

Abstract

PERCEPTIONS ABOUT VACCINATION BY
OBSTETRICIANS AND GYNECOLOGISTS:
A PHENOMENOLOGICAL APPROACH

by

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Background – The field of immunizations has grown in recent years with the introduction of new vaccines for adolescents and adults. Despite these advances, adolescents and adults are often under-immunized and may be susceptible to the effects of harmful diseases. A need exists to expand venues in which adolescents and adults can receive vaccines, and to educate health care providers about the existence and importance of administering immunizations to these age groups. In particular, obstetrician-gynecologists (OB/GYNs) are in a unique position to make a significant impact on immunization education and vaccination rates for women of all ages. Yet, researchers know little about their vaccination practices and opinions about immunizations.

Objective – The purpose of this phenomenological study was to explore how obstetrician-gynecologists perceived and defined their role in immunization and vaccine administration, including providing patient education about immunizations. In addition, the researcher was interested in identifying the meaning that study participants' derived

from the practice of immunizing and the influences that have impacted their adolescent and adult immunization practices.

Methods – To achieve this purpose, the researcher conducted in-depth, open-ended interviews with 13 OB/GYNs in North Carolina. A qualitative methodology using a phenomenological approach enabled the researcher to better understand participants' immunization-related beliefs, perspectives, and behaviors related to their role in providing patient education and administering vaccines. Analysis of verbatim transcriptions of the interviews involved immersion, coding, categorizing, and identifying themes that emerged from the data.

Results – While the participants in this study were willing to educate their patients about vaccines, their view of their role in terms of vaccination and primary care varied by provider. Four themes emerged from the data in this study that related to the participants' experiences with immunizations: the vaccination experience, role inconsistency, multiple barriers to providing immunizations, and the decision to immunize. The data also provided a rich description of the meanings that study participants derived from the practice of immunizing and the influences that impacted their immunization decisions.

Conclusions – Health educators and other public health professionals can use the data collected during the course of this study to determine possible strategies for adopting, expanding and improving adolescent and adult immunization services among OB/GYNs. Insights gleaned from study findings may, in time, lead to the immunization of greater proportions of female adolescents and adults and reduced morbidity and mortality associated with vaccine-preventable diseases within these populations.

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CHAPTER 1: INTRODUCTION

The Centers for Disease Control & Prevention (CDC) have recognized vaccines as one of the top ten greatest achievements of public health in the 20th century (CDC, 1999). Vaccines are responsible for the complete eradication of smallpox, and the near elimination of polio, rubella, and diphtheria diseases in the United States. In addition, vaccines have greatly reduced the incidence of other diseases such as measles, mumps and *Haemophilus influenzae* type b (Hib).

The success of childhood vaccines has led to recent exponential growth in the field of immunizations due to the development of vaccines for diseases that commonly affect adolescent and adult populations. The rapid growth in the number of new vaccines for adolescents and adults has strained the public health infrastructure both in terms of its ability to finance the cost of the vaccines and to effectively reach and administer vaccines to these new populations. A need exists to expand venues in which adolescents and adults can receive vaccines, and to educate health care providers about the existence and importance of administering immunizations to these age groups. However, researchers know little about the vaccination practices and opinions of non-traditional vaccine providers. One health care provider group in particular has the potential to make a significant impact on immunization education and vaccination rates for women of all ages. This group is obstetrician-gynecologists (OB/GYNs) in private practice.

Between 2005 and 2008, the Centers for Disease Control & Prevention's Advisory Committee on Immunization Practices (ACIP) made a record number of new

vaccination recommendations for adolescents and adults (CDC, 2007a). Four new vaccines recommended during this three-year period include:

- MCV4 - protects against meningococcal disease: recommended in 2005 for adolescents 11-18 years of age (CDC, 2005b);
- Tdap - protects against tetanus, diphtheria and pertussis: recommended in 2006 for adolescents 11-18 years of age and for all adults 19-64 years of age (CDC, 2006a; CDC, 2006b);
- HPV - protects against human papillomavirus: recommend in 2007 for females between 9 and 26 years of age (CDC, 2007d); and
- Herpes Zoster - protects against shingles: recommended in 2008 for adults over 60 years of age (CDC, 2008b).

The ACIP has recommended routine vaccination in adolescent populations with three principal vaccines: meningococcal conjugate vaccine (MCV4); the combination tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine; and human papillomavirus (HPV) vaccine (for girls only). Each of these vaccine recommendations reinforce the importance of routine vaccination during a comprehensive health care visit suggested for all 11 to 12 year olds (CDC, 2007a).

According to the CDC,

The introduction of these new vaccines offers an opportunity to reduce morbidity and mortality among adolescents, enhance their uptake of other preventive services, and heighten awareness of the importance of disease prevention through lifelong use of recommended vaccines and other services. (CDC, 2007a, p.1)

The need for increased education and vaccination efforts among adults is also critical. “Adults, not children, are now at greater risk of death due to vaccine-preventable diseases” (Gall, 2003, p. 37). In recent years, the ACIP has recommended several new vaccines for adults such as HPV, Tdap and Herpes Zoster (shingles). In addition, the ACIP has recommended older vaccines such as influenza, pneumococcal, and hepatitis B for adults for many years. These new and existing vaccines can positively impact the health of adults through the enhancement of their administration (CDC, 2007b).

However, despite ACIP recommendations and high levels of immunization coverage among children, most adolescents and adults are not up-to-date with the recommended vaccinations (National Foundation for Infectious Diseases [NFID], 2008a; NFID, 2008b). According to the results from the 2007 National Immunization Survey – Teen, about one-third (32.4%) of adolescents between 13 and 17 years of age in the United States reported receiving the meningococcal vaccine. For Tdap, 30.4% of adolescents between 13 and 17 years of age reported receiving one dose and 72.3% reported receiving a dose of either Td or Tdap (CDC, 2008d). One quarter (25.1%) of all adolescent females reported receiving at least one of the three recommended doses of HPV vaccine (CDC, 2008d). Data specific to North Carolina’s adolescent immunization rates for these vaccines were not available at the time of this study.

For adults, the highest immunization coverage rates are for vaccines that have been available for the longest period of time. Nationally, during the 2006-07 influenza season, 37.3% of all adults 18-49 years of age, 42.2% of all adults 50-64 years of age, and 68.8% of all adults over 65 years of age were vaccinated against influenza (National

Immunization Survey [NIS], 2007). For pneumococcal, 65.6% of adults over 65 years of age reported ever receiving this vaccine (NIS, 2007).

In North Carolina, the rates for influenza vaccination are slightly higher than national rates. During the 2006-07 influenza season, 46.6% of all North Carolina adults aged 50-64 years of age and 72.6% of all adults over 65 years of age received the influenza vaccine (CDC, 2008c). For pneumococcal, the rates were similar to the national average, with 62.6% of adults between 65 and 74 and 77.5% of adults 75 years of age and older reporting having ever received this vaccine (North Carolina State Center for Health Statistics, 2007).

For the newer adult vaccines, immunization rates are much lower nationally (NIS, 2007). Only 2.1% of adults in the United States reported receiving a dose of Tdap in the past two years; 1.9% of adults 60 and older reported ever receiving a dose of zoster/shingles vaccine; and 9.9% of females 18-26 years of age reported ever receiving one or more doses of HPV vaccine (NIS, 2007). North Carolina data regarding the coverage rates of adults with these vaccines were not available at the time of this study.

Increasing vaccination coverage rates among adolescents and adults has remained a challenge for several reasons. For adolescents, few immunization initiatives exist that attempt to improve adolescent vaccination coverage rates and services. Limited funding for an immunization infrastructure and issues related to adolescents' access to health care effect outreach to this population (CDC, 2007a). As the CDC observes,

Adolescents generally seek recommended preventive health services less frequently than children in other age groups and often don't have an identified

medical home, which can make it difficult for health care providers to promote vaccines among this age group. (CDC, 2007a, p.2)

For adults, the main barrier to improving vaccination rates is similar to that of adolescents: a lack of awareness about the need for immunizations during adulthood and the lack of an immunization infrastructure. In addition, resources to finance vaccines for adults who are uninsured or underinsured are nonexistent (CDC, 2007b). A final barrier that affects both adolescents and adult vaccination rates are concerns about vaccine safety and side effects. Concerns that the vaccines may actually cause the disease; that the vaccination may cause harm; that the immunization will be painful, or a fear of needles are all contributors to low immunization rates among adolescents and adults (Logan, 2008).

In order to reach adolescents and adults, the CDC suggests that state immunization programs expand awareness of vaccinations among health care providers and increase outreach to individuals through health care settings that do not traditionally offer immunization services (i.e., colleges, STD clinics, emergency departments, family planning clinics, OB/GYN offices, and pharmacies) (CDC, 2007b). “High overall immunization coverage rates can potentially be achieved by complimenting efforts of primary care physicians with efforts to deliver vaccines in other health care settings that adolescents and adults tend to frequent” (Schaffer et al., 2008, p. S36).

One health care setting that is positioned to positively impact adolescent and adult immunization rates is obstetrician-gynecologists’ medical practices. Obstetrician-gynecologists have the ability and opportunity to educate and administer vaccines to

women of all ages because the majority of these physicians serve both adolescent and adult populations (Gonik, Jones, Conteras, Fasano, & Roberts, 2000). These physicians not only provide pregnancy-related health care, but also treat non-pregnant women, many of whom may not have another health provider for primary health care (Gall, 2003; Schrag et al., 2003). While few adolescents under the age of 15 see OB/GYNs, a study by Schaffer et al. (2008) found that, for women between 17 and 21 years of age, one-third of all medical visits were to OB/GYNs. Women over the age of 18 visited OB/GYNs more than any other type of physician (Rand et al., 2007).

Research Questions

While OB/GYNs have the opportunity and ability to educate and vaccinate the women that they serve, their willingness to do so remains unclear. Even though evidence suggests that most OB/GYNs believe that the provision of vaccines should be within their scope of work, they may still feel hesitant to participate in immunization programs (Gonik et al., 2000). A need exists to investigate the perceptions of OB/GYNs regarding the meanings they assign to and the role and responsibility they associate with immunizations. More specifically, the researcher seeks to investigate several immunization-related questions from the perspective of OB/GYNs: What do they perceive their responsibility to be with patient education about immunizations and vaccine administration? How do they define their role in immunizing? What does it mean to the OB/GYN to serve as a vaccinator? What benefits and barriers do they encounter or expect to encounter when offering vaccines? Where do immunizations fit

within the realm of routine obstetrician-gynecologist care? What experiences have influenced their immunization practices?

Data on obstetrician-gynecologists' attitudes and practices related to vaccine-preventable disease is critical in determining the success of the adoption, expansion, and improvement of adolescent and adult immunization services within this setting. In this study, the researcher sought to understand the perceptions of obstetrician-gynecologists regarding immunizations by exploring their experiences with and perceptions about vaccines, vaccine-related patient education, and the "contexts or situations that have influenced or affected their experience" (Creswell, 2007, p. 61) with immunizing.

Significance of Study

Understanding how OB/GYNs' perceive and define their role in immunizations and the influences that have impacted their immunization practices is important for a number of reasons. First, understanding OB/GYNs' perspectives about educating their patients about and administering specific vaccines will provide insight into the development and implementation of successful educational outreach programs that will encourage the expansion of vaccine services to patients served by this physician group. Enhanced vaccination services will enable obstetrician-gynecologists to reduce the burden of vaccine-preventable diseases among the patients they serve. Adolescents and adults who are unimmunized are vulnerable to the effects of a variety of diseases, many of which can have negative health outcomes for the individual or the fetus.

Secondly, awareness of the reasoning underlying OB/GYNs' perceived responsibility and role in immunizations has implications for the services or vaccines

offered by physicians in this specialty. Gaining insight into OB/GYNs' vaccine-related perceptions can lead to the development of strategies that can change practice patterns. Such strategies, in turn, may lead to more physicians in the specialty initiating vaccine-related patient education efforts and administering vaccines to their patients, thereby protecting the women they serve against a wider variety of vaccine-preventable diseases. Because obstetrician-gynecologists treat a wide age range of women who might not see another physician, these specialists represent an optimal opportunity to educate and vaccinate the adolescent and adult women who use their services.

Third, understanding the situations that have shaped OB/GYNs' practice patterns regarding immunization has implications for the development of successful outreach programs to expand the state's immunization program. At the time of this study, the vaccination program in the State of North Carolina provided vaccines for children under the age of 18 years to providers at no charge. Since the majority of OB/GYNs offer services to adolescent-aged individuals, they have the opportunity to offer free vaccine to the patients they serve if they join the state's immunization program. Access to free vaccines for adolescents has the potential to reduce physicians' out-of-pocket costs associated with providing immunizations for their patients under 18 years of age.

A fourth reason why this research is important is that, at the time of this study, few qualitative studies have sought to understand the immunization-related practices and beliefs of OB/GYNs. Several quantitative studies have assessed OB/GYNs' opinions and practice patterns about various aspects of their medical practice, including immunizations, but few have attempted to understand the reasoning behind their

immunization-related beliefs and actions. Gaining insight into these physicians' perceptions and experiences regarding vaccinations will add depth to the existing literature about this issue. This research will provide a rich description of the OB/GYNs' experience with adolescent and adult immunizations. Lastly, a qualitative approach may lead to the development or identification of additional research needed in this area.

Statement of Purpose

The purpose of this study was to explore how obstetrician-gynecologists perceived and defined their role in providing patient education about immunizations and administering vaccines. In addition, the researcher sought to identify the meaning OB/GYNs assigned to the practice of immunizing and the influences that impacted their immunization practices for adolescents and adults.

Definition of Terms

Adolescent – Any individual between 10 and 19 years of age (World Health Organization, 2009).

Advisory Committee on Immunization Practices (ACIP) – A group of experts in immunizations that are appointed by the Secretary of the Department of Health and Human Services to provide advice and guidance to the CDC and DHHS on the control of vaccine-preventable diseases (CDC, 2008a).

Diphtheria – An infectious disease caused by bacteria that live in the mouth, throat and nose of an infected person. It can lead to breathing problems, paralysis, and heart failure. Diphtheria is fatal for 10% of those affected (CDC, 2007c).

Gardasil –The brand name of the Human Papillomavirus (HPV) vaccine, it protects against 4 types of HPV virus, two of which cause 70% of cervical cancer and two that cause 90% of genital warts.

Haemophilus influenzae type B (Hib) - An infectious organism that can cause meningitis (an infection of the covering of the brain and spinal cord), pneumonia (lung infection), epiglottitis (a severe throat infection), and other serious infections. Hib disease spreads through the air by coughing, sneezing, and breathing (CDC, 2007c).

Health Care Provider or Provider – Any medical professional (doctor, nurse, medical assistant, etc.) who provides health care services to the public.

Hepatitis A - A virus that causes serious liver disease, Hep A is found in the stool of infected persons. The disease spreads by close personal contact or by eating something that contains the virus. It can cause a mild flu-like illness, jaundice, severe stomach pains and diarrhea (CDC, 2008e).

Hepatitis B – A virus that is most common cause of liver cancer in the world. The virus attacks the liver and can cause lifelong infection, scarring of the liver, liver cancer, liver failure, and death. The disease spreads through contact with the blood or other body fluids of an infected person (CDC, 2008e).

Herpes Zoster (shingles) - Caused by the varicella zoster virus (VZV), the same virus that causes chickenpox, this disease causes a painful, blistering rash. Anyone who has had chickenpox can develop shingles. Shingles most commonly occurs in people 50 years old or older (CDC, 2008e).

Human Papillomavirus (HPV) – Spread through sexual contact, HPV is a virus most commonly seen in those in their late teens and early 20s. It is the major cause of cervical cancer in women and can also cause genital warts (CDC, 2008e).

Influenza – Commonly called “the flu,” this is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness, and can lead to death (CDC, 2007c).

Measles – An infectious viral disease that begins with a fever that lasts for a couple of days, measles infection follows with a cough, runny nose, conjunctivitis, and rash. It is the most deadly of all childhood illnesses associated with a rash and fever (CDC, 2008e).

Meningococcal disease - A serious, highly contagious illness caused by bacteria that causes a potentially fatal infection of the lining around the brain and spinal cord. It can also infect the bloodstream, which can result in the loss of an arm or leg (North Carolina Immunization Branch, 2008a).

MCV4 - The meningococcal vaccine (MCV4) offers protection against four of the five most common types of meningococcal infection. This vaccine is normally given in one dose during the routine preadolescent immunization visit (at 11-12 years), although all children and adolescents 11 through 18 years of age are recommended to receive the vaccine (North Carolina Immunization Branch, 2008a).

Mumps – Best known for the swelling around the jaw that develops with this disease, mumps virus causes fever, headache, and swollen glands. It can lead to deafness, meningitis (infection of the brain and spinal cord covering), painful swelling of the testicles or ovaries, and, death (CDC, 2007c).

