases of cervical cancer diagnosed worldwide annually. Of the approximately 274,000 deaths caused by cervical cancer in 2002, about 83% occur in developing countries (Agosti and Goldie, 2007; Parkin and Bray, 2006). In Canada, the rates of the disease are 1 in 138, or 0.7%, with approximately 1300 new cases and 400 deaths every year. (Human Papillomavirus Vaccines Launch, 2007).

**Gardasil**

A vaccine developed to prevent infection from four strains of HPV. Two of the strains it protects against cause 70% of all cervical cancer cases and the other two strains it protects against cause 90% of all genital warts. In clinical trials, Gardasil was seen to confer almost 100% immunity to the two strains of HPV that cause cervical cancer and almost 99% immunity to the strains that cause genital warts (Public Health Perspectives, 2007; Wynia, 2007). Gardasil was approved by the FDA in the United States in June 2006 and approved by Health Canada in July 2006. It is now available by prescription as well as offered free of charge to female students in public schools in many Canadian provinces (Mendenhall, 2007; Public Health Perspectives, 2007). The vaccine costs approximately $140 per shot and requires the administration of three shots (Gulli, 2007).
The vaccine was approved due to the results from seven clinical trials, which involved 21,000 women ranging in age from 9 to 26. The clinical trials averaged three years in length and were close to 100% effective (Nelson, 2007). It has been demonstrated that Gardasil does not work for those females already infected with HPV strains 16 or 18 (Gulli, 2007).

**Governmentality**

Lies between coercive and non-coercive strategies of state power and is a way of directing ‘free will’. Free will is directed when the state and other institutions urge and encourage individuals to act in particular ways or make particular life choices for their own benefit or the benefit of society. Through this form of governance, people actively participate in their own management, making individuals and populations easier to govern (Petersen and Lupton, 1996; Higgs, 1998; Miller and Rose, 2008).

**Discourse**

Language that is in use through speech or written text that makes possible signs, symbols, and specific relations to be assigned to subjects and objects (Foucault, 1972; Quinn, 2005; G. Rose, 2007). Discourse contributes to the construction of social reality by making meaning, and has “linguistic materiality”
(Erikson, 2003: 1993) in the world. Discourse is the conduit, or ideological link, through which knowledge and power joins, transmitting, producing, and sustaining both coercive and non-coercive power. Discourse is both an effect and instrument of power, producing and reinforcing power (Foucault, 1978; Erikson, 2003; Phillips and Hardy, 2002).

Subjectivity

The internalisation of an identity that is discursively constructed. One way to exercise power over people is to individualize and subjectify them. As Michel Foucault (1982) writes, “This form of power applies itself to immediate everyday life which categorizes the individual, marks him by his own individuality… It is a form of power which makes individuals subjects” (212). With the internalisation of particular subjectivities, people begin to regulate their own actions and discipline is internalised. This internalisation of proper conduct makes individuals and populations easier to manage and govern (Higgs, 1998).

Risk

A probability or a mathematical likelihood of an occurrence (Dean, 1999; Gregg, 2003). The social science literature on risk defines the term differently than the statistical or scientific literature. Risk is defined as a category of understanding, a way
of ordering reality and a way of taming uncertainty. In this literature, it is argued that human understandings of risk are primarily politically, socially, and culturally constructed (Petersen and Lupton, 1996). Judgements of what is safe or risky are almost entirely social and cultural “for nothing is a risk in itself until it is judged to be a risk” (Lupton, 1995: 79). The risks that are thought to be important may not relate to actual dangers, only identified as important by a particular culture. It is argued that risk allows events to be represented and then rendered to a form that can be calculated and governable in particular ways, and for particular goals (Dean, 1999). It is commonly understood to have an ominous overtone, with every kind of risk signifying danger (Dean, 1999; Lupton, 1995).

**Sexuality**

Culturally constructed as a collection of disparate but related elements that are sometimes related to desires and bodily needs and performed in power-laden situations (Weeks, 2000).

**Interpellation**

The process of coming to identify oneself as belonging to a particular identity. Louis Althusser (1970) explains the term by creating a theoretical scene of a police officer hailing someone on the street by saying, “Hey, you there!” and that person,
realizing that the police officer ‘really’ meant him or her, turns around to acknowledge this. It is theorized that in that physical turn toward the police officer, the person becomes a subject.
CHAPTER 1: INTRODUCTION

1.1 Why Gardasil? Researching a Scientific Innovation

“As sustained critique and vigilant reflection is necessary to recognise the moral tensions and dilemmas that are produced as the goals of public health and the motives of the biotechnology sector continue to intersect …it is through such critical engagement that the (intended and unintended) effects on those targeted by HPV vaccination programmes will be identified.” (Polzer and Knabe 2009: 869-870)

As a young woman stands self-assuredly she asks, "What would I do to help protect myself from HPV and the diseases it can cause”? She answers her own question, stating "Everything that I can". This is the scene portrayed in advertisements for Gardasil aired on Canadian television for the past four years. It begs the question; Would you do everything that you can to protect your health? Would that include being vaccinated with Gardasil? For some viewers this would be an obvious choice. In addition, they may also be informed by pharmaceutical advertisements, doctors, family members, or friends of their risk for infection with HPV. Thus, when they hear that actual steps can be taken to protect themselves from a reportedly serious infection that can possibly lead to cancer, possibly death, there is receptivity. The decision to be vaccinated seems like a smart and obvious choice.

Is this decision to be vaccinated that simple? I became interested in the HPV vaccine Gardasil when my doctor recommended it to me. I recognized the name Gardasil from noticing billboards about the vaccine around Toronto and an
advertisement on the back of my University of Toronto agenda. At the time, I had little knowledge about the vaccine; I only knew that it was recommended to women of my age. Without much explanation of what the vaccine was for, my doctor gave me a prescription for Gardasil. I had a few questions, including why she thought I needed it and she spoke about Gardasil being a good idea for women my age and that it would help protect me against cervical cancer. When she told me the price of the vaccine, I was shocked. She was getting anxious to move on to the next patient so the other questions I had went unanswered. The vaccine seemed like a good idea; I certainly did not wish to get cervical cancer. As well, I was 21 at the time and thought that I should get it sooner than later, though I was wary about investing in a vaccine which I knew so little about and that cost so much. I was also sceptical about doctors’ relationships with pharmaceutical companies and how this affects the drugs that are endorsed.

The issue was put aside for a few weeks until setting out to write a paper in an undergraduate medical anthropology class concerning women’s health. I decided to focus on Gardasil in order to get a better idea of whether I should be vaccinated. Through the research and writing of this paper and discussions with friends, I realized that there were far more questions about the vaccine than imagined. A theme that came up repeatedly was that people lacked an understanding of HPV, cervical cancer and Gardasil. As with me, few people understood the issues and similarly could not arrive at a decision whether to be vaccinated or not. The questions arising from my initial research on Gardasil, and my attempting to decide whether to get vaccinated, has motivated me to pursue this research on the vaccine. If the women in my life were
grappling with this decision, how many other women faced a similar dilemma? How and why were some women deciding to be vaccinated?

Background: The creation of the new vaccine Gardasil was hailed as the “Holy Grail” (Wynia, 2007:4) of preventative life saving devices by Eliav Barr, a representative of the pharmaceutical company that created Gardasil, Merck & Company Incorporated (hereinafter Merck). Merck is one of the largest pharmaceutical companies in the world with over $27 billion dollars in earnings in 2009 from the sale of a variety of pharmaceutical products (Merck Annual Report, 2009). The sale of Gardasil to young women and some young men around the world has led to billions of dollars in profit as Merck cornered the market on a “cancer vaccine” several years before any competitor1 (Wynia, 2007; Public Health Fact Sheet, 2007; Gilman et al., 2009). Although advertised as a vaccine against cervical cancer, Gardasil in fact protects against four strains of the human papillomavirus (HPV), two of which can lead to cancer (Zonfrillo and Hackley, 2008). Gardasil has been licensed for women aged nine to 26 in Canada since June 2006 and for men aged nine to 26 since February 2010 (Lippman, 2008; Gardasil Approved For Males, 2010). It is over C$400 for the necessary three doses (Mendenhall, 2007; Public Health Perspectives, 2007).

1 Although two different HPV vaccines have been developed and are licensed for sale in Canada, Cervarix, the other HPV vaccine manufactured by GlaxoSmithKline, was only approved in Canada February 2010, whereas Gardasil was approved for use in Canada July 2006 (which spans the entire research period) and is the brand participants are most familiar with. For more information on Cervarix, please see Appendix 1.
Gardasil is advertised on television, billboards, online, and other forms of popular media as a worthwhile investment for young women, aged nine to 26. Doctors have been recommending it to women and school boards throughout Canada have been vaccinating young women since 2007 (Goeser, 2007; Eggertson, 2007). Despite the positive attention bestowed upon the vaccine by the media and the medical establishment, Gardasil has become involved in various political and social issues concerning health, sexuality, gender, morality, fears of vaccines, and concerns over pharmaceutical marketing and profit motives. These various discourses play a role in how health care providers, public health officials, and users have understood and discussed Gardasil.

New technologies like Gardasil are often presented as lifesaving breakthroughs in medicine, but feminists have been critical of the impacts of medical technologies on women’s lives and bodies. Some critiques contend that technological innovations in the health field promote intervention, often male, into female bodies and their natural processes. It has also been argued that new technologies are “part of a continuing story of pathologizing and medicalizing women’s reproductive bodies, a new and more pernicious means of coercive male appropriation of the female body.” (Weir, 1996: 375)

Gardasil has ignited similar feminist critiques. Questions have been raised about the long-term safety of the vaccine, with critics arguing that Gardasil could lead to unforeseen long-term problems for users. Similar arguments have been made for other “quick fixes” for women’s health problems, including hormone replacement therapy, diethylstilbestrol for recurrent miscarriages, and thalidomide (Lippman, 2008; Weir, 1996; Clarke and Montini, 1993). These drugs have led to some harmful outcomes for
female users, and in the case of thalidomide, to birth defects in children (Everts, 2010).
It has been argued that the discourses on the vaccine have reinforced the idea that
women are responsible for controlling their sexual activity and reproduction and must
bear the burden of vaccination (Lippman, 2008; Lippman, 2010; Polzer and Knabe,
2009). As well, critics have pointed out that the discourses on Gardasil have
emphasized the individualization of risk factors, further medicalized women’s sexual
health, and downplayed social and structural determinants of health (Lippman et al.,
1997; Lippman, 2008).

However, arguments for or against technologies polarize the discussion between
marching in lockstep with the progression of technology towards cultural control over
nature or aligning oneself with “an antitechnological romanticism to which we often
attach a feminine label” (Rapp, 1997: 33). By accepting a polarized discourse on
medical technology, little room remains for other experiences or interpretations, leading
to the silencing, misinterpretation, or ignorance of how diverse people think of and relate
to their health care (Rapp, 1997). I intend to work towards a more complex and diverse
political and social analysis of medical technologies.

There are various symbols, meanings, rhetorics, and identities assigned to new
technologies. The feminist critiques of medical technology and biomedicine mentioned
above made me realize that Gardasil is a subject meriting even more, deeper,
exploration. Gardasil in itself is affecting how people think about gender, sex, protection,
health, and the body. I believe that we need to think about Gardasil, not just in terms of
statistics and efficacy, but also how this particular pharmaceutical product fits in more
generally with the gendering of preventative medicine and medical interventions. As
well, it is important to look at how people come to understand themselves, including their identity, their subjectivity, body, and health, in light of this new medical innovation.

A number of questions have arisen that I will be exploring in this thesis:

1. How do ranges of people exposed to the discourses on Gardasil interpret and understand the benefits and burdens of this innovation and how do they frame these interpretations and understandings?

2. How do people come to understand themselves as at risk and in need of making a decision for vaccination? How does this affect people’s understanding of body and self, and what position does that put them in?

3. How do people position their own thinking in relation to advertisements, health care information, and medical advice?

4. How do people talk about and differentiate between personal and social responsibilities?

Much of the literature on Gardasil focuses on the science of the vaccine and how the vaccine impacts human health. Throughout much of this literature, the general assumptions are that statistics and scientific findings are superior to other ways of knowing. However, several studies (Chan et al., 2006; Slomovitz et al., 2006; Sauvageau et al., 2007; Freidman and Shepeard, 2007; Ogilvie et al., 2007a; Ogilvie et al., 2007b; Caron et al., 2008; Buchanan 2008; Christian, et al., 2009; Mortensen, 2010) have examined the various discussions that frame Gardasil, people’s perception of the vaccine, and reasons for vaccination, juxtaposed to scientific perspectives on the vaccine. Of these studies, only two (Freidman and Shepeard, 2007; Mortensen, 2010)
employed qualitative methods. Yet, as with the scientific literature on Gardasil, these articles emphasize the need to increase vaccine uptake, arguing that greater education about the threat of HPV and cervical cancer and the necessity of Gardasil will change people’s attitudes towards the vaccine. Few studies critically explore the public discourse, individual perceptions of the vaccine, and people’s decisions for vaccination using qualitative methods.

There is a multitude of scientific, pharmaceutical, and media reports on Gardasil, and a great number of thoughts and opinions on this vaccine, and this creates a rich ethnographic site to explore. There is a need for qualitative research on Gardasil that treats the pharmaceutical product as a place “where peoples meet” (Clarke and Montini, 1993: 68). I view this site as composed of ‘systems of relationship,’ whereby people and discourses relate to one another on a social field (Cerwonka and Malkki, 2007). Given that people employ socially shaped ways of knowing and thinking to interpret their lives, conducting qualitative research with a small number of research participants has provided insights into the social patterns of expression and reasoning, the ways people use repertoires of expression, and discursive means of understanding the world in attempts to make sense of their place in it. This research attempts to fill the gap in the literature by examining the circulation of scientific discourse on Gardasil in order to ascertain the relation between science, medical technologies, gender, sexuality, subjectivity, risk, and people’s decisions for vaccination.
1.2 Methodology

In this section, I will first discuss recruitment strategies and the research methods that I employed during fieldwork. Secondly, I will provide an anecdotal discussion through which I reflexively present some of the experiences I had with participants while in the field. An examination of some of these interactions is important in light of the fact that as a middle-classed, well educated woman in my mid-twenties who has contemplated vaccination with Gardasil, I had many things in common with the majority of my participants and these commonalities played a role in shaping interactions with people in the field and my interpretations of the data.

1.2.1 Semi-Structured Interviews with College-Educated Men and Women

I conducted eighteen semi-structured interviews with college-educated men and women in British Columbia and Ontario, Canada. I engaged in semi-structured interviews so that I could organically discuss my informants’ individual responses and follow up with questions that were relevant to them in the context of their lives (Mason, 2007). I recruited college-educated men and women several different ways. I made presentations at two women’s centres and a sports team at Simon Fraser University (SFU) in Burnaby, BC and the University of British Columbia (UBC) in Vancouver, BC. My recruitment presentation involved explaining the purpose of the research (to explore peoples’ perspectives on the vaccine and decisions for vaccination); the criteria of involvement (age, gender, and prior knowledge of Gardasil); the foreseeable harm and benefit accrued through participation; the duration of the research; the ability to withdraw from the study at any point; and my university affiliation. After the presentation, I
provided my contact information on business cards and recruitment posters. Those who were interested in participating in the research were able to contact me and set up a time for an interview. By employing this recruitment method, no social pressure was placed on people to participate.

I also placed recruitment posters around SFU and UBC campuses, which led to quite a few people contacting me to participate in the research. Posters included information on the nature of my research, my name, my university affiliation, name of my supervisor, the type of compensation for participation (a beverage or food item), and my contact information.

The recruitment methods described above led to interpersonal connections that resulted in the identification of other research participants who were then interviewed in Ontario and across Vancouver and Burnaby, BC. Research participants were selected based on whether they had prior knowledge of Gardasil, were attending a post-secondary institution, were between the ages of 19 and 30, were residing in Canada, and wished to be included in my study. I devised an interview guide (see Appendix 2) that helped shape the interview interaction, and incorporated a print advertisement for Gardasil in order to elicit conversation about the vaccine and other related subjects (see Figure 1). Participants chose the time and place for interviews and interviews often occurred on university campuses and a few occurred in coffee shops or the homes of participants.
1.2.2 Focus Groups with College-Educated Women

I conducted one focus group with five women aged 23 to 25 at the home of two of the participants. I recruited participants through snowball sampling by asking a woman whom I had interviewed previously to enquire with friends if they were interested in participating in a focus group. She was able to interest four of her female friends to participate. During the focus group, I asked a range of questions concerning HPV, cervical cancer, and Gardasil (see Appendix 2) and showed participants a print advertisement for Gardasil to evoke further dialogue (see Figure 1). In order to facilitate the discussion of shared meanings, after discussing HPV, cervical cancer, and Gardasil for approximately thirty minutes, I had participants draw semantic networks on pieces of paper. Semantic networks consist of a core concept, in this case the term “Gardasil,” connected with a line to other concepts that participants associated with Gardasil. After the entire group had done this, I asked them to present the networks to the entire focus group and explain the associations they made. After the entire group had explained their networks, I asked each of them to identify themes that they saw in common among their maps. This exercise allowed participants to represent their thoughts visually and work together to create shared meanings on the subject matter.

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2 The idea for this method came from Byron J. Good’s article, *The Heart of What’s the Matter: The Semantics of Illness in Iran* (1977). During Good’s research in Iran, he surveyed people’s perspectives on health, creating semantic networks out of the common associations people had with the subject. He found this method of analysis allowed “entry into the ‘inscape’ of individuals, ‘the distinctive reality as it is apprehended,’ and into the meaningful structuring of social reality” (39). Instead of creating semantic networks from the focus group data myself, I had participants draw their own.
I had participants discuss issues and perspectives amongst themselves while I moderated the discussion, which created a more organic and natural interaction for discussions than the semi-structured interviews. The focus group allowed me a chance to observe people interacting, creating shared meanings, and engaging in a ‘cascading’ effect where discussions link to preceding expressions and topics. As well, this method enabled me to gain insight into how people employ socially shaped ways of thinking and knowing in order to interpret their lives and the lives of others (Lindlof and Taylor, 2002). The focus group was elicited useful information and had time allowed for it, I would have liked to have conducted more.

1.2.3 Semi-Structured Interviews with Public Health Physicians, Researchers, and Health Care Providers

I conducted two semi-structured interviews with key public health physicians/researchers who work at the British Columbia Centre for Disease Control (BCCDC). I identified pertinent participants through word-of-mouth, academic journals, and a radio show in which one of the participants discussed Gardasil. Once identified, I located their contact information on university and government websites. I then emailed or telephoned these people directly at the BCCDC, informing of them of my research interests and university affiliation, before requesting an interview at their places of work at a time of their choosing.

I also conducted semi-structured interviews with a registered nurse and a family physician in British Columbia. I first recruited the registered nurse by visiting a health clinic and requesting information about Gardasil. She took me into an examining room where I informed her that I was conducting qualitative research on the vaccine and was
looking for print materials on the vaccine. She spent quite a bit of time discussing Gardasil with me and I requested a formal interview so that I could digitally record the interaction. She was interested in being involved but I first had to ask the director of the clinic for permission. I contacted the director, explaining my research interests and university affiliation and she set up a time and place to interview the same registered nurse, as well as a family physician who worked at the same health clinic separately.

I asked the public health physicians/researchers, registered nurse, and family physician a range of questions (see Appendix 2), had them reflect on a Gardasil print advertisement (see Figure 1), and discuss a few articles on Gardasil. These participants provided a professional and scientific perspective on the vaccine, which allowed me to trace the transmission of various scientific and cultural understandings of Gardasil.

1.3 Reflexivity: Situating the Researcher in the Field

1.3.1 Recruitment of Participants

I recruited participants over the course of seventh months. I conducted research with a very specific group of people, women and men between the ages of 19 and 30 who were attending college/university, for several reasons. Access to Gardasil is more difficult among this population as they must pay-out-of-pocket or access extended health insurance, which makes the decision for vaccination more difficult than for young women in public schools at the primary and secondary levels that have free access to the vaccine through government provisions. In addition, pharmaceutical advertisements for Gardasil target this age group by featuring models that appear to be in their late teens and early twenties. Also, people between 19 and 30 may be discussing the vaccine with
people apart from their kin, including health care providers and peers, which means that this population is likely aware of a variety of discussions surrounding Gardasil, making them a rich site for understanding the workings of various discourses on the vaccine. Also, accessing this population was relatively easy as compared to accessing minors; I received swift ethical clearance to interact with consenting men and women over the age of 19, which was important for finishing the research in a timely manner. I was able to locate participants through the university that I was attending, and through my university affiliation, I was welcomed at another post-secondary institution (UBC) to recruit participants.

Recruitment always presented an interesting negotiation with people. Many participants contacted me and were happy to meet and talk for an hour or more. However, other people who contacted me for an interview would later ask to reschedule several times and/or devised excuses for why they could no longer participate. Some participants who began our interactions very excited about the prospect of participating would later disappear when it came time to meet, refusing to answer a follow up phone call or email. Perhaps some people did not know how to explicitly inform me that they had changed their mind about participating. I believe that it is important for participants to be happy about their involvement in the research and I wanted to create a relationship that was considered mutually beneficial and enjoyable so I never wanted people to feel socially obligated to participate. With this in mind, I refrained from continually asking people to be involved. I also think that placing posters around university campuses and doing presentations at different organizations and then allowing people to contact me voluntarily to get involved were the best recruitment strategies. These strategies took
time and effort but they led to the identification of quite a few participants who were then able to help me contact their friends and acquaintances to participate.

1.3.2 Rapport and Power in the Field

As a middle-class, well educated, mid-twenty year-old who was close in age and education to many of the college-educated participants, I was able to easily create rapport with many of the college-educated participants, as many seemed to be able to relate to me. However, creating rapport with the physicians/researchers was a bit more difficult, as they each began the interaction with their guards up, perhaps due to their prior adversarial interview experiences with reporters and other social scientists. Only after I asked a few questions did they begin to relax and open up. Creating rapport with the registered nurse and family physician was quite easy; they were happy to discuss Gardasil with me.

For the college-educated participants, some began interactions by asking me more about my university studies and research on Gardasil. Some participants were curious about what I thought of the vaccine and why I was researching it. I always had to decide what tone to adopt with participants and to what extent I should disclose my opinions and thoughts on the vaccine. I adopted a ‘neutral’ tone, believing that if I expressed critiques some participants might feel uncomfortable or defensive or I would sway some participants to express similar critiques. After the focus group, I had one participant reflect on my tone and tell me that I was like a doctor, that no matter what people said to me that I didn’t react negatively or positively, only that I continually encouraged people to converse openly. I was happy to receive this feedback because it
was my aim to make people feel comfortable enough to discuss their thoughts and experiences with me. During the last couple of interviews, I became more comfortable with interviewing and I disclosed my own perspectives to people who shared my viewpoints. This disclosure put these particular participants at ease and allowed interviews to be more of an exchange and conversation, which led to some interesting discussions concerning gender roles, sexuality, and politics that were beyond what the interview guide evoked. However, I do not think that being that open about my viewpoints with every participant would have been a good idea, as my viewpoints diverged from several participants’ and it was important that everyone felt comfortable sharing their thoughts with me.