Pertussis – Also called whooping cough, it is a highly contagious bacterial infection that causes severe spasms of coughing that can last for several weeks or months. Pertussis usually spreads from person-to-person through close contact when a person coughs or sneezes (CDC, 2007c).

Polio – A virus that lives in the throat and intestinal tract causes polio. It has caused paralysis in millions of children worldwide over the years and spreads mainly through contact with the feces of an infected person (CDC, 2007c).

Pneumococcal – Pneumococcal disease is an infection caused by a type of bacteria. Depending on where these bacteria invade the body, they can cause pneumonia (if enters the lungs); bacteremia (if enters the bloodstream); or meningitis (if enters the tissues and fluids surrounding the brain and spinal cord) (North Carolina Immunization Branch, 2008b).

Pneumovax – The brand name of the pneumococcal vaccine, it helps protect against multiple types of pneumococcal disease. The ACIP recommends this vaccine for all adults over the age of 65.

Rubella – Typically a mild disease caused by a virus, rubella causes a slight fever, a rash on the face and neck, and swollen glands in the back of the neck and arthritis-like symptoms in the joints. It spreads from person to person through the air, by coughing, sneezing or breathing. It is particularly harmful to unborn babies (CDC, 2007c).

Tdap (Tetanus, Diphtheria, Pertussis) – A vaccine that can protect adolescents and adults against three serious diseases: tetanus, diphtheria, and pertussis. The ACIP recommends

Tdap for all adolescents beginning at 11 or 12 years of age and for all adults between 18 and 64 years of age (CDC, 2007c).

Tetanus – Also called lockjaw, tetanus is a serious disease caused by bacteria that can cause a painful tightening of the muscles all over the body. The term lockjaw describes the effects of this disease, in that a victim's mouth can become locked so that they are unable to open their mouth or swallow. Tetanus is fatal in 10% of cases (CDC, 2008e).

Td vaccine –A vaccine that offers protection from tetanus and diphtheria, the Td vaccine can be given to children seven years of age and older and for adults. It is for routine 10-year boosters (CDC, 2007c).

Thesis Overview

In the chapters that follow, the researcher will examine the existing research literature on the topic of vaccines and vaccination, discuss phenomenology as the study approach and study methods associated with the approach, present study findings, discuss the findings using a theoretical framework, and explore implications for further study and health education. Chapter 2 will present findings from the research literature as it relates to the vaccination practices and opinions of OB/GYNs, the opinions of OB/GYNs on their role as primary care providers and vaccinators, and the recommendations from the American College of Obstetricians and Gynecologists (ACOG) about vaccinations. Chapter 3 will describe specifics of the proposed study, including: the rationale for using a qualitative, phenomenological approach; strategies to establish credibility; qualifications of the researcher; methods to ensure participants' rights are protected; procedures for selecting participants; plans to manage the collection of data; and

processes for data analysis. Chapter 4 will present the results from the study, including the vaccination experience in the OB/GYNs' practice; the OB/GYNs' defined role with immunizations and primary care; the identified barriers to immunizing; and the components of the OB/GYNs' decision to immunize. Chapter 5 will offer a discussion of the key findings that incorporates the research literature and theoretical framework of the study. In addition the researcher will explore implications for the field of health education and promotion and for future research.

CHAPTER 2: REVIEW OF THE LITERATURE

Because of their “unique access to women at all stages of life – who often consult no other physician – Ob/Gyns are well positioned to proclaim and bestow the benefits of vaccination” (Gall, 2003). Although no qualitative studies have explored vaccination-related meaning, perceptions, or experiences of OB/GYNs, a number of quantitative studies have evaluated the vaccination practices and opinions of OB/GYNs. Some of these studies focused on their practices and opinions regarding a specific vaccine, while others focused on their practice and perceptions in vaccinating a specific population. Additional research has focused on the OB/GYNs’ role as vaccinator or primary care provider or the impact of the American College of Obstetricians and Gynecologists’ (ACOG) recommendations on vaccination practices. A review of these findings from the research literature follows.

Vaccination Practices of Obstetrician-Gynecologists

The vaccination practices of OB/GYNs vary according to number of vaccines available they offer, the levels of immunization knowledge of the OB/GYNs, and the patient populations they serve. A quantitative study that surveyed approximately 600 members of the American College of Obstetricians and Gynecologists (ACOG) by Schrag et al. (2003) found that the majority (64%) of OB/GYNs across the country affiliated with medical practices that offered at least one vaccine to their patients. The most common vaccines they offered were rubella and influenza vaccines, followed by hepatitis B vaccine and tetanus toxoid-diphtheria vaccine (Td) (Schrag et al., 2003). A small proportion (10%) of these medical practices offered their patients every available

vaccine recommended for pregnant or postpartum women (Schrag et al., 2003). In addition, the study found that less than 60% of OB/GYNs regularly inquired about the patients' immunization or disease history (Schrag et al., 2003).

Other studies have examined the immunization knowledge of OB/GYNs. For example, a study by Gonik et al. (2000) assessed the immunization knowledge of 313 ACOG members in Michigan using survey questionnaires. The researchers found a significant variation in physicians' awareness and understanding of vaccine recommendations, vaccine safety, and vaccine administration.

Due to the morbidity and mortality associated with influenza in pregnant women and their infants, health care professionals consider influenza vaccination an important component of prenatal care. It has also been one of the most common vaccines offered by OB/GYNs (ACOG, 2004). A CDC report in 2005, however, indicated that many OB/GYNs were not following the updated ACIP recommendations regarding influenza vaccination because they were not vaccinating pregnant women during the first trimester of pregnancy. As a result of these findings, the CDC recommended improving public health efforts to educate OB/GYNs about current recommendations on the use of influenza vaccine during pregnancy (CDC, 2005a). In addition, the report identified the need for more research on effective strategies to increase the availability and administration of influenza vaccine in the OB/GYN setting (CDC, 2005a). By following these recommendations from the CDC, OB/GYNs could potentially, "play a pivotal role in helping to protect women and newborns from this vaccine-preventable disease" (CDC, 2005a, p. 1052).

Additional research studies examined OB/GYNs' opinions and practice patterns relating to the Tdap and HPV vaccines. The ACIP recommends Tdap vaccination for all adults between 19 and 64 years of age. The vaccine is particularly important for anyone who has or might have contact with an infant less than one year of age (CDC, 2006b). By surveying a national random sample of 212 obstetricians, Clark, Adolphe, Davis, Cowan and Kretsinger (2006) examined obstetricians' perceptions about providing Tdap vaccine to postpartum mothers, pregnant women, and adults expected to come in close contact with infants. Study findings revealed that the majority of obstetricians acknowledged their role in promoting or providing education about the Tdap vaccine to individuals coming in close contact with infants (in addition to the mother) (Clark et al., 2006). The obstetricians perceived a shared responsibility to promote Tdap vaccine with other health care providers, such as adult primary care providers, pediatricians, and public health providers (Clark et al., 2006). Study participants believed that adult primary care providers had a larger role in administering the Tdap vaccine than did obstetricians, pediatricians and public health providers (Clark et al., 2006).

The ACIP recommends all females between 11 and 12 years of age receive the three-dose series of the human papillomavirus (HPV) vaccine. Females between the ages of 13 and 26 years should also receive the HPV vaccine, if they did not receive it at 11 or 12 years of age. Girls as young as nine years of age can also receive this vaccine (CDC, 2007d). The American College of Obstetricians and Gynecologists (ACOG) indicated that, although OB/GYNs may not treat or serve many females between 11 to 12 years of age for whom the vaccine is recommended, they will likely provide care for older

females between the ages of 13 and 26 years and can be instrumental in the adoption and use of this vaccine among this older population (ACOG, 2006a). In addition, ACOG's Committee on Obstetric Practice believed that health care visits by females between 16 and 26 years of age for any service, such as primary care, contraceptive, or pregnancy-related services presented "a strategic time to discuss HPV and the potential benefit of HPV vaccine and to offer vaccination to those who have not already received it" (ACOG, 2006a, p. 701).

To date, researchers know little about the HPV vaccination practices of OB/GYNs. By 2008, health professionals largely assumed that many OB/GYNs had the HPV vaccine available in their offices and were administering it (Gall, 2008). However, few studies have investigated the proportion of OB/GYNs who provide the vaccine. One small, unpublished study found that 64% of the obstetrics-gynecology practices in a four-county area in North Carolina offered the HPV vaccine (Gottlieb, Brewer, Smith, Keating & Markowitz, 2008).

OB/GYNs have the training and knowledge to treat pregnant women for a variety of health concerns, including the effects of vaccine-preventable diseases on the pregnant woman and her fetus. In addition, these health care providers commonly screen their pregnant patients for potential health risks to the developing fetus, such as hepatitis B or rubella. If screening revealed a need for preventative treatment, OB/GYNs tend to provide the necessary immunization, either immediately or post-partum (Gonik et al., 2000). For OB/GYNs who did not provide vaccines to their patients, barriers identified by Schrag et al. (2003) included vaccination-associated costs, beliefs that other primary

care providers should provide vaccinations, and lack of adequate vaccine storage and handling facilities.

While the vaccination practices and opinions of OB/GYNs vary by vaccine type and population group, studies that have assessed these issues have been primarily quantitative in design. Findings from these studies have offered important data, but lack the rich, thick description that enhances insight and understanding of these issues. A need exists for a deeper understanding of the “why” underlying the vaccination-related patient education and practice patterns of OB/GYNs. A qualitative research approach can optimally obtain such an understanding.

Obstetrician-Gynecologists’ Opinion of Role as

Primary Care Providers & Vaccinators

Women of childbearing age have often visited their OB/GYN for annual preventive care and may have considered their OB/GYN to be their primary care provider (Stovall, Loveless, Walden, Karjane, & Cohen, 2007). OB/GYNs themselves, however, do not necessarily share patients’ views of their position as primary care providers. Stovall et al. (2007) surveyed over 130 OB/GYNs in the Mid-Atlantic region and found that this provider group primarily viewed themselves as specialists who also provided primary care for women. They also found that the majority of physicians disagreed when asked if they wanted to include primary care in their practice (Stovall et al., 2007). Despite a self-perception as specialist rather than primary care provider, Gonik et al. (2000) found that OB/GYNs were familiar with some aspects of primary care and had provided the following primary care services for some time: screening for cancers

(breast, skin, cervical); screening and treatment of sexually-transmitted diseases, and contraceptive management.

The role of OB/GYNs as primary care providers does not extend to women of all ages. Elderly women, for example, are less likely to receive such care from their OB/GYNs. Medicare claims data from Washington residents revealed that elderly patients over age 65 years received a limited amount of non-gynecologic care from OB/GYNs (Fink et al., 2001). Thus, while Gonik et al. (2000) observed that OB/GYNs served as primary care providers for women of reproductive age (i.e., from adolescence to menopause), Fink et al. (2001) established that older age women were less likely to receive such care from their OB/GYNs.

An OB/GYN's decision to provide vaccines has been associated with two variables: working in a multispecialty practice and self-identification as a primary care provider (Schrag et al., 2003). When asked their opinion about vaccinations, most OB/GYNs believed that the provision of vaccines should be within the scope of their responsibilities (Gonik et al., 2000). However, this belief is often not put into practice, as the Gonik et al. study (2000) also revealed a discrepancy that existed "between perceived responsibility and actual practice patterns of obstetrician-gynecologists regarding vaccine-preventable diseases and the immunization of women" (Gonik et al., 2000, p. 81).

Research studies that have been conducted to date have only identified this discrepancy and reported about OB/GYNs' perceptions as they relate to their role in immunization. Data that is rich and thick in description that specifically address the

reasons behind this disconnect between perceived responsibility and actual practice patterns is needed to fully understand OB/GYNs' attitudes and behaviors related to immunization practices. Without understanding vaccination practices, the expansion of vaccination services into this setting will be limited.

In fact, there have been few studies that have used a qualitative approach to examine OB/GYNs' perspectives and opinions about health care-related issues. One qualitative study examined OB/GYNs' and other health providers' perceptions about their role in addressing health-related issues outside of routine obstetric and gynecologic services (Herzig et al., 2006). The researchers examined OB/GYNs', nurse practitioners' and certified nurse midwives' practices regarding four behavior risks in their pregnant patients: alcohol use, smoking, drug use, and domestic violence. The study participants "saw behavioral risk prevention as a challenging but important part of their role as prenatal providers" (Herzig et al., 2006, p. 96). The researcher was able to identify other studies that assessed the OB/GYNs' perspectives and opinions about their role with other components of health care, such as depression screening services or educating their pregnant patients about the infant hepatitis B vaccination; however, these studies were all quantitative in design (Zola, Smith, Goldman, & Woodruff, 1997; LaRocco-Cockburn, Melville, Bell & Katon, 2003).

American College of Obstetricians and Gynecologists' (ACOG)

Vaccine Recommendations

According to OB/GYNs, recommendations from the American College of Obstetricians and Gynecologists (ACOG) are highly influential in their decision to

incorporate newly licensed vaccines into their medical practice (Schrag et al., 2003). The American College of Obstetricians and Gynecologists (ACOG) is a nonprofit organization of board-certified OB/GYNs. It is the leading group of physicians in the United States providing health care for women (ACOG, 2009).

In addition, more than 90% of OB/GYNs surveyed “felt ACOG should make the development of educational tools related to vaccination of obstetrician-gynecologists’ patients a moderate or high priority” (Schrag et al., 2003, p. 708). These findings imply that OB/GYNs may be willing to consider or more fully implement immunization services within their medical practices (Schrag et al., 2003). Therefore, ACOG’s support on this issue is a critical determinant of the expansion of immunization services into this setting.

Fortunately, ACOG has long supported recommendations by the Advisory Committee on Immunization Practices (ACIP) on HPV vaccination, influenza vaccination, meningococcal vaccination, rubella vaccination, and the vaccination of pregnant women and has published Committee Opinions encouraging OB/GYNs to follow these guidelines (ACOG, 2002; ACOG, 2003; ACOG, 2004; ACOG, 2005b; ACOG, 2006a). While ACOG has not published specific Committee Opinions for the Tdap, hepatitis B, hepatitis A, pneumococcal, or shingles vaccines, immunizations are a component of their recommendations for routine assessments for all age groups. In 2006, ACOG published a list of all of the screenings, health topics, and laboratory tests that should be included in a periodic assessment with individuals in each of four age groups beginning at age 13 years. The assessment list for every age group included numerous

vaccines. For example, in the Periodic Assessment for 13-18 year olds, ACOG included the Tdap, Hep B, HPV and meningococcal vaccines on its list of recommendations for this age group (ACOG, 2006b). In addition, ACOG has issued a Committee Opinion that identifies assessing a patient's immunization history as an important component of preconception care (ACOG, 2005a).

OB/GYNs are at the forefront of the immunization issue, largely due to the addition of new vaccine initiatives. These new vaccine initiatives include those focused on early newborn infectious disease such as influenza and pertussis; sexually transmitted diseases such as hepatitis B and HPV; and cancer prevention such as hepatitis B and HPV (Gonik, Fasano & Foster, 2002). The advent of the human papillomavirus (HPV) vaccine, in particular, has renewed interest among OB/GYNs to expand their vaccination offerings because of the direct impact this vaccine can have on cervical cancer rates.

ACOG recently published an editorial in their clinical review publication that calls for OB/GYNs to expand their immunization services beyond the HPV vaccine to include other important vaccines for adolescents and adults (Gall, 2008). The vaccines that ACOG recommends that OB/GYNs offer include influenza, hepatitis B, Tdap, pneumococcal, herpes zoster, and meningococcal (Gall, 2008). The ACOG editorial argues that if the office's workflow is already "set up to administer the HPV vaccine, providing additional vaccines would be an extra benefit to the patients and practice" (Gall, 2008, p. 16). Due to OB/GYNs' increasing levels of experience with the administration, storage, handling, and billing associated with vaccines, the author of this editorial believed that OB/GYNs should be ready and able to offer a complete

immunization package of services, including patient education, for all of the vaccines recommended for adolescents and adults (Gall, 2008).

ACOG's favorable stance on an issue is a prerequisite to the adoption of the behavior by OB/GYNs (Schaffer et al., 2008). While researchers have studied OB/GYNs to determine the impact such recommendations have on immunization practices, information is lacking about how ACOG's support of OB/GYNs as complete vaccine providers will affect physicians' behaviors. Information is also lacking about how ACOG's influence will impact physicians' perceptions about the benefits of and barriers to expanding immunization services.

Summary

Some quantitative studies have assessed the practice patterns and opinions of OB/GYNs regarding vaccinations. Research has examined these physicians' behavior and opinions about specific vaccines, their vaccination of specific populations, and the impact of recommendations from their national organization on their decisions to immunize. Gaps exist in the research related to OB/GYNs' perceptions of immunizations and vaccination practices that a qualitative research approach can help to fill.

Understanding OB/GYNs' perceptions about offering vaccine-related patient education, administering specific vaccines, immunization-related responsibilities and practices, and benefits and barriers to offering enhanced immunization services will be instrumental in the successful adoption of expanded vaccine services among this physician group.