At the beginning of each interview, I would ask participants their age, where they grew up, their educational level, university major, and life goals. I believe that this helped people feel more comfortable and open talking with me. It was clear that some did not quite know what I was doing, who I was, or what perspective I had on the vaccine and spent the interview trying to figure me out. Some participants did not want to get too personal about their lives and would answer questions vaguely. I had the impression that a few participants told me what they thought I wanted to hear. Although I adopted a neutral tone, some interview subjects clearly believed that I was supportive of Gardasil and would give me answers about why they should look into getting vaccinated if they were undecided. Other participants did not seem comfortable being openly critical of the vaccine and would answer questions defensively, trying to justify their reluctance to accept vaccination. One participant in particular seemed very agitated during the interview, as whenever I asked her a question, she either answered tersely or became
defensive. She only seemed to relax a little after she realized that I was not necessarily looking for her to tell me how great the vaccine was and was more interested in her general thoughts on Gardasil. These interactions made me very aware of the difficulties involved in interviewer-interviewee relationships, which are artificially constructed relationships that can at times lead to forced interactions that are uncomfortable and may produce artificial responses. However, the majority of participants were comfortable with me and chatted quite candidly about their sexuality, life experiences, and personal relationships. I had one participant tell me that she came into the interview telling herself that she would refuse to get personal with me but that within ten minutes she became comfortable enough with me to tell me candidly about her sexuality and life history. After the interview, some people asked me what I thought about Gardasil and if I had been vaccinated. At this point, I felt that I could be a bit more open about my viewpoints.

I realized after the fieldwork that many participants perceived me as an authority figure; I’m well educated, know a lot about the subject and I was asking the questions and calling the shots. Therefore, participants might have thought that I was looking for a particular kind of answer to explain why people have chosen to be vaccinated. The interviewer-interviewee relationship involves an unbalanced power dynamic and that creates some very interesting and sometimes difficult interactions with people. Participants were aware of this power dynamic and a few attempted to regain a sense of control in the interaction, sometimes refusing to answer particular questions, turning the questions on me, or trying to get through the interview as quickly as possible. I also conducted interviews with authority figures: the public health physicians/researchers,
doctor, and registered nurse. These interactions reversed the power dynamic, as at some points during the interviews, I felt less like an authority figure and more like a student learning from experts. However, over the course of the interview, as I incorporated some of my research findings, I felt that I was still asserting some authority, as I am knowledgeable about this subject matter.

Although I adopted a ‘neutral’ tone in my interactions with participants, I come from the same sub-culture of my participants, being of a similar age, gender, class status, and educational level. Although this often helped create rapport, it also meant that we shared norms for interaction and conversation and this meant that at times I made inferences about what people said to me and had difficulty asking participants to be explicit (Anderson and Jack, 2006). Especially during the first couple of interviews, I would assume that I knew what people meant when they used a certain term, phrase or concept and I would not enquire further about what they meant. I found this frustrating while I transcribed those interviews, as I realized that I could not go back to that particular time and place to ask for clarification. As well, I read Kathryn Anderson and Dana C. Jack’s article, Learning to Listen: Interview Techniques and Analyses (2006), which stressed the need to listen in order to get a better understanding of how participants view the world and reflect on their life experiences. I began listening carefully during the remaining eighteen interviews and asking for clarification, even if this made the dialogue less smooth.

During my research, I was concerned that I was simply using people’s time and words for my own professional benefit while leaving participants with nothing to show for their time. I devised the questions, I had the authority to take the conversation in
different directions, and then afterwards I used the interviews to make particular arguments about the subject matter. Worried that the interaction was not mutually beneficial, I asked participants at the end of the interviews what they thought of the interview. Quite a few expressed to me that they had learned a lot about themselves and what they already knew about the subject, and that they felt good opening up to someone, being the subject of conversation and having someone listen and take interest in them. Moreover, although I was asking the questions, the interviews were semi-structured and participants played a role in taking the interview in directions they chose. Therefore, although I benefited professionally from interviewing people, some participants felt that they had benefited as well and played an important role in the interaction. It was rewarding for me to hear this from participants and encouraged me to continue the project.

1.3.3 Biases and the Co-construction of Knowledge

Through extensive research on Gardasil and biomedicine, I had become critical of the pharmaceutical industry and questioned the necessity of Gardasil. (A more detailed discussion on the scientific, political and economic issues surrounding the vaccine can be found in Chapter 2.) In addition, before beginning the fieldwork I had read Michel Foucault and neo-Foucauldian literature concerning governmentality. This literature seemed to neatly explain people’s reasons for vaccination, indicating that people conformed to social expectations laid out by the medical establishment, government, and the pharmaceutical industry, which urged and encouraged people to be vaccinated for the good of society. In the first few months of my Master’s, I discussed
my research with some fellow students in the program. In an attempt to explain why women decided to be vaccinated, one student drew on Foucault’s book, *Discipline and Punish* (1995) and said while shrugging that women were just ‘docile bodies’. This simplistic analysis bothered me at the time and stayed in my mind as I read about governmentality. Although I acknowledge that Foucault is able to help explain some of the processes involved in people’s decisions to be vaccinated, indicating the role of society in shaping people’s decisions, I would personally feel insulted if someone were to say that my life decisions were simply due to my docility and ability to be controlled by powerful institutions. I thought about the positive reasons for why people would decide to be vaccinated, which includes the prevention of cancer and genital warts, not to mention the social capital that can be accrued when people say that they have been vaccinated. Gardasil is expensive, being able to access it can indicate one’s socio-economic class standing and make one appear to be smart and a responsible citizen. Although in many ways these material and symbolic benefits are ideological in nature, they hold meaning for people and should therefore not be scoffed at as superficial.

I entered the field with both the governmentality literature and this burgeoning critique in mind. I had some preconceived ideas as to why people decided to be vaccinated but by interacting with participants, I found that people often had conflicting and contradictory perspectives on the issues. Each could see the benefits of vaccination, however many participants were also aware of the power dynamics involved in Gardasil vaccination. Some participants, even those who had been vaccinated, discussed the controversies surrounding the vaccine and were openly critical of the pharmaceutical advertisements and doctors who recommended vaccination. Over the
course of an interview, some participants oscillated between being supportive and critical of Gardasil, indicating to me that people reflected on the various discourses on the vaccine and attempted to figure out their own thoughts and perspectives on the issues, a process that was never simple or straightforward. Yet, through interaction, some participants were able to expose these conflicts and contradictions and give them some thought. In this way, I found the interviews to be journeys of mutual exploration and exposition. These surprising interactions complicated the tidy theoretical argument put forth in the governmentality literature and indicated to me the need to hold back from drawing conclusions too quickly.

1.4 Analysis of Interviews and Focus Group

At the end of data collection, I assigned most participants pseudonyms. In order to analyse the information from the interviews and the focus group, I transcribed all but five interviews in full. As I transcribed, I found that participants brought up certain topics, ideas, and phrases repeatedly, ranging from sexual health and birth control, risk, morality, anxieties about vaccines, trust in health care providers, etc. If more than two participants brought up a phrase, idea, or topic, I considered it a theme and I took note of where it was located in the transcripts. After I finished transcribing most of the interviews, I returned to the transcripts to conduct a more thorough qualitative thematic analysis based on the major themes identified in the interviews. I then printed the

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3 All participants except the key public health physicians/researchers were given pseudonyms.
4 I transcribed key phrases from two more interviews. Three interviews were not transcribed because I had reached data saturation.
transcripts in their entirety, assigning each participant and the focus group a different colour of paper.

Yet, what to do with a stack of coloured paper with people’s words on them? I thought I knew the kind of argument I wanted to make. Although my preconceived ideas as to why people chose to be vaccinated changed through my interaction with participants, the number of divergent themes I had identified and the amount of data that I had collected overwhelmed me. I wanted to make sense of what people had to say so I drew on neo-Foucauldian governmentality and risk literature (e.g. Lupton, 1995; Peterson and Lupton, 1996; Miller and Rose, 2008; Rose, 2007) and organized my ethnographic chapters to explore how governmentality helped to clearly explain why people chose to be vaccinated with Gardasil5. I cut quotes out that I found helpful in illuminating the key themes of risk, gender, morality, biomedical hegemony, governmentality, and agency. I then pasted the quotes on to walls, and grouped together quotes that addressed these main themes. I then went on to write about the key themes, incorporating quotes that helped explain and support my arguments. However, I later came to believe that what I wrote was not ethnographically rich, did not focus on the voices and experiences of participants, and offered a mechanistic and functional explanation for why people chose to be vaccinated.

I took a break from what I had written and read the article by Kathryn Anderson and Dana C. Jack (2006) mentioned earlier. This article offered a discussion on how to

5 Foucault offers methodological insight into how to analyse discourse. However, the space in this thesis does not allow for a rigorous Foucauldian analysis of the data and I instead drew on other material to help analyse the data.
listen and analyse women’s thoughts for moral language\textsuperscript{6} and meta-statements\textsuperscript{7}. I also read Claudia Strauss’ (2005) analytical method for finding cognitive patterns in people’s speech\textsuperscript{8}. With these analytical strategies in mind, I went back to the transcripts, re-reading several in their entirety. I was able to analyse the transcripts with new eyes; searching for phrases, ideas, and topics that people brought up repeatedly and from this fresh exploration, I devised new arguments.

I knew that because I interviewed a small number of people I could not make broad claims about human behaviour. I decided to present the particularities of people’s lives and experience first, presenting a more thorough analysis afterwards\textsuperscript{9}. After reading many of the transcripts in full, I focussed on particular participants and told their stories, incorporating interesting and telling quotes. Conducting a discourse analysis\textsuperscript{10} of these quotes, I found that participants often evaluated what they said, comparing their thoughts and actions to what they considered culturally ‘normal’ or desirable, especially when it came to the topics of sexuality, health, and gender. I also found that people

\textsuperscript{6} This is the words a person uses to evaluate himself or herself against a dominant standard.
\textsuperscript{7} Meta-statements are places where people stop and look back at what they have said, evaluating their statement for inconsistencies between what they themselves think, and what is socially expected of them. This allows the interviewer to see the categories that people are using to monitor their thoughts and the norms that they are attempting to uphold.
\textsuperscript{8} Claudia Strauss provides explanations on how to piece out what she terms, cognitive patterns which I found to be of great importance in analysing the discourse transcripts. Cognitive patterns are how people internalise and incorporate various ideologies and ideas about the world into patterns that allow them to make sense of their world.
\textsuperscript{9} When I wrote the ethnographic chapters a second time, I drew on Kath Weston (1996) for clues to help me organize my ethnographic chapters.
\textsuperscript{10} Discourse analysis is an epistemology and methodology that embraces a strong social constructivist view of the social world. It carries with it the outlook that language rather than being representative and reflective of reality actually constructs and constitutes reality (Phillips and Hardy, 2002).
drew on various and sometimes conflicting ideas and ideologies to explain their life histories and thoughts. With this new analytical approach, new themes arose as I realized that people were shedding light on social and cultural processes occurring in the world beyond the narrow topic of the decision for Gardasil vaccination. In turn, participants were helping construct meaning about their life experiences while they spoke to me. I was still able to incorporate the arguments about risk and governmentality; however, there was new emphasis on what people had to say and less on what the theoretical literature postulated about human behaviour and thoughts.

1.5 Scope of the Research

Medical anthropology offers methodological and theoretical frameworks that conceptualise scientific breakthroughs, such as the introduction of a new vaccine, as equally social, cultural and political, as they are scientific. I have chosen particular avenues that help illuminate how science and society interrelate and how people’s subjectivity, identity and sense of self, body, and health have been impacted through the introduction of Gardasil. Few qualitative studies have examined the social impacts of the vaccine, and the obtainment of Gardasil among college-educated men and women is poorly understood. To date, I do not know of any research conducted in Canada on these topics. Through this research, I was able to explore the implications of scientific breakthroughs for social relations and women’s bodies and subjectivities, and understand how everyday people perceive and engage with medical innovations. Though these issues are specific to the vaccine Gardasil, the questions I asked and
conclusions drawn are pertinent to the health care decisions people will make with future breakthroughs in medicine.
CHAPTER 2: THE SCIENCE BEHIND GARDASIL

2.1 Introduction

What is the science behind Gardasil? How is the vaccine being conceptualised scientifically? And is that the only way to understand it? Medical anthropology conceptualises scientific innovations as equally social, cultural, and political. In order to ground the reader in the scientific understandings of the vaccine, below I am providing a background on HPV, cervical cancer, and Gardasil. I will then explore the various political, economic and social issues that have surrounded Gardasil in order to provide background on how people, including the participants in this research discuss, and understand the vaccine.

2.2 Scientific Background on the Human Papillomavirus and Cancer

2.2.1 Linking the Human Papillomavirus to Cancer

It was not always understood if or how HPV related to cancer. Since the 1960s, scientists have been trying to determine what caused vaginal cancers. Originally, Dr. Harald zur Hausen, a German scientist, attempted to show that the herpes virus led to cancer of the cervix. This was found to be incorrect in 1974 but zur Hausen was later able to demonstrate that two human papillomavirus strains were found in 70% of cervical cancers. By 1991, it was shown that HPV appeared in almost all cervical cancer cases (Crawford, 2008; Zonfrillo and Hackley, 2008). Since then, Dr. Harald zur Hausen has
won a Nobel Prize in Physiology or Medicine in 2008 for his work on linking HPV and cervical cancer (Haug, 2009). HPV was linked to cancer of the cervix\(^{11}\) through an epidemiological study of 1000 women from 22 countries who had cervical cancer. It was found that in 99.7% of cervical cancer cases, HPV-DNA was detected (Human Papillomavirus Vaccines Launch, 2007; Günther et al., 2008). Although many cancers are chronic and debilitating diseases that are mostly found in developed nations, HPV-related cancers are caused by an infectious disease and reflect socio-economic disparities (Hunter, 2006).

### 2.2.2 The Human Papillomavirus and Cancer

The human papillomavirus is the most common sexually transmitted infection around the world (Zonfrillo and Hackley, 2008). Approximately 75% of sexually active people will have at least one infection in their lifetime (Public Health Perspectives, 2007). It is estimated that 16.8% of Canadian women have HPV, with higher rates among women aged 15 to 29. Rates among some populations such as recent immigrants, women of lower socio-economic standing and Aboriginal women, the rate is over 50% (Morris and Nguyen, 2008; Dawar et al., 2007; Merck Frosst-Consumer Information, 2010). There are over 100 different strains of HPV found in humans (Patient Information About HPV, 2007). A great number of HPV strains will not cause cancer. These strains of HPV can live on the mucous membranes or on the skin and many of those infections create no symptoms and will have a symbiotic relationship with its host, causing no harm

\(^{11}\) HPV has also appeared in connection to breast cancer cases (Aceto, et al., 2010).
Over 40 strains of HPV can be transmitted sexually. Many of these strains are termed “low risk” because they do not cause dramatic changes in the cells they come in contact with and do not lead to cancer but can lead to genital warts. Genital warts can appear on the penis, thighs, scrotum or anus of men and the vulva, vagina, cervix and anus of women (Dawar et al., 2007; The Society of Obstetricians and Gynaecologists of Canada-Spread the Word, 2007). These warts can itch, cause discomfort, hurt and bleed (Merck Frosst-Consumer Information, 2010). However, some people may never exhibit symptoms of a HPV infection (The Society of Obstetricians and Gynaecologists of Canada-Spread the Word, 2007).

Of the 40 genital strains, 15 types are termed “high risk”. These strains cause severe changes to the cells they come in contact with and can lead to cancer of the cervix, penis, anus, vagina and vulva and, as it has been recently found, cancer of the head and neck (Public Health Perspectives, 2007; Zonfrillo and Hackley, 2008; Public Health Fact Sheet, 2007; Sawaya and Smith-McCune, 2008; Fahkry and Gillison, 2006; Syrjänen, 2007). These “high risk” types of HPV can cause mild changes in the form of micro-abrasions, or lesions, on the cells of the affected area, creating tears that provide the virus with access to skin cells. Once skin cells are infected, the virus is able to hinder the body’s suppression of cancerous tumours and over time, the body begins to over-produce infected cells, resulting in cancer or genital warts (Zonfrillo and Hackley, 2008).

HPV is highly prevalent and contagious and is transmitted through skin-to-skin contact from an individual who is infectious to an individual who is susceptible. In the case of the genital strains of HPV, it requires unprotected genital contact through sexual
interaction, though sexual intercourse has been found to be the primary route of infection (Burchell et al., 2006; Günther et al., 2008; The Society of Obstetricians and Gynaecologists of Canada-Spread the Word, 2007). Scientific evidence shows that genital HPV infection is rare in people who have not had sexual intercourse. There is a strong association between the number of sexual partners a person has in a lifetime and the prevalence of HPV and sexual partners have been found to share the same HPV-DNA. There is an increased risk of HPV acquisition from recent and new sexual partners and the greater the number of sexual partners and the greater the sexual network a person is a part of, the greater the risk of HPV infection, although people can become infected with HPV from having a single sexual partner (Burchell et al., 2006; Branswell, 2008). Thus, it is recommended that people practice safe sex, including using barrier methods such as condoms, to prevent infection with HPV. However, most barrier methods are unable to protect all genital areas during sexual contact, leaving some sexual encounters open to the transmission of HPV infections (Lippman et al., 2007; Public Health Fact Sheet, 2007). Infection via digital contact is possible but minimal, as is transmission via vaginal birth to infants (Burchell et al., 2006).

Once a person is exposed to HPV, it takes several weeks before he or she becomes infectious. Often the immune system does not detect HPV infection, which can allow for persistent infection. In many cases, with time, the skin cells that contain HPV are shed and the virus moves to a new destination. If the infection persists, the body mounts a defence in most people (Szarewski, 2010). Thus, once infected, the incidence of HPV leading to cancer is low since a healthy body often can successfully fight off infection. It has been found that 80% of all HPV infections clear spontaneously. In the
case of HPV infection of the cervix, it has been found that within two years, 90% of women clear the infection (Lippman, 2008; Günther et al., 2008). Although it is assumed that once a person has cleared an HPV infection he or she has lifelong natural immunity to that particular strain, the immune response to infection is found to be quite low and only about 30% of people develop antibodies to the virus, the rest simply have a localized immune response that does not lead to long-term immunity. Therefore, there are indications that people can be infected with the same HPV strain more than once. As well, after people have successfully fought off one strain, they can still be infected with other strains (Günther et al., 2008; Szarewski, 2010; G. Ogilvie, interview, May 4, 2010). Infection with more than one strain of HPV was found to significantly increase people’s risk of developing precancerous lesions (Zonfrillo and Hackley, 2008). However, there are indications that there is some cross-protection between HPV strains, meaning that once a person has successfully fought off one strain of HPV and developed antibodies to that strain, they may be naturally immune to other strains (Günther et al., 2008; G. Ogilvie, interview, May 4, 2010).

In the case of HPV infection of the cervix, if an infection persists, HPV can change healthy cervix cells cancerous in approximately seven to ten years, although some lesions may develop faster (Parkin and Bray 2007; Zonfrillo and Hackley, 2008; Günther et al., 2008). The cervix is especially susceptible to malignancy because the cervix is composed of two types of tissue, the skin tissue that is internal in the uterus and tissue that is part of the vaginal canal. Where those two types of tissue meet is called the transitional zone and the cells in that zone have to transform themselves regularly from one type of tissue cell to another. This cell type transition leaves that area of the
body vulnerable to infection. If HPV infects those cells, they use the cell’s energy to multiply and proliferate and with that infection, lesions and cancer can develop (Casper and Carpenter, 2008; Doctor, interview, May 19, 2010). Once lesions have developed on the cervix, it takes another ten or so years for them to develop into invasive cancer. Approximately one-third to two-thirds of women who have precancerous lesions progress to having invasive cancer (Günther et al., 2008). Since it takes ten to 20 years for cancer to develop, it has been found that “[I]t’s not getting HPV that matters, it’s what happens afterward.” (Mendenhall, 2007:48). In the case of cervical cancer, several factors can leave women vulnerable to persistent HPV infection and cancer. One such factor is cigarette smoking and the World Health Organization has found that approximately 30% of cervical cancer deaths in the United States can be attributed to this behaviour (Mendenhall, 2007; Doctor, interview, May 19, 2010). The risk for persistent HPV infection also increases when there is a lack of good nutrition and/or a woman is suffering from ill health, such as being infected with HIV, which decreases the effectiveness of the human immune system in preventing damage from a HPV infection (Burchell et al. 2006; Lippman et al., 2007; Gulli, 2007). Time is another major cofactor for cancer to develop, for the virus requires time to change healthy cells into cancerous ones. Cervical cancer is generally not an invasive, quick progressing cancer (Zonfrillo and Hackley, 2008; Gulli, 2007). Over the course of its slow progression, invasive cervical cancer can be halted (Lippman et al., 2007). If it progresses, cervical cancer can lead to swelling, vaginal bleeding, malnutrition, anaemia, emaciation, dramatic weight loss, abdominal pain, urinary tract or intestinal obstruction, yellowed skin, pain and eventually, death (Hunter, 2005; 2006; Canadian Cancer Society, 2009). Most
women diagnosed with cervical cancer are between the ages of 30 and 45 (Szarewski, 2010).

The rates of HPV-related cancers are significantly lower in males than in females. As with females, most males eventually clear HPV infections, although very little is known about the rates of clearance and natural immunity. Men are usually only considered carriers of HPV and potential transmitters to females. Penile cancers account for less than 0.5% of male cancers and circumcision has been shown to decrease the risk of penile cancer threefold. Anal cancer accounts for a higher risk amongst males, especially men who have sex with other men (Parkin and Bray, 2006; Burchell et al., 2006). Approximately 80% of anal cancers are caused by the HPV strains 16 and 18 (Szarewski, 2010). Risk for anal cancer increases if the person is infected with HIV, is having anal intercourse, smokes cigarettes and has a number of sexual partners throughout his lifetime (Parkin and Bray, 2006). There has been a sharp increase in oral cancers among men and between 1973 and 2004, HPV-related oral cancers became as common as those related to alcohol and tobacco. This increase has been related to the greater practice of oral sex (Gilman et al., 2009). The HPV strain 16 is found in approximately 35.6% of cancers of the throat and 23.5% of cancers of the oral cavity (Parkin and Bray, 2006). Since Gardasil protects against HPV-16, it could help prevent oral cancers.

2.2.3 Lower the Rates of Cervical Cancer: The Papanicolaou Smear Test

Out of all the HPV-related cancers, cervical cancer is the most prevalent, killing the most number of people. For that reason, it is the most studied and understood. In
order to detect HPV invasion and pre-cancerous lesions, women are screening for HPV infections with Papanicolaou (Pap) smear tests, also known as cytological screening. Pap smear testing was developed by the Greek physician, George Papanicolaou in 1928. Papanicolaou discovered that malignant cervix cells could be identified in smears that were taken from the vagina. His findings were not taken seriously by the medical community but he continued with his work, and working with Dr. Herbert Traut, Papanicolaou collected vaginal samples that led to the descriptions of HPV lesions. In 1943, Papanicolaou and Traut published a monograph that outlined the method, which was later modified by Dr. Ayer, who introduced a wooden paddle in order to sample cervical cells directly from the cervix. Since then, there have been modifications and standardizations in the terminology used and the forms of detection.

The introduction of the Pap smear has played a significant role in lowering the cervical cancer morbidity and mortality rates in all the areas that have instituted its use. Comparisons were made between areas that have instituted the smears and those that have not. It was found that the mortality rate due to cervical cancer has decrease by almost 75% in the areas that have instituted Pap smears. It was found that a history of being screened for cervical cancer was a significant factor in women not developing cancer, independent of factors such as income, age, sexual history, smoking or education (Ciba and Ducatman, 1996; Klausner and Hook III, 2007; Alliance for Cervical Cancer Prevention, 2002; Lippman, 2008).

Women are advised to be screened regularly for HPV through Pap smears. Pap smears allow for the early detection of HPV infection before it leads to cancer of the vulva and cervix (Human Papillomavirus Vaccines Launch, 2007; Klausner and Hook III
Each country has different recommendations as to the age of first Pap smear and the regularity of the test but it has been found that if women have five or more negative smears in a lifetime, her chances of developing cancer are 0% (Ciba and Ducatman, 1996). Pap smears are able to catch malignant lesions early and these lesions respond well to treatment and are not fatal (Zonfrillo and Hackley, 2008; Gulli, 2007). In Canada every year, there are approximately four million Pap smear tests performed with 350,000 found to be abnormal, leading to treatment (Merck Frosst-Consumer Information, 2010).

Pap smears are not perfect in detecting cervical cancer and only have a 40 to 74% detection rate. For example, in British Columbia, the rate of detecting cervical cancer is 40%. This is why it is recommended that women be screened several times during their lifetime in order to catch any missed infections before they become cancerous (Human Papillomavirus Vaccines Launch, 2007; Zonfrillo and Hackley, 2008; Ciba and Ducatman, 1996; Dawar et al., 2007).

There are many logistical and funding difficulties in providing this test to women in remote and rural parts of Canada and in resource-poor areas of the world. This is due to the need for laboratories, technology, trained individuals to interpret the tests, screening programs, and the infrastructure to ensure that the findings from Pap smear samples are followed up with health care practitioners and patients and translated into treatment, if necessary (Human Papillomavirus Vaccines Launch, 2007; Agosti and Goldie, 2007; Zonfrillo and Hackley, 2008; Hunter, 2006). However, as discussed above, Pap smear testing is still an important tool. In the United States, approximately 50% of diagnosed cervical cancers are in women who have never had a Pap smear test.
Additionally, 10% of cervical cancers develop in women who were not screened in the past five years (Saslow et al., 2002). In Canada, it has been found that approximately 54% of women who have cervical cancer had missed a Pap smear test in the past five years, indicating the importance of regular testing (Decker et al., 2009; Gulli, 2007).

2.2.4 The Social Geography of Cervical Cancer

Cervical cancer is the second most prevalent cancer among women around the world and every year over a quarter of a million women die of the disease. Approximately 83% of cervical cancer cases occur in ‘developing’ countries where 95% of women have never had a Pap smear test. Worldwide it is poor, marginalized and vulnerable women who are disproportionately afflicted with cervical cancer (Parkin and Bray, 2006; Agosti and Goldie, 2007; Jhpiego, 2006). As Jan M. Agosti and Sue J. Goldie (2007) write, “more than any other cancer, cervical cancer reflects striking global health inequity” (1908). Sylvia Robles, Chief of the Chronic Non-Communicable Disease Unit of the Pan American Health Organization (PAHO) indicates the preventability of cervical cancer by stating,

“Cervical cancer is fully preventable and curable, at low cost and at low risk, when screening to facilitate the timely detection of early precursor lesions in asymptomatic women is available together with appropriate diagnosis, treatment and follow-up.” (Lewis, 2004: 1).

Women are often killed by cervical cancer in their most productive years and this has had a devastating effect on the well-being of their families and communities (Agosti and Goldie, 2007; Hunter, 2006). If no intervention is implemented, it is projected that the mortality rates due to cervical cancer will increase by 40% from 2002 to 2020, the biggest increase likely to occur amongst the elderly (Parkin and Bray, 2006).
In Canada, the situation is quite different. The rate of cervical cancer is about 1 in 138, or 0.7% and it ranks 13th of all cancer-related deaths amongst Canadian women. In 2009, there were approximately 1300 new cases of cervical cancer and about 380 deaths (Canadian Cancer Society, 2009). There are approximately 10,000 precancerous lesions found in women in British Columbia, indicating the prevalence of HPV (G. Ogilvie, interview, May 4, 2010). However, these are lesions that are detected and treated and few of these lesions lead to cancer. Cervical cancer no longer kills many women in North America due to public health initiatives that saw improved reproductive health practices and widespread publicly funded programs for Pap smear testing (Lippman et al., 2007). The women who do develop cervical cancer are often those who live in rural areas, have male doctors, have a low family income, lack access to regular medical care (including pelvic exams and Pap smear testing), and/or are immune compromised because they have infections, such as HIV (Lippman, 2008; Decker et al., 2009). Although Pap smears available to women in Canada, there are women who do not benefit from system due to uneven provision. In these cases, precancerous lesions go undetected and/or untreated and develop into cervical cancer. Therefore, deaths due to cervical cancer in Canada indicate less about independent, individual risk levels and more about “the cracks in society that follow place, class and race differences created by political and economic decisions of the state.” (Lippman, 2008: 571; Zonfrillo and Hackley, 2008; Decker et al., 2009).

2.2.5 The Treatment of HPV Infections

No treatments have been developed to kill HPV directly and it is considered a life-long infection. All treatments involve removing lesions or warts. Treatment involves
destroying the affected area with heat (laser), cold (cryotherapy), chemicals (trichloroacetic acid or podophyllotoxin), surgical ablation or electricity (loop excision or electocautery). For cancer, adjuvant therapy such as chemotherapy or radiation is used to destroy lesions that are deep or penetrative (The Society of Obstetricians and Gynaecologists of Canada-Quick Facts, 2007; National Cancer Institute, 2010). In the case of external warts and pre-cancers, *imiquimod*, an immune function booster is administered in order to stimulate an immune response to HPV. With the use of *imiquimod*, the body will mount a defence and the lesions will disappear. The more time that has elapsed after lesions or warts have disappeared, the fewer the infections people are likely to have. If the immune response weakens (due to HIV infection, old age or pregnancy), lesions and warts can reappear (The Society of Obstetricians and Gynaecologists of Canada-Quick Facts, 2007). Since HPV is a common infection and can, in certain cases, lead to cancer and death, there was great financial incentive for pharmaceutical companies to develop a vaccine to prevent the infection.

### 2.3 Scientific Background on Gardasil

As discussed above, in 1991, Dr. Harald zur Hausen was able to link HPV to cancer of the cervix and other genital cancers. Once this discovery was made, scientists began working on a vaccine (Carreyrou, 2007). In November 2004, after almost two decades of research, Merck announced that they had developed a vaccine that would help prevent infection from four strains of HPV (Gilman et al., 2009; Carreyrou, 2007; G. Ogilvie, interview, May 4, 2010). The vaccine does not contain live DNA of the virus, instead empty virus-like particles from the four types of HPV strains that the body
interprets as invasive (Public Health Fact Sheet, 2007; Dawar et al., 2007). Gardasil is administered to patients in three shots over the course of six months; the second two months after the first, the third four months after the second, in order to build up immunity and gain the full benefit of the vaccine (Public Health Fact Sheet, 2007; Ohri, 2007). For women who have been vaccinated with Gardasil, it is still recommended that they get annual pelvic examinations and Pap smear testing (Zonfrillo and Hackley, 2008; Stephenson, 2007).

The vaccine was approved for women due to the results from seven randomised, placebo-controlled, double blind clinical trials, which involved 21,000 women ranging in age from nine to 26. At the beginning of the clinical trials, 93% of women were sexually active and 27% had a previous HPV infection with at least one HPV strain (Stephenson, 2007). The clinical trials averaged three years in length and were close to 98% effective in preventing precancerous lesions for the women who had never been infected with HPV (Nelson, 2007; Stephenson, 2007; Morris and Nguyen, 2008). The vaccine was only 44% effective for women with a previous HPV infection or women who had precancerous lesions before entering the clinical trials, indicating the need to vaccinate young women before their sexual debut (Burchell et al., 2006; Zonfrillo and Hackley, 2008; Stephenson, 2007). Some studies of Gardasil were halted because it was found that the vaccine was so effective that it was considered unethical to not administer the vaccine to the placebo group (Wynia, 2007). In June 2006, Gardasil was approved for administration in women by the Food and Drug Administration (FDA) in the United States. In July 2006, Gardasil was approved by Health Canada (Carreyrou, 2007; Lippman, 2008). Gardasil is licensed for women between the ages of nine and 26.
Studies are still ongoing to determine the effectiveness of Gardasil for women over the age of 26 (Dewar et al., 2007).

The clinical trials for men involved 4,055 participants aged 16 to 26. Of these men, 3,457 were heterosexual and 598 are men who have sex with men. It indicated that Gardasil was 100% effective in preventing infection from the HPV strains 6 and 11; however, there were so few cases of HPV-related lesions that this data was statistically insignificant. Although not used to obtain FDA approval, Gardasil studies have been completed on young men aged 9 to 15. These studies indicated that the vaccine is safe for administration in young men. In addition, when compared to studies on men aged 16 to 26, the vaccine was shown to be significantly more effective in preventing infection seven months later for boys aged 9 to 15, indicating the need to vaccinate males before sexual debut (FDA Advisory Committee, 2009). As of September 2009 in the United States and February 2010 in Canada, Gardasil was approved for administration in men between the ages of nine and 26 (Singer, 2009; Hollander, 2009; Gardasil Approved for Males, 2010).

In clinical trials, Gardasil led to a strong immune response in people, approximately 60 to 100 times greater than natural immune response to HPV (Szurewski, 2010). It was reported that there were only minimal side effects to the vaccine during these clinical trials, which included soreness and swelling at the injection site and fever, nausea or dizziness for a very small percent of women, approximately 7 to 11% (Goeser, 2007; Patient Information About HPV, 2007). It is unknown how Gardasil affects unborn babies so pregnant women are not to use Gardasil, although no unusual adverse events were found in women who became pregnant during the clinical
trials, nor their babies after they gave birth (Merck Frosst-Consumer Information, 2010; Dawar et al., 2007). People may exhibit allergic reactions or faint after being vaccinated, as well as have Guillain-Barré syndrome, unusual tiredness, confusion, chills, weakness, stomach ache, and shortness of breath (Merck Frosst-Consumer Information, 2010). Overall, it has been found that the "serious side-effects with Gardasil are actually 50% less than what we see with other vaccines." (G. Ogilvie, interview, May 4, 2010).

In March 2007, the Canadian federal government pledged CAD$300 million toward a vaccination program and since then, Gardasil has been offered free of charge to female students between the ages of eight and 15 in public schools in many Canadian provinces. Few young women between those ages report being sexually active and since it is important to vaccinate people before their sexual debut to provide the most benefit of the vaccine, that age range was chosen for the immunization program. Gardasil is also available by prescription, and as previously stated, costs over CAD$400 for the necessary three doses (Mendenhall, 2007; Public Health Perspectives, 2007; Lippman, 2008; G. Ogilvie, interview, May 4, 2010; M. Naus, interview, April 20, 2010).

Through June 2009, there have been more than 50 million doses of Gardasil distributed worldwide (FDA Advisory Committee, 2009).

A cost-benefit analysis has been completed for widely vaccinating young women in Canada. It was calculated that a female-only public vaccination program is cost-
It has been argued that men should be vaccinated with Gardasil as well in order to provide herd immunity; that is, providing vaccination to a proportion of people, which will greatly reduce the ability of a disease to spread to the greater population (Crawford, 2008; Casper and Carpenter, 2009). However, it is not considered cost-effective to widely vaccinate males, as they do not experience high rates of morbidity or mortality due to HPV infection (Morris and Nguyen, 2008). Since Gardasil has been found to be almost 100% effective in the prevention of HPV infection with the two main cancer-causing strains of HPV, it is not important if women’s sexual partners are infected with HPV and therefore it is not considered important to widely vaccinate males in order to prevent cervical cancer (M. Naus, interview, April 20, 2010). It is estimated that to include males in the public vaccination program would make a relatively small impact, approximately 2.2%, on the rates of cervical cancer in females while costing twice as much (Günther et al., 2008; Morris and Nguyen, 2008).

2.4 Gardasil: A Political, Economic and Social Entity

2.4.1 Marketing Gardasil and Pharmaceutical Revenues

Vaccines are traditionally the “orphans” of the pharmaceutical world because they do not tend to be expensive or profitable. As well, vaccines tend to take years to be fully accepted by the public (Rosenthal, 2008). But Merck wished to quickly penetrate

\[\text{It was calculated that $14,583 of cost per quality adjusted life year (QALY) would be saved (Morris and Nguyen, 2008). QALY measures the monetary value of a medical intervention based on the quality and quantity of life saved through its implementation (Bandolier, 2007).}\]
the market with their HPV vaccine Gardasil and make revenues not often seen with vaccines by setting the cost at over CAD$400, making Gardasil the most expensive childhood vaccine ever created (Rothman and Rothman, 2009; Lippman et al., 2007). Gardasil received an expedited approval by the FDA; what should have taken three years took six months with the panel’s unanimous approval. The FDA panel believed that waiting for more data on Gardasil would prevent those who needed the vaccine to receive it (Rosenthal, 2008; Carreyrou, 2007). However, it was discovered that on the committee that approved Gardasil there were two former employees of Merck (Casper and Carpenter, 2008). When the FDA approved Gardasil in June 2006 in the United States, Merck launched an aggressive advertising and lobbying campaign for the vaccine.

Merck strongly pushed Gardasil in the United States for a couple of reasons. Firstly, a previous drug that Merck marketed, Vioxx, a once celebrated painkiller, was up for patent expirations and Merck was facing an expensive lawsuit because Vioxx has been linked to strokes and heart attacks, which led to the death of thousands of people (Carreyrou, 2007; The Debate Over HPV, 2009). This tainted Merck’s public image and Gardasil was seen as a “corporate life raft;” a chance to change their public image as well as increase their profits (The Debate Over HPV, 2009; Wynia, 2007). “What better way to rebuild the pharmaceutical giant’s tarnished public image than to save thousands of young women from cancer?” (Wynia, 2007: 4).

Secondly, in April 2007, GlaxoSmithKline submitted their HPV vaccine, Cervarix, to the FDA for approval. Vaccines are considered “a winner-take-all area of pharmaceutical development” (Wynia, 2007:5) and thus Merck felt the need to
aggressively corner the market on HPV vaccines before Cervarix was introduced. Since there was a lot of money at stake, Merck broke with previous vaccine marking practices that identified the vaccine with the disease (mumps, measles, etc.) or their creators (Sabin or Salk). Instead, Merck marketed the vaccine with a trade name, Gardasil, and promoted as a 100% effective ‘cancer vaccine’ instead of a vaccine against a sexually transmitted infection (STI) (Rothman and Rothman, 2009; Wynia, 2007). Merck effectively by-passed public health, education, and services officials and went straight to marketing the vaccine to young women on television, billboards, college campuses and health clinics (Rothman and Rothman, 2009; McGee and Johnson, 2007; Rosenthal, 2008). In 2006, Gardasil was given the award, pharmaceutical ‘Brand of the Year’ for creating a market “out of thin air” (Rothman and Rothman, 2009: 781).

In both the US and Canada, Merck provided money to women’s and patient’s groups, medical experts, doctors and nurses to promote the vaccine. Merck recruited, trained and paid hundreds of doctors to give educational and promotional lectures about Gardasil to fellow doctors. Some doctors have been able to make hundreds of thousands of dollars providing these sorts of lectures (Rosenthal, 2008). Merck has also provided sizable educational grants, from $200,000 to 300,000, and educational material to professional medical associations (PMAs) to promote Gardasil to its members and patients. It is perfectly reasonable for PMAs to promote medical innovations and interventions they believe in. However, it is questionable how unbiased the recommendations and educational materials were when they stemmed from the pharmaceutical company that stands to profit from the promotion of Gardasil (Rothman and Rothman, 2009; Haug, 2009; The Debate Over HPV, 2009). These sorts of
promotions also may have played a large role in Gardasil so quickly being accepted and promoted by health care professionals in North America, even before it had been clearly demonstrated to be effective and safe (Haug, 2009).

Between 2006 and 2009, Merck made USD$1.5 billion dollars worth of sales for Gardasil (Gilman et al., 2009). Yet these sales began to slow in the second half of 2008 and have only continued to decrease after a US government funded study at Harvard University found that Gardasil was only cost-effective for women under the age of 20. (The Debate Over HPV, 2009; Rosenthal, 2008; Weintraub, 2009). However, Gardasil is still promoted through public media outlets and many health care professionals as a worthwhile investment for all women, regardless of age.

2.4.2 Persuading Governments

Beyond promoting Gardasil to health care professionals, women’s and patient’s groups, Merck lobbied federal governments in the US and Canada to promote immunization programs. In the US, Merck attempted to convince US state legislatures to make the vaccine mandatory for all preadolescent girls, in hopes of getting it mandated in every state (Nelson, 2007; Stephenson, 2007). Merck gave money to a group of female state legislators, the Women in Government, so that they would start a campaign to get states to mandate vaccination in young girls (Carreyrou, 2007; Wynia, 2007; McGee and Johnson, 2007). In February 2007, Merck paid the Texan governor Rick Perry to bypass the state legislature and mandate the vaccination of all sixth grade girls with an executive order (Gostin and DeAngelis, 2007; Carreyrou, 2007; Nelson, 2007). This executive order led to an uproar and it was rescinded by the state
legislature. Merck was also funding lobbyists in more than twenty other states until the backlash led them to stop (Nelson, 2007).

In Canada, Merck Frosst Canada Ltd., the Canadian branch of Merck, hired a public relations company, Hill & Knowlton to promote Gardasil to politicians using a few well-connected lobbyists. Hill & Knowlton hired Bob Lopinski, a former member of Ontario’s Premier Dalton McGinty’s office, Ken Boessenkook, a former senior policy advisor to the Prime Minister, Stephen Harper, and Jason Grier, a former chief of staff to the Health Minister of the time, George Smitherman. These lobbyists were paid to propose to politicians that the Canadian government support an immunization program. Eight months after Gardasil was approved by Health Canada, the Canadian government pledged $300 million to be used to vaccinate young women with Gardasil (Talaga, 2007). Although it is difficult to say with certainty that this decision was made due to the aggressive lobbying campaign, this information certainly suggests that there is a relationship that has led to increased sales of Gardasil. Some find this form of lobbying distasteful, saying that “Private wealth should never trump public health.” (Gostin and DeAngelis, 2007:1922). These people argue that public health officials, infectious disease specialists and doctors should push for vaccination programs, not manufacturers and the politicians they lobby, who both stand to profit from widespread vaccine administration.

Women’s health activists and advocates in Canada have critiqued the mass vaccination of young women with Gardasil. Concerns have been raised about public health policies in neoliberal states where profit can motivate the state’s’ promotion of many pharmaceutical products. It has been pointed out that this reliance on expensive
treatments can impoverish public health infrastructure (Casper and Carpenter, 2008). Critics such as Dr. Abby Lippman, professor in the department of Epidemiology, Biostatistics and Occupational Health at McGill University, have questioned the rush to get young women vaccinated before long-term studies have been completed on Gardasil, in order to determine the safety, duration of protection and effectiveness of the vaccine (Lippman et al., 2007; Lippman, 2008; Sawaya and Smith-McCune, 2007; Krowchuk2007; Nelson, 2007). Critics point out the questionable priorities of the government, arguing that the money spent on mass vaccinations could be better spent on better comprehensive medical care, including Pap smear testing, for all women and educational programs to inform the public about HPV and cancer (Lippman, 2008; Ohri, 2007; Gostin and DeAngelis, 2007).

Overall, the sort of lobbying and marketing strategy Merck used with Gardasil succeeded in making the female public aware of the vaccine and about the need to be vaccinated. Nevertheless, in some cases it also raised concerns. Instead of convincing people of the necessity to vaccinate young women, lobbying and pushes to mandate the vaccine tended to undermine public confidence, making some parents distrustful. Many wondered if there were things Merck was covering up given its push to quickly approve the vaccine. As well, these actions brought out discussions about parental and childhood rights and worries about state control over people (Gostin and DeAngelis, 2007; Casper and Carpenter, 2008; G. Ogilvie, interview, May 4, 2010). In this way, many conflated the public scepticism of Merck’s lobbying and marketing of Gardasil with the reported efficacy and safety of the vaccine (Gostin and DeAngelis, 2007; Nelson, 2007; G. Ogilvie, interview, May 4, 2010). Overall, Merck did not ensure community
acceptance of Gardasil or go through the usual public health avenues, which is an important part of creating successful public health policies (Gostin and DeAngelis, 2007; Rosenthal, 2007).

2.4.3 The Gardasil Advertising Campaign

Merck has strongly advertised Gardasil to the public in attempts to persuade all women, even those not included in the public vaccination programs, to be vaccinated. This sort of advertising campaign made some people sceptical of the vaccine (G. Ogilvie, interview, May 4, 2010). In terms of the content of the advertisements, in order to side-step discussions about sexual behaviour Merck chose to promote Gardasil less as a vaccine against a STI and more as a vaccine against cancer, effectively conflating HPV infection and cervical cancer disease (Casper and Carpenter, 2008; Polzer and Knabe, 2009). The advertisements for Gardasil urge women to protect themselves by choosing to be vaccinated. The advertisements avoid discussion of some of the less-favourable aspects of the vaccine, such as its unproven efficacy rates outside of clinical settings or its long-term efficacy. Gardasil is instead presented as the obvious solution to the problem of reducing the risks of cervical cancer and promoted as a new technological triumph for women’s health (Polzer and Knabe, 2009).

The advertising for the vaccine plays on people’s fear of cancer without offering sufficient education on the issues surrounding HPV transmission and cancer (Lippman, 2008; Gilman et al., 2009; Rosenthal, 2008). Gardasil is framed as the right choice for all young women, regardless of age or sexual history. In the advertisements, young women are challenged to be “one less” cancer victim and to “be smart” and get
vaccinated with Gardasil. The advertisements use the language of female liberation and empowerment with slogans such as, “I chose to get vaccinated because my dreams don’t include cervical cancer.” (Rosenthal, 2008). As well, the advertisements co-opt young women’s wishes to be independent while conflating being “smart” and personal “choice”. In this way, the “imperative to vaccinate suggests that young women need not reflect deeply on their decision-making concerning vaccination” (Polzer and Knabe, 2009: 869). For these reasons, some see the advertisements for Gardasil as manipulative, blurring the line between marketing and public health education (Lippman, 2010; Lippman, 2008; Polzer and Knabe, 2009; Sawaya and Smith-McCune, 2007; Rosenthal, 2008; Gulli, 2007; Mendenhall, 2007).