The researcher sought to address this research need by means of a qualitative approach. She strove to achieve an in-depth understanding of how OB/GYNs' perceived

and defined their roles in providing immunization-related patient education and administering vaccines. The purpose of this study was also to identify the meaning OB/GYNs ascribed to vaccines and the practice of vaccination and analyzed the situations that influenced their immunization practices.

This study held implications for the field of health education and promotion, as its findings offered potential insights into how health educators could best develop effective outreach programs that encouraged the expansion of vaccination services among OB/GYNs. Insights gleaned from study findings may, in time, lead to the immunization of greater proportions of female adolescents and adults and the reduced morbidity and mortality associated with vaccine-preventable diseases among these populations. In addition, findings from this study may point to the need for additional research in this area.

CHAPTER 3: METHODOLOGY

The researcher designed this study to explore how OB/GYNs perceived, defined and derived meaning from their role in immunizations. In addition, the researcher was interested in understanding the influences that impacted their immunization practices. To achieve these purposes, the researcher used a qualitative methodology with a phenomenological approach to explore the meaning immunizations held for OB/GYNs.

Rationale for Selecting Qualitative Methods

The researcher selected a qualitative methodology for several reasons. Researchers commonly use qualitative research when a problem or issue needs further exploration. The research studies that have examined the perceptions and vaccination practices of OB/GYNs have been primarily quantitative in design. While these studies provide important data, a gap exists in understanding that a qualitative research design can optimally fill. A qualitative approach can provide an in-depth understanding of this issue and add to the body of research knowledge. The use of a qualitative research design to study this topic will produce a rich, deep description (Ploeg, 1999) of OB/GYNs experiences and perceptions about immunization.

A second reason for the selection of a qualitative design for this study is because the researcher sought to understand participants' feelings, beliefs, attitudes, and opinions with respect to immunizations. As Creswell suggests, qualitative research can provide, a complex, detailed understanding of the issue. This detail can only be established by talking directly with people, going to their homes or places of

work, and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature. (Creswell, 2007, p. 40)

Through the use of in-depth, open-ended interviews, the researcher hoped to develop a thorough understanding of the perceptions and influences that have impacted OB/GYNs' immunization practices. Understanding their beliefs, attitudes, and perceptions about vaccinations may help state immunization programs develop initiatives tailored for this provider group. In addition, this information may lead to an expansion of immunization services within this physician population that will reach vulnerable adolescent and adult populations.

The final reason the researcher selected a qualitative design for this study is that the researcher wanted to better understand the influences that have impacted the participants' immunization practices. According to Ploeg, "The purpose of qualitative research is to describe, explore, and explain phenomena being studied" (1999, p. 36). Understanding the context behind the immunization beliefs and practices of OB/GYNs may help immunization professionals who are interested in changing the vaccination education and practice patterns of these health care providers.

Phenomenological Approach

For this study, the researcher selected a phenomenological approach to qualitative research. Phenomenology refers to a qualitative approach that seeks to understand and describe the meaning that a particular phenomenon (in this case, immunizations) has to a specific group of people. The purpose of phenomenology is to condense the individual experiences with the phenomenon to a summation of the overall essence of experience

(Creswell, 2007). This researcher selected this approach for three main reasons. First, she was interested in describing the meaning that OB/GYNs' derived from their lived experiences with immunizations. Because the researcher sought to describe the "essence" of immunizations as understood from a range of physicians' perceptions and experiences with immunizations, she selected the phenomenological approach for its emphasis on the experiences of multiple people. "The aim of a phenomenological approach to qualitative research is to describe accurately the lived experiences of people, and not to generate theories or models of the phenomenon being studied" (Ploeg, 1999, p. 36). Through the utilization of this approach, the researcher was able to describe the "essence" of OB/GYNs' experiences with immunizations and to develop a deeper understanding about this topic.

A second reason that the researcher selected a phenomenological approach for this study was the nature of the research question of interest. The researcher was interested in learning about the perceptions of OB/GYNs regarding the meanings they assign to and the roles and responsibilities they associated with immunizations. The researcher was also interested in investigating several other immunization-related questions from the perspective of OB/GYNs. In-depth interviews provided the means for best answering these open-ended research questions. In phenomenological studies, in-depth interviews with multiple participants are commonly used.

Because the primary source of data is the life world of the individual being studied, in-depth interviews are the most common means of data collection.

Furthermore, emerging themes are frequently validated with participants because

their meanings of that lived experience are central in phenomenological study.

(Ploeg, 1999, p. 36)

The third reason for the selection of the phenomenological approach was that the researcher wanted to inquire about the participants' experiences with immunizations and the context or influences that have impacted their experiences with immunizations. This type of questioning has been commonly associated with phenomenological studies and would generate data that was descriptive of the individual and shared experiences of the participants.

Theoretical Framework

The theoretical framework of Health Belief Model (HBM) informed the design of this research study. The model suggests that a person's perceptions influence the likelihood that they engage in the recommended health action. By changing their perceptions, the likelihood increases that they will act on the health behavior recommendation (Hodges & Videto, 2005).

The HBM consists of four main components: perceived severity, perceived susceptibility, perceived benefits, and perceived barriers. Individuals determine a perceived threat based on their assessment of the perceived susceptibility and severity of the situation. "Perceived benefits and perceived barriers to engaging in the recommended action are weighed, along with perceived level of threat and self-efficacy related to the specific behavior, to produce the likelihood of action" (Hodges & Videto, 2005, p. 104). Cues to action are another aspect of this model in that they help start the desired behavior.

According to the HBM, improving the individual's knowledge about the health problem in terms of its true susceptibility, severity, benefits, and barriers can have lasting effects on the individual's health behavior. In keeping with this model, the researcher strove to understand the perceived benefits and barriers that the OB/GYNs associated with the practice of immunizing. In addition, the researcher sought to explore the perceived threat that vaccine-preventable diseases represented for their patients and the meaning that providers assigned to the practice of immunizing.

Measures to Address Credibility

In qualitative studies, a credible or valid study is one in which the findings accurately represent the experiences, opinions and perspectives of the participants. To establish credibility with the research design, the researcher utilized several strategies. These strategies included reflexivity, bracketing, member checks, finding confirming and disconfirming evidence, maintaining an audit trail, using thick description, and peer review.

Reflexivity

The way in which the researcher understood and analyzed the data collected in this study involved interpretation. The researcher engaged in reflexivity in order to study the findings of the research completely. Reflexivity refers to the process by which the researcher examines her own interpretations and assumptions about the findings and how they potentially could affect the study. By engaging in reflexivity, the researcher was able to identify her own biases and take the necessary precautions to make sure they were not present in the final research paper. Once the researcher knew her biases, she was able

to make an interpretation of what she had learned from the participants in a way shaped in full awareness of the researcher's own experiences and background.

Bracketing

Prior to conducting the interviews and throughout the interview process, the researcher bracketed her biases, preconceptions, and beliefs about the research topic. Bracketing refers to a process by which the researcher writes about personal theories, previous awareness, and lived experiences with the phenomenon so that she or he is able to look at the issue without preconceptions (Richards & Morse, 2007). The purpose of bracketing was to enable the researcher to "set aside... [her] experiences, as much as possible, to take a fresh perspective toward the phenomenon under examination" (Creswell, 2007, p. 59-60). By identifying her biases through the bracketing process before and during the interviewing process, the researcher was able to ensure that her experiences were not influencing how she understood the experiences of the participants in the study.

It is particularly important for researchers to acknowledge and describe their entering beliefs and biases early in the research process to allow readers to understand their positions, and then to bracket or suspend those research biases as the study proceeds. (Creswell & Miller, 2000, p. 127)

Member Checks

The researcher strove to ensure that her findings accurately reflected the participants' experiences and perspectives. To do so, she offered all the interview participants a copy of the report for member checking, and asked them if she accurately

represented their beliefs, experiences, and perceptions. The researcher incorporated their feedback into the final version of the report. This process of member checking added credibility to the study because it ensured that the findings were a true representation of the participants' perspectives.

Confirming and Disconfirming Evidence

Another way in which the researcher attempted to establish credibility with this research was by understanding findings in the context of the existing research literature. In addition to literature that supported the findings of this research, the researcher tried to find disconfirming or negative evidence in the study data. By searching for disconfirming, as well as confirming evidence within the data provided by participants, the researcher was able to provide additional support for the study's findings (Creswell & Miller, 2000). However, the researcher did not find any disconfirming evidence among the participants.

Audit Trail

A fifth way in which the researcher attempted to establish credibility with the research was by maintaining an audit trail that consisted of a four components: a personal journal, a research log, the researcher's analytic memos, and field notes. The personal journal involved the researcher engaging in both reflection about the study's progress and bracketing and reflexivity about the researcher's perceptions. In addition, the researcher maintained a research log containing a chronology of all events and contacts associated with the study as well as all decision points and action steps taken. The audit trail also included the researcher's memos regarding ongoing insights and

reflections about data analysis and interpretation of data and the field notes, which consisted of handwritten notes taken during and immediately after the interviews. These audit trail components enabled external researchers to examine the research data to confirm that findings were grounded in the data; to assess if the inferences were logical; to ascertain how or if the researcher's bias influenced the report; and to evaluate if the strategies used to increase the credibility of the report were successful (Creswell & Miller, 2000).

Thick Description

A sixth way the researcher added credibility to the study was through the use of thick, rich description. "The purpose of thick description is that it creates verisimilitude, [which are] statements that produce for the readers the feeling that they have experienced, or could experience, the events being described in the study" (Creswell & Miller, 2000, p. 128-129). These enhanced details allow readers to have a better sense of the issue under investigation, and contributes to the credibility of findings.

Peer Review

Lastly, the researcher incorporated peer review while drafting the final report to add credibility to the study. Peer review refers to the "review of the data and research process by someone who is familiar with the research or the phenomenon being explored" (Creswell & Miller, 2000, p. 129). Tesha Lucas, a graduate student at East Carolina University who is also conducting a phenomenological study for her thesis project, served as the peer reviewer for this study. Her role in this position was to offer suggestions and support to the researcher; to ask questions about the methodology and

interpretations of the findings; and to challenge the assumptions that the researcher made about the data. Tesha had multiple opportunities to review the data and findings over the course of the study, and her feedback and suggestions added credibility to the study.

Qualitative researchers need to demonstrate that their study is credible. This researcher incorporated a variety of methods in her research design to ensure that the findings from her study were credible and representative of the opinions, perspectives, and experiences of the participants. These methods help readers and fellow researchers understand that the findings are reliable.

Researcher Qualifications & Biases

Amanda Dayton was the principal investigator for this study. She was responsible for all activities associated with this project including: recruiting and enrolling participants for the study; obtaining informed consent from participants; conducting and transcribing the interviews; analyzing the results and reporting the findings. Amanda Dayton is a graduate student currently enrolled in the Department of Health Education & Promotion program at East Carolina University. She has successfully completed a graduate-level qualitative research course (HLTH 6700) and has experience interviewing individuals and groups.

Prior to beginning the study, the researcher engaged in reflexivity and bracketing to understand her preconceptions, biases, and assumptions about the study's topic. This was also an on-going process throughout the course of the study. At the beginning of the study, the researcher was aware of several personal preconceptions, assumptions and biases. First, the researcher acknowledged an assumption that vaccinations were

important in maintaining the health of all people. She believed that, in most cases, vaccines had more positive than negative effects on individuals who received them. While the researcher recognized that not all people shared this belief or experience, she assumed that all health care providers, regardless of their specialty, supported the administration of vaccines.

A second assumption the researcher held related to her current professional role as the Adolescent Immunization Coordinator for the Immunization Branch of the State of North Carolina. As part of her employment, she was responsible for recruiting and enrolling new vaccine providers who served adolescent populations, including those who were non-traditional providers. She assumed that she would be able to use the information collected as a consequence of the study to develop outreach initiatives or projects to enroll OB/GYNs into the state's vaccine program.

Throughout the research process, the researcher recorded her biases, opinions, and perceptions about this study in her research journal. She attempted to identify the areas she might take for granted in undertaking the research, potential areas for conflict, and any non-neutral feelings she had relating to the issues she studied in general and participants' perspectives in particular. For example, during the course of the interviews, the researcher had to make sure not to convey her opinions and biases about what vaccines she thought the OB/GYNs should offer to the participants. The researcher recognized her bias about what she thought OB/GYNs should be providing. In order to prevent communication of her bias to study participants, she refrained from making comments or communicating through body language her approval or disapproval about

their vaccination practices or beliefs. If the participants asked how their practice compared to others or “what they could be doing better,” the researcher waited until after the conclusion of the interview to educate study participants about vaccine recommendations.

Occasionally, during the course of the interview, the OB/GYN would make a statement about vaccines that was inaccurate. During those times, the researcher tried to make sure her body language and her comments did not convey her true feelings about the remark nor did the researcher correct the participant. She tried to maintain a neutral presence, and simply listen to what the OB/GYN had to say about vaccines.

The process of continuing engagement in reflexivity and bracketing enabled the researcher to become aware of her biases and assumptions. Therefore, their influence on the data collection and analysis process diminished (Ahern, 1999). By using these tools, the researcher maintained neutrality throughout the study and maintained a focus on the participants’ meaning, rather than her own (Creswell, 2007).

Protection of Study Participants

Prior to beginning data collection, the researcher described the purpose, risks, and benefits associated with the study to the participants. She also explained how she would maintain participants’ confidentiality and both her role and the participant’s role in the study. This enabled each participant to make an informed decision about study participation.

The researcher obtained a signed informed consent document (Appendix E) prior to the facilitation of the interview, in accordance with the requirements of the University

Medical Center and Institutional Review Board of East Carolina University who approved the study (Appendix F). Prior to beginning the interview, the researcher requested that the participants read and sign the informed consent document. She then addressed any questions that arose about the study or the informed consent document. The informed consent document explained that participation was voluntary. If the participant declined to continue with the study, the participant was able to leave the interview without penalty. The researcher ensured that the informed consent document was easy for the participants to understand. Since the study focused on college-educated, practicing OB/GYNs, there were no need to obtain informed consent from participants with limited or low literacy.

Participants who volunteered to be a part of this study met the researcher at an agreed-upon, private, and mutually convenient location that was determined by the researcher and participant. If an in-person interview was not possible, the interview took place over the telephone. Only one of the thirteen interviews occurred over the telephone.

Participants in the study remained anonymous. The researcher altered any personally identifying data linked with the participant and assigned pseudonyms to participants during data collection and analysis and in written findings. Only the researcher had access to data associated with the study. In keeping with university guidelines, the researcher will store audio-recordings, verbatim transcripts, and all other data associated with the study in a locked container in the researcher's home for a period

of three years. After three years, the researcher will shred the written data and destroy the audio-recordings.

Study participation involved participants' willing and voluntary engagement in one in-depth, open-ended interview. During data collection, transcription, and analysis, the researcher used pseudonyms in place of participants' names. The researcher was the only person who collected and transcribed data. She and her research committee members had access to the pseudonym-protected transcribed data during the data analysis phase of the study. The researcher removed all identifiers that could directly link the participants to their comments from the transcripts and the study report. These actions ensured the protection of the participants' privacy if future researchers used data from this study.

Procedures for Identifying and Selecting Informants

The researcher used a purposive sample of OB/GYNs for participation in this study. "Qualitative research is generally based on non-probability and purposive sampling rather than probability or random approaches. Sampling decisions are made for the explicit purpose of obtaining the richest possible source of information to answer the research questions" (Ploeg, 1999, p. 36).

Identifying Participants

The researcher conducted in-depth, open-ended, audio-recorded interviews with 13 practicing OB/GYNs who resided and practiced medicine in North Carolina at the time of the study. Twelve of the interviews occurred in-person, and one occurred over the telephone. In order to sample OB/GYNs with a range of perceptions and experiences

related to practice-based immunization administration, the researcher tried to recruit OB/GYNs with a variety of vaccination offerings. The final sample consisted of one OB/GYN specialist who, as a consultant, did not offer vaccines of any kind to his patients; seven OB/GYNs who provided between one and three vaccines; and five OB/GYNs who provided four or more vaccines.

Because of the interpretive nature and design of the study, the researcher sought a small number of participants. Phenomenological research reports and studies suggest that between five and 25 individuals be interviewed (Creswell, 2007). A small number of non-randomly sampled individuals were ideal for this qualitative study because the researcher was interested in obtaining an in-depth understanding of the issue. The researcher expected the data collection process for this study to take a long time and require careful attention to detail. Therefore, the sample size in this study was smaller, which has the potential to affect the breadth of findings. However, the depth of the findings in this qualitative research was more detailed and complete than previously found in quantitative research to date.

The researcher employed several different strategies for recruiting participants for this research project. She created an advertising flyer that described the research and provided contact information that could be distributed (Appendix A). To maintain confidentiality, the flyer asked potential participants to initiate contact with the researcher by telephone. In addition to personal and professional contacts, the researcher distributed the flyer as described below.