It is argued that Gardasil advertisements are informed by the “healthist imperative” (Polzer and Knabe 2009:869), where people are morally obligated to manage health risks and remain healthy. The advertisements emphasize the idea that young women are responsible for getting vaccinated and thereby ‘protected’ against cancer. Thus, the advertisements emphasize women’s privatised and individualized need to respond to the messages to be vaccinated. To say ‘no’ to vaccination is regarded as a sign of negligence or ignorance of “the facts” about the benefits of Gardasil. This sort of marketing strategy may prematurely rush people into choosing to be vaccinated without being fully informed about the vaccine, including its limitations in keeping women safe from cervical cancer (Lippman, 2008; Polzer and Knabe 2009; Sawaya and Smith-McCune, 2007; Rosenthal, 2008; Gulli, 2007). In this way, women’s “choices” are reduced to acts of consumption (Polzer and Knabe, 2009).
2.4.4 Decreasing Worldwide Rates of Cervical Cancer? Gardasil and Socio-Economic Class

A majority of the women who get cervical cancer in North America are of low socio-economic status and/or have little access to health care. In Canada, Aboriginal women are disproportionately afflicted with cervical cancer (Lippman, 2007; Gulli, 2007). Critics have pointed out that although Gardasil is a promising breakthrough in cancer prevention, set at over CAD$400, it is essentially unavailable to poor and disadvantaged women who need it the most. Furthermore, it is argued by critics that as long as Gardasil remains so expensive, the vaccine will not likely play a large role in diminishing cervical cancer rates around the world. Set at such a steep price, Gardasil is only accessible to the most advantaged groups of women who already benefit from effective Pap smear testing programs (Gulli, 2007; Parkin and Bray, 2006; Agosti and Goldie, 2007; Lippman, 2008; Gilman et al., 2009). As it was pointed out,

By making this vaccine’s target disease cervical cancer, the sexual transmission of HPV was minimized, the threat of cervical cancer to all adolescents maximized, and the subpopulations most at-risk practically ignored. (Rothman and Rothman, 2009: 785).

With government provision of Gardasil, the hope is for the vaccine to be offered to all women so that those most at-risk would have access to it through government funding (Casper and Carpenter, 2008). However, there are so many questions raised about the safety of Gardasil that some parents have decided against getting their daughters vaccinated. For example, in Ontario, the first year Gardasil was offered in public schools, only 49% of those eligible received Gardasil (Gordon, 2009).
Clearly, there are some obstacles with the idea that cervical cancer can be prevented simply through HPV vaccination. Some of this stems from the meanings people associate with scientific innovations and technological entities. Below I will discuss some of the discourse on the safety of the vaccine that have promulgated in both the scientific literature and public media outlets, as these discourse play a role in how people understand and discuss science and technology.

2.4.5 Questioning the Safety of Gardasil

There is quite a bit of discourse concerning the safety of Gardasil. In many of the scientific journal articles on Gardasil\textsuperscript{13}, it is stated that nothing seriously problematic was found during the clinical testing of Gardasil to indicate its lack of safety in the human body and it is claimed that the safety record of Gardasil appears to be quite similar to that of other vaccines (HPV Vaccine Safety Information, 2009). Yet many forms of media, from newspapers to magazines to scientific editorials to youtube.com, present negative discussions about the safety and the lack of long-term studies completed on the vaccine. One major point of concern is that Merck conducted all of the clinical studies used to obtain FDA approval. As well, every study completed on the vaccine was funded in part or in whole by Merck (Lippman et al., 2007). That is troubling to some, considering that Merck has a stake in the vaccine appearing to be safe (Fitton, Farrell and Millspaw, 2008). Additionally, although the vaccine is licensed for nine to 26 year olds, only 1,200 of the 20,000 clinical trial participants were nine to 15 years of age.

\textsuperscript{13} Parkin and Bray, 2006; Kane et al., 2006; Public Health Perspectives, 2007; Godfrey, 2007; Agosti and Goldie, 2007; Goeser, 2007; Goldie et al., 2008; Zonfrillo and Hackley, 2008.
and only 200 were nine and 10 year olds. This raises questions about the safety of Gardasil for girls of that age (Lippman, 2010; Gulli, 2007).

It is argued that it is unknown exactly how safe the vaccine is in the real world (Krowchuk, 2007). In Canada, there has been one death and 18 young women hospitalised after vaccination (No Plans to Halt HPV Shots, 2009). Yet, Canada does not have a vaccine adverse events monitoring system that is publicly accessible, so the overall rates of adverse events are difficult to ascertain and the more reliable statistics are from the United States (HPV (Human Papilloma Virus) & Cervical Cancer Vaccine: Merck’s Gardasil, 2010). As of January 31, 2010, there have been at least 49 deaths and 15,829 adverse reactions voluntarily reported after vaccination in the United States, 8% of reports considered serious, including neurological disorders, paralysis and blood clots (Reports of Health Concerns, 2010). There has been a higher proportion of blood clots reported after vaccination with Gardasil than with most vaccinations, although a majority of these cases are thought to have more to do with complications with birth control pills, smoking, and obesity in the women administered Gardasil (Rosenthal, 2008; Park, 2009; M. Naus, interview, April 20, 2010). There has also been a higher rate of fainting found after vaccination with Gardasil. Fainting has been attributed to “mass sociogenic illness’, the medical euphemism for mass hysteria” (Chapman and MacKenzie, 2007: 1195), whereby youth, especially young women, provoke anxiety in one another (M. Naus, interview, April 20, 2010). All of the serious adverse reactions, including deaths, have been dismissed by Merck and the FDA as purely coincidental (National Vaccine Information Center, 2006). As M. Naus, a public health physician and researcher at the British Columbia Centre for Disease Control (BCCDC), said during an
interview, “Bad things can happen to people at any time, including after they get the vaccine but in the vast majority of instances they’re not causally associated with the vaccine.” (April 20, 2010).

Compared to the number of doses administered to women, the rates of adverse events after vaccination with Gardasil is considered minimal by some physicians and not a cause for concern. Some physicians find these outcomes reassuring because the vaccine has not been associated with more serious or unusual side effects as has been seen with other vaccine (Gordon, 2009; Chitale, 2009; G. Ogilvie, interview, May 4, 2010). In order to reassure people, health care providers in British Columbia were more careful to track adverse events after vaccination with Gardasil. They found that the rate were very similar to other vaccines (G. Ogilvie, interview, May 4, 2010). Yet, the fear of adverse reactions to Gardasil has continued to be a point of concern for many contemplating vaccination.

Gardasil has been swept up into a more general fear and anxiety about vaccination that has been more and more prevalent in the past few years (Gilman et al., 2009). The expression of fear of adverse reactions after vaccination with Gardasil and other vaccines may relate to how vaccines work. Gardasil and other vaccines are not geared toward therapy and treating the sick so much as prevention and containment amongst people who are currently in good health. Caution and fear of vaccines may have to do with the fact that vaccination offers the benefit of being absent of disease. People in North America no longer see the effects of the diseases that vaccinations prevent, such as polio. Thus, there is more “rhetorical force when [the rates of disease are] placed against numbers of vaccine adverse events, even if the latter are very few.”
As Dr. Monika Naus explained during an interview,

[T]here’s a very nice diagram that shows that this vaccine anxiety increases as the disease becomes less prevalent. So basically you introduce a program...the disease is here, at some high level, you introduce a vaccine program the disease comes down. People stop seeing [the disease] and people start becoming suspicious of vaccine safety and the trust in vaccines declines and the uptake of vaccines drops. An epidemic occurs and people start seeing children in intensive care with measles and protusses and they begin to want [their children] to be vaccinated again. And probably after some period of time the same cycle will repeat itself. (Interview, April 20, 2010).

This is especially true in the case of cervical cancer, which is a chronic disease that often takes 20 to 40 years to become a health concern and is not obvious disease to others. Thus, the adverse events reported after vaccination with Gardasil becomes highlighted in the absence of a quick progressing and disabling disease (M. Naus, interview, April 20, 2010).

2.4.6 Questioning the Effectiveness of Gardasil

Beyond questions about the safety of Gardasil, there have been questions posed about the effectiveness of Gardasil in preventing infection from HPV and cervical cancer in women (Haug, 2009; Public Health Perspectives, 2007; Godfrey, 2007; Zonfrillo and Hackley, 2008). Gardasil was approved by the FDA and Health Canada, as well as endorsed by various PMAs, 11 months before the clinical trials had been fully completed. At the point of approval, Gardasil had only been demonstrated to reduce the prevalence of persistent infections and the rates of lesions in women and no overall effectiveness in preventing cervical cancer had been established (Haug, 2009). It has only been observed that, “[P]recancerous and cancerous changes of the cervix
developed in 1% of unvaccinated females, and 0.01% in vaccinated females” (Public Health Fact Sheet, 2007:462). In fact, lesions that were found in women during the clinical trials were treated on an on-going basis, which is an ethically sound practice but it makes it difficult to determine if the vaccine itself was responsible for the reduction in lesions (Lippman, 2008). Since it takes 20 to 40 years for cervical cancer to develop in a small number of women previously infected with HPV, critics have asked how the vaccine is being declared effective (Haug, 2009; Morris and Nguyen, 2008; Goeser, 2007).

The critiques of Gardasil are countered with clinical statistics that indicate that antibodies were detected in most women included in the clinical trials, which indicates an immune response to HPV (Dewar et al., 2007; Zonfrillo and Hackley, 2008). As well, as was pointed out by Dr. Monika Naus at the BCCDC, "[T]here’s agreement at the international level, [with] expert committees. The natural history of cervical cancer is well understood and…these lesions that occur prior to the development of invasive disease of cancer in the cervix are early indicators [and] demonstration of prevention of [precancerous lesions is] highly correlated with the prevention of invasive cancer." (Interview, April 20, 2010) In the early phases of the development of a new pharmaceutical product, it is not unusual to have unclear answers about efficacy but it is suggested that there be caution in describing the benefits of this vaccine in overly optimistic ways (Dewar et al., 2007; Lippman et al., 2007). In order to determine with more certainty whether the vaccine prevents cervical cancer, long-term studies were requested by the FDA and Health Canada but to this day, no studies of this nature have been published (Dewar et al., 2009).
Another aspect of the science behind Gardasil often neglected in the advertising but pointed out by critics is that during the course of the clinical trials, the vaccine has only been shown to be effective for about five years (Szarewski, 2010; Lippman, 2010). This may mean that a booster shot or two will be necessary to confer lifelong immunity to HPV (Public Health Fact Sheet, 2007; Morris and Nguyen, 2008; Lippman, 2010). Since the vaccine cost of about CAD$140 per shot, it may present a financial burden for women to have to invest more in the vaccine later in life (Gulli, 2007). Young women who are vaccinated could find themselves lacking protection during a time when they are most sexually active and at-risk for HPV infection (M. Naus, interview, April 20, 2010).

For this reason, Australia struck a deal with Merck before beginning a public vaccination program amongst young women in public schools. The Australian government first negotiated the price of Gardasil down and if a booster shot is found to be needed, Merck must provide them free of charge (Lippman, 2008). However, this same deal was not made in Canada before the government began its public vaccination program.

Questions have been posed about the real world and long-term effects of wide vaccination with Gardasil. Whether Gardasil is effective in the real world is also unknown, since all studies were completed in clinical settings (Lippman et al., 2007). Although Gardasil was shown to be over 95% effective in the prevention of precancerous cervical lesion among women who had never been infected with HPV, it was shown to be 44% effective in the general population. This is thought to be due to the number of people previously infected with HPV before vaccination and indicates the limited ability of Gardasil to protect against HPV infection and cancer (Burchell et al., 2006; Zonfrillo and Hackley, 2008; Stephenson, 2007).
Furthermore, Gardasil is supposed to confer immunity to the HPV strains 16 and 18, which account for 70% of all cases of cervical cancer but there are still other strains of HPV that are thought to cause the remaining 30% of all cervical cancers not protected through vaccination with Gardasil. It has been argued that although vaccination with Gardasil may prevent infection from four of 40 genital HPV strains, this may lead to the proliferation of the other strains of HPV not included in the vaccine (Zonfrillo and Hackley, 2008; Sawaya and Smith-McCune, 2007; Lippman et al., 2007). As well, because Pap smear testing is best able to detect abnormalities caused by the HPV strains 16 and 18, the elimination of infection with the HPV strains 16 and 18 through vaccination could decrease the ability to detect cancerous strains of HPV through Pap smear tests, leaving women more vulnerable to cancer (Zonfrillo and Hackley, 2008). It has been suggested by Merck that the administration of this vaccine may carry a hefty price tag but that that investment would be offset by reducing the need for annual Pap tests (Carreyrou, 2007). Since this vaccine is not 100% prevention against cervical cancer, the arrangement for fewer Pap tests is less than desirable if cervical cancer is to be combated (Zonfrillo and Hackley, 2008). However, this vaccine may lead to fewer abnormal Pap smears and follow up biopsies, colposcopies, and surgical procedures, meaning less financial burden on governments (M. Naus, interview, April 20, 2010).

The clinical findings indicate that the vaccine is highly efficacious in preventing infection from the four strains of HPV, especially in women who have not been previously infected with those four strains of HPV (6, 11, 16, and 18). However, critics have argued that Gardasil has not been shown to be truly effective in what it purports to do; prevent cervical cancer in women. These critics point out that there are few clinical
studies completed and no long-term studies published to date that provide findings on the efficacy of the vaccine over time. This could mean that women are unprotected later in life from HPV infection or could incur more financial burden getting a booster shot later in life. For these reasons, some people have cautioned against wide vaccination of young women. As Dr. Abby Lippman (2007) writes,

> A careful review of the literature...reveals a sufficient number of unanswered questions to lead us to conclude that a universal immunization program aimed at girls and women in Canada is, at this time, premature and could possibly have unintended negative consequences for individuals and for society as a whole (484).

### 2.5 Vaccine Perception and Acceptance: An Analysis of the Literature

A number of articles (Chan et al., 2006; Slomovitz et al., 2006; Sauvageau et al., 2007; Freidman and Shepeard, 2007; Ogilvie et al., 2007a; Ogilvie et al., 2007b; Caron et al., 2008; Buchanan 2008; Christian, et al., 2009; Mortensen, 2010) have discussed perceptions of Gardasil and vaccine acceptance amongst women and the parents of children who old enough to receive the vaccines. A majority of these articles employ quantitative methods, including telephone surveys and questionnaires administered to large groups of people with the resulting data used to generate statistical rates of vaccine acceptance. These studies found that vaccine acceptance was correlated to people’s educational level, prior knowledge of HPV and/or cervical cancer, fear of cancer, and beliefs in the effectiveness and safety of the HPV vaccines.

These studies lack an in-depth evaluation of individual perceptions, motivations, and emotions. Many of these studies did not allow for face-to-face interactions or organic discussion between researcher and research subject that may have led to
answers unanticipated by predetermined survey questions. By employing a health behaviour model to help guide the research, these studies minimize the voices of participants and instead rely on existing research theories that are based on the science of human behaviours and attitudes. These studies determine that people are not 100% accepting of the HPV vaccines and those unwilling to accept vaccination were viewed as ignorant and in need of education concerning the threat of cervical cancer and the merits of HPV vaccination. With the implicit argument that HPV vaccination is a desirable decision for smart, health-conscious people, this research plays a biased role in promoting the vaccines and encouraging people to get vaccinated with Gardasil for their own benefit and the benefit of society, a health decision that is promoted by the medical establishment, pharmaceutical industry, and the government. Thus, this literature forms a part of the governmentality apparatus.

2.6 Conclusion

I have narrated the science behind Gardasil from an omniscient perspective, using the accepted convention for a scientific literature review. What these conventions mask, however, are several key questions. What about the science behind Gardasil is elevated to the point that it is considered beyond dispute? What aspects of the science is forgotten or not often discussed? Which actors use what part of the science to understand and discuss HPV, cervical cancer, and Gardasil? How much of the science behind Gardasil is reaching everyday people? How does the science affect the way people understand the vaccine and make decisions for vaccination?
The science is not inert as it appears when represented in a literature review; it is part of how the people I have interviewed know and understand of Gardasil in relation to themselves. While interviewing Dr. Gina Ogilvie, the Associate Director of the Division of STI/HIV Prevention and Control at the British Columbia Centre for Disease Control, we discussed the advertising for Gardasil and the role of science in the messaging behind the vaccine. Dr. Ogilvie remarked on the role of science in the messaging on Gardasil:

I think we've really tried hard to have science be part of it but again, science is a balance, right? Because people start to glaze over when you talk too much science. So it's a balance that we've certainly strived to have the science be at the forefront of Gardasil discussions because I think when you know the science, you don't have any questions that this is a good intervention. I mean, when you actually know science, it's a no brainer.

Witness the comments of Dr. Monika Naus, the Associate Director of Epidemiology at the British Columbia Centre for Disease Control:

It's hard to know how to communicate science effectively to people. Um, nobody wants to look at a graph or have a scientist in a white coat saying how many years it's taken us to develop this and how safe it is and a lot of that will be deemed to be suspect anyway, it's Merck trying to sell their vaccine.

Later she said:

[This knowledge actually hasn't been out there for a very long time and I do think that it takes a while for a new paradigm to penetrate into the public. It's like, you know, the US Surgeon General's Report on tobacco and lung cancer that came out in, what was it? The early sixties?...1964 or something like that?...And I'm sure that it took at least 20 years for people to accept that and know I think...every child knows that and it's only older adults that are in denial and probably [there is] a similar kind of thing with HPV...]
Then Dr. Naus remarked on the role of scientific innovations like Gardasil in changing health outcomes:

the nice thing about vaccines, by and large, is that they are the magic bullet. You don't need to have sustained programs, comprehensive infrastructure, well-qualified, trained professionals, you don't need society-wide changes with respect to the status of women, better education, science education for girls, affirmative action, you know, all of those things that improve the status of women in the long run [that] are much harder to just throw money at, right? Whereas you can throw money at Gardasil and actually have a…concrete output that you can count on at the end of ten, twenty years.

A family physician and a registered nurse spoke about a talk put on by the British Columbia Cancer Agency a few years ago about HPV vaccines and cervical cancer. Notice how the registered nurse frames her knowledge on the science of Gardasil as a logical choice for women in order to prevent cervical cancer:

We went to go listen to one of the Oncologists for BC Health…last, oh, almost two years ago at [the university]…Bottom line of her message is, this is a horrible, devastating disease. If it's preventable, and…looking after these women in end-stage cancer when it was something preventable, we just didn't realize the correlation for years. And now that we know, why would anybody not be vaccinated? Basically that was the main thing. And I think, the Gardasil covers four, I think there's two others that could be cancer-causing, up to six but covers the main ones. Her message was, if any are preventable, why would you not?

Similarly, the family physician said:

I heard Diane Miller speak, and she’s the head of BC Cancer Agency and she spoke two hours and you know she’s just so positive about it. You know, she gave all the data and she just was like, really there isn’t a downside, we should vaccinate. So anybody who wanted the vaccine, I would go for it. And we’ve got enough safety data now to know that it’s safe and people can be vaccinated.

A male participant, Chris expresses the issues about science differently, saying,
People worry about their safety when anything is uncertain. But that’s science, that’s faith, that’s everything...I’ve got to say that I trust the Canada Health, I trust the CDC, more than anything. I trust that if there were a rash of deaths or a rash of crazy, crazy side-effects like people growing extra arms and stuff... The thing I trust more than anything is the propensity towards over-reaction from the media so, I trust that if that were happening, I would know about it, immediately. Immediately... I choose a dude in a lab, went to university for eight years, worked for fifteen more, developed a vaccine, tested it to the best of his ability in a time frame and has not as of yet blown the whistle on the company. I trust science... I don’t trust the pharmaceutical industry, I don’t trust the insurance industry... But what I do trust is individual people in the trenches doing the stuff that they love because they don’t want to kill people, they don’t want that blood on their hands. It may just be about the money but homeboy working on the vaccine, he doesn’t want people to die because that’s on him. So if there was a problem with it, he’d be coming out with it... People try to apply conspiracy to everything because conspiracy is a lot more exciting that what is actually true. Reality is very banal, it’s very boring. I don’t buy into the conspiracy, I don’t buy into people like, these people want you to die! Or get really sick so they can continue treatment. Bullshit. That’s bullshit and it can’t be a conspiracy because if there is one thing... I can trust it’s that no group of people larger than five that can keep a secret at any one point. Somebody will write a book and try to make money off the secret (laugh).

Different people express their viewpoints on the science behind Gardasil with the researchers and health care providers having a particular conception of the science behind Gardasil, seeing it as sound and persuasive and making vaccination seem logical for young women. Chris has a different analysis of the science and controversy surrounding the vaccine, choosing to place his trust in science, the people who develop that science, and the institutions that uphold it. In these quotes, particular aspects of the science come to the forefront, including the safety and effectiveness of the vaccine, the trusted institutions that support the vaccine, and the role of the vaccine in decreasing mortality, aspects that portray the vaccine as a worthwhile investment. Other issues about the vaccine, such as the cost of the vaccine or the social and structural constraints
to health outcomes that make the picture more complex are either not discussed or dismissed.

These understandings about the science of Gardasil play a role in how people relate to themselves. Drawing on Joseph Dumit's book, *Picturing Personhood*, a process of objective self-fashioning is occurring in relation to Gardasil. Objective self-fashioning is the process of taking facts about ourselves, our bodies, susceptibilities, traits, propensities, etc. that science produces and that we have heard, read or encountered through media and incorporating them into how we understand ourselves and live our lives. How does the science behind Gardasil play out in people's understanding of themselves, their bodies, health, gender, and sexuality? These issues will be explored below.
CHAPTER 3: “IT’S A GIRL THING”: ENGENDERING GARDASIL

3.1 Introduction

[When you just told me that Gardasil has been approved for men, I was like, does it really matter? Because, in my mind it’s a girl thing and that’s something that would be really hard to change” [Dawn, 23, Master’s student].

Dawn is observing an interesting aspect of Gardasil; that to some, the vaccine is “a girl thing”. What does this mean? How can a medical innovation created for the prevention of an STI that occurs equally in males and females, is licensed for use in both males and females, and shown to be advantageous in both males and females be considered something specifically for females? When thinking about Gardasil, I too came to identify it as something for females, so much so that I did not initially consider interviewing males about the vaccine, even after the vaccine had been licensed for men. It was only when I was contacted by a man who wished to discuss his experiences being vaccinated with Gardasil that I questioned my own assumption.

Dawn’s assertion that Gardasil is “a girl thing” may have something to do with her own particular experiences. Dawn was vaccinated along with her younger sister three years ago under the suggestion of her mother. Her mother had a benign ovarian cyst, which made her worried about the prospect of her daughters suffering from harm to their reproductive organs. Dawn thought that her mother had decided to get her daughters vaccinated when she heard about a new vaccine that protects “your reproductive
organisms, which is really important and moms care about that sort of thing, especially because she had a cyst. So I think it still plays a big part in her mind about our sort of medical future as well.” This family health history played a role in Dawn’s understanding of cervical cancer: “I think it’s like any sort of cancer, you start with a cyst or two in your cervix and you know, it can lead to other things like, you can't have babies and...it could spread to your entire body like any other sort of cancer.” The use of the word ‘cyst’ indicates to me that she has applied her mother’s health history to other diseases involving female reproductive organs. Thus, Dawn’s experiences with Gardasil are connected to two important women in her life, her mother and sister.

Beyond Dawn’s personal experiences with Gardasil, an argument can be made that Gardasil is engendered female. It is quite clear that Gardasil has been heavily marketed towards women and that it was licensed for use in women three years before it was licensed for men. Since cervical cancer is a disease that can only exist in female bodies, a drug that prevents such a cancer could be assumed to be useful only for women.

Another process is occurring here. Why did Dawn’s mother think it was important to have her two daughters vaccinated? She is the responsible woman who is

14 We have already seen (in Chapter 2) that the focus on cervical cancer was a clear marketing decision. Although it could be argued that cervical cancer leads to higher rates of morbidity and mortality than genital warts, genital warts represent a large amount of health care dollars to treat as it is one of the most common STIs. This is not to mention psychological stress people endure when they are afflicted with genital warts (Doctor, interview, May 19, 2010; G. Ogilvie, interview, May 4, 2010). By emphasizing that Gardasil protects equally against genital warts, Merck may have been able to convince more men of the need for vaccination and created a bigger market for their vaccine.
interested in, and responsible for, the health of her daughters. This has shaped Dawn’s outlook on health, making her believe that “if [people] think something is wrong with them they should probably check it out and…just be informed with what’s happening…like new vaccines. The news inundates you with so much…science…it’s your responsibility to read it.” Dawn also discussed her relationship with her doctor in London, England, where she’s completing her Master’s:

…now that I’ve been away [from home] for two years, I have my own doctor and I feel like I can share more. So I feel a lot more empowered in myself…getting checked…I feel like I can take control of my own health…

Dawn presents herself as someone who is responsible for her health, receptive to medical innovations, and is aiming to prevent disease, a position that has been created for her by her mother, sex education classes as a teenager, doctors, health care advertisements, etc. In this way, Dawn’s story highlights the gendered subjectivities embedded in vaccination decisions.

To understand the gendering of Gardasil, I asked: how has Gardasil been targeted at women and how do participants view this gendering of Gardasil? How are females gendered such that Gardasil seems like a compelling medical innovation for them to consider? What subject positions are females in that allow them to be interpellated into the highly gendered Gardasil, risk, and prevention discourse? How do we account for women taking for granted that they alone should be responsible for reproductive and sexual health care?

In order to explore these questions, I will examine the viewpoints of participants to illuminate the gendered messages embedded in Gardasil advertisements. Then,
looking at female participants’ experiences with Gardasil, I explore women’s receptiveness to Gardasil and the need they feel to be responsible for their health care, employing historical literature to account for women’s current subject positions\textsuperscript{15}.

3.2 Perceptions of a Gendered Advertising Campaign

In focus groups and interviews, some participants claimed that they did not know very much about Gardasil but they knew that it had something to do with women. Other participants were aware of Merck’s advertising campaign and described advertisements they had seen. Nicole, 21, and an undergraduate student, had been vaccinated with Gardasil. She recalled the advertisements she saw of Gardasil before she chose to be vaccinated:

[On] The website I was on there were a bunch of young women and their mom reading and it was very much like…there is a certain level of empowerment. I’m taking control. Like this [advertisement-Figure 1] is very flowery…it’s sort of taking the fear out of it…

Later in the interview, Nicole remarked on the print advertisement (Figure 1) that I showed her:

It's kind of vague about what the—like, it's all small print about what the vaccine actually does. I don't know, it's kind of like trying to make it seem cool…At the same time (pause) it's talking about dreams, I don't know what that has to do with HPV but I guess it's…it's bringing up the idea of cervical cancer, not, this is what it looks like, ahh, you might die!

\textsuperscript{15} I have devised and asked a number of questions of participants with the aim of understanding some of their life experiences and various outlooks on a variety of subjects. Not enough people are involved in this study to generalize and make broad claims so I would like to bring to light the varying experiences and outlooks of the people in my study.
Figure 1: Print Advertisement for Gardasil Shown to Participants During Interviews

GARDASIL is the only cervical cancer vaccine that helps protect against 4 types of human papillomavirus (HPV): 2 types that cause 70% of cervical cancer cases and 2 more types that cause 90% of genital warts cases. GARDASIL is for girls and young women ages 9 to 26. The duration of protection of GARDASIL has not been established.

SELECT SAFETY INFORMATION:
Anyone who is allergic to the ingredients of GARDASIL, including those severely allergic to yeast, should not receive the vaccine. GARDASIL may not fully protect everyone, and does not prevent all types of cervical cancer, so it’s important to continue routine cervical cancer screenings.

GARDASIL is not for women who are pregnant. GARDASIL does not treat cervical cancer or genital warts. The side effects include pain, swelling, itching, bruising, and redness at the injection site, headache, fever, nausea, dizziness, vomiting, and fainting. GARDASIL is given as 3 injections over 6 months. Only a doctor or health care professional can decide if GARDASIL is right for you.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088. Please see the Patient Information on the next page to discuss it with your doctor or health care professional.

GARDASIL
(Human Papillomavirus Quadrivalent (Types 6, 11, 16, and 18) Vaccine, Recombinant)
gardasil.com 1-800-GARDASIL

For more information on the availability of GARDASIL through the Merck Vaccine Patient Assistance Program, visit gardasil.com/revaccines or call 1-800-GARDASIL.

GARDASIL is a registered trademark of Merck & Co., Inc. Copyright © 2009 Merck & Co., Inc. All rights reserved. 215018/0802/12-08-RDP-C09.
Here, Nicole views some of the advertisement as empowering and positive. Through this kind of messaging, she believes people will more likely to make the decision to be vaccinated. Jennifer, 24, a Master’s student, had been vaccinated as well. She remarked on the print advertisement I provided during the interview, saying:

I think it is important to publicize Gardasil but it definitely needs to be coupled with where to find more information and how to make the decision. So I guess, even though it seems a little funny, like you can tell just by looking at it [advertisement-Figure 1] who the target group is…I guess it's important to catch their eye and make them aware of it in the first place. So if…there's someone out there who’s never heard of it or someone who's only heard of it from this advertisement, I think…the person…is slightly better off.

Where Nicole and Jennifer emphasized the positive aspects of the advertisements, other participants who were also pleased with their decision to be vaccinated became critical of the advertising campaign when I presented the print advertisement to them. Chris, 21, undergraduate student and a big supporter of Gardasil, discussed with me what he thought of the print advertisement:

I read Cosmo for fun when my mom or sister have them and I’m like, look, look at this! It’s the same ads. The drug companies always have the same ads…with someone looking self-satisfied or something…The only difference is that person who is looking self-satisfied and happy is whoever…they're aiming at. This is your average, say 24, fashion conscious, you know, maybe, higher education, like arts, Bachelor of Arts…type person. You know, that’s just the image they want to portray…Look [reading from the advertisement], ‘I chose to get vaccinated because my dreams don’t include getting cervical cancer’. That’s fair, her dreams probably don’t include cervical cancer…I mean, comma, 'I’ll do everything’, it’s very colloquial, like this is her talking but it’s not, it’s some copy editor in there advertising department saying this and it’s trying to assign this to this girl. [Continue reading] ‘Anything to help my dreams come true, whatever they might be’. That very much gives her a sense of agency, a very feminist sense of empowerment, saying, don’t listen to all the fluff, you make your choice for health. Don’t listen to you church, your mom, your dad, your school, the TV, whatever
anyone says, you make the choice for you. But if your life includes cervical cancer, don’t do it. So it paints you into a corner, right? [Continue reading] ‘So when my doctor said that Gardasil helps protect me from cervical cancer’ [thumps hand on table]. Right there, invocation of doctors, they have been doing that since Reader’s Digest outing cigarettes for being bad. Make a doctor say, ‘I smoke Lucky Strikes’ and everyone smokes Lucky Strikes…[Continues to reading from the advertisement] ‘And other HPV diseases’. See, you’re getting more for the price of one. People love freebies…So if I can get more than one disease covered by one vaccine, that’s value, value added. [Continue reading] ‘I figured how could I not’. How could you not, there’s no downside except for this [points to the section of the advertisement that lists the known benefits and risks of Gardasil]. (Laughing.) Don’t look at this [small print], look at this [points to the smiling woman in the advertisement]. Bring your eye to the….fine print…[Reading]: ‘Gardasil is the only cervical cancer vaccine that protects against four types of human papillomavirus, HPV, two types that cause 70% of cervical cancer’, that’s a kind of stat that advertisers just kill over. That’s brilliant stats, I have it on paper, I have the math. That’s brilliant. [Continue reading] ‘And two more types that cause 90% of genital warts disease’ (laughing). That’s 90%, that’s awesome! [Continue reading] ‘Gardasil is for girls…and young women ages of 9 to 26’. Nice, to [age] 26. She’s probably 23 or something [referring to the woman in the advertisement]. [Continue reading] ‘Duration of protection has not been established’. Now that—that kind of sucks. Well everybody’s like, I may have to take it again at some point but after a certain amount of time she won’t be (pause) she’s thinking, get the Gardasil thing and after I exit the dating world, won’t be such a big deal….The person I’m with probably won’t have HPV, or definitely won’t have HPV because I have agency, right, I’ve chosen. [Continue reading] ‘Not for women who are pregnant’. That’s usually a silver bullet. Like, if it’s not good for my baby, how is it good for me?

Sandra, 23, undergraduate student, made remarks about the advertisement she had seen for the vaccine: “they’re sort of, like multi-ethnic women talking about empowerment and the importance of taking care of your health and sexual health, they’re kind of a little bit vague and they get into, like HPV can cause cervical cancer.”

Discussing what she thought about the particular advertisement I supplied, Sandra said, “I think it’s just an ad…I get really cynical with the commercialization of female empowerment (laughter)…you can’t use that for selling things! So it, so it’s so silly. But
yeah, I think that this is an ad that is trying to get people to think about (pause) their health and safety but in an empowerment framework.” Dana, 19, undergraduate student, commented on the advertising for Gardasil:

I think it’s geared towards some definitely their target age group but also I think that the kind of focus and emphasis on her dreams, you know, that they don’t include cervical cancer, it’s kind of, it’s as if there is no alternative….it’s kind of implying that if she doesn’t get the vaccine then her dreams do include cervical cancer and that is kind of painting this one sided picture…It’s an ad, so…it looks pretty and it looks inviting but then…you know, with her dreams coming true and also they’re bringing in her doctor in there too. So it’s kind of like referencing someone that hasn’t really had an influence, they are just throwing it in there. I think that they are just deceiving words and it’s kind of important to be wary…the way their wording it, you’re inclined to protect yourself when you see the perspective of your entire life and your dreams …put at a stop because of cancer. You’re kind of inclined to want to avoid that.

I asked participants how Gardasil might be advertised to men. Sandra said,

Well, I suppose—they can’t use the whole female empowerment thing…There’s a lot of the condom ads and stuff that are really funny and kind of like button-pushing so I’m sure that it would pretty easy to kind of do a little advertisement of, you know, men just not having to worry about this one specific STI. I think that it would probably be…well advertised in the different male magazines that talk about sex (laugh) all the time.

Caroline, 22, undergraduate student said: “[T]hey're not going to put girlie doodling on their ads. I don't know. That's going to be a tough one. They might have to put a guy on there that's pretty tough looking and all like macho and strong…I guess it will be in the same way but just changing the appearance of their ads.” Dana commented:

I think that the basic message of the ad we just looked at with dreams coming true and not getting cancer or viruses, I think that that applies to everyone but I think that whereas these kinds of ads are really feminine, they will just try to make it really masculine, probably powerful, just really stereotypical masculine butch I think. Yeah, I think that the over-arching message will probably be the same...the [need to] protect yourself...because that applies to everyone I think.
Cynthia said,

Some trucks and some ladies (laugh). You know, macho. I'm guessing it won't be as like, 'cu cu la praline' is a saying we have in French that is just really flowery and romanticized...they'll probably spin it to like it seem like you'll be more of a man, you know because it's usually like that in the commercials. So that's the only way. We can't really laugh it off almost because that's almost how it always seems to be with genders. For men it's either funny or it's like, you're really sexual and you're a man and you're testosterone filled and with women it's like, oh I've got dreams and hopes and aspirations and blah, blah, blah [speaking in a high pitched, mocking voice]. So, that's why it will be interesting to see if they stick with that dichotomy that you usually see in other commercials, 'cause I can't really picture a guy sitting there with a white screen like with the women's commercials, like, I got it, you know? It's just too cheesy and men would probably—well now I'm stereotyping, women laugh them off too but men would be less likely to get it I think, even if it's stereotypical to say that.

Jennifer contested this viewpoint:

I don't think they're going to do the opposite of this [advertisement], I don't think they'll have a guy, skateboard and the font being graffiti style or something (laugh) because guys don't tend to go for that as much as the girls do with the stereotypes, the feminine draw. So it's probably going to be more along the neutral side and I think that they'll acknowledge that in the past it's been advertised for women so they may say, 'Not just for women, also for you' (giggle).

Participants were able to highlight gendered aspects of the advertisement.

Several participants pointed out that the advertisements for Gardasil use women’s empowerment messages. The employment of empowerment messages relates the choosing of a vaccine to individual agency. In regards to the print advertisement that I provided, Nicole said, "[T]here is a certain level of empowerment. I'm taking control..." Later she became a bit more critical, saying, "[I]t's talking about dreams, I don't know what that has to do with HPV." Chris too discussed this aspect of the messaging in the print advertisement. Reading from the advertisement, he said: "Anything to help my
dreams come true, whatever they might be.’ That very much gives her a sense of agency, a very feminist sense of empowerment, saying...you make your choice for health...” Sandra also discussed this, saying, “[It’s] the commercialization of female empowerment...you can’t use that for selling things!” Chris argues that the use of female empowerment is manipulative; while the ad says that women are empowered to choose what they want, a fear of HPV and cancer is conveyed, making it seem that if women don’t get vaccinated they may die. This “paints you into a corner,” where the only ‘smart’ decision is to be vaccinated.

I was surprised by how critical Chris was about the advertising for Gardasil. He contacted me because he was confident in his decision to be vaccinated. Yet, he was not alone in being critical of the advertising campaign; many participants, including those who were happy with their decision to get vaccinated, found themselves unable to say positive things about the Gardasil advertisements. As Dana pointed out, “I think that they are just deceiving words and it’s kind of important to be wary.”

Posing the question, how might Gardasil be advertised to men elicited answers that were quite telling and helped me understand people’s perceptions of the gendered messages in Gardasil advertisements. Participants mentioned the stereotypical female aspects of the Gardasil advertisements in order to devise a male comparison. Participants viewed the use of flowers, whimsy, romance, and dreams as particularly

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16 These critical expressions relate to living today; people are aware of the manipulative power of advertisements and are told to be critical of it. As well, participants are all university educated and aware of feminist arguments against advertisements that objectify women and convey that a particular middle-class lifestyle can be attained through consumption.
feminine and the stereotypical male counterparts were strength, power, overt sexuality, and humour. These reflect dominant gender stereotypes that women are innocent and vulnerable, requiring protection through biomedical innovations. These messages interpellates (Althusser, 1970) young women into risk and prevention discourse, conveying the message that women must be receptive to these messages and decide to be vaccinated in order to protect their health or else suffer from cancer and death.

3.3 Receptive and Responsible: Women’s Relation to Health Care

At the beginning of this chapter, Dawn expressed a view that Gardasil is a thing just for “girls”. I informed her that Gardasil has been licensed for males since February 2010 in Canada, which was news to her. In response, Dawn said, “[Gardasil is] not just for girls, guys can get it too. But in my mind I don't think it'll be as effective as it's been in advertising for women.” Why would women be more receptive to this vaccine than men?

Kate, 24, is a Master’s student with plans to enter medical school. Some of her friends in medical school had introduced the vaccine to her in conversations. Kate said, “[T]he first contact I had with it was…with a friend from med. school and it was like, ‘I’m getting this vaccine’…And that was the first conversation about it, it was [considered] such a great thing.” She had discussed the vaccine with her doctor and been given a prescription, but remained undecided about vaccination.

She recalls how she felt after seeing advertisements for Gardasil:

[I]t makes you think about what you should be doing. A new treatment or a new preventative measure’s out there and…for myself I have to make a decision if I’m going to have [Gardasil] or not. So yeah, it makes me think about my health or my future health. I mean, if I don’t have this, am I
going to have cervical cancer in 30 years from now? That’s what it makes you think straight away when you hear about this.”

Later she compared the print advertisement I showed her (see Figure 1) to Gardasil advertisements that she had seen on television, saying,

I have seen commercials for [Gardasil] (pause) and they were a bit more serious than this. With this one you see flowers and the girl is smiling and it’s looking kind of hopeful for her future. The ones on TV are daunting, a bit more blaming like, you’re being irresponsible if you don’t get it.

She continued:

[S]ome women might have feelings of guilt if they’re not part [of]...this medical advice to get the vaccine. Get the vaccine, don’t get the vaccine. If they don’t get the vaccine are they going to feel guilty? Some women might because they are not making the decision to protect themselves...once you bring together the topics of cancer and bring the topic of sex into a conversation, people are definitely going to be feeling guilty about getting it or not. Generally, the idea is out there [is] that you don’t want to be seen as promiscuous and...irresponsible regarding...your sexual behaviour and you don’t want to be seen as irresponsible regarding cancer, right? These are serious things and people don’t want to be seen as careless, I think, especially involving those two subjects.

Kate discussed the need for preventative health care:

Yeah, I get my Pap smears like every year, every couple of years. So...that’s definitely on my mind and I think that I act preventatively against that, right? My mom lived through cancer so and that’s definitely something...on my mind. Me, my family, so many people are affected by cancer.

Although she had not been vaccinated at the time of the interview, she was still contemplating it and hoped to come to a decision soon.

Dana, 19, a first year undergraduate student, had Gardasil recommended to her:

“Actually, oddly enough, the person who was adamant about me checking into this
vaccine was my dad...Yeah, so he was very much like, ‘You’re in the targeting age, you better check it out, it’s pretty important.’ And really kind of, not pressuring me but you know, pushing me in that direction. So it wasn’t really my mom that was too concerned, it was my dad.” Dana had learned a bit about HPV in high school health classes but often did not feel confident in her answers to me. Nearing the end, she reflected on the interview:

“[Gardasil is] definitely something worth looking into and questioning because, I mean, for someone like me, as you can see, a lot of the questions I didn’t have a solid answer to and I think that’s kind of worrying because more people should be more aware of these health issues that— I mean, basically, it’s your body so you should know what you’re doing to it and what it’s about.”

Dana also discussed feeling the need to take responsibility for her health. “[I]t kind of makes me wonder if I’m doing the right things. And not so much vaccinating myself but more eating right foods or doing as much exercise as I should.”

Some participants like Joyce, 21, undergraduate student, expressed a sense of happiness with getting vaccinated: “It’s something that I can do for myself, I don’t feel obligated to do it but I feel…empowered by it!” However, other participants questioned the assumption that women should take responsibility for their health and get vaccinated17. Rachel, 25, a Master’s student, did not think Gardasil should be a priority for women: “if you have a GP and you have access to their services and you’re not…a vulnerable group and…you are likely to get a Pap smear every year in which case you

17 These people were expressing a critical feminist perspective on Gardasil, which they had likely been exposed to through their university education and then applied to their lives.
would identify the virus and this has been what has been working for many years.” She
did not seem very concerned about cervical cancer: “I have a GP; I get a Pap every
year. Is it really necessary? And I'm still going to need a Pap if I get the Gardasil
vaccine. So is it necessary? I'm wondering.” She discussed her introduction to
Gardasil:

I think it was brought up…at my…physical…and I just said that …I hadn't
done enough research to be fully convinced…that it was beneficial to me
and I think (laugh) that the doctor was a little surprised…My mom just
said to me, ‘Oh, of course you have to get the HPV vaccine, I'll pay for it’
and she was shocked when I said I didn't want it (giggle). And then what
happened was that we had a whole discussion and my sister was there
and [for] my sister, it was recommended by my doctor…But she said, ‘Oh
my god, but I got it!’ And I was just like…she just hadn't taken the time to
think about it. I think that's so problematic. Yes we should trust our
physicians but you have to also know what it is you're agreeing to. Spend
ten minutes, you can Google anything, you can Wikipedia
anything…[During an appointment with my GP, she] was just sort of
looking through my chart and she said, ‘Is there any reason we haven't
given you the HPV vaccine?’ Which only makes me think that so many
people, so many of her patients, have gotten it…I said ‘We've talked
about it and you know, I'm still unconvinced that this is something that is
necessary for me’ and I still think that she was shocked because I think
that is not the response that she has typically gotten from patients…I sort
of—and I reflected on this interaction as well because you know, I'm
twenty-five, I've said that before, I'm really on the cusp on the
recommended group and I believe that chances are that I've already been
exposed to the virus, it's likely that I have been. Yeah, I was shocked that
it had come up so many times. It's not covered for me, it's expensive, it's
like, five hundred dollars and even if my mom thinks it's important, she's a
mom…I'm still, I'm not saying it's bad for everyone, I'm just saying that I
don't think that in my circumstances that I need it and I am yet to be
convinced of that.

Rachel was made aware of the vaccine by her mother, sister, and doctor, and had
contemplated it and researched it herself. Although Rachel questioned the benefits of
Gardasil, she saw the need to be responsible for her health. When I asked her if she
had thought very much about HPV and cervical cancer, she said, “[O]f course. I think
about other STIs as well because these are things that would affect my health, right?

But I do get Pap tests every year…because I am aware of these risks, right?"

Jenna, 30, a Master’s student argued:

I don’t see it as an empowering thing. I guess I see how people could argue that it’s an empowering thing, you’re taking your sexual health in your own hands, but you’re not really, somebody else is putting that on you, they’re making it your responsibility. Ten years ago it wasn’t something that you had to do.

Jenna continued, “it may have been an intuitive move, like, okay, not only are women more frequently infected by this but …it feels more normal to make women do this.”

Caroline, 22, an undergraduate student, had contacted me after seeing my posters up on a university campus because she wanted to find out more about Gardasil. Although contemplating vaccination, she was also outspoken against women needing to shoulder the burden of sexual health through such drugs as hormonal birth control and HPV vaccination. She questioned the use of Gardasil, saying, “…women put so much stuff into their bodies…Men aren't the ones taking Gardasil, you know?”