The researcher identified potential study participants by means of network sampling. She initiated contact with employees within the State Division of Public Health and informed staff within the Immunization Branch and other sections within Public Health about her study. She notified those who had the potential to help her identify OB/GYNs about her study, distributed the advertising flyer to them, and requested that they contact any OB/GYNs on her behalf using the flyer or provide contact information for potential participants. Upon receipt of contact information, the researcher then contacted the physicians directly. Utilizing these methods, the researcher was able to identify four of the study participants.

The most effective strategy that the researcher used to identify study participants was personal contacts. Three of the researcher's friends were able to recommend OB/GYNs as potential study participants and disseminated the research flyer on the researcher's behalf. These friends were able to find four OB/GYNs for the researcher, all of whom agreed to participate in the study. The researcher's family was also helpful in finding OB/GYNs for the study. Two family members were able to recommend a total of three OB/GYNs for study participation and disseminated the research flyer on the researcher's behalf. All three of those OB/GYNs also agreed to participate. One member of the researcher's thesis advisory committee recommended and referred a participant for the study, and the final OB/GYN found to participate in the study was the researcher's personal OB/GYN.

The researcher utilized other methods of recruiting OB/GYNs without success. The Executive Director for the Wake County Medical Society mailed a letter to all of the

OB/GYNs residing in Wake County (approximately 50 OB/GYNs). The letter included a personal introduction from the executive director and abbreviated information from the researcher's advertising flyer (Appendix B). None of the OB/GYNs contacted in this manner contacted the researcher for an interview.

The researcher also attempted to work with the sales force manager of a local pharmaceutical company. This sales force calls almost exclusively on OB/GYNs across the state, and had indicated a willingness to allow her staff to distribute flyers about the study to those practices. However, the researcher never implemented this method of recruitment because of concerns raised by the pharmaceutical company's legal department. Another ineffective way in which the researcher tried to recruit OB/GYNs was by enlisting the aid of the North Carolina OB/GYN Society. The researcher successfully contacted the head of the North Carolina OB/GYN Society, and this person agreed to help disseminate the advertising flyer about the study. However, subsequent attempts to contact this person were unanswered, and the researcher is unclear if this organization disseminated any information about her study. The researcher also attempted to reach potential participants by cold-calling practices. This method was not effective, as none of the potential participants contacted in this manner agreed to an interview.

The researcher faced difficulty in finding OB/GYN practices that did not offer vaccines. Through the use of cold-calling and recommendations from some of the participants and Division of Public Health Staff, the researcher was able to identify four OB/GYN offices that did not offer any vaccines to their patients. Three of these practices

declined interviews and the fourth never returned any of the phone messages left by the researcher.

In summary, the most effective means of recruiting participants for this study was through the use of network sampling. The researcher was able to identify potential participants based on recommendations from friends, family, and professional colleagues. She then followed-up with these contacts to determine the physician's willingness to participate. Having a recommendation of someone who might be willing to participate, or having a third-party who knew a physician personally contact them on the researcher's behalf about the study proved to be the most effective way to recruit the participants. Using methods such as cold-calling practices or working with professional associations was not effective recruiting method for this study.

Selecting Participants

The researcher selected participants based on their willingness to participate and the number of vaccines provided in their office. Participants included those with limited experience with vaccines, as the researcher was interested in interviewing OB/GYNs with a wide variety of background and experience with immunizations. They did not have to currently administer vaccines or be a part of the Immunization Branch's vaccine distribution program to participate. The only requirement to participate was holding current licensure to practice as an OB/GYN in the state of North Carolina. Participation in this research was voluntary. The researcher offered no incentives to participants for participation in the research study.

Data Collection Methods

The researcher conducted one audio-recorded, in-depth interview with each participant during which the interviewer used an interview guide (Appendix C). Topics covered during each interview included participants' overall impressions and concerns about immunizations, how they viewed their professional responsibility related to vaccinations, how they defined their role in immunization, their perceptions of the benefits and barriers to offering vaccines, where immunizations fit within the realm of routine obstetric-gynecologic care, and the experiences that had influenced their immunization practices. The interviews lasted between 30 minutes and one hour.

Data Management Plan

The researcher employed a data management plan to organize and manage the data collection process and data itself. She also maintained an audit trail that enabled other researchers to understand the events and choices that influenced the interpretations and conclusions of the research process. The audit trail and data management plan helped to establish credibility for this research by providing details about the data collection and analysis process (Wolf, 2003). To document the research process, the researcher's audit trail consisted of the components outlined below.

Research Log

The researcher maintained a dated research log that detailed all of the activity and decision points that occurred during the course of the research study. This log included events, activities and decision points related to the study. It also contained notes about the rationale for any decisions or changes in the research.

Field Notes

The researcher kept copies of all handwritten notes taken during and immediately after the interviews. The field notes taken during the interview included short, jotted comments about what the participants said and what the researcher observed while they were talking. Immediately after the interview session, the researcher developed an expanded version of the notes to fully describe what happened during the interview session.

Research Journal

The researcher maintained a research journal during the course of the study to write about her personal reactions to the research activities, and examine her preconceptions, assumptions, and biases. This dated journal included the researcher's personal opinions about how the study is progressing and the challenges and frustrations experienced by the researcher during the study. This component was important so that the researcher was aware of any biases or assumptions that may have the potential to impact the validity and credibility of the research findings.

Analytic Memos

A fourth part of the audit trail was the analytic memos. These memos consisted of the researcher's insights, and preliminary analysis of the collected data. These dated memos attempted to explain how the researcher was making sense of the data collected. The researcher reviewed these memos throughout the course of the study to clarify information and identify potential research themes.

In addition to the four components described above, the researcher supplemented the audit trail with raw data (such as the transcribed interviews and audio-recordings of the interview session), UMCRIIB approval and closure documents, research literature and articles related to the study, a researcher-developed codebook, and copies of all of the rough drafts of the final report, as well as the reviewers' feedback. The researcher backed up all the audit trail data frequently and will keep it in a locked container for a minimum of three years. The researcher maintained the individual privacy of each participant throughout the study, in all components of the audit trail. While the researcher collected demographic data for the participants, she reported it only in aggregate. No unique identifiers linked data to the participants' responses. All data were documented anonymously using pseudonyms.

Data Analysis

The data analysis process began during the interview sessions. During this time, the researcher took careful notes pertaining to the participant's responses, as well as their tone and body language when answering the questions. This information enhanced the understanding of the interview context to bring depth to the quality of data.

Immediately upon completion of the interview, the researcher transcribed the sessions verbatim. The interview transcripts were prepared using the audio-recorded data and field notes taken during the session. The researcher double-checked each transcript against the recording to ensure accuracy.

From this point, the data analysis process followed four main steps: immersion; coding of data; creation of categories; and identification of themes. Once the

transcriptions were complete, the researcher read and re-read them multiple times, which contributed to her immersion in the data. “Data immersion brings about clarity of the part played by both the interviewer and the research participant, and lays the foundation for connecting disjointed elements into a clearer picture of the issue being investigated” (Green et al., 2007, p. 547). The researcher made every attempt to immerse herself in the data early and often, in order to make the data analysis process more manageable and effective.

The second step the researcher took to analyze the data generated from the interviews was to code the information. The coding process involved examining and organizing the data from each interview into meaningful segments with descriptive labels (Creswell, 2007). To code, the researcher examined a block (or line) of text and asked ‘What is this participant saying?’ The researcher then labeled the transcribed interview data with codes that described the essence of the participant’s meaning. The researcher also created a codebook that consisted of a list of all of the codes used during the analysis process and a description or definition for each code. Creating a codebook enabled the researcher to code consistently throughout the transcriptions.

Following the coding, the researcher entered into the third phase of data analysis: creation of categories. She analyzed similar segments of data for ways in which to link the codes. The goal of this part of the process was for the researcher to be able to “make sense of the experience of all people in all categories in the study, or explain the conditions under which exceptions occur” (Green et al., 2007, p. 548). Lastly, the researcher completed the data analysis process by identifying themes that emerged from

the data. It was the goal of this researcher to provide a transparent and detailed account of the data analysis process that will provide insight into how the conclusions were determined and to establish credibility for the research's findings.

Summary

This chapter described the specifics of a research study conducted for the purpose of understanding OB/GYNs' perspectives and experiences about immunization and the meaning they derived from vaccines and vaccination. In this chapter, the researcher outlined her rationale for using a qualitative, phenomenological approach as a way to explore the meaning immunizations held for OB/GYNs. She described her theoretical approach and her strategies to establish credibility, including the use of reflexivity and bracketing, member checking, and an audit trail. She listed her qualifications as a researcher and described the methods she used to protect the participants' rights. In this chapter, the researcher also outlined the strategies and procedures she used to identify and select participants, and detailed how she managed the collection of data. Lastly, the researcher outlined the process she used to analyze the data generated from the study. The researcher will present findings associated with the study in the chapter that follows.

CHAPTER 4: FINDINGS

Thirteen OB/GYN physicians from a variety of private practices voluntarily agreed to participate in this qualitative study. Participants were currently licensed and practicing OB/GYNs who offered a range of immunizations to their patients. Participants completed one in-depth, open-ended interview with the researcher that lasted between 30 minutes and one hour. Participants practiced medicine in various areas of North Carolina, including Cary, Charlotte, Fayetteville, Greenville, Hickory, High Point, New Bern, Pinehurst, and Raleigh.

Data collected from the in-depth, open-ended interviews provided a description of the perceived and defined roles of obstetrician-gynecologists in terms of immunization-related patient education provision and vaccine administration. The data also provided a rich description of the meanings that study participants assigned to the practice of immunizing. In addition, the data revealed some of the influences that impacted the OB/GYNs' immunization practices for adolescents and adults.

An analysis of the data obtained from the OB/GYNs reveals four primary themes and subthemes in their experiences with immunizations. These themes include the vaccination experience, role inconsistency, multiple barriers to providing immunizations, and the decision to immunize. Chapter 4 will explore these themes and describe the participants' perceived and defined role with immunizations, the meaning they assigned to the practice of immunizing, and the influences that have impacted their immunization practices.

Practice Characteristics

The 13 physicians interviewed represented a wide range of OB/GYN practices with a cross section of size, service offerings, and patient characteristics. Over half of the study participants affiliated with medical practices with five or more physicians. Tables 1 and 2 display the size of the practices for those interviewed, by number of physicians and by number of patients.

Table 1. Practice Size (Physicians)

	Single Provider Office	Between 2 and 4 Physicians	Between 5 and 7 Physicians	8 or more Physicians	Unknown
Number of Practices	2	2	6	2	1

The participants used a variety of ways to describe the number of patients for their practice. Some indicated the number of active patients or total number of patients; others identified the number of patients per provider or the number of deliveries per month. The table below shows the range of responses for each way they described their practice's size and the number of participants who responded for each category (some participants described their practice size in more than one way).

Table 2. Practice Size (Patients)

	Active Patients	Total Patients	Patients per Provider	Deliveries
Range of Responses	2,500-4,000	6,500-60,000	20-25/day to 4-5,000/year/provider	50-60/month to 120/month
Number of Participants Responding in this Manner	2	6	4	5

With regard to services, all but one participant worked in general OB/GYN practices that provided routine obstetric and gynecology services. The participant who did not work in a general OB/GYN practice worked instead as a specialist whose focus was on providing consultation services related to high-risk obstetrics and genetics.

With regards to services, several of these participants mentioned additional services their practices offered outside of traditional obstetrics and gynecology. These services included infertility, bone density screenings, cancer treatment, surgery, and limited cosmetic services, such as hair removal. One practice also served as a site for clinical trials.

The patients served by the interviewees also varied by practice. All of the participants reported seeing a wide age range of patients, from pre-teenage years (between nine and eleven years of age) to the late 80s and 90s, with the majority of patients falling between 18 and 65 years of age. The youngest reported patient was two years old and the oldest was 99 years. The racial and ethnic demographics for their patients also varied. The participants reported patients' race/ethnicity as Caucasian, African American, and Hispanic in proportions of 30% to 85%, 10% to 60%, and 5 to 15% respectively.

Table 3 displays the insurance status of the patients served by the participants. It provides both the range of patients for each category of insurance seen by the participants' practice and the number of participants' practices that mentioned accepting various insurance types. The participants most commonly accepted private insurance, followed by Medicaid and Medicare.

Table 3. Insurance Status of Patients

	Medicare	Medicaid	Private	Self-Pay	Tri-Care
Range of Patients	5-40%	10-70%	30-95%	5-15%	5-15%
Number of Practices Accepting Insurance	9	12	13	7	3

The participants also varied in estimating the percentage of women in their practices that considered them to be their primary care provider, with estimates ranging from 0 to 80% of their patient population. Table 4 below provides a summary of these findings.

Table 4. Patients Considering OB/GYN Primary Care Provider

Percentage of Patients Considering OB/GYN Primary Care Provider	<10%	10-30%	31-50%	51-70%	71-90%	>91%
Number of Practices	1	5	1	4	2	0

The participants represented practices that ranged in size from single-provider offices to multiple-provider offices with up to nine OB/GYNs in the practice. All of those interviewed were members of American College of Obstetrics and Gynecology (ACOG). The practices varied in the number of patients served from 2,500 to 4,000 active patients per year.

The study participants reported serving a wide age range of patients but primarily women of reproductive age (18 to 50 years). The racial and ethnic demographics of patients served within their practices also varied but were primarily Caucasians, followed by African Americans, Hispanic, Asian, or other. When describing their patients'

insurance status, almost all participants' practices accepted Medicaid, and private insurance.

Participants perceived that up to 80% of their patients considered them to be their primary care providers, and described their average patients as reproductively active women under age 50 years who were relatively healthy and without major chronic illnesses. Participants commonly referred their patients over age 50 years to primary care providers such as family practitioners or internists in order to enable those physicians to more effectively address any developing chronic disease care issues.

Vaccination Experience

Patients visiting any of the participants interviewed would have a vaccination experience that was unique to the provider they were visiting. Every aspect of the vaccination experience could vary, including assessment of immunization status, type of visit in which vaccines were discussed, specific vaccines recommended and available at the practice, and vaccine-related educational information or materials provided by the physician, depending on who provided the health care service within the practice and which practice they were visiting. Presented below are findings relating to each aspect of the vaccination experience.

Assessing Patients' Immunization Status

The participants described several ways in which they assessed their patients' immunization status. Most relied on the vaccine history provided by the patient during a verbal interview. Participant E described his process of addressing immunization history with his patients. "Usually during the course of the interview, I'll identify and then ask

questions. I don't have a form that they fill out. A lot of times it's just based on [what] they will ask me." Only a few of the participants mentioned using a specific document that systematically addressed questions about the patient's immunization status.

The participants also described their practice of regularly assessing the immunization status of all of their pregnant women with regards to the rubella vaccine. Participant N described the process at his office: "Yeah, with pregnancy, you know, we'll test their rubella status on all the pregnant women to make sure their MMR vaccine they got as a child, at least the rubella status, is up-to-date." In addition, the participants mentioned that they were required to screen the pregnant women for hepatitis B virus infection. While this screening did not inform the OB/GYN about the patient's immunization status, it did tell them if the woman currently had an acute or chronic hepatitis B infection.

None of the participants reported requesting or requiring their patients to provide immunization records. Very few participants reported having ever seen a patient's immunization record. In addition, none of the participants mentioned starting an immunization record for their patients. While this study did not inquire about the frequency with which participants assessed their patients' immunization status, the participants seemed to focus primarily on their pregnant patients when they assessed immunization status.

Opportunities to Discuss Vaccines

The specific points of contact in which the participants discussed immunizations with their patients differed. The interviewees identified four main points of contact with

their patients during which the topic of vaccines did or could come up: the annual examination visit, the visit for preconception counseling, the first obstetric visit, and the six-week post-partum visit.

The annual examination was the most frequent point of contact mentioned by the participants during which they did or could discuss immunizations. The immunizations that they discussed during this opportunity largely depended on the age of the patient and the vaccines offered by the physician's office. For women under the age of 26 years, the participants frequently mentioned discussing the HPV vaccine during the annual visit. Some participants described taking this opportunity to also educate these patients about their need for Tdap or influenza vaccines. For women over the age of 50, participants most commonly mentioned discussing influenza and pneumococcal vaccines during the annual exam. Participant V described what happened in his practice during the annual exam, which exemplified what other physicians described:

When they're in for their annual exam, I ask them if they have any problems, are they having any concerns, then we'll do the exam and we'll sit down and talk about lifestyle, healthy habits, risk factors, and any vaccines that they need. So, we kind of do it at their annual, once a year visit.

This annual visit for their non-pregnant patients was one of the main opportunities the participants identified to discuss needed vaccines with their patients.

Only a few of the participants identified the preconception-counseling visit as an opportunity to discuss immunizations with their patients. During the preconception visit, providers who viewed this visit as an immunization discussion opportunity, tended to

address rubella and influenza vaccines. Only one participant mentioned using this point of contact as an opportunity to discuss the Tdap vaccine with the women.

Participants also identified the first obstetric visit as a time to discuss immunizations with patients. They described talking with patients about a need to assess rubella antibody titers and hepatitis B infection during this visit. If the first obstetric visit (or any subsequent visit) occurred during the flu season, multiple participants stated they would use these opportunities to recommend the influenza vaccine to their patients. Only one participant reported discussing the recommended post-partum dose of Tdap with pregnant patients.

The six-week post-partum visit was another opportunity identified by the participants to discuss immunizations. However, only a few of them recognized this as an opportunity. The few who did identify it as a potential point of contact, agreed that it was a good time to discuss influenza and Tdap immunizations.

The majority of participants were aware of some, but not all of the opportunities they had in which to discuss immunizations with the women they served. The participants named the annual exam most frequently when discussing the opportunities they had to talk about immunizations with their patients. While this study did not formally assess the frequency with which they actually took these opportunities to discuss vaccines, the participants seemed to utilize the annual exam most often.

Vaccines Recommended & Available

The vaccination experience described by the participants had the greatest amount of variability when the discussion turned to which vaccines they recommended and

offered their patients. Of the 13 physicians interviewed, one offered no vaccines due to this provider's primary role as a consultant specialist; seven offered between one and three vaccines; and five offered four or more vaccines. Table 5 displays the vaccination practices of the participants.

Table 5. Vaccination Practices

Vaccine	Available in Office	Not available, but will write prescription or order	Not available, but would recommend and refer to another doctor	Not available, no discussion	Other
Influenza	11	0	1	0	1 – hospital-based practice and refers patients to hospital flu clinic
HPV	10	1	1	1	0
Rubella (MMR or single-antigen)	6	0	1 recommends; 5 recommend but rely on hospital to provide	0	1- unsure
Tetanus (Td or Tdap)	5	3	2 recommend but rely on hospital to provide	3	0
Hepatitis A	1 (Hep A/B Combo)	1	2	7	2 – considered but decided not to offer because of cost
Hepatitis B	3 Hep B; 1 Hep A/B combo	1	2	4	1 – used to but stopped; 1 – only for employees
Meningococcal	0	1	3	9	0
Shingles	2	1	0	9	1 – researcher did not ask
Pneumococcal	2	1	2	5	3 – researcher did not ask

Summary of Vaccination Practices

Influenza. Influenza was the vaccine most commonly offered by the participants to patients seen in their OB/GYN practices. The participants' primary target for this

vaccine was pregnant and elderly patients, although some also strongly encouraged their patients at high-risk for complications from the disease to become immunized against influenza. Patients who were not pregnant or who did not fit into a high-risk category also had the option of receiving the influenza vaccine at their practices, but the vaccine was only available on request. One of the participants provided the influenza vaccine only for obstetric patients.

HPV. The HPV vaccine, Gardasil, was the second most commonly offered vaccine among the participants. They seemed to embrace this vaccine and many reported promoting it heavily among their young women patients who were eligible to receive it. Multiple participants also reported advocating for the vaccine beyond their own patients by talking to mothers of girls old enough to receive the vaccine. The participants who did not offer the HPV vaccine did so primarily because of cost incurred by them to store and administer the three-dose vaccine.

Rubella. Some practices used the single-antigen vaccine while others gave the combination measles, mumps, and rubella (MMR) vaccine. The majority of participants interviewed described discussing MMR vaccine with women during preconception counseling and testing for rubella immunity among pregnant women. Those who did not provide it in their offices tended to rely on the hospital to provide the vaccine post-partum to women who needed it. The participants seemed to be committed to discussing this vaccine during preconception and screening during pregnancy, and vaccinating women themselves or at least working with the hospital to ensure the vaccination of the susceptible women.

Tetanus. Immunization practices regarding the tetanus-containing vaccines of Td and Tdap differed greatly by practice. Even the act of discussing the vaccine varied among participants: a few participants mentioned discussing the vaccine with women during preconception counseling, while others talked with patients about it during the annual exam, and still others mentioned it to women during the six-week post-partum visit. Several did not report discussing this immunization with women.

Hepatitis A & B. The vaccination practices regarding the hepatitis A and B vaccines also varied by practice. For hepatitis A, only one practice offered the vaccine, and it was in the form of Twinrix, the combination hepatitis A/B vaccine. A few had considered offering the vaccine; one participant would order it if needed; and a few others recommended but did not administer it. Outside of these providers, participants did not offer or discuss hepatitis A vaccine.

Hepatitis B vaccine was available in more of the participants' offices. When discussing this vaccine, the participants were more likely to mention the required screening they had to complete for all pregnant women than the vaccine itself.

Meningococcal. None of the participants interviewed offered meningococcal vaccine, and only a few recommended it to their patients. Some participants explained their rationale for not providing this vaccine by pointing to the low numbers of eligible recipients that they see. Other participants cited a reliance on pediatricians or family physicians to provide this vaccine.

Shingles & pneumococcal. Only two of the participants' practices offered shingles vaccine to the women over the age of 60 years in their practices. Two

participants' offices provided the pneumococcal vaccine to the post-menopausal women they served. When asked about these vaccines, only a few physicians indicated that they recommended them to their elderly patients. Many stated that they tended to rely on other primary care physicians, such as internists or family practitioners, to recommend and provide these vaccines.

Overall, the immunizations recommended and provided by the participants varied greatly by practice and by vaccine. HPV and influenza were the vaccines most commonly offered by the participants, while meningococcal, hepatitis A, shingles and pneumococcal were least frequently provided.

Educational Materials Offered

The educational focus and materials provided as part of patients' vaccination experiences at participants' practices also varied. While all of the participants who offered vaccines reported the availability of some type of educational materials, the immunization information they offered was limited to HPV and influenza vaccines. One participant described offering a pre-recorded walkman to patients that explained the HPV vaccine and its purpose. Participants most commonly reported using brochures and pamphlets as patient educational materials and those materials were generally limited to the HPV and influenza vaccines.

Information about other vaccines was scarce. A few reported using immunization educational materials provided by ACOG; however, several mentioned that these materials were not offered free of charge and that cost impacted availability of such materials for patients. Others indicated that they would go to the CDC or ACOG website

to print information for their patients about vaccines if their patients expressed a need or desire for it.

When asked if they perceived a need for additional educational materials, all but two of the participants said they had no such need. Of the two who indicated a need, one wanted an easy-to-understand adult immunization schedule they could share with patients. Another wanted more information about meningococcal vaccine. Providing immunization educational materials did not seem to be a primary concern or focus for the study participants.

Most of the participants described providing an informational packet or bag to their new obstetric patients that included information about pregnancy, delivery, and their child. For all but two of the providers, these packets contained no immunization information. Of the two who provided immunization information, one provided information from Baby Love, the Medicaid program for pregnant women in the State of North Carolina, which has vaccination information included within it. The second participant provided a DVD about pregnancy that included vaccine information. All of the participants agreed that the OB packet or bag offered an opportunity to provide vaccine information to their obstetric patients.

In general, the educational materials provided by participants about immunizations focused on the HPV vaccine. Beyond that, information was largely lacking and the participants did not seem particularly concerned about or interested in providing such information.

Summary

For any given patient of the providers who participated in this study, the vaccination experience could vary in a number of ways. Every aspect of the vaccination experience differed among participants, including assessment of immunization status, type of visit in which participants discussed or offered vaccines, specific vaccines recommended and available at the practice, and educational materials provided by the physician.

Vaccination experiences within the practice could vary, depending on the physician from whom the patient was seeking treatment. Several participants pointed out that, although the practice might decide to provide a specific vaccine, not every physician within that practice would encourage, recommend, or even provide it in the same fashion. As Participant K explained, “Everybody offers many of the same things, but I don’t know if all of the same things are emphasized by each individual as much as others.” This variability among practices and among providers illustrated the inconsistency and the variety of vaccination experiences that could occur within and between the participants’ medical practices.

Role Inconsistency

There was little agreement among how participants defined their roles associated with primary care, immunization provision, and patient education about vaccines. Some participants defined their roles quite broadly and included a variety of responsibilities, while others took a more narrow approach and defined their role based on the population they served. Such differences were also apparent in how participants defined their scope

of work. Presented below are findings relating to participants' perceptions about their roles.

Role as Primary Care Providers

When discussing and defining their roles in terms of primary care provision, the participants described one of two scenarios: they saw themselves either as a primary care provider or as a specialist who had limited primary care responsibilities. While they agreed on which patients were most likely to consider their OB/GYN to be their primary care provider (i.e., relatively healthy, reproductively active women under the age of 50), they disagreed as to what types and level of services they should be providing while serving as a primary care provider.

Some participants described an extensive role for OB/GYNs with primary care. As Participant D explained,

Since we have been given that title as being a primary care provider, I think we need to take responsibility and do the things that go along with that primary care, not just vaccines, but routine labs, checking cholesterol, thyroids and diabetes - all the things that go along with preventative medicine. We need to remain up-to-date on what the recommendations are and recommend them for our patients.

Participant J agreed with this more broadly defined role, and believed it was the responsibility of providers "to make sure you're covering all aspects of their health care and not just their reproductive health." The participants who saw themselves as having a larger role in primary care also recognized that many of their patients did not have another doctor for their health care needs.

Not every participant agreed with or wanted to have a more comprehensive role as a primary care provider. Participant H struggled with this issue, for he knew he was serving as a primary care provider for some of his patients, but did not feel that he was the best-qualified physician to provide such care. As he explained,

I think that my reluctance to do primary care is just because I don't think it's in the patient's best interest for me to do it... It's like; I don't think a family practitioner should be doing c-sections. They don't know what they're doing. And I have to say, am I the best person to give this person information? Do I know the most about it? Do I know the ins and outs of as well as someone else and I have to be honest and say, no I don't.

Some of the participants indicated that they would prefer that another physician handle the bulk of the primary care duties, while others felt comfortable providing limited primary care services, but only for women who were relatively healthy. The participants who saw themselves as having a more limited role in primary care commonly expressed a desire to share responsibility with other providers for their patients' health care needs. The participants divided almost evenly in how they defined their role with primary care, with six providers describing a broader, more involved role with primary care, and seven providers describing a narrower, more focused role.

Immunization-Specific Role

The ways in which they defined their roles with immunizations was another way in which the participants differed. Some defined their role based on whether or not the patient considered them a primary care provider. Others defined their roles for either a

specific vaccine or population. There did not appear to be a relationship between the way in which the participant defined their role with vaccines and the number of vaccines offered. For example, some participants who described a very limited role for themselves with vaccines also came from practices that offered four or more vaccines.

Six of the participants defined their roles with immunizations in terms of whether or not their patient considered them a primary care provider. For these patients, they acknowledged playing a role in both recommending and providing necessary vaccines.

As Participant Y explained,

It [his role with vaccines] would really be dependent on the patients needs. If this is someone that you really are that primary care provider for, then you need to educate and vaccinate. If this is someone that you're touching in life and they have a primary care provider, then I see my obligation as making sure that primary care provider is aware of what the recommendations are, and they would be the one to actually administer it, but I would be a patient advocate that they know to seek this.

The participants who defined their role in this way felt responsible for vaccine provision because they recognized that their patients might not have another doctor or might not go elsewhere to receive the vaccine.

For women outside of the primary care window of age 18 to 50 years, the participants saw themselves playing a lesser role in vaccine provision. They seemed much more willing to refer these patients to pediatricians, family physicians, or internists,

as appropriate. As Participant S explained, he focused on women between 20 and 50 years of age:

People don't really need pap smears until they're 20ish, unless they are sexually active. So, we're seeing some kids for menstrual problems and those, they typically have pediatricians, so we let them [pediatricians] deal with that. So, the OBs role is going to be the 20 to 30 to 40 year olds, just keeping them healthy and happy. Once people get 50, 60, if they truly haven't had another doctor, then I urge them to get a primary care doctor, just for some older age screenings.

The greatest amount of disagreement among the participants who defined their role with immunizations in this way came for those 'bubble' patients – either their adolescent patients under the age of 18 years or adult patients over the age of 50 years. Some participants believed their role was to serve as a counselor or advocate for immunization among these age groups, making recommendations to those patients who needed vaccines but not administering vaccines to them. Others felt they were responsible for providing necessary vaccines to these patients.

Despite a belief that they had a role to play in immunizing patients who considered them primary care providers, many of the participants did not have available all of the vaccines recommended for these women. When asked to explain this discrepancy, many of the participants could not offer an explanation. Some seemed to realize that how they defined their role with vaccines did not match their immunization practices, and a few vowed to "look into" providing the vaccines that they were missing.

While approximately half of the participants defined their roles with immunizations based on whether or not they were the patient's primary care provider, the remaining participants defined their role with immunizations more in terms of their responsibilities relating to a specific vaccine or population group. For example, Participant A defined his role with vaccines as follows:

I think that with Gardasil, OB/GYNs should be probably at the front line of giving it to patients. The flu shot I see as second line, primary care doctors should be pushing that... Probably everything else is a distant third.

Of the participants who defined their roles this way, many also focused specifically on their role with the HPV vaccine. As Participant F explained, "I think primarily for women's health issues, our role is really the HPV vaccine. That really falls under our area more than any of the others." They saw the HPV vaccine as fitting within their scope of practice more than the other vaccines, and often expressed a strong interest in the vaccine because of its potential impact on cervical cancer, a health issue that falls directly into their scope of practice. Participant F explained his perspective on other vaccines:

Where, you know, the flu vaccine, I do what is recommended by the CDC, I don't have any real, there's no passion there, there's no passion there for any of the other vaccines, frankly. You just do what's recommended, basically. Or, you make sure they go to a place that does those things, that follows those recommendations.

These participants felt that the HPV vaccine strongly tied to their professional responsibilities, and saw less relevance for the other vaccines.

Other participants defined their role with vaccines more in terms of the population groups that they served. They saw a role with their obstetrics patients, in particular. As Participant R explained, “I guess our emphasis is primarily for the vaccines associated with obstetrics and the other vaccines I think are received other places, or received from the pediatricians.” Participant H took this idea one step further, and defined his role with vaccines for women before, during and after pregnancy. The participants clearly identified pregnant women as their specialty, and were more than willing to provide vaccines recommended for this group. A willingness to discuss vaccines during preconception and post-partum patient visits varied among the participants.

A clearly defined role with vaccines other than influenza and HPV or with patient populations other than pregnant women may be lacking for many of these participants. They may not have formalized or even thought too much about how they define their relationship with vaccines. Regardless of how they defined their role with vaccines, whether it was in terms of their primary care relationships or by vaccine and population group, all of the participants interviewed saw themselves as vaccinators to some degree.

Role with Educating Patients

All of the participants agreed that they had a role to play with educating patients about vaccines. Even if they did not have the necessary vaccines available in their own medical practices for administration to their patients, many believed that they should be

current on the issue of vaccines, able to talk about them with patients, and recommend them if needed. As Participant K explained,

Certainly there's a role for that [being an educator], you know, I think if you're going to be giving vaccinations out, you can't give them out blindly – you've got to be an educator of some kind. I think if you were not administering vaccine, I think it'd still be incumbent on you to educate your patients about it.

This role as an educator about vaccines was one of the few areas of immunizations on which all of the participants agreed. In addition, they all believed they were already fulfilling this role adequately as part of their normal physician duties.

Scope of Work

In addition to expressing differences in how they defined their role in terms of being a primary care provider and consequent provider of immunizations, the participants disagreed about where vaccines fit within their scope of work. Almost half of the participants saw vaccines fitting with their routine screening, prevention, and primary care scope of duties. These participants included those who offered between one and three vaccines and those offering four or more vaccines. As Participant A explained,

I think that it [vaccinating] should be a part of the preventive care business that we do every year. It's not the first thing we want to discuss but it's part of routine screening and preventive maintenance, and that's where it fits in.

Other OB/GYNs reiterated that vaccines were not high on their priority list.

Participant E provided a breakdown of the vaccines he considered within his scope of practice, by age of patient:

I would say for me, my number one issue for patients over 50 is hormones, menopause, then it's breast health and bone health. I would say vaccines are probably down towards the bottom of the list on my priority when I'm taking care of patients over 50. In my younger patients, my under 26-year-olds, its right up there with abnormal pap smears, contraception, vaccination. My pregnant patients, it's right up there. Pneumococcal, shingles – that's way down the list of priorities.

While these participants agreed that vaccines fit within their primary care scope of work, they disagreed about the fit of specific vaccines. Participants identified HPV, influenza, and possibly rubella as the vaccines that most likely fit within the OB/GYN scope of work. Other participants believed that vaccines other than HPV and influenza were outside of their scope of work. As Participant H described it,

Those [vaccines] are probably... more in the periphery in what I feel like my responsibility is. I mean, cervical cancer, that's sort of the realm of the OB/GYN and just like, when you're pregnant, your responsibility is the health of that pregnant woman. Where as, we probably feel more like specialists... in other areas. I sort of feel like when I see somebody; my main responsibility is to do their pap, to do their breast exam, and to talk about birth control. I probably feel like it's somebody else's responsibility to talk to them about other things, and so I've kind of viewed the, something like shingles or meningococcal... [as] maybe not quite as important.