Cynthia, 21, an undergraduate student, was also critical, remarking about reproductive technologies: “[Seem] to put the responsibility on the woman a lot of the time”. Further on in the interview, Cynthia discussed the differences she sees in how sex is portrayed to men and women:

[I]f a guy wants to sleep around he doesn't have to worry about anything but the girl—it just makes it seem like the girl really has to focus because…there's more consequences for a female being promiscuous…that's why she has to take…all these precautions before taking her risks…When the male condom is presented, sex is fun, we're rolling around, you know? But with Gardasil, it's like, if I don't do this and I sleep with someone I'm going to get cervical cancer, you know? And it's
like my dreams won't come true... It's like promiscuity for a woman is like, risky and full of potential diseases, whereas for men it's rolling around having hot sex... It's kind of like it's getting women to knuckle down or something.

Later in the interview, I told Cynthia that Gardasil had been licensed for men and asked her how Gardasil might be advertised to men. She said in response:

I'm interested to see how and if it will be marketed towards men, you know, because that means some responsibility towards men and I think a lot of responsibility for sex is towards women now... It'll be interesting if they're going to give the same responsibility to men...

Although critical of gendered sexual health messages, when I asked Cynthia, “Does it change the way you think about yourself or your health when you hear about these things [HPV and cervical cancer]?” She responded, “A little bit. It makes me think, hmm, I should probably be thinking about this.”

Nicole, 21, had similar comments to Cynthia, saying,

I guess there's those commercials about, like the man gives a present and she opens it up and it's herpes! Stuff like that, or genital warts. So I think a strong approach, you know, responsibility, sexual responsibility would be a good thing. I feel for women that it's very much about being responsible, but I guess that for women—yeah, I don't know.

**You guess for women?**

I guess I remember that the focus is more on protecting yourself and less on protecting your partners, they don't really talk about women giving it to men or other women or whatever, it's always about protecting yourself. I think that might be an interesting area. I guess—I think that sometimes people can be reckless with their own health but they don't want to hurt other people and I think that's a really good—not with too much fear but I think that's a really good way of looking at it too, it's not about you, it's about everyone else that you sleep with.

Chris, 21, too remarked:
You can’t bring out health to very many men...masculinity is...strength and rigidity against anything. So...men will never admit, just like men will never ask for help, they will never ask for medical help so you cannot (sigh)—you cannot appeal to them on the same level when it comes to advertising.

Looking closely at what people had to say, Kate was introduced to Gardasil by friends in medical school who saw the vaccine as a smart decision for the prevention of cancer. In addition, the need to prevent cancer was on her mind because of her mother’s battle with uterine cancer. She took steps to prevent disease by getting regular Pap smears as well as considering vaccination with Gardasil. Although at the time of the interview she had not been vaccinated, she still seemed to worry that she was not doing enough to prevent cancer of her reproductive organs. She slipped into the third person, when she said, “If [some women] don’t get the vaccine are they going to feel guilty? Some women might because they are not making the decision to protect themselves.” These thoughts likely reflect her own worries that she is being irresponsible by not getting vaccinated.

Kate wants to be a doctor, has friends who are in the medical profession, and she prides herself on taking care of herself and acting preventatively to combat disease. In her social network, a number of her female friends chose to be vaccinated with Gardasil, making the vaccine appear like a smart choice. She found it difficult to come to a decision about Gardasil despite these recommendations and was still debating whether to get vaccinated at the time of the interview. Gardasil was presented as a good product by her friends and doctor and for her to decide against vaccination would change the way she conceptualised herself as a health conscious person and put her at odds with the cultural norms of her social network. Her expressions of guilt at not being
vaccinated reflect her own worries and fears about not doing all she could to prevent disease. In this way, Kate is morally self-evaluating herself and coming up short. However, later in the interview she tries to justify that she is indeed responsible, even if she does not get vaccinated with Gardasil: “I get my Pap smears like every year…that’s definitely on my mind and I think that I act preventatively against that, right?”

Kate speaks to the relationship between cultural norms and the individual. This is evident when she said, “[Y]ou don’t want to be seen as promiscuous and…as irresponsible regarding…your sexual behaviour…” Her worries indicate the role of social expectation in shaping behaviour and choices, especially when these social expectations come from friends, family, and her doctor.

For Dana, although she had not been vaccinated with Gardasil, she worried about “doing the right things” for her health, such as exercising, eating the “right foods” and protecting herself from STIs. She did not feel that she was doing enough to take care of her health and through the course of the interview she came to wonder if Gardasil was something she should look into more. The work she thought was necessary to be a healthy, adult woman involved becoming knowledgeable about health, with respect to food, exercise, and sexual protection, as well as the use of pharmaceutical products. I find her comment, “Actually, oddly enough, the person who was adamant about me checking into this vaccine was my dad…” to be telling. In her mind, looking after the health care of offspring is not the work of fathers; it is the work of mothers. This gendered division of work seemed to her to be natural and normal. This understanding speaks to how it is generally taken for granted that women are responsible for their health and the health of the family.
Rachel was strongly urged to get vaccinated by her mother, sister, and doctor. Instead of getting vaccinated, she took some time to gain some knowledge about the vaccine and contemplate her decision. But the women in her social network see Gardasil as something important to fully prevent disease. Therefore, it was shocking for her doctor, mother, and sister when she chose to not get vaccinated. Rachel did not dispute the need to prevent disease; she prevented disease by regularly visiting her doctor and getting Pap smears. However, she did not think that Gardasil was a necessary additional responsibility for women to maintain their health.

Although Rachel prides herself on being responsible about her health in a preventative manner by getting regular Pap smears, she seemed to question if she was doing all she could to prevent disease given that she had not been vaccinated. This led her to feel the need to justify her decision, stating: “I have a GP; I get a Pap every year.” In order to re-establish her health-conscious identity and appear responsible to others, she researched Gardasil extensively and was able to claim that she was caring even more for her health than her sister who “just hadn’t taken the time to think about it”. Through Rachel’s rejection of Gardasil, it became evident that her mother, sister, and doctor believed that women should do all they can to be responsible for their health care by accepting medical interventions or consuming pharmaceutical products. Her doctor’s surprise at someone rejecting vaccination for reasons other than financial considerations, and her mother and sister’s assumption that Rachel would gladly get vaccinated, speak to this frequently taken-for-granted female behaviour.

Cynthia and Nicole argued that the advertisements aimed at women for sexual and reproductive health involved a heavy emphasis on the need to be responsible.
Nicole said, “I feel for women that it's very much about being responsible, but I guess that for women...the focus is more on protecting yourself.” Similarly, Cynthia said:

[I]f a guy wants to sleep around he doesn't have to worry about anything but the girl, it just makes it seem like the girl really has to focus because...there's more consequences for a female being promiscuous ...

Here, these women are hitting on the differences between the messages that are often conveyed to men versus women. While the messages to men are often simplistic and emphasize sexual pleasure, the messages to women are often fear-based: if you do not take precautions, you might not have a healthy body, a good life, and you may even die.

These women are exposing the unquestioned belief that women alone are responsible for reproductive and sexual health. They equated the need for women to be responsible for their health to the disproportionate burden of disease that women’s bodies experience. Nicole thought the emphasis on responsibility might work with men, but where the Gardasil advertisements told women to be responsible for their own health, the messages for men would have to involve more of an emphasis on being socially responsible towards sexual partners, due to men’s role in HPV transmission. Through these observations, Nicole and Cynthia are able to illuminate the kinds of gendered messages that are found in social discourses about disease, contagion, and responsibility, whereby female bodies are often conceptualized as the site of risk for infection and disease, making it important for them to act preventatively to protect themselves. It is upon these discourses that women take for granted that they must be responsible for their health care.

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Examining what Jenna said, “It’s almost, it may have been an intuitive move, like, okay, not only are women more frequently infected by this but we feel, it feels more normal to make women do this.” Why would it be normal for women to be vaccinated with Gardasil? Jenna is hitting on a historical process that has portrayed women’s bodies as vulnerable and in need of medical intervention, shaped women’s awareness and receptivity to medical interventions, and made it women’s responsibility to care for their health and the health of their families.

3.4 Historicizing Women’s Responsibility for Health Care

The receptiveness and responsibility that participants express grows out of historical processes. In *The Gospel of Germs: Men, Women and the Microbe in Everyday Life* (1998), Nancy Tomes discusses women’s roles in helping to incorporate germ theory into everyday life for Americans. Beginning in the late 19th century, some middle-class women became educated in the sciences and fashioned themselves as “domestic scientists”. These women wished to bring germ theory to American housewives, to rationalize and modernize the home in order to decrease disease. They saw that housewives, although largely uneducated in science, could learn behaviours, incorporate new technologies, and make changes in their homes to deter harmful microbes. These changes included learning to effectively dust the house, clean toilets, refrigerate food, can goods, and shorten and narrow their skirts to stop the flow of dirt being brought into the house.

Women’s roles in keeping the house germ free also extended past the home. Since the house was not in hygienic isolation and many potentially hazardous points of
contact and exchanges between the public and the home existed, women had to become familiar with, and reticent of, the hazards that the outside world posed. This afforded some power beyond the home and women's “role as consumers gave them a powerful source of influence over the public world of commerce and politics.” (151).

Women were often portrayed in advertisements, women’s journals, and by domestic scientists as the more “hygiene-conscious sex” (171), reinforcing the idea that keeping the home and family safe from microbes and disease was women’s work. Through the urging of domestic scientists, advertisement, and scientific articles, women took on the responsibilities for making the home a healthier environment. Women, as both private citizens and public professionals, took on the bulk of day-to-day worry and work of ensuring that germs did not harm them or their families. This development allowed women a sense of accomplishment and ennobled them in their homes but at the same time added emotional and physical burdens to their lives.

With these historical developments, women internalised the need for cleanliness. As women began to see that their job was to care for their health and that of their family, they became conditioned to be receptive to new products that could protect from disease. These developments made the promotion of drugs and testing for sexual and reproductive health issues easier among women than among men. This receptivity extends to Pap smear testing, which detects a disease hidden in women’s bodies that only medical experts can reveal (Kaufert, 2000).

Pap smear testing has become an annual procedure for most women in North America, regularly reminding women that their bodies require surveillance to remain
Leslie J. Reagan (1997) examines the historical literature and various popular media sources such as women’s magazines on cancer and screening, finding that gender was used as the primary device to attract attention and convey information concerning cancer. This literature was primarily directed at women, as cancer was seen as a distinctly female disease until the early 20th century. Since it was espoused that women were more at risk, women were told to regularly visit their doctor and ‘submit’ for pelvic and mammary examinations in order to prevent cancer. However, this discourse was not the same for men. Through popular women’s magazines and other literature, “women have long been taught that cancer is their special concern and that…to worry about cancer is their duty.” (1779) Women were socialized to not only see a physician during times of illness but also regularly when in good health to detect and prevent cancer. “Older, commonsense notions, which assumed a relationship between feeling well and being well, needed to be replaced by the idea of the deceptive body, which may feel well, but is a hiding place for disease.” (Kaufert, 2000: 170) As well, women had to be convinced that their lives were contingent on the early detection of cancer (Kaufert, 2000). These public health messages were directed at women because they were (and still are) “the private health officers’ for the entire family.” (Reagan, 1997: 1784-1785) These messages reinforced gender roles and played a large role in normalizing women’s sensations of risk of cancer and duty to submit to biomedical examinations, with surgical intervention always a looming possibility.

Dr. Monika Naus of the BCCDC connects Pap smears with Gardasil: “I think that one of the things we have that influences the uptake or decision making around this
vaccine is that people are much more familiar with Pap smear screening.” Dawn’s
doctor, for example, sees Gardasil as an added precaution to Pap smears: “She said
that any sort of preventative measure…it's something that's worth it for women because
you don't get checked that often.” By associating Gardasil with Pap smears, a gendered
technology with a longer history of gendered responsibility, vaccination becomes an
extension of that responsibility.

3.5 Conclusion

Merck alone did not get women to notice Gardasil; women are poised to notice
the next new development in medical technologies that prevent sexual and reproductive
diseases. Women’s subjectivities about their bodies and health are already shaped by
experiences with the birth control pill, Pap smear testing, and seeing their mothers
responsible for family health care. Gardasil builds upon historical processes and cultural
discourses that have women see themselves as at risk through sexual behaviour and
get them to act upon it. These processes have led women to be more aware and
receptive to new tests or products for disease prevention and express a wish to be
responsible for their health through the acceptance of medical interventions and
consumption of pharmaceutical products.
CHAPTER 4: RISK AND DECISIONS FOR VACCINATION

4.1 Introduction

I don’t know what it was that sold me on the Gardasil shot so…easily. Maybe it was the feelings of being vulnerable in the world where there’s a lot of STDs, and STDs scare me.

Anything that can protect you against something as dangerous as cervical cancer…even if it’s a very small chance of that, is still worth it… [Jennifer, 24, Master’s student]

Exploring people’s decisions for vaccination with Gardasil is a central focus of this thesis. From the discussion in Chapter 3, it is evident that gender plays a role in decisions for Gardasil, as women are interpellated into the highly gendered discourses on Gardasil (Althusser, 1970). However, amongst my participants, gender did not necessarily lead to vaccination; other factors played a role in people’s decisions18.

Feeling at risk for HPV infection and cancer through unprotected sexual contact was a major factor in people’s decisions. Although considered a neutral term, the word ‘risk’ is commonly understood to have an ominous and negative undertone, signifying a danger. Research on risk perception has found that such an understanding of risk

18 Having the means to afford Gardasil played a big role in people’s decisions. Six out of the seven participants who were vaccinated had secondary health insurance through their parents, which covered most of the costs and the remaining costs parents paid out-of-pocket. Nicole made use of her university health plan, which covered the cost of one shot, her parents paying for the remaining shots out-of-pocket. For participants contemplating vaccination, the cost often deterred them from vaccination. Although this played a role in decisions, for the sake of brevity, I will not go into detail about this issue in this thesis.
results in people being unable to respond to risk unemotionally; the more people dread a risk, the more they wish to act to reduce it (Lupton, 1995). This relates to what Jennifer said at the beginning of this chapter about feeling vulnerable and wishing for protection.

As touched upon in Chapter 3, women’s bodies are culturally conceptualised as more vulnerable and susceptible to disease from sexual contact than men’s bodies, messages that are conveyed through Pap smear testing, mammograms, and the discourses on Gardasil. I draw comparisons between the discourses on Gardasil and the role of Pap smear testing on women’s feelings of vulnerability. Patricia A. Kaufert (2000) discusses these issues in her article, *Screening the Body: The Pap Smear and the Mammogram*. Undergoing Pap smear testing can lead to sensations of fear; there is always the possibility that the test can lead to a positive result. A test that is found to be positive can lead to negative feelings about sexual partners or it can change a woman’s sense of self and her relationship with her body, as it seems as though her body could betray her. While Pap smear testing has been demonstrated to prevent cervical cancer, Kaufert (2000) asks: “[T]he unanswered question is what does screening do by changing our sense of the body and the self, by introducing us to fear?” (181).

Gardasil targets an infectious disease passed on through intimate contact, which elicits sensations of risk, danger, vulnerability and invasion amongst people. The idea of transmission between people during intimate contact “requires the establishment of *condons sanitaire* in one form or another, the drawing of lines and zones of hygiene (Bashford and Hooker, 2001 in Casper and Carpenter, 2008: 887). Gardasil is a pharmaceutical product that is geared more towards containment than towards therapy. In this way, the HPV vaccine “embodies the ‘dream of hygienic containment’” (Casper
Gardasil has interacted with and altered the cultural and political landscape in North America, igniting issues about sexuality, risk, the female body, morality\textsuperscript{19}, fear of contagion, and the need for protection before pleasure.

Kate found the connection made between female sexuality and risk in Gardasil advertisements to be problematic: “[It is] putting into women’s mind that, you know (pause) that things having to do with having sex…leads towards disease and things like that, right? So it’s kind of, a little bit ‘irky,’ [questionable] mixing sexual health with these medical decisions.”

What is the role of risk in participant’s conceptualisation of their body and gender? Since HPV can be sexually transmitted, how does the risk of HPV infection shape people’s understanding of their sexuality? How do women express sensations of sexual susceptibility and vulnerability? How does morality figure into discussions on Gardasil? Moreover, how does risk affect people’s decision for vaccination with Gardasil?

\textsuperscript{19} Conservatives and the religious right endeavour to protect women from moral and physical harm through the containment of their sexuality and view Gardasil as undermining these endeavours. Some organizations, including the Catholic Church, have attempted to stop HPV vaccines from being offered to young women, arguing that vaccination undermines abstinence only messages, which stress negative consequences for sexual behaviour. It is argued that Gardasil vaccination would promote sexual activity among pre-teens and teens, leading to both physical and moral corruption (Casper and Carpenter, 2008; Ohri, 2007; Lo, 2007; Chapman and MacKenzie, 2007). Merck has reassured people that there is “no evidence for any increase in sexual disinhibition in connection with the vaccine,” and others have stated that “no studies had linked vaccination to increased sexual activity, any more than there is evidence that giving people tetanus shots encourages them to step on rusty nails” (Casper and Carpenter, 2008: 894). Others have pointed out that pregnancy and HIV are still risks (Casper and Carpenter, 2008).
In this chapter, I examine how people understand their sexuality, body and health in light of risk discourse. I then explore how women frame their sexual behaviour in moral terms, and how risk leads participants to express a wish for a cordon sanitaire, or the drawing of hygienic lines. I then engage with the social science literature on risk and governmentality and discuss how my research complicates the Foucauldian theorizations of risk discourse and decision-making.

4.2 Women at Greater Risk?

Beliefs that young women are sexually endangered and in need of protection—yet are also threatening to society if uncontrolled, and therefore (ironically) responsible for regulating sexuality activity—have endured. These convictions derive in part from age-old efforts to control human reproduction, which disproportionately target women because pregnancy makes their role in reproduction more visible than men’s” (Casper and Carpenter, 2008: 893).

Several participants expressed the idea that women are sexually endangered and needing protection when they discussed who they believed was most at risk for HPV infection. As Dawn said,

I think it’s probably more likely for women to get [HPV], just because everything is geared towards women’s health, regarding HPV so it’s probably (pause)—I don’t think I’ve heard of anything geared towards men so I’m guessing it’s probably an 80% chance that it’s just women. [Dawn, 24, Master’s student]

Dawn had done research on HPV and Gardasil after she was vaccinated “I remember being, oh…I got the shot, I should probably read more about this.” She conducted research on the internet and read newspaper articles yet she clearly had not come across information concerning HPV and men. Tara too held this idea, saying of HPV:
“isn’t it more prevalent in women? I could be wrong, I don’t know. I would say it’s more prevalent in women, I don’t know why though (laugh).”

When I explained that Gardasil had been licensed for men in February 2010, some participants asked why that might be. Tara questioned why Gardasil might be given to males, as they did not have a cervix. Dawn also did not understand, saying,

When I think Gardasil, I think two things: cervical cancer and genital warts. But if you advertise it to men, what are you going to say? It prevents warts and if you had a cervix (laugh), you would be protected from that as well? ...So I don't really understand (laugh).

I asked participants if they thought there was any difference in how likely men and women are to become infected with HPV and Caroline said: “I don't know; I would tend to say that women are more at risk because they have this vaccine available for women. But I'm assuming that both can get it.” Nicole answered: “I'm not a 100% sure about that...I thought that it was equally likely but that it didn't really harm men as much as women just because of the whole cervical cancer thing, but I'm not a 100% sure about men.” When I asked Jocelyn, 28, PhD student, about her understanding of HPV and what it does to the human body, she said, “I think it's mostly for women, I mean I don't know if it affects males or not but I think that it's, it has the worst—the most (pause) negative effects on women and I know that it can cause cancer.” I asked participants if Gardasil could hypothetically only be given to a small number of people, who they though it should be given to. Cynthia responded: “I guess women...because from what I know, they're the ones that will get the worst symptoms from it, from what I've been told”.

The harmful effects of HPV on male genitalia were rarely discussed and genital warts were not part of the discussions with participants. People’s perception of HPV as
a health risk has been gendered as a female problem. Through this understanding, women's bodies are culturally conceptualised as particularly at risk for HPV and cancer. What does this mean for women's subjective experience of their bodies, sexuality, and health?

4.3 “I Practice ‘Safe’ Sex”: Risk, Morality, and Hopes for a Cordon Sanitaire

I practice safe sex, I get Pap smears, I take all of these precautions. The HPV vaccine would be another precaution… [Rachel]

Many participants used the word, ‘safe’ repeatedly when discussing their sexual behaviour. I asked Cynthia if knowing that HPV was often contracted through unsafe sexual behaviour changed the way she thought about her sexual behaviour. She answered:

Well obviously, I want to be safe so yeah, definitely.

In what ways?

Well, condoms (pause), yeah, basically practicing safe sex…I don't want to get anything or spread anything around. (Giggle.)

Sandra said,

I do think about the risk [of HPV]…it's just kind of another kind of fact to add to the reasons why I need to be safe in…intimate moments...

What does ‘safe’ mean? It was often taken for granted that there was mutual understanding of what the term ‘safe’ meant in relation to sex and I had to ask participants what they meant by the term. For these participants, the word ‘safe’ denoted the use of protection during sexual contact, which included using condoms, only
having sex with those they trusted, limiting the number of sexual partners, or getting regular Pap smears and STI tests. Engaging in unsafe or risky sexual behaviour is generally considered foolish and negligent. Since people do not wish to appear foolish or negligent, especially in regards to their health, participants emphasized that they practiced ‘safe’ sex.

In contemporary societies, risk has been moralized and politicised, replacing the religious concept of sin (Lupton, 1995; Petersen and Lupton, 1996; Gregg, 2003). Being considered ‘at-risk’ is synonymous with old-fashioned sinning and “works backwards in explaining ill-fortune” (Lupton, 1995: 89). Since risk has become synonymous with cause in many Western countries, and several health issues are currently seen as internally imposed through lifestyle choices, an individual’s risk behaviours, or sin, are thought to make them responsible for causing their own disease. Hence, disease is seen as an individual moral failure (Gregg, 2003). Those who do not act in morally upstanding ways can suffer judgement and blame from others (Petersen and Lupton, 1996; Lupton, 1995; Gregg, 2003). Rachel illustrates the stigma attached to people who supposedly practice unsafe sex:

Yesterday someone said, at the presentation at World Aids Day, ‘Okay, does everyone know what HIV is? Yes. Does everyone know how to prevent HIV? Yes. Has anyone ever done anything that might put them potentially at risk for HIV? Don’t raise your hand!’ (Laugh.) You see these questioning looks because yeah…if it’s happened, potentially I could have [done it] as well.

This moralistic viewpoint on sex was evinced when some participants discussed who they thought was most at risk for HPV infection. As Jennifer said:
Maybe if you find you have many partners and that your partners tend to have many partners. I don't know very much about this because I can't relate. But if, if you're kind of sexually active, the people you're with are sexually active, and maybe if they're not using protection and they don't seem to be the most health-conscious group, like they don't get tested, they don't talk about it with their parents, you know. I don't know personally a group like that but I would imagine that that would be a high risk group.

Caroline also said:

I think that there just needs to be more discussion and maybe that will hopefully change the behaviours, and maybe the behaviours is [sic] the source of the problem. Maybe the fact that women are going out there to have a lot of sex, or maybe that women aren't careful with their sexual behaviours, that's more of [a] problem. Those...behaviours can be changed so they can prevent contracting these diseases.