How broadly they perceived their role in primary care and with immunizations seemed to relate to how they saw vaccines fitting within their scope of work.

Summary

The participants expressed differing opinions when defining their role with primary care and consequently with providing immunizations. Some envisioned their immunization roles as comprehensive and inclusive, while others took a more narrow approach and defined their role based on a specific vaccine or population. Participants agreed that they played a role in serving as educators to their patients about vaccines but the identification of vaccines that specifically fit within their scope of work differed among them. These disparities among the participants illustrate the inconsistency that participants' faced when defining their role in the areas of primary care and immunizations.

Multiple Barriers to Immunizing

All of the participants agreed that they faced multiple barriers to patient immunization. They identified four main barriers to immunization: cost, logistics, patient knowledge, and provider knowledge. Findings from data related to immunization barriers are below.

Cost

Almost every participant identified cost as a barrier to providing vaccines. The discussion on cost revolved around three main concerns: the cost to the practice to keep the vaccines in stock, including the level of insurance reimbursement to the medical

practice; the amount of staff time associated with vaccine administration; and the cost to patients.

Cost to practice. Most of the participants described the cost to the practice as a barrier to providing vaccines. Many stated that their practice lost money as a result of providing vaccines. The cost issue seemed centered on reimbursement. As Participant V described, “Reimbursement’s the issue. A lot of the vaccines we can’t get reimbursed what it costs us to get the vaccine, let alone on the needles and the syringes and the staff time to give it.” The participants felt they had little incentive to offer the vaccines without reimbursement for the cost of the vaccine and for the staff time to administer it. However, they also stated they were not concerned about making a profit from vaccination; they just wanted to be able to break even and stop losing money.

Another issue with reimbursement that several participants identified was the perception that primary care providers such as family physicians received reimbursement differently or at higher rates for some services such as vaccination. Participant H observed, “And some of this stuff interestingly, like it’s covered if you [patient] do it at your primary care doctor[’s office], but it’s not if you do it at your OB/GYN[’s] office.” While this study did not assess the specific cost to the practice and the reimbursement rates, the participants felt this was a major barrier to immunizing their patients.

To combat the reimbursement issue, several of the participants’ practices had resorted to writing prescriptions so they did not have to pay the money up-front to stock the vaccines. Others stated that they were considering doing that in the near future.

Staff time. The participants also identified the amount of staff time required to handle the logistics of vaccine administration as a cost-related barrier. The time required for nursing staff to track down the reimbursement rates, fill out the appropriate forms, and administer the vaccines cost their practices valuable staff time. Participant H explained his frustration with this cost barrier:

I think a lot of patients almost expect us to know whether or not it's covered on their insurance and if we don't, then they want us to track down that information. That's probably a third of our staff already is working in just dealing with the insurance company and so, we don't have the man hours, or the manpower to do that.

The participants considered staff time to be a valuable asset to the practice and perceived inadequate compensation for the time spent handling the logistics of administering the vaccines.

Cost to patients. Several participants identified cost to patients as a barrier to providing vaccines. They described patients who were eligible to receive the vaccine, but who could not afford to do so, or who would not pay the out-of-pocket cost for the co-pay. Even patients with insurance, including those covered by Medicaid, would commonly refuse to pay out-of-pocket costs for vaccinations. Participant V described this trend, "A lot of patients don't even want to pay the co-pay, like Medicaid patients, for some of the vaccines, it's like a \$3 co-pay and they don't want to pay it." Several physicians expressed frustration that their patients would not take the vaccines.

In summary, for some patients, the participants believed that cost, no matter how small, was a major barrier to receiving vaccines and cost was a major barrier in providing vaccines. Practice-related costs included limited insurance reimbursement and staff time.

Logistics

Participants identified the logistics associated with providing vaccines as major barriers to immunization. The logistics they identified included such issues as assessing immunization status, ensuring availability of vaccines, handling multi-dose vaccinations, coordinating storage and handling, and time required to educate patients about vaccines.

Determining immunization status. Several participants described the difficulties they faced in determining which vaccines were needed by the women they served within the allotted time they had to see patients. Participant F's experiences revealed that most adults either did not know or assumed that their immunizations were up-to-date. Study participants identified difficulties assessing a patient's immunizations status as a barrier to providing vaccines. Participant Y, for example, believed that assessing patient immunization status warranted improvement, and wanted a better way to be able to check the immunization status of his patients such as a data bank or immunization registry.

Availability of vaccines. Simply accessing vaccines was another logistical barrier identified by several participants. Participant A talked about his difficulty in finding the shingles vaccine. Other doctors remembered problems in finding the influenza vaccine several years ago.

Multi-dose immunizations. Vaccines given in a series, such as hepatitis B or HPV also presented logistical barriers for the participants. Getting the patient back into the

office for a subsequent vaccination could be difficult and follow-up for the second and third doses of these vaccines was problematic. As Participant E described it, “the other barrier would be the multiple dosing vaccines. To get patient compliance, they hurt [from the immunization], they don’t want to come back. It surprises me how many people don’t do the full three doses of Gardasil.”

Storage and handling. In discussing logistical barriers, a few of the participants identified issues relating to the storage and handling of vaccines. These included issues such as keeping the vaccines in stock, monitoring expiration dates, and maintaining an adequate supply of vaccines. Some participants felt this barrier would only increase as their practices expanded their immunization offerings. Participants whose practices offered between one and three vaccines primarily identified these storage and handling concerns. None of the participants associated with practices that offered four or more vaccines named storage and handling as a barrier.

Available time. Several participants identified time as a logistical barrier to vaccine education and administration. They described having a limited availability of time with their patients to cover everything they needed to discuss. Some of the interviewees felt that the amount of time it would take to discuss the vaccines with their patients was a significant barrier to vaccination. As Participant H explained,

For most people it’s probably not as easy as just saying, ‘alright, you need a tetanus shot.’ There’s going to be questions of – well, why do I really need this? How safe is it for me? And, is it going to be covered by my insurance? And, those are just, I think that unfortunately sometimes it just opens up a whole can of

worms, that you may not have time or expertise to really answer a lot of these types of questions.

As Participant H suggested, many participants found a time-related logistical barrier to be taking the time to identify vaccines the patients needed and discuss with patients the benefits and costs associated with them.

The logistics of providing vaccines, including assessing immunization status, ensuring availability of vaccines, handling multi-dose vaccinations, coordinating storage and handling, and taking the time required to educate patients about vaccines were all barriers to providing vaccines. Participants associated with practices that offered between one and three vaccines identified far more logistical barriers than their counterparts who offered four or more vaccines.

Patient Knowledge & Misconceptions about Vaccines

A majority of the participants interviewed, including all of those who offered four or more vaccines, identified patient knowledge or misinformation and fear as a barrier to providing vaccines. This barrier included issues such as patients' fear that the vaccines might harm them or their fetus, fear that the HPV vaccine might promote sexual activity in their children, and lack of knowledge that they needed the vaccine.

Fear that the vaccine might cause harm. Multiple participants reported having to overcome patients' misconceptions about vaccines, such as the belief that the vaccine would make them sick or harm their child. Participant V explained his experiences with this barrier, "Patients are afraid of them [vaccines], you know? They [think the vaccines] cause birth defects, mental retardation, they [think they will] get sick from them, [that] it

doesn't prevent infections, so that's one big barrier." Fear that the influenza vaccine would make them sick or that getting vaccinated while pregnant would harm the fetus was a barrier that multiple participants said arose while discussing vaccines with their patients.

Participants believed that patient fears may in part stem from the fact that many women under the age of 50 years have not experienced any of the diseases that vaccines commonly prevent. Instead of focusing on the benefits of vaccines in disease prevention, participants believed that patients who were unfamiliar with the vaccine-preventable diseases might focus instead on the potential negatives of the vaccines, such as the side effects. Participants cited their patients' lack of informed perspective or respect for the disease as another barrier to vaccine administration.

Several participants also reported expressions of concern among pregnant patients that vaccines would cause autism in their unborn children. Participant J's practice even switched to a thimerosal-free version of the influenza vaccine to help overcome this barrier:

We have a number of patients that, because we deal with the pregnant patients, [were] raising concerns about autism and vaccine safety. Especially the pregnant patients when it comes to the flu vaccine. Because the flu vaccine we were using, we were using the one that did have a little small amount of thimerosal in it. A lot of the moms raised questions about that and we have switched to the thimerosal-free vaccine.

On probing participants about their response to patient concerns about autism, they shared their insights into the problem. One participant, Participant K, described what he would tell his patients about this concern:

I usually tell them that it looks like the best evidence now is that we're really not 100% sure that there's a direct link between them. There's some studies that indicate there may be, there's some studies that indicate that there's not, and so – it'd be nice to know for sure, but we don't know the answer to that.

However, other participants addressed this concern by pointing to the fact that no research has linked autism with vaccines. Participant E described what he would tell patients concerned about this issue:

From everything I've read, and everything I've studied, I see no link of autism and vaccinations. And, if there really was a true, strong link, it would be disseminated widely. I mean, so, the fact that I have not read anything, I have not seen anything, it's highly likely there is no link.

In summary, several study participants cited the need to address patient concerns about vaccines in a timely, accurate, and effective manner as a barrier to vaccine administration.

Concern about risky behavioral outcomes. Participants identified a patient concern about vaccination related to the HPV vaccine. Participants recalled talking to mothers who were concerned that their daughters would view receiving the vaccination as permission to have sex. In response to such concerns, Participant G told patients, "I'm not giving you permission to have sex; I'm giving you permission not to have cervical

cancer.” Other participants reported this issue as a barrier to vaccination, and were also willing to talk to their patients to try to overcome it.

Lack of awareness about vaccine need. Participants identified that patient knowledge about their need for vaccines was another barrier to vaccine administration. The participants believed many adults were unaware of their need for vaccines, and felt they, as physicians, had to take extra time to explain why they needed such vaccines.

A low frequency of patient demand for vaccines was another patient information-related barrier. The participants identified influenza and HPV as the most commonly requested vaccines within their medical practices. However, they reported that such requests were infrequent. Participants typically had to broach the subject of immunizations with their patients.

The participants were able to identify multiple layers of patient information-related barriers that need addressing in order to immunize more patients. They believed that addressing patient fears about side effects and overcoming misconceptions that the public had about vaccine safety were two ways to address this barrier. In addition, they believed that their patients needed general education about vaccines.

Provider Knowledge

Almost all participants identified their own knowledge about vaccines as a barrier to providing immunizations. Primary barriers were their ability to remember to incorporate vaccine assessment and education into their patients’ routine visits and their complete understanding all of the intricacies of vaccines and vaccination. Additional barriers related to provider knowledge included several potentially mistaken beliefs: a)

few of their patients needed vaccines; b) their patients were up-to-date with the necessary immunizations; or c) other health care providers were giving their patients the vaccines they needed.

Making vaccines part of the routine. Several participants identified that a barrier to immunization was their ability to remember to incorporate vaccinations into the routine part of their visit with patients. They described focusing more on other components of the visit or exam that they often simply forgot to talk about vaccines with eligible patients or were too pressed for time to bring it up. Participant J discussed this barrier:

I think OB/GYNs in general, just getting them to think about women's health overall and not just focusing on the pap smear and breast exam. I mean, you're so constrained in terms of the time that you have to spend with the patient and the things you have time to educate the patient about... So, I think, because we have so much on our plates, just getting us to think in that frame of mind [is a challenge].

Because participants did not regularly talk about vaccines with their patients, they did not view vaccinating as a part of their usual health care practice.

One participant suggested that overcoming this barrier may require minimal extra effort on the OB/GYN's part. As Participant H explained, "It's probably just inertia. You don't really commonly talk about it, so you don't think about it as much." The participants believed that if they could incorporate vaccines more completely into their routine patient visits, remembering to talk about vaccines would become less of a barrier.

Limited vaccine knowledge. Participants identified their own levels of knowledge about vaccinations as a barrier to vaccination. Participant H was particularly adamant about this point. As he explained it, “my discomfort with it is that I have so much that I need to continue learning about just about OB and GYN that it’s hard to sort of keep up with the latest recommendations regarding vaccinations.” He and several other participants did not feel completely confident in their current knowledge about the intricacies of vaccines and felt that they may not be the best persons to be administering them. They were worried that they did not fully understand all of the potential side effects of vaccinations and that offering immunizations might not be in the best interest of their patients. Despite their lack of knowledge about the intricacies of vaccines and vaccination, participants who identified this barrier also felt comfortable in their ability to overcome it by simply reeducating themselves about the current recommendations and vaccination guidelines.

The participants’ limited knowledge about vaccines did not translate into concerns about vaccine safety. Most stated that they had no concerns about offering vaccines, and they all stated that they felt the benefits of vaccination outweighed the risks. Those who did express concerns talked about their worry that vaccines were not truly effective (especially the influenza vaccine) and that health experts were not fully aware of their side effects, particularly the long-term side effects

Limited awareness of eligible patients. The barrier of provider knowledge manifested itself in other ways. The participants often linked their reticence to offer vaccines to their perception that only a limited number of their patients were eligible to

receive vaccines. This observation represented a potentially large immunization barrier in that many participants did not realize the actual proportion of their patients who were not only eligible, but also recommended to receive vaccines. For example, Participant E recognized this as a barrier when he discussed the meningococcal vaccine:

I guess because I've never really linked meningococcal as a vaccine that should be [administered to the] total population. I would not have – in my mind – the thought of every college-going female to make sure they had a meningococcal vaccine. I did not realize that that would be – and honestly I can't say I've ever given a college-aged [person a] meningococcal [immunization].

Perception that patients are up-to-date. Another barrier related to provider knowledge is the belief that all of their patients are current with their immunizations. They reported believing that “in theory” everyone who came to see them was up-to-date with their immunizations. Several of the participants admitted, however, that they were probably incorrectly making that assumption.

Assumption someone else is the provider. The participants often repeated the belief that another health care provider was providing the necessary immunizations to their patients. Particularly with the meningococcal, shingles, and pneumococcal vaccines, the participants often expressed the belief that their patients could get these vaccines at their other primary care providers. As Participant E explained,

I guess I just anticipate that that's someone else's area – like pediatricians and that all should have been done by the time they got to me. And then, once they're over 50 – most of them, like I said, most of them I try to make sure they have a family

doctor and then I just expect the family doctor to follow up on those other vaccines.

Existing provider knowledge is an immunization barrier that manifests itself in a number of ways. Participants cited not remembering to incorporate vaccines into routine patient visits or fully understanding all of the idiosyncrasies of vaccines or vaccinations. In addition, they acknowledged the possibility of incorrectly assuming that only a few of their patients were eligible to receive vaccines; that their patients were already up-to-date; or that someone else was immunizing their patients.

Summary

A major theme that emerged from the data in this study was the barriers that participants associated with the practice of immunizing. All of the participants named multiple barriers to offering vaccines by them or their medical practice. Some barriers related to more pragmatic issues, such as cost and logistics. Other barriers focused on patient and provider knowledge and beliefs. The multiple barriers that participants described illustrated some of the obstacles that they faced when it came to immunizing patients in their practices.

The Decision to Immunize

Despite the range of vaccination experiences, inconsistently defined roles as immunizers, and barriers that participants identified, most of the participants still decided to immunize their patients. The participants' interpretation of the influences, benefits, and meaning of their vaccination practices impacted and reinforced their decision to immunize. Presented below are the findings relating to their decision to immunize.

Influences

A number of contributing factors influenced the participants' decision to immunize their patients. The participants were able to identify three main influences of their immunization practices, including ACOG recommendations, prevalence of disease, and patient demand.

ACOG recommendations. The majority of those interviewed named ACOG's recommendations as a key influence in guiding their immunization practices. These recommendations were described as being so important in medical practice that one participant mentioned waiting for ACOG to make a formal recommendation about Tdap vaccine before administering the vaccine. As Participant N described,

That's why it's important for us to keep up with the ACOG recommendations and stay active in the membership and read all the current guidelines as far as what's recommended by ACOG, because if we do what's recommended by ACOG, then we're not going to get in trouble with anybody. It's just as simple as that, because if someone comes to us and says, 'it's ACOG recommendations and you didn't do it and now this patient has a problem,' then yeah, I'm at fault. If the ACOG recommends it, that's my medical society and I'm supposed to be practicing medicine under their guidelines.

ACOG's recommendations were very important and influential in their decision-making about which vaccines they offered.

Although many named ACOG as a key influence in their medical practices in general and immunization practices in particular, several participants acknowledged that

they did not know what ACOG recommended for some vaccines. As Participant H explained,

Yeah, I'll be honest; I'm not completely sure what ACOG's stand on it [some vaccines] is.... I know they recommend flu vaccine and I know they recommend Gardasil, but I'm not really sure what their recommendations are regarding things like shingles or meningococcal or some of the other ones. Certainly, if I was better versed in that, it [vaccination] probably would be more important to me.

Several other study participants also commented that they probably could not describe ACOG's recommendations for vaccines other than influenza and HPV. While participants often named ACOG's recommendations as a key influence in immunization, the majority recognized that they were not aware of and may not be following all of the ACOG guidelines for immunizing.

Prevalence of disease. Another influence on the participants' immunization practices was the prevalence of the diseases they most commonly treated. For example, the diseases Participant E most commonly saw in his patients were the ones that most influenced his immunization practices. "HPV and the flu in pregnancy are my main areas of concern because those are mostly my diagnosed [health problems]; my diseases that I take care of day to day. That I'm seeing over and over and over." Participant S pointed out a similar experience.

As far as an OB/GYN practice, that's [HPV] the most prevalent thing that we see, we're not dealing with a lot of hepatitis [A or B disease] – those people are going elsewhere. Even the flu people – they are going to seek out other care when they

get the flu. So, you know, the one that really impacts our practice is going to be the HPV vaccine.

Thus, the diseases that the participants had the most experience treating were also the diseases for which they tended to offer vaccines.

Experience with disease incidence and prevalence was also influential in participants' immunization decisions. As Participant N described,

Prevalence, too, yeah, you know? I haven't taken care of one person who's had hepatitis [B] since I've been here. To say, does that mean that everyone is vaccinated against hepatitis [B] here, absolutely not, but the prevalence of hepatitis [B] here is so low that it's like, if I've never seen a patient with hepatitis [B], then why would I be concerned? Everyone could be vaccinated against hepatitis [B]. If hepatitis [B] was really prevalent here, then I would be all over the place making sure every one of my patients had hepatitis [B] vaccine.

Participant N went on to use an example that further highlighted the relationship between prevalence and vaccination offerings,

I guess it's the prevalence of the things where I work...when we were in..., we took care of HIV [Human Immunodeficiency Virus] patients all the time. And here, we haven't seen one HIV patient. So, if you don't see it, you tend to forget about it. If I worked somewhere like there was a Division I school, I'm sure I'd be current and up-to-date and giving everyone meningococcal vaccine, so I think if I don't see the problem, I'm not really thinking about it.

Seeing patients with the disease seemed to influence the participants' immunization practices and provided justification for both the vaccines they did and did not offer.

Patient demand. Another influence named by multiple participants was patient demand. Many of the physicians reported experiencing an increase in patient demand for HPV vaccine once it became available, and named demand as a key influence in their decision to offer the vaccine. As Participant N described,

Even if it's something that the patients don't know should be important to them, if they're not asking questions about it, and it's not something I see a lot, then I don't really push it. So, I think patient demand really drives how much I talk about vaccines and which vaccines we offer in our office.

In addition to HPV, a few participants reported patient demand for other vaccines, such as pneumococcal and shingles. The practices that reported this demand were also the ones who offered these vaccines.

Additional influences. Other immunization practice influences named by the participants included: perceived importance of the vaccines, efficacy of the vaccines, and disease outbreaks. Two participants reported seeing cases of rubella and pertussis in their community that influenced their decisions to offer those particular vaccines.

In summary, a number of factors influenced the participants' immunization practices, including ACOG's recommendations, disease incidence and prevalence, particularly among patients, and patient demand. These influences impacted the OB/GYNs in their decision to immunize.

Benefits

Participants identified three main benefits to offering vaccines as a part of their medical practice: ensuring patient protection and community disease prevention, serving as a medical home for patients, and maintaining patient retention. In addition to enhancing the participants' vaccination experience, the benefits to immunizing also reinforced their decision to immunize.

Patient protection & community disease prevention. For the participants, prevention of disease and protecting their patients topped the list of benefits they associated with immunizing. Many of them emphasized benefits for a specific population, such as pregnant women. As Participant V described, "Well, especially in the pregnant population, it reduces risk for maternal, severe cases of disease like the flu for instance, and also neo-natal infections as well." Multiple physicians noted the benefits not just for pregnant women, but also for children in providing extra protection from harmful diseases.

Several physicians specifically mentioned the benefits associated with offering the HPV vaccine. They perceived benefits accrued not just to patient and community health, but also to the health care system in general. Participant F described the benefits he associated with offering HPV vaccine:

Really it's going to eventually around the world save a lot of people's lives, it's also going to change the way we take care of patients for their pap smears. The annual pap is not going to be as necessary, if you have HPV is negative, and you have a normal pap, the likelihood of cervical cancer is extremely remote, after

even three years, so you can kind of stretch these things out. It'll be a huge cost savings to the health care system in the long run.

When describing the benefits of a specific vaccine, almost all of the participants focused on the benefits of HPV and influenza vaccines. They rarely mentioned other vaccines during the discussion of benefits.

Another immunization benefit the participants described related to the health of the community as a whole. By vaccinating their populations, they were helping to reduce disease transmission and increasing community safety. One participant described the benefit of offering vaccines in terms of how it affected not just the community health, but also her patients' willingness to get their children vaccinated. According to Participant G,

If you vaccinate people appropriately, you know, for flu and for pertussis, they're less likely to get sick, their children are less likely to get sick, and I mean, then they start thinking about their vaccines, and they're more likely to get their kids vaccinated, too, if they get vaccinated and don't have problems.

Every OB/GYN interviewed named protecting their patients and preventing disease as a benefit.

Medical home. Some of the participants interviewed identified the fact that serving as a medical home for patients was a benefit to providing vaccines for them. They felt that their patients may not see any other health care provider and that offering vaccines ensured their patients' protection and receipt of complete care. Several of the

participants echoed the belief that, if they did not provide the vaccine, their patient would not get it elsewhere.

Patient retention. Some physicians saw patient retention as a beneficial outcome of offering vaccines. Participant N described this benefit:

If somebody's going to ask for it and they don't get it from us – then they're going to go find another doctor that's going to give it to them and that's potentially a patient we lost to another doctor because we didn't do something.

Thus, providing vaccines was a service that a few of the participants identified as a benefit that would ensure their patients remained with their practice.

None of the participants thought that vaccine provision would be a financial benefit for their office. In fact, many claimed that administering vaccines resulted in lost revenue for their practices. Nor did offering vaccines create new business for their medical practices. However, several participants recognized the financial benefit to society and the health care system that vaccines could offer. Participant D shared a perspective about the broader benefits of offering vaccines, “from the standpoint of a health system or our society, it's certainly much cheaper to vaccinate than it is to treat disease.” While some of the participants recognized the societal financial gains that vaccines provided, they indicated little financial benefit for their practice to immunize their patients.

In summary, participants identified three primary benefits of offering vaccines to their patients: ensuring patient protection and community disease prevention; serving as a medical home for their patients; and maintaining patient retention. While they saw little

financial benefit to their practice to provide vaccines, other benefits reinforced their decision to offer them to their patients.

Meaning of Immunizing

Participants acknowledged that providing immunizations was meaningful to them in their roles as physicians. The meaning that the participants assigned to the practice of immunizing reflected the benefits they identified. They described the meaning of immunizing as offering complete care for their patients and ensuring patient retention.

Providing complete care. Most meaningful to participants was the opportunity to provide comprehensive care to patients. They viewed immunizations as part of this comprehensive care. As Participant S explained, “it means you’re trying to take the best care possible for your patient, especially if you’re responsible for a patient who’s not seeing any other doctors, so, just to offer as complete care as possible.” Participant J took this idea one step further, and found meaning with the practice of immunizing not just for the impact it would have on her patients, but on the community as well.

If you think about the oath you took as a physician, and the reason you became a physician is to, you want to be responsible for promoting good health and good health practices in your patients. I think you’re only helping to contribute to the well-being of your patient and to the community overall.

Even Participant D, whose practice did not offer vaccines for the patients for whom he served as a specialist consultant, also described the meaning of offering immunizations in terms of providing complete care. To many of the participants, providing vaccines meant they were providing quality and comprehensive care for their patients.

To some of the participants, providing vaccines also meant that they would be impacting diseases that could harm their patients. One participant described the meaning she found in being able to provide vaccines by relating it to her experiences working in Africa and seeing the effects the diseases can have on people. Other participants expressed similar sentiments about the meaning of offering vaccines, but focused on the impact of specific vaccines. For example, Participant K found particular meaning from offering the HPV vaccine, as it would impact a disease he saw frequently.

For us, the biggest thing to offer many of these vaccines is that it gives us hope that we're going to have a significant impact on one of the biggest problems that we deal with on a day-to-day basis.

While some participants were able to identify the meaning that providing HPV had for their practice, they often also expressed uncertainty at why they did not derive a similar meaning from offering other vaccines. Participants seemed to be able to derive meaning primarily from the vaccines that were most impacting their offices. Vaccines other than HPV and influenza were not as meaningful to the participants.

Patient retention. Other participants defined the meaning of offering vaccines in terms of ensuring patient retention. Participant D explains:

It probably also means that the patient is likely to stay with you for their whole life, if you do those sorts of things for them. There's some family physicians obviously and internal medicine physicians that will do pap smears and GYN care, so if they're not getting what they need from you, they'll go to an internal medicine doctor or family doctor who'll say, I can do your pap smear as well,

you may no longer have that patient as your patient. Patients would obviously go one place to get everything than go to two or three different.

Participant V expressed a sense of personal satisfaction in being able to serve as a one-stop shop for his patients. “I think it, there’s a sense of satisfaction, that I can offer everything my patients need. So, I’m a one-stop resource for my patient’s needs – testing, vaccines, medications, education, the whole nine yards.” Several participants found the meaning in offering vaccines to be associated with ensuring that their patients stayed with their practice and could receive everything they needed.

The participants’ derived meaning from offering vaccines in a number of ways. Some emphasized the comprehensiveness of care that offering vaccines symbolized; while others focused on the satisfaction associated with being a single point of care for their patients. Regardless of how they defined the meaning of immunizations for their practice, every participant was able to identify some meaning that the act of offering immunizations provided for themselves and their medical practice. This meaning, in turn, contributed to their decision to provide vaccines for their patients.

Summary

For participants in this study, their interpretation of the influences, benefits, and personal meaning of their vaccination practices impacted and reinforced their decision to immunize. These factors helped the participants determine why the practice of immunizing was important to them, and influenced their decisions about which vaccines to offer and which patients to immunize.

Chapter Summary

Four themes emerged from the data in this study that related to the participants' experiences with immunizations. These themes included the vaccination experience, role inconsistency, multiple barriers to providing immunizations, and the decision to immunize. Chapter 4 explored these themes and described the participants' defined role with immunizations, the assigned meaning to the practice of immunizing, and the influences that have impacted their immunization practices.

CHAPTER 5: CONCLUSION/DISCUSSION/IMPLICATIONS

In this chapter, the researcher will present a review of the findings associated with this qualitative study and conclusions drawn from the findings. In addition, a discussion of the findings in the context of the research literature and theoretical framework of the study is included. This chapter will conclude with an analysis of the implications for the field of health education and promotion and future research.

Study Overview

The purpose of this study was to explore how obstetrician-gynecologists perceived and defined their role in immunization and vaccine administration, including providing patient education about immunizations. In addition, the researcher was interested in identifying the meaning that study participants derived from the practice of immunizing and the influences that have impacted their adolescent and adult immunization practices. To achieve this purpose, the researcher conducted audio-recorded, in-depth, open-ended interviews with 13 physicians who resided and practiced obstetrics and gynecology in North Carolina. The researcher chose a qualitative methodology in an effort to better understand participants' immunization-related beliefs, perspectives, and behaviors in the context of their OB/GYN medical practices.

The theoretical framework of Health Belief Model (HBM) informed this study. The HBM suggests that a person's perceptions are the basis for their likelihood of engaging in a recommended health action. Changing their perceptions increases the likelihood that they will act on the health behavior recommendation. The main components of the model include perceived severity, perceived susceptibility, perceived

benefits, perceived barriers, and cues to action (Hodges & Videto, 2005). This theory provided a framework for understanding the immunization behaviors of the OB/GYNs. Health educators can also use this theory in developing successful and effective strategies and materials for outreach programs that will encourage OB/GYNs to expand their immunization service offerings.

Health educators could use the data collected during the course of this study for determining strategies for adopting, expanding and improving adolescent and adult immunization services. This study has also provided suggestions for future research. In addition, the findings have implications for the field of health education and promotion.

Discussion

During the course of the interviews with study participants, the researcher was able to gain a better understanding of their attitudes and practices related to vaccine-preventable disease and the perceptions and meanings they assigned to their role with immunizations. A summary of the key findings from this research as well as a discussion of how those findings related to the research literature and theoretical framework is below. The researcher used the components of the Health Belief Model, including perceived severity, perceived susceptibility, perceived benefits, perceived barriers, and cues to action as the framework for discussing the key findings from this study.

Vaccination Practice & Influences

Vaccination practice. Of the 13 participants interviewed for this study, one offered no vaccines; seven offered between one and three vaccines; and five offered four

or more vaccines. The two most commonly offered vaccines were HPV and influenza. The vaccination practices of the participants varied by practice, vaccine, and patient.

Other studies that have examined the vaccination offerings of OB/GYNs have been either specific to a particular vaccine or conducted several years before the number of vaccines available for adolescents and adults had expanded. For example, Gottlieb et al. (2008) conducted a telephone survey of staff at medical practices in a four-county area in North Carolina with high cervical cancer rates to assess the availability of HPV vaccine. The researchers found that 64% of the obstetrics-gynecology practices in the targeted geographical area offered the HPV vaccine (Gottlieb et al., 2008). In the present study all but three of the participants offered the HPV vaccine.

Clark et al. (2006) surveyed a national random sample of 212 obstetricians to assess their opinions about the Tdap vaccine just after the vaccine became available in an effort to determine the likelihood that obstetricians would recommend and administer the vaccine to their obstetric patients. They found that 78% of respondents agreed or strongly agreed that they would likely recommend Tdap vaccine for women immediately after delivery if recommended by ACOG. In addition, with regards to administration of the vaccine, study participants believed that adult primary care providers played a larger role in administering the Tdap vaccine than did OB/GYNs (Clark et al., 2006). These findings about Tdap vaccine from the study by Clark et al. are somewhat supported by the findings from the present study, as this study revealed much discrepancy between the Tdap vaccination and recommendation practices of OB/GYNs. The present study found

that five of the 13 participants' offices had Tdap vaccine available, three would order it if necessary, and two would recommend it to their patients.

One study investigated the vaccination practices of OB/GYNs with respect to all vaccines. The Schrag et al. (2003) study sent a questionnaire to 413 ACOG Fellows who volunteered to participate regularly in surveys and to a random sample of 650 ACOG Fellows. Of the approximately 600 ACOG members who responded to the questionnaire, the majority (64%) worked in medical practices that offered at least one vaccine to their patients. The most common vaccines they offered were rubella and influenza vaccines, followed by hepatitis B vaccine and tetanus toxoid-diphtheria vaccine (Td) (Schrag et al., 2003). However, Schrag et al. conducted this study before the introduction of the HPV, Tdap, meningococcal, and shingles vaccines. These findings differed from those associated with the present study, as all but one of the participants interviewed worked in practices that offered at least one vaccine to their patients. The most commonly offered vaccines in the present study were influenza, HPV, rubella, and tetanus.

Findings from the present study revealed participants' variations in their vaccination offerings, especially in providing vaccines other than HPV and influenza. Each participant or practice offered a different combination of vaccines for their patients. In addition, participants differed on which vaccines they emphasized and to which patients they offered vaccines. For example, some recommended and provided certain vaccines only for the women who considered them their primary care providers; others recommended and provided vaccines for their pregnant patients, or for their patients who are within the correct age range to receive a specific vaccine, like HPV.

The participants' vaccination practices may have differed from those of other physicians within their practice, perhaps as a function of the clientele that a particular OB/GYN treated. For example, participants with larger post-menopausal practices may have strongly promoted and encouraged pneumococcal vaccine, while their colleagues within the same practice, whose patient population may have reflected fewer older age patients, may not have thought to do so. Likewise, OB/GYNs who served in a consultant specialist role or who were primarily involved in surgery might have been less likely to consider patients' vaccine needs compared to other OB/GYNs whose practices were more focused on well-woman care and the provision of primary care. So, although their medical practice may have decided to provide certain vaccines, unless all of the OB/GYNs affiliated with the practice recommended and promoted the vaccines among all eligible patients, missed immunization opportunities were possible.

Findings from the present study revealed discrepancies between participants' vaccination offerings and those recommended by ACOG, although ACOG offers clear recommendations about vaccines that OB/GYNs should provide for their patients (Appendix D). This finding may point to a need for more education for OB/GYNs about available vaccines, patients eligible to receive them, and ACOG's recommendations.