Throughout the interviews, many people were quick to distance themselves from the supposed HPV 'risk group'. There is still quite a Victorian sensibility about sex and women are fearful of being labelled as promiscuous (Kaufert, 2000). Asking participants if knowing about HPV and cervical cancer changed the way they thought about their sexual behaviour, Dawn quickly said: “It's not like I'm promiscuous (nervous giggle) … I don't have to worry about that.” Jocelyn said, “Not really. I'm married so I have one sexual partner…” Sandra said,

I wouldn't [engage in sexual contact] unless I knew their [sexual] history. I don't engage in more (pause) informal sex acts. I'm a bit of traditionalist, where I would take a little bit of time to get to know someone (laughing).

Caroline said something similar:

When it comes to choosing a sexual partner, I am very, very, very (pause), what's the word? (Giggle) Cautious? And I make sure that—it's within my own values that (pause), that I limit the number of my sexual partners for just my own principles, but in the long run—well I guess it's
also related to my own health but first of all it's because of...my own principles.

Most participants stated that they practice 'safe' sex. While expressing a moralistic understanding of sexual behaviour and STIs, participants were looking for ways to draw a *cordon sanitaire*—hygienic lines—between themselves and those who might transmit STIs like HPV. In this endeavour, Gardasil serves as an additional safety precaution against the risks associated with sexual contact.

### 4.4 Risk, Sexuality, Fear of Contagion, and Gardasil

*The tension between sexual danger and sexual pleasure is a powerful one in women's lives. Sexuality is simultaneously a domain of restriction, repression, and danger as well as a domain of exploration, pleasure and agency. (Vance, 1984: 1)*

I think that if I don't know my partner—even if I knew my partner and they hadn't been tested for all sorts of things, of course I would be using condoms, like, that's just sort of a rule with me...I think that for me it's just like a precaution that is worth it because I realize that contracting has negative health outcomes. But I feel like it's always been fed to me like that, like, you know, safe sex has always sort of...[been] promoted, which is great...but in terms of what it means for sex, that's also interesting. You're making me think about that right now...

*How so?*

I don't know. Sex is like this pleasurable thing and the fact that there is this sort of risk attached to something that feels so good. I don't know—do you know what I mean? That's really sort of interesting...I don't know, yeah, isn't that weird?...it's not something I think about it but of course, I wouldn't just go around having unsafe sex with random people because it felt good because I am fearful—well not fearful, but...I worry a lot about potential risks so I curb that risk, right? I curb it by, by using protection. [Rachel, 25, Master's student]
Rachel relates her sexuality to risk: while sex can be a pleasurable activity, for heterosexual women it carries the threat of unwanted pregnancy in addition to disease. For Rachel, safe sex, which includes using protection such as condoms, is “a rule” because she is aware of the potentially negative outcomes of unsafe sexual contact. However, at the same time, she questions safe sex messages. While knowing the risks involved in sex can lead to safer sex practice and protect people from disease, this connection is also problematic, as it changes what, in an ideal world should be a positive and pleasurable activity, to one that is seen as a site of danger and fear for women.

Other participants discussed risk and sexuality, with some conveying stories about how risk affected their sense of body and self. Jennifer, 24, is a Master’s student who was vaccinated with Gardasil four years ago. She was aware of the threat of cancer to women’s reproductive organs, saying, “I think a relative of mine had ovarian cancer and so that’s brought out a bit of discussion about cancer in that area.” I asked if she thought very much about the risk of HPV and cervical cancer. She answered: “I do because it’s associated with sex and sexuality...I think that we might have more partners these days than we did in the past and the more opportunities to spread HPV.” When discussing what she thought the most important thing Gardasil protected against, she said:

[C]ervical cancer, the consequences can be very dangerous. I think that even though I’m not sure what the percentage is, I feel like I could say 99.9% of the time you would be fine because there are different strains of HPV and only a few that can lead to cancer and...even then it might be treatable. But to avoid that small amount of risk, it is worth it.
Responding to how she would explain Gardasil to a thirteen-year-old sister or niece, she said,

[A]nything that can protect you against something as dangerous as cervical cancer...even if it's a very small chance of that, is still worth it. And I might joke that needles are painful but cervical cancer is more painful.

Right after having her first vaccination with Gardasil, Jennifer had an abnormal Pap smear, which indicated that she had contracted a cancer-causing strain of HPV.

Jennifer explained her experiences after having an abnormal Pap smear test:

Just...two months after I got the first shot of Gardasil—or maybe it was...much less than that—it was a couple weeks later I got the call from that check up that I had an abnormal Pap. So this...changed everything. I would have gone through my shots of Gardasil just thinking that this is what I'm supposed to do...it didn't feel like a serious decision then so I already made the decision. Though when I found out I had an abnormal Pap...I had to go back in [to the doctor's office] and they did another Pap smear and again it was abnormal and then I got I piece of paper explaining what HPV is. It was a short summary and my doctor definitely emphasized that there's (sic) many strains of HPV...that this would be catching it early...so the odds of it developing into cervical cancer is (sic) very slim, which she emphasized...so as to not scare me. But I was still definitely scared and so I went home. So we arranged that I would have to go see the gynaecologist, another doctor for follow up, a series of follow ups...the first time I had to see that doctor he found a little pigment discolouration on my cervix, didn't really know what it was but he took a biopsy of it. So this was an on-going follow up that only ended last week.

Jennifer discussed HPV transmission with her doctor:

[W]e talked about where I could have gotten it from and at that point I hadn't been with a guy for a while, my last boyfriend I was with for two and a half years and that had been over for several months and 'cause I was with him for so long, my understanding is that I didn't get it from him, otherwise it would have shown up a long time ago and I was pretty sure he was faithful too so I don't think he got it in the meantime. So it would have come from my new boyfriend. And so that was a challenge in our relationship early on.
Until the experience of having an abnormal Pap smear, she thought she was safe from STIs. I asked her how hearing about HPV and cervical cancer affected the way she lived her life and she answered:

It wouldn't have affected me and I would have continued to think that it doesn't as long as I'm smart, I know who I'm with, I trust the people that I'm with and I use protection if I'm with someone new and I would assume that would make me completely safe. But my experience with my boyfriend passing, or somehow I contracted HPV, I believe and I thought it was through a boyfriend that I really trusted. We talked about it before we started having unprotected sex...and he said that he'd been tested and that he was clean. So having the surprise of finding out he might have been the one to transmit HPV to me makes me question everything and so now I have a bit of (pause)—a bit more of a fear that we don't know everything and you can't always be 100% protected.

Discussing how her knowledge on HPV and cervical cancer affected her sexual behaviour, she said:

I would be being more careful about wearing condoms, not being as relaxed. There are different degrees—I think that people use condoms, some people penetrate briefly before they put on the condom. I wouldn't do that anymore. And so yeah, more use of condoms and more assessing a person's sexual experience before I have sex with them. Definitely make sure they're tested, but even that I know isn't always enough...

**Why?**

Because it can be missed.

Later she discussed her views on STIs and sexual risk:

I feel like overall there's (sic) a lot of diseases out there and we don't understand all of them, even when we think we do. I believe that there's always surprises...there's (sic) so many diseases, it's not anyone's fault, no one asks for it, you don't get those things on purpose. So that's the more general feeling and then in my own life, I feel like I did everything, almost everything to (pause)....I think that I was very reasonable, you would call me relatively very safe person when it comes to safe sex and
safe other things...when I first heard that I had these two abnormal Pap's, meaning that I probably have HPV, I was like, ‘Me?’ (Laugh.) And even though I was only with my boyfriend for a couple of months, I really trusted him too. I didn’t blame him either, he told me the number of partners he had and I thought that was fair and that he seems to be a very health conscious person in many ways, including sexually...

After being interviewed individually, Jennifer participated in a focus group with four other women between the ages of 23 and 25. I asked the participants of the group to draw a semantic network (Good, 1977) where the word Gardasil is placed in the centre of a piece of paper and connected with a line to other words, terms, and concepts that the word Gardasil evokes. In Jennifer’s mind map, she connected Gardasil to “boyfriend”, and then with the words, “myself with HPV”. She in turn connected these words with “worst case scenario” and “cancer and death”. In addition, Gardasil was connected to the words “doctor”, “cervical cancer”, “sex”, “unprotected”, “promiscuity”, and “asymtomatic men”. Through analysis of this semantic network, it is evident that Jennifer connected her sexuality and sexual partner to risk of disease, cancer, promiscuity, and death.

Nicole, 21, an undergraduate student was vaccinated with Gardasil three years ago. Initially she did not view Gardasil as an important precaution for her health due to her sexuality. When I asked her if she thought there was any difference in how likely men or women are to get HPV, she answered,

I'm not 100% sure about that, I think, I thought that it was equally likely but that it didn't really harm men as much as women just because of the whole cervical cancer thing but I'm not a hundred percent sure about men. I'm gay so I don't really worry them too much (laugh).
Nicole’s doctor informed her about HPV, saying that it could be passed on through oral sex, making Gardasil beneficial to protecting her sexual health.

In my experience there’s a certain amount of...prejudice, like, well, lesbian sex isn’t really sex and stuff like that so it’s sort of like, you don’t have to worry about that kind of stuff. Oh no! You do, you should get the vaccine.

Discussing how she came to hear about Gardasil, Nicole said:

It's somewhat scary...Before I didn't really think about it but now I'm like, Oh, I should be really thinking about this...I hadn't even heard about it until my doctor sat down with me...so it was a big change for me to think...just how important it is to protect yourself in all respects, like in oral and...it's not just about wearing a condom...So [my doctor] brought [Gardasil] up herself and then I was interested in it. But then she told me about it and I was just so afraid of anything (laugh)...I was like, no, I don't want this information and I kind of shut down and then it took a bad relationship to go back to the doctor and actually talk about HPV vaccination.

It was the knowledge of HPV that Nicole was given by her doctor, and the fear that her past sexual partner may have given her an STI, that pushed her to accept vaccination with Gardasil.

[My doctor] had recommended the vaccine...and she was, like, ‘I know it's really, really expensive but it's so important for sexual health’. She was like...‘You have oral sex with women, you still need to protect yourself...you still can pass things on...and that people who have oral sex often don’t use dental dams and stuff like that’. And she was like, ‘Get the vaccine just in case because people aren't always safe’...I think it's really easy not to think of oral sex as serious, like something that you really have to consider the consequences of I think so hearing about HPV it's like, well you really have to be thinking about dental dams and you really have to think about any sort of sexual contact’.
In describing her reaction to Gardasil, Nicole states that she was fearful, in part due to her conservative Catholic upbringing. Later in the interview, Nicole discussed that fear in more detail:

In psychology, they always say that a small level of fear is good as long as people feel like they have control, but if you give too much fear, people just shut down in denial. That's what happened to me, I had too much fear and I shut down and then I have an appropriate amount of fear and I take action... [My doctor] was very open...Everything she talked about was very, 'I strongly suggest...the HPV vaccine, I know it's expensive but it's good'.

Reflecting on her decision, she said,

I really, I think that my biggest wish was that I had gotten it younger. So I got it anyways just because...if you got one of the strains [that] doesn't mean you got all the four strains. So I was like, 'Okay, I should just get this and then it would make me feel safer and better'...I didn't really want to pass on things to other people, so I wasn't just protecting myself but future partners...

Samantha, 26, a Master's student, had sexual risk communicated to her by her doctors a few years ago:

I remember asking my doctors about [HPV]...if you wear a condom can you still get it? and them being like, 'Well yes, there's still skin touching and so it was kind of like the only way you could make sure to not get it was to not have sex'. There is no way to (laugh)...ensure that, like, you know, a condom might minimize your risk, like a female condom probably better, but who wants to use a female condom? That kind of thing...you know it was a hard decision to make. Like basically don't have sex or have sex and risk having this and I think, for me, like at that time, the biggest issue was the genital warts and that was...kind of scarier than cervical cancer...When you're seventeen are you really worried about cervical cancer? And...the doctors were kind of reassuring about that aspect but the genital warts were more kind of ugh! You know, the scarier one. And from what the doctor said...basically there is no safe way to have sex. I think I've always been careful about partners, regardless.
Samantha’s doctors associated sexual contact with the risk of genital warts and cervical cancer, portraying sex as risky and dangerous. Her doctors then suggested that Gardasil was a way to protect herself from HPV. Samantha contemplated vaccination but then experienced an irregular Pap smear, indicating that she had already been exposed to HPV. In the course of about six months, her Pap smears began coming back normal, indicating that her body’s immune system may have cleared the virus. Although she did not suffer physically from this presumed infection, the experience made her careful to only engage in sex with someone who was STI tested. At the time of the interview, Samantha was in a monogamous relationship, making her feel safer and less in need of vaccination.

For Jennifer, her experience with abnormal Pap smears led her to "question everything", changing her relationship with her body and her self. She felt susceptible, which led to “a bit more of a fear that…you can't always be 100% protected…” This knowledge about her sexual health also led to feelings of vulnerability. She became aware for the first time in her life that her body could potentially be seriously ill and this shook her previous sense of good health, which she had taken for granted. She found this especially upsetting as the knowledge that her body might not give her any indication of being diseased led to worries about what other harmful diseases her body might harbour without her awareness. She held a moralistic idea of who should be at risk for HPV: people who are promiscuous and unsafe with their sexual behaviour. She could not believe that she had contracted HPV because she felt that she practiced safe sex and was a ‘clean’ person.
Although Jennifer was eventually found to be HPV free, this experience informed her of the possibility of contracting HPV and getting cervical cancer in the future, which made her decision to be vaccinated very important in helping her regain a feeling of control and bodily health. As Jennifer mused: “I don't know what it was that sold me on the Gardasil shot so much more easily. Maybe it was the feelings of being vulnerable in the world where there's a lot of STDs, and STDs scare me.”

Nicole believed that she was not particularly at risk for STIs because she had sex with women but her doctor informed her of the dangers of HPV, which can be passed on through oral sex. This knowledge initially scared her away from the doctor’s office, but after being involved in a risky sexual relationship she felt the need to visit her doctor again for sexual health advice. Her doctor urged her to “get the vaccine just in case because people aren’t always safe”. Through vaccination, Nicole was able to feel a sense of control over her sexual health, where she felt “safer and better.” She also said that she found vaccination an “empowering thing.”

Participants expressed a sense of vulnerability and susceptibility to disease, with some saying they felt worried and fearful when they were informed of being at risk for HPV and cervical cancer. Being labelled as ‘at risk’ transformed people’s subjective experience of the ambiguous state of being potentially diseased, which is an ambiguous state. Being at risk carries with it implicit responsibilities to protect oneself. Gardasil was often suggested to participants as a solution to the threat of disease, and is presented as the right choice for women. Many participants expressed the need to be vaccinated in order to reinstate a sensation of well-being and alleviate feelings of risk and vulnerability, indicating that risk discourse plays a role in people’s decisions to be
vaccinated. This data also indicates that women's subjective experiences of their sexuality and body are tied to risk discourse.

4.5 Why Gardasil? Risk Discourse, Power, and Decision-Making

It is evident that risk discourse plays a role in decisions for vaccination with Gardasil. Risk is generally conceptualised in Western societies as a probability or a statistical likelihood of a chance occurrence (Petersen and Wilkinson, 2008; Higgs, 1998). Applying the concept of risk to human health, health risks involve anticipating a disease and detecting a disease in a 'pre-symptomatic' person (Petersen and Wilkinson, 2008: 6; Petersen and Lupton, 1996; Ruhl, 1999; Weir, 1996). In developed nations, there is an understanding that health is an absence of identifiable disease. This has come with a dramatic shift in the patterns of mortality and morbidity due to the introduction of antibiotics and vaccination campaigns, improvements in living conditions, and increases in material wealth. Fewer people die of infectious diseases and more die of cancer, stroke and other chronic diseases associated with old age, which are diseases that are acquired and not "caught". ‘Magic-bullet’ medicine—specific treatments developed to destroy infections—are no longer effective in preventing the diseases of modernization. These shifts in disease occurrences have led to an epidemiological emphasis on social, environmental, and behavioural risk factors, with health care being considered a form of risk management (Brandt, 1985; Brandt, 1997; Petersen and Wilkinson, 2008).
Being at-risk for a disease does not mean that one will necessarily get a disease, only that there is some probability of getting a disease (Dean, 1999; Lupton, 1995; Hunt and deVoogd, 2003). However, in many Western societies, risk has replaced the concept of cause and people now tend to view being ‘at-risk’ synonymous with getting a disease (Gregg, 2003). In order to identify those most at-risk to develop disease in the population, medical researchers conduct randomised control trials and use biostatistics to develop epidemiological knowledge on populations (Petersen and Wilkinson, 2008; Weir, 1996). To be suspected of being ‘at-risk’ for a disease, one need not have the manifestations of dangerous or abnormal symptoms but simply display a characteristic lifestyle, behavioural, or genetic trait, that has been identified as a risk factor, such as smoking, lack of exercise, age, obesity, sexual behaviour, etc. (Petersen and Lupton, 1996). Diagnostic tests, such as Pap smear tests or mammograms, are also used on individuals to determine the patterns of risk and identify people who have the potential to develop a disease or condition before symptoms manifest themselves (Petersen and Wilkinson, 2008; Kaufert, 2000). In the case of HPV, being in the age range for vaccination with Gardasil is enough to be considered potentially at risk for HPV infection. For those who are college-aged (19 to 26), being sexually active and female were additional ‘risk factors’. The diagnosis of a probability of disease is thought to allow time for the disease to be rationally dealt with before it manifests. People are expected to gain knowledge about the sources and consequences of risk and take preventative action when appropriate (Petersen and Wilkinson, 2008; Lupton, 1995).

Some theorizations of how risk discourse operates draw on Michel Foucault’s concept of governmentality. Governmentality lies between coercive and non-coercive
strategies of state power and is a way of directing ‘free will’. Governmentality occurs when the state and other institutions urge and encourage individuals to act in particular ways or make particular life choices for their own benefit and the benefit of society (Foucault, 1991; Higgs, 1998). It is theorized that when people hear risk communicated to them, and if they exhibit particular risk factors, people come to identify with those risk messages, becoming interpellated as ‘at risk’ for disease (Briggs, 2003; Lupton, 1995; Peterson and Lupton, 1996; Althusser, 1970). The success of public health messages depends on people being interpellated and recognizing themselves “not simply as individual receivers but as members of a collectivity that is addressed by the discourse.” (Briggs, 2003: 291). This process shapes people’s subjectivity. As Foucault writes, “This form of power applies itself to immediate everyday life which categorizes the individual, marks him by his own individuality…It is a form of power which makes individuals subjects” (1982: 212).

Risk communication acts as a technique of ‘governmentality’ by informing individuals about risk and providing implicit or explicit directives of how to act in relation to those risks (Foucault 1991; Lupton, 1995; Petersen and Lupton, 1996). With the internalisation of particular subjectivities, people begin to regulate their own actions and discipline is internalised (Foucault, 1982; Lupton, 1995; Oaks and Harthorn, 2003; Higgs, 1998; N. Rose, 2007; Lupton, 1995). It is theorised that people who consider themselves ‘at-risk’ will become self-disciplined, increasing or decreasing behaviours that will aid in the prevention of illness. They also may accept medical testing in order to gain knowledge about their pre-symptomatic state and/or undergo medical interventions in order to prevent illness (Petersen and Wilkinson, 2008; Higgs, 1998; Petersen and
Lupton, 1996; Lupton, 1995; Handwerker, 1994; Hunt and deVoogd, 2003). This mastery over the body helps people feel like they are dealing with the seemingly chaotic nature of risk and it becomes a conduit for self-expression and agency. People who do not adhere to risk messages are often judged as being irresponsible, irrational and even immoral (Lupton, 1995; Petersen and Lupton, 1996; Polzer and Knabe, 2009). Thus, it is argued that risk communication allows for ‘government at a distance’ (N. Rose, 2007), whereby people become active and willing participants in the processes that both objectify and dominate them (Higgs, 1998; Lupton, 1995; Petersen and Lupton, 1996).

The literature on risk provides a compelling explanation of the role of risk discourse in people’s health care decisions. Certainly, participants in this study discussed the role of risk messages in making them feel vulnerable and fearful for their health. With Gardasil offered as a way to elide their fears, some accepted vaccination. It could be argued that governmentality is at work in these instance. However, governmentality is a very mechanical, deterministic explanation for what is occurring. The data I have collected complicates the picture. While every participant in this study had heard of Gardasil, had varying levels of knowledge on the vaccine, had contemplated vaccination, and were aware of the risks posed by HPV and unprotected sexual behaviour, only a third of participants were vaccinated at the time that this research was conducted. Beside the ability to pay for the vaccine, what separates those who are vaccinated from those who are not?

I asked participants who had been vaccinated why they made the decision. Tara answered, “I have [Gardasil] because I trust those who…presented it to me.” She states that she would not have sought out Gardasil for herself had her mother not
recommended and encouraged her to be vaccinated. Dawn stated that “it was a
decision for my mom and GP…and they were like, you should probably get this…they
told me it was against cervical cancer and I was, like, ‘Okay’…I usually don't question my
GP about things that sound great”. Nicole’s doctor recommended the vaccine to her
when she came in to get tested for STIs. She said, “[My doctor] had recommended the
vaccine…and she was, like, ‘I know it’s really, really expensive but it’s so important for
sexual health.” Jennifer, 24, Master’s student said:

I feel like [my doctor is] watching out for my best interests, as doctors
should be, but I trust her...she saw it as...very important that it can save
me from cervical cancer and so trusting her, I was pretty easily
persuaded...in the doctor's office. Just with my doctor, I agreed that I
would go through the three vaccinations.

For Jennifer, her mother was instrumental in her decision for vaccination. After
informing her mother of her doctor's suggestion to be vaccinated,

[I]t was pretty much without question, anything that can protect my
daughter from cervical cancer is worth it, almost no matter what it costs.
So we didn't even have to talk about it...it was pretty much settled right
away just with a few facts: this is how much it costs, this is why we need
to do it and that was that.

Jennifer’s sister, Christa also chose to be vaccinated:

I think even independent of [Jennifer], my doctor recommended it to me
and when I heard how expensive it was I was kind of like, whatever, I
don't care but my mom was like, I care! So since my mom was paying for
it, [Jennifer] got it, I was like, I'll do it. Doctor recommends it, so, I didn't
really consider it too much...

Joyce had heard about Gardasil from family members: “My dad is a doctor and
other family members are doctors…I come from a fairly medical family so it was talked
about at some point”. Her family urged her to get vaccinated and she saw it as a smart
decision. Joyce also runs a reproductive rights club at her university and the benefits of Gardasil were a topic of discussion among her peers. She said that those discussions with her peers reinforced her decision.