Influences. According to the research literature, OB/GYNs' decisions to provide vaccines have been associated with two variables: working in a multi-specialty practice and self-identification as a primary care provider (Schrag et al., 2003). However, this study identified three additional factors that influenced their decision to provide vaccines,

including awareness of and willingness to implement ACOG's recommendations, the prevalence of disease, and patient demand.

Most of the participants interviewed named ACOG's recommendations as a key influence in their immunization practices. This finding was consistent with other studies that have shown that ACOG's favorable stance on an issue is a prerequisite to the adoption of the behavior by OB/GYNs (Schaffer et al., 2008). However, despite its influence, several participants in this study acknowledged that they did not know about ACOG recommendations for some vaccines or were not following current ACOG's recommendations for the vaccines. ACOG has issued numerous Committee Opinions, encouraging its members to recommend and provide the rubella, influenza, HPV, and meningococcal vaccines to eligible patients (ACOG, 2002; ACOG, 2004; ACOG, 2005b; ACOG, 2006a). In addition, ACOG has published recommendations that encourage OB/GYNs to assess and provide immunizations during preconception care and as a part of the periodic assessments for women of all ages (ACOG, 2005a; ACOG, 2006b).

While ACOG's recommendations are an important component of the participants' decision to offer vaccines, they are not the only influence. According to this study, a number of factors affected the participants' decision to offer vaccines, including their perceived role with vaccines, their perceptions of themselves as primary care providers, perceived susceptibility of their patients and perceived risk of the disease, and perceived benefits and barriers to offering the vaccines. Understanding how all of these factors related to and influenced participants' decisions to offer vaccines had implications for the development of strategies that could change practice patterns so that more OB/GYNs

educate and provide vaccines for their patients, thereby protecting the women they serve against a greater variety of diseases.

Perceived Role with Vaccines

The participants in this study defined their role with immunizations either in terms of their primary care relationship with patients or by vaccine or population group. For those who defined their role in terms of their primary care relationship with patients, their role with vaccines depended on whether or not patients saw them as primary care providers. These participants felt that they had a greater role and responsibility to educate and vaccinate these women when they perceived themselves as serving as their patients' primary care doctor.

The participants who defined their role in immunization by vaccine primarily focused on the HPV and influenza vaccines. They saw these vaccines as clearly fitting within their job responsibilities and saw other vaccines as less of relevant to their scope of practice. The participants who defined their role by population group tended to focus on their most vulnerable patients. They clearly saw an important role for themselves as immunizers for the HPV vaccine and, in the case of their obstetric patients, for the influenza vaccine; some also saw they played a role in immunizing women during preconception and post-partum periods. Outside of the vaccines and populations mentioned, most of the participants saw themselves as playing little or no role with vaccinations.

The differing opinions and inconsistency about their roles and responsibilities with vaccines found in this study is consistent with findings from a study conducted by

Gonik et al. (2000). Gonik et al. (2000) assessed the immunization knowledge of 313 ACOG members in Michigan using survey questionnaires. The researchers found that, while most OB/GYNs believed that the provision of vaccines should be within their scope of work, a discrepancy existed between their perceived role and vaccination practices. The researchers concluded, “inadequacies in vaccine screening and administration are likely reflective of this overall perspective that such duties are outside the realm of routine practice” (Gonik et al., 2000, p. 84). However, Gonik et al. (2000) completed their study prior to the introduction of the HPV vaccine.

A review of the research literature revealed no additional studies that explored OB/GYNs’ overall role in vaccines, and only a few that have explored their role regarding specific vaccines. For example, a study by Clark et al. (2006) found that the majority of OB/GYNs agreed that they had a role in promoting or providing education about the Tdap vaccine to individuals coming in close contact with infants, but not necessarily in administering the vaccine (Clark et al., 2006). Using a mailed questionnaire, Zola et al. (1997) examined the attitudes and educational practices of 264 OB/GYNs in San Francisco regarding the infant hepatitis B vaccination. They found that the majority of the obstetricians surveyed believed in the provision of the hepatitis B vaccine at birth and that it was possible to educate all expectant mothers about it. However, only 53% of the respondents in the study provided education about this vaccine to their pregnant patients (Zola et al., 1997).

The ways in which participants defined their role with vaccines may be changing due to the introduction of the HPV vaccine. This vaccine was strongly associated with

the prevention of cervical cancer, a major health issue for which participants assumed primary responsibility in their scope of practice. In this study, the participants who defined their immunization role in terms of specific vaccines had primarily focused on the HPV vaccine. Almost all of the physicians interviewed had it available in their office and provided it to their patients.

Other studies that have investigated the OB/GYNs' role with HPV vaccine have confirmed the strong support and sense of responsibility these specialists felt about the vaccine. Even before the HPV vaccine became available, OB/GYNs welcomed the idea of this vaccine, with 92% claiming they were likely or very likely to use it once it became available (Schrag et al., 2003). Since the introduction of the HPV vaccine in 2007, Gottlieb et al. (2008) reported that 64% of the obstetrics-gynecology practices in a four-county area in North Carolina with high rates of cervical cancer offered the HPV vaccine. Their study concluded approximately a year after the introduction of the HPV vaccine, and suggested that, "obstetrician-gynecologists, who have not traditionally been vaccine providers but have been supportive of HPV vaccination efforts, have quickly put systems in place to make HPV vaccine available" (Gottlieb et al., 2008). The rapid response of participants in providing the vaccine suggested to Gottlieb et al. that OB/GYNs saw a role for themselves in promoting and providing HPV vaccine. Findings from the present study provide support for this observation.

In this study and others (Gonik et al., 2000; Clark et al., 2006; Zola et al., 1997), the participants clearly saw a role for themselves in educating patients about vaccines. Yet, while they saw a role for themselves as educators, they offered little educational

materials outside of information about HPV and influenza vaccines. They also did not utilize all the opportunities they had available to discuss immunizations with patients and did not frequently recommend vaccines to patients other than HPV and influenza.

While they may have seen themselves in the role of educator, the participants in this study reported concerns about issues that presented barriers in educating their patients about vaccines. They recognized that once they raised the issue of vaccines with patients, their patients would have potentially time-consuming questions and concerns related to the disease the vaccine prevented as well as the side effects associated with the vaccine. In addition, not all participants felt well-informed about vaccine-related issues, particularly regarding side effects, and this decreased their comfort in providing patient education.

Findings from this study suggested that participants viewed themselves as having an important role in vaccination but a role that was less clear in terms of providing vaccine-related education and administration, particularly since their views changed depending on the vaccine and patient age group in question. Improving the inconsistencies in how they defined their role with immunizations could necessitate ongoing opportunities to clarify their role as primary care providers.

Perceived Role with Primary Care

Almost all of the participants interviewed worked in general OB/GYN practices that provided routine obstetric and gynecology services as well as primary care services. Of those providing primary care services, the participants estimated that between 20% and 80% of their patients considered them their primary care provider. They described

the women who considered them primary care providers as relatively healthy, reproductively active women between the ages of 18 and 50 years.

The population of reproductive age women for whom participants in this study were providing primary care services was consistent with that described in other studies (Gonik et al., 2000). Schaffer et al. (2008) assessed the adolescent-immunization delivery among candidates in seven non-traditional vaccination settings including OB/GYN offices. They noted that, “although few adolescents under 15 years of age see obstetrician-gynecologists, one third of all medical visits for women aged 17 to 21 years of age are to obstetrician-gynecologists” (Schaffer et al., 2008, p. S39). Leader and Perales (1995) examined three national databases to determine differences in care provided to women during medical examinations by three medical specialties. They found that “gynecologists are also the exclusive providers of primary care to substantial segments of women in the United States, especially women in their prime reproductive years” (Leader & Perales, 1995, p. 395).

OB/GYNs are an important provider of primary and preventive care for women. However, the participants in this study reported an ongoing debate within their specialty about the types and amount of primary care they should be offering. Some felt that because their patients considered them primary care doctors, they should be fulfilling the duties associated with that role, including providing vaccinations. Others disagreed with the stance that they were primary care providers. They did not feel as knowledgeable about some of the primary care responsibilities, including vaccines, and preferred for other, better-informed physicians to offer those services.

The research literature notes this reported division among the OB/GYNs about their primary care responsibilities. Lentz, Ayala, & Eckert (2006) used a retrospective cohort design to compare demographics and prevalence of diagnosis codes for patients seen by OB/GYNs. They reported that almost half of all OB/GYNs considered themselves to be primary care providers (Lentz et al., 2006). While the percentage of OB/GYNs who considered themselves to be primary care providers varied by study (Stovall et al., 2007; Leader & Perales, 1995; Gonik et al, 2000), they agreed that women of reproductive age were most likely to be seeking primary care services from their OB/GYNs.

Studies that have explored the OB/GYNs' role with primary care in relation to vaccines have found that those, "who identified themselves as primary care providers had an increased likelihood of vaccine provision" (Schrag et al., 2003, p. 708). The present study reflected this relationship between the primary care role and vaccine offerings and the division among the OB/GYNs about their primary care responsibilities. Almost half of the participants saw vaccines fitting within their routine screening, prevention, and primary care scope of duties. However, they disagreed as to which vaccines specifically fit within this scope. Other participants felt that vaccines other than HPV and influenza vaccine were outside of their responsibilities and did not fit within their responsibilities.

In an attempt to help clarify the role of OB/GYNs with primary care,

ACOG has identified three levels of gynecologic care: traditional specialty care, primary preventive care, and extended primary care. OB/GYNs who provided primary preventative care emphasized health maintenance for women and provide

health screening; those physicians who provided extended primary care not only offered primary prevention but also treated medical conditions beyond the reproductive system. (Boyle, 2006, p. 1666)

In addition, at the time of the present study OB/GYN residents were required to have training in primary care and ACOG has encouraged OB/GYNs to not only provide primary care services during preventive examinations, but also to manage minor chronic medical problems (Boyle, 2006).

The diversity of participants' viewpoints about their roles as primary care providers documented in the present study reflected the continued struggle with the role among OB/GYNs as a whole. Boyle perhaps described the debate best: "Although the specialty as a whole cannot decide how they feel about primary care, the reality is that they are well positioned to deliver it" (Boyle, 2006, p. 1666). The ongoing disagreement about their role in primary care and the specific vaccines that fit within their scope of practice will continue to impact the immunization practices of OB/GYNs in a significant way. If vaccination advocates can encourage OB/GYNs to broaden their scope of work to include more vaccines as part of their primary care responsibilities, then more OB/GYNs might be willing to offer vaccines.

Perceived Severity

According to the HBM, perceived severity refers to "one's own assessment of the seriousness of a health problem" (Hodges & Videto, 2005, p. 183). The participants in this study provided vaccines for the diseases they most commonly treated in their offices, such as HPV and influenza, both of which could have devastating outcomes in the

absence of immunization. Participants named prevalence and severity of the disease as some of the key influences in their decision to provide the vaccine. The research literature supports this finding. Gonik et al. (2000) noted that, “survey respondents who were more knowledgeable about vaccine-preventable diseases were more likely to incorporate screening and vaccine administration in their practices” (Gonik et al, 2000, p. 84). However, no other studies were identified that discussed the prevalence of the disease as an influential factor in OB/GYNs’ decision to provide vaccines.

First-hand knowledge about the severity of the disease seemed to influence the participants’ decision to provide HPV and influenza vaccine. However, beyond these vaccines, few participants provided or seemed interested in providing vaccines to protect their patients against other potentially serious diseases such as meningococcal, pertussis, hepatitis A, hepatitis B, pneumococcal or shingles. This may be in part because they rarely saw patients impacted by these diseases and might never have treated anyone infected with one of them. Clearly communicating the severity of all of the vaccine-preventable diseases and the risks that their patients are taking by remaining unimmunized may contribute to a pro-vaccination stance on the part of providers. OB/GYNs might reconsider their immunization practices and offer a greater number of the vaccines recommended for adolescents and adults.

Perceived Susceptibility

The HBM defines perceived susceptibility as “one’s own assessment of the level of risk of experiencing a health problem” (Hodges & Videto, 2005, p. 183). The participants in this study primarily offered vaccines for the patients they considered the

most vulnerable to the disease in question. For most of the participants, this included providing influenza vaccine for their pregnant and elderly patients and providing HPV vaccine for women under the age of 26 years who were most susceptible to the disease. The participants typically offered the other vaccines to women who were at greatest perceived risk for the disease or in spreading the disease to vulnerable populations. For example, participants in a few medical practices recommended and offered the Tdap vaccine to their preconception and postpartum women to help prevent the transmission of pertussis from mother to child. Other studies that have examined the vaccination practices of OB/GYNs have not assessed the patients to whom they were providing vaccines.

Participants in this study did little to assess the extent to which their patients were susceptible to the various immunization-preventable diseases. They tended to assume that the women they saw were up-to-date with the necessary vaccines or could receive the vaccine from other providers. The results of studies by Rand et al. (2007) and Malone, Gonick and Tomlinson (2002) challenge this assumption. Rand et al. (2007), for example, found that women over the age of 18 visited OB/GYNs more than any other type of physician. In addition, they observed that adolescent and adult vaccination rates are dangerously low. Malone et al. (2002) specifically examined vaccine awareness of 482 patients at different OB/GYN settings through the use of a questionnaire. Their study revealed that most patients visiting an OB/GYN practice had inadequate immunity to common vaccine-preventable diseases. In addition, more than one-third of participants in that study could not identify a site to meet their current vaccine administration needs

(Malone et al., 2002). The study also found that the “overwhelming majority of patients surveyed expressed a strong desire to use their obstetrician/gynecologist office for such services, if the services were made available” (Malone et al., 2002, p. 197). The assumption that patients are up-to-date in their immunizations or able to receive their vaccines elsewhere may not be accurate. Such an assumption may leave a number of women of reproductive age unimmunized and unprotected.

In addition to the perception that many of their patients were up-to-date or could receive the vaccine from another provider, the participants in this study did not necessarily remember to provide the vaccine to all eligible patients. For example, some practitioners may link Tdap vaccine with wound treatment and not realize the recommendation includes all adults between 18 and 64 years of age. In addition, recommendations for Tdap include all post-partum women. Similarly, with meningococcal, they may not have realized that all women between age 11 and 18 years are eligible to receive the vaccine. Simply encouraging the OB/GYNs to think beyond the most vulnerable patients and to consider all of their patients recommended to receive the various vaccines may help increase their opinions about the susceptibility of their patients to vaccine-preventable diseases.

Perceived Benefits

The Health Belief Model’s construct of perceived benefits refers to an individual’s assessment of the benefits of participating in a recommended health-related behavior (Hodges & Videto, 2005). The participants in this study were able to identify three main benefits to offering vaccines: ensuring patient protection and community

disease prevention; serving as a medical home for their patients; and maintaining patient retention. The participants focused primarily on the benefits relating to immunization with HPV and flu vaccines.

Physicians who participated in the study named protecting their patients and preventing disease as a benefit to vaccinating. Many of the participants also recognized that they were serving as a medical home for many of their patients who did not see other physicians. Because of this belief, several felt that offering vaccines ensured their patients' protection and receipt of complete care, and they saw this as another major benefit. Other physicians saw patient retention as a benefit to offering vaccines. Providing this service was a way to ensure that their patients remained with their practice. None of the participants interviewed saw a financial benefit to providing vaccines.

These findings are not comparable to other similar studies in the research literature, because previous studies tended to focus exclusively on immunization barriers. However, the medical benefits of vaccines are well known. They are effective at preventing disease among individuals and in ensuring the health of the community. Vaccines also benefit the health care system in that they are a cost-effective way to prevent disease.

According to an extensive cost-benefit analysis by the CDC, every dollar spent on immunization saves \$6.30 in direct medical costs, with an aggregate savings of \$10.5 billion. When including indirect costs to society -- a measurement of losses due to missed work, death and disability as well as direct medical costs -- the

CDC notes that every dollar spent on immunization saves \$18.40, producing societal aggregate savings of \$42 billion. (Every Child by Two, 2009)

While the providers in this study did not see an immediate financial benefit to offering vaccines, their involvement in immunization contributed to reduced health care costs associated with disease management.

Interestingly, in this study the benefits of offering vaccines that participants identified were similar to how they derived meaning associated with immunizations. They described finding meaning in offering complete care for their patients and ensuring patient retention as a consequence of offering immunizations. To some participants, offering vaccines meant that they were providing complete, comprehensive care to their patients and were affecting the diseases, such as HPV and influenza, which were most likely to impact their patients' health. Others found that offering immunizations meant that their patients were likely to stay with their practice and could receive everything they needed. To the participants in this study, the benefits of providing vaccines were similar to the meaning that they derived from the act of offering immunizations for their patients.

Perceived Barriers

The HBM construct of perceived barriers refers to an individual's assessment of the obstacles to participating in a recommended health-related behavior (Hodges & Videto, 2005). The participants in this study were able to identify four main barriers to vaccinating: cost, logistics, patient knowledge, and provider