One heterosexual man participated in my research, Chris. His ex-girlfriend had contracted genital warts and had chosen to be vaccinated in order to prevent infection from other strains of HPV. She recommended vaccination to him. He explained his decision for Gardasil:

I know someone who had [HPV], I entered into a relationship with that person and we were (pause) sexually active but I never contracted it probably in part because we entered into it when I’d had the second dose [of Gardasil] and we always practiced safe sex, even though I know that fluid exchange is not the primary vehicle, it can also be contracted through skin contact. And the reason we entered into that is because she had not had an outbreak in six to eight months, which her gynaecologist and my physician who interpreted it being fairly beaten by her immune system and so...The risks were fairly low...

He learned more about Gardasil by reading a number of internet websites and articles and then

I went into a walk-in because I thought that going to my doctor was going to be too risky because I thought he’d say no (laugh). And I was very goal oriented so I went to my (pause) a local walk-in...and said that I wanted the Gardasil vaccine and this kindly old doctor said okay, and I was on my way.

Did you discuss what Gardasil was with him? Did he discuss that with you?

I think he knew that I thought it out (laughter). I came in, I asked for it by name, I said that I was about to enter into a relationship with someone who may be HPV positive, I don’t want to get it, I want the HPV shot and he said ‘Okay’. I actually questioned it, I thought it was too easy so I questioned it and I was like, ‘Hey, don’t you want to talk me out of this’
and he was like, ‘Hey, it will be approved for boys pretty soon so you might as well have it’.

Chris’s persistence led him to be vaccinated with Gardasil a few years before it was approved by Health Canada to be administered in males. Chris describes his decision to vaccinate, saying:

I could prevent it! It's like what, 120 bucks or something? It was like a 120 bucks and I have really good...secondary health care, still listed as a dependant on my parents’ [insurance plan], I just, I didn’t tell them about her but I said, Hey, Mom, Dad, I feel socially obligated to get this, I’m going to get it and I’m going to give it to the health plan, I'm going to give you the invoice and you can claim it under the health plan. I think the total cost to me was like, ten bucks. It's something I can prevent, I can prevent someone possibly getting cancer for ten bucks! That’s immeasurable, it's immeasurable and makes you feel good. And you’re just like, awesome, there's one less thing I have to worry about. Totally, absolutely. How could I look somebody in the eye and be like, ‘I've done everything I can to make sure you don't catch a sexually transmitted disease from me!’ when I haven’t? It was very much moral, social, and romantic choice (laughter).

Other participants were contemplating vaccination. Caroline had been told about Gardasil from a nurse practitioner. “[It] was when I was getting a Pap test done, so she talked to me about Gardasil. As well, my doctor suggested Gardasil”. She was given pamphlets about cervical cancer, HPV, and Gardasil and had researched the vaccine on the internet. For Hannah, Samantha, Jocelyn, and Rachel, their doctors recommended vaccination. Dana’s father recommended Gardasil to her and Kate had learned about Gardasil from her friends in medical school, many of whom had been vaccinated.

Examining what participants had to say about their decisions for vaccination, they were informed that they were at risk for HPV infection and cancer and encouraged to be vaccinated with Gardasil. However, what is striking in their stories is the role that a
parent, lover, sibling, or health care provider had in their lives. These people took an interest in participants’ health care and encouraged vaccination, resulting in some participants accepting these suggestions.

Foucault (1978) theorizes the operation of power, arguing that it is not found in institutions or “mechanisms that ensure the subservience of the citizens of a given state.” (92) Power is also not the domination of a group over another and it does not necessarily flow vertically from people with more power to those with less. To Foucault, power “is produced from one moment to the next, at every point, or rather in every relation from one point to another. Power is everywhere; not because it embraces everything, but because it comes from everywhere.” (1978: 93) He argues, “[P]ower is exercised from innumerable points, in the interplay of nonegalitarian and mobile relations” (1978: 94). As well, “Power relations are rooted in the system of social networks” (1982: 224). To Foucault, power is fluid, flowing from person to person through discourse. Power flows horizontally, vertically, top down, and bottom up, and it ebbs and flows, coming from different sources at different times.

It is argued in the literature on risk and governmentality that power is exercised through the state, doctors, public health officials, etc. telling people that they are at risk

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20 Parallels can be drawn to vaccine acceptance in some Western African communities in The Gambia, Sierra Leone, Guinea, and Nigeria where parents are encourage to vaccinate children when infant welfare clinics are open and on days when a mobile vaccination team visits. “Whether the encouragement is from formally or informally organized groups of other women or from local leaders, such orchestration helps to construct a certain sort of community – in the village, or neighbourhood – linked to moral pressure to attend for vaccination. To be a mother in that community, attending is what one does. And in turn this often becomes an accepted and routinized norm, contributing to high levels of community demand…for vaccination…” (Leach and Fairhead, 2007: 120)
and that they must act in particular ways for the good of their health and the health of the population. Although the risk discourse produced from doctors and Gardasil advertisements play a role, as does the level of fear people have towards HPV and cervical cancer, by looking more closely at how power operates, it is evident that power also “comes from below” (Foucault, 1978: 94) and can also run horizontally. The people within participants’ social networks, such as a mother, friend, sister, or girlfriend, also influenced and encouraged them to see Gardasil as a worthwhile investment. Thus, power and influence flowed through these people, encouraging participants to be vaccinated. In turn, participants chose to be vaccinated because taking the advice of important people in their lives demonstrated that there is trust and a wish to keep these important relationships alive.
CHAPTER 5: CONCLUSION

I posed the question; Why have college-educated men and women between the ages of 19 and 30 decided to be vaccinated with the HPV vaccine Gardasil? The vaccine is over C$400 and is not covered by provincial health insurance, making it necessary for this population to either access secondary health insurance to cover the costs or pay out-of-pocket for the vaccine. With financial barriers to vaccination, why have some come to see Gardasil as a worthwhile investment for their health?

Various factors play a role in people’s decision. The advertisements for Gardasil target young women, implying that they would be smart and independent if they chose vaccination. On another level, medical technologies—Pap smears, mammograms, etc.—convey a message to women that their sexuality is related to their health and that their bodies are at risk and pre-diseased, in need of regular surveillance and biomedical intervention in order to prevent disease (Kaufert, 2000; Reagan, 1997). The discourses on Gardasil build on historical processes that socialize women to care for their sexual and reproductive health. Women are thus receptive to medical innovations like Gardasil that offer preventative health care and many express the wish to be responsible by
getting vaccinated\textsuperscript{21}. In this way, Gardasil, like previous innovations, continues to engendering medical interventions and preventative medicine.

Additionally, the discourses on Gardasil emphasize risk. The communication of risk discourse led many participants to view their sexual behaviour as a site of potential danger, and their bodies as vulnerable and pre-diseased. This risk communication changed participants’ relationship with their self, body and sexuality. Consequently, participants felt a greater need to establish physical cordon sanitaire—hygienic lines—between themselves and those believed to pass on disease. In this endeavour, participants expressed the need to practice ‘safe’ sex with the use of condoms, regular STI testing, Pap smears, and vaccination with Gardasil.

The people in participants’ lives, be it a parent, sibling, lover, friend, or doctor, also played a role in their decision making, as they present Gardasil as a smart decision. When someone who is trusted suggests vaccination, participants were more likely to be encouraged, rather than discouraged, to accept the suggestion. Thus, the influence to vaccinate can flow through people’s relationships with others.

\footnote{I have placed participants in bounded gender categories, separating men and women. I have used the category, ‘woman’ to help explain historical and social processes that act upon a particular group of people. Although helpful in my analysis, it must be stressed that these processes do not act uniformly across women or that they exclude men. Using the category helps me exemplify social processes and simplifies the discussion without entering into a discussion about intersectionality and the role of race, class, place, and time on identity and experience. However, I am essentializing gender and in so doing, risk stereotyping and homogenizing people, simplify the thoughts and experiences of individuals, and silencing difference. “Individual consciousness is always complex and cannot be reduced to…analytical categories…Yet we cannot do away with such categories, even as we interrogate them, for they provide not only sorting devices, but signposts on the way to understanding socially significant differences” (Rapp, 2000: 10).}
A complex picture emerges from examining participants' stories closely. A number of social processes are occurring, which extend beyond the initial focus on why people have decided to be vaccinated with Gardasil. College-educated men and women between the ages of 19 and 30 are often described as “seeking their own independence” or “making decisions on their own as adults” and advertisements for Gardasil play upon this when they target their advertisements to this population. A research participant, Chris noticed this underlying message and said, while reading a print advertisement for Gardasil (see Figure 1),

‘Anything to help my dreams come true, whatever they might be’. That very much gives her a sense of agency, a very feminist sense of empowerment, saying, don’t listen to all the fluff, you make your choice for health. Don’t listen to you church, your mom, your dad, your school, the TV, whatever anyone says, you make the choice for you.

Although many of the messages about Gardasil emphasize independence, the decision to be vaccinated is deeply social. With the introduction of Gardasil, a new risk group was created: those at risk for HPV infection and cervical cancer. Those considered most at risk were subject to a new form of regulation, regulation that shapes consumption practices and aims to prevent disease. This regulation has a moral characteristic, whereby the discourses on Gardasil “import normative judgements about the responsibilities and duties” of those at risk (Rous and Hunt, 2004: 826) and people’s conduct, disposition or habits are evaluated. As people are interpellated into the category of “at risk,” they are ‘responsibilized’. ‘Responsibilization’ is “the social process that imposes specific responsibilities on some category of social agents” (Rous and Hunt, 2004: 826). Once interpellated, some people begin to self-regulate themselves, acting prudently and/or accepting medical interventions in order to prevent disease. As
well, people come to believe with moral certainty that being vaccinated will protect them from cancer and, therefore, believe that others should act similarly and also get vaccinated (Lupton, 1995).

The discourses on Gardasil are not neutral; they have particular aims and purposes. In an attempt to normalize and shape human behaviour, public health, biomedicine, and the pharmaceutical industry are employing coercive methods. They are psychologically manipulating people by appealing to their fears, anxieties, and guilt in order to persuade people “at risk” to be vaccinated (Lupton, 1995). Yet, as was demonstrated in Chapter 2, there are questions about how risk is assessed and who is considered to be part of the risk group for HPV infection and cervical cancer, as well as questions about how effective Gardasil is in preventing disease. The discourses on Gardasil are hardly socially or politically benign, they are creating new fears and anxieties, as well as new consumption patterns and markets, amongst those deemed ‘at risk’

Although the creation of a risk group involves the process of individualization and ‘disaggregation,’ categorizing a select group of people “in order to diagnose its problems” (Rous and Hunt, 2004: 828), becoming ‘responsibilized’ also allows for social engagement and membership (Rous and Hunt, 2004). People may feel obligated to be

22 Not everyone is fully captured by the discourses on Gardasil. People actively resist vaccination, simply do not get vaccinated or do not feel interpellated into the risk discourse and do not respond to it. This outcome relates to several factors, including the rise of anxieties over the safety of vaccines amidst claims that it causes autism and other diseases (Wakefield, et al. 1998). Additionally, cervical cancer is not a disease that is seen or often discussed in North America, unlike polio, which leads to observable disability.
vaccinated to indicate to others that they are responsible and “smart,” taking preventative measures in order to prevent disease (Polzer and Knabe, 2009). Thus, the irony is that although the discourses on Gardasil emphasize the ability to achieve independence through vaccination, the decision is actually highly social.

Through these social processes, the operation of power and influence can be observed. The social terrains on which people make decisions are not entirely free, nor entirely constrained, by power relations. Although couched in terms of choice, there are clearly larger social forces that construct intersections at which participants had to decide and act, as decisively as they could. Thus, people “are both constrained and empowered through technologies…” (Rapp, 1999: 317).

This scientific innovation and the discourses surrounding Gardasil have had particular social, political, and cultural effects, reshaping how people relate to themselves and their body. I have explored what is occurring with Gardasil for a particular population, college educated women and men in Canada between the ages of 19 and 30. Examining decisions for vaccination was a starting point for this research. However, it is clear that Gardasil provokes us to think and theorize about larger, abstract concepts, including gender, risk, sexuality, power, biomedicalization, and the body. This thesis leaves open the possibility for more research on Gardasil in the future, research that includes a wider variety of people and looks at the impacts, understandings, and the usage of this innovation in different settings around the world, from the laboratory, to the clinic, to the user.
Appendix 1
The HPV Vaccine Cervarix

Cervarix is an HPV vaccine developed and marketed by the pharmaceutical company GlaxoSmithKline (GSK) (Szarewski, 2010). Cervarix protects against two strains of HPV, 16 and 18, and three other strains of cancer-related HPV, which cause 80% of all cervical cancers. Cervarix contains no live HPV-DNA and contains only empty virus-like particles. In clinical trials, the vaccine was seen to be 98.4% effective in preventing precancerous lesions from the HPV strains 16 and 18 for people who had had no prior infection with HPV. However, the vaccine was only 52.8% effective in those with previous HPV infections. Cervarix does not prevent genital warts but provides higher antibody rates than Gardasil and cross-protection against more strains of HPV (Pharmacological Update, 2010). Cervarix was approved by Health Canada February 2010 and costs over CAD$400 (Cervarix Vaccine Approved, 2010; Pharmacological Update, 2010).

The safety of the vaccine came under scrutiny September 2009 when a 14-year-old British woman died after receiving the vaccine, through a public immunization program (Adetunji, 2009; No Plans to Halt HPV Shots, 2009). Her death was later found to be due to an underlying condition and a tumour was found in her chest cavity (Chustecka, 2009; M. Naus, interview, April 20, 2010).
Appendix 2

Semi-Structured Interviews with College-Educated Women and Men

1. What is your age?
2. Where were you born, where did you grow up?
3. What is your educational level and what are you taking at school? What is your favourite class?
4. Where do you tend to obtain health information? From whom? From where?
5. Do you think that it is important for individuals to take responsibility for their own health? Are there ways that individuals might take responsibility for their own health?
6. What have you heard or seen about the Human Papillomavirus (HPV) lately? (Magazines, TV, online, peers, etc.)
7. What your own understanding of HPV and what it does to the human body?
8. How contagious do you think HPV is? How prevalent do you think HPV is? How do you think a person is most like to get infected with it? Do any other ways seem possible to you?
9. Do you think there is any difference in how likely men or women would catch HPV?
1. **For Women:** What have you heard or seen about cervical cancer lately? (Magazines, TV, etc.) **For Men:** What have you heard or seen about penile cancer lately? And anal cancer? (Magazines, TV, etc.)
10. **For Women:** What your own understanding of cervical cancer and what it does to the human body? What are your understandings of the prevalence of cervical cancer in Canada? **For Men:** What your own understanding of penile and anal cancer and what it does to the human
body? What are your understandings of the prevalence of penile and anal cancers in Canada?

11. Do you think very much about this new “risk” in our lives?
12. Does it change the way you think about yourself and your health to hear about HPV and cervical cancer?
13. Scientifically it has been found that HPV is often contracted through unsafe sexual behaviour. Knowing this, does this change the way you think about your sexual behaviour and health? In what ways? Why?
14. How do you view vaccines? Do you consider them safe?
15. Have you heard about the recommendations that women aged 9 to 26 should get vaccinated with the HPV vaccine, Gardasil? Do you plan to take any action on this? Have you taken any action on this? Why do you think it would be necessary?
16. What do you understand of Gardasil and what it does to the human body?
17. Where did you first hear about Gardasil?
18. Did your doctor recommend it to you? If so, did you discuss what Gardasil was and why you needed it with your doctor?
19. If you have been vaccinated, can you tell me a bit about what it was like to be vaccinated?
20. Are you aware of another way to test for HPV and cervical cancer?
21. If so, do you think that Pap smear testing will diminish after women get vaccinated?
22. What do you think is the most important thing Gardasil protects against?
23. If you have a 13-year-old niece, sister, etc., how would you explain Gardasil to them?
24. Do you believe that getting vaccinated with Gardasil is a good choice for others? For yourself? Why or why not?
25. Would you recommend women get vaccinated with Gardasil? Why or why not?

26. Did you know that the Catholic Church has condemned Gardasil and has asked parents to cease getting their daughters vaccinated in order to promote chastity before marriage? So, “Is it a magic bullet for sexual health, or a step towards promiscuity?” What do you think of this? Do you agree or disagree with the stance of the Catholic Church? Why?

27. Hypothetically, if they could only give Gardasil to a small group of people, whom would you think should be vaccinated? Why?

28. What have you heard about the safety of Gardasil?

29. What have you heard about the effectiveness of Gardasil?

30. I show the participant a print advertisement for Gardasil: Have you seen this before? What do you think of it? What aspect of it do you like? What aspect of it do you not like? Why?

31. Who do you think the advertisements for Gardasil are targeting? Why? Do you think that these groups are those who should be targeted? Do you think it is effective as an advertising campaign?

32. There is a sociological theory that women are being controlled when they choose to make decisions endorsed by the medical establishment, government and the pharmaceutical industry. What do you think about that?

33. Gardasil has just been approved by the FDA to be administered to men aged 9 to 26. What do you think about that? In your opinion, how might Gardasil be advertised to men?

34. What did you think of the interview? Are there any questions you wish I had asked?

35. Do you know of any other people who would be able to speak to these questions?
Focus Groups with Women

1. Tell us who you are, where you go to school, what you are studying and what you like about what you’re studying.

2. Where do you tend to obtain health information? From whom? From where?

3. Have any of you heard or seen something about the Human Papillomavirus (HPV) lately? (Magazines, TV, peers, etc.). If so, what have you heard or seen about HPV?

4. How contagious do you think HPV is? How do you think a person is most like to get infected with it? Do any other ways seem possible to you?

5. Do you think there is any difference in how likely men or women would be to catch HPV?

6. Have any of you heard or seen something about cervical cancer lately? (Magazines, TV, etc.) If so, what have you heard or seen about cervical cancer?

7. What is your own understanding of cervical cancer and what it does to the human body?

8. What do you understand about the prevalence of cervical cancer in Canada?

9. Does it change the way you think about yourself or your health to hear about HPV and cervical cancer?

10. Do you think very much about this new “risk” in our lives?

11. How do you view vaccines? Do you consider them safe? Why or why not?

12. Have any of you heard about the recommendations that women aged 9 to 26 should get vaccinated with the HPV vaccine, Gardasil?

13. What is the first thing that comes to mind when you think about Gardasil?

14. Where was the first place you heard about Gardasil?
15. On the paper in front of you, please mind map some terms or words that come to mind when you think of Gardasil (write Gardasil in the middle of the paper and attach terms with lines to the centre term as they come mind). Please describe your mind map to the group. Does anyone spot any themes from these mind maps?

16. Do any of you plan to take any action on Gardasil? Have any of you taken any action on this? Why do you think it would be necessary?

17. What is your understanding of how Gardasil works on the human body?

18. Do any of you consider getting vaccinated with Gardasil is important? Why?

19. What do you think is the most important thing Gardasil protects against?

20. Did your doctor recommend Gardasil to you? If so, did you discuss what Gardasil was and why you needed it with your doctor?

21. Did you discuss Gardasil with your peers? If so, how did you discuss Gardasil at the time?

22. Do you believe that getting vaccinated with Gardasil is a good choice for others? For yourself? Why or why not?

23. Would you recommend women, such as your friends, get vaccinated with Gardasil? Why or why not?

24. If you have a 13-year-old niece, sister, etc., how would you explain Gardasil to them?

25. Hypothetically, if they could only give Gardasil to a small group of people, whom would you think should be vaccinated? Why?

26. What have you heard about the safety of Gardasil?

27. What have you heard about the effectiveness of Gardasil?

28. Are you aware of any other ways to detect and treat HPV and cervical cancer?
29. I show the participant a print advertisement for Gardasil: Have you seen this before? What do you think of it? What aspect of it do you like? What aspect of it do you not like? Why?

30. Who do you think the advertisements for Gardasil are targeting? Why? Do you think that these groups are those who should be targeted? Do you think it is effective as an advertising campaign?

31. Did you know that the Catholic Church has condemned Gardasil and has asked parents to cease getting their daughters vaccinated in order to promote chastity before marriage? So, “Is it a magic bullet for sexual health, or a step towards promiscuity?” What do you think of this? Do you agree or disagree with the stance of the Catholic Church? Why?

32. There is a sociological theory that women are being controlled when they choose to make decisions endorsed by the medical establishment, government and the pharmaceutical industry. What do you think about that?

33. Gardasil has just been approved by the FDA to be administered to men aged 9 to 26. What do you think about that? In your opinion, how might Gardasil be advertised to men?

34. All things considered, do you believe that Gardasil is an effective and safe product? Would you recommend it to others?

35. Summarize what was said: Have I missed anything? Is there anything that we should have talked about but did not?

36. What did you think of the focus group? Are there any questions you wish I had asked?

**Semi-Structure Interviews with Experts**

1. What is your occupation? What is the best part of your job?

2. What is HPV? What is its effect on the human body?
3. What is cervical cancer? What is the connection between HPV and cervical cancer?
4. How prevalent is HPV?
5. How prevalent is cervical cancer in Canada? And world-wide?
6. What is the difference between how men and women physically experience HPV?
7. How much knowledge do you think people in Canada have on HPV, cervical cancer and Gardasil?
8. Can you explain to me what Gardasil is and how it works in the human body?
9. What do you think the most important thing Gardasil protects against?
10. Have you heard about the HPV vaccine Gardasil?
11. Can you explain to me what Gardasil is and how it works?
12. What do you think about Gardasil?
13. In your opinion, is the science behind Gardasil sound? If so, what about the science makes the vaccine safe and effective?
14. Do you know how long the longest clinical trial ran for Gardasil?
15. In your opinion, is the vaccine effective in preventing infection from four strains of HPV (6, 11, 16 and 18)?
16. Is the vaccine effective in preventing cervical cancer?
17. How do you view vaccines? What do you think about the social concerns about the safety of vaccines that seem to be prevalent now?
18. Have you heard that thousands of adverse effects have been reported after women have been vaccinated with Gardasil? (772 events—6.2% of the total—were described as serious and included 32 deaths) What do you think of these adverse effects?
19. Do you think getting vaccinated with Gardasil is important for women aged 9 to 26? Why or why not?

20. Hypothetically, if they could only give Gardasil to a small group of people, whom would you think should be vaccinated? Why?

21. What do you think of young women being offered Gardasil free of charge in public schools?

22. Should more women have free access to Gardasil?

23. It has been found in a number of studies that women often have little knowledge of HPV and Gardasil. What do you think about this? Do you think that women should be making informed decisions about vaccination with Gardasil? If this is not the case, what do you think could be done to change this situation?

24. I show the participant a print advertisement for Gardasil: Have you seen this before? What do you think of it? What aspect of it do you like? What aspect of it do you not like? Why?

25. Who do you think the advertisements for Gardasil are targeting? Why? Do you think that these groups are those who should be targeted?

26. Do you think it is effective as an advertising campaign? Why or why not? In your opinion, is it effective in conveying science to a wider audience?

27. How should young women deciding to get vaccinated with Gardasil interpret the scientific information the vaccine?

28. Did you know that the Catholic Church has condemned Gardasil? What do you think about this?

29. Gardasil has just been approved by the FDA to be administered to men aged 9 to 26. What do you think about that?

30. What did you think of the interview?
REFERENCE LIST


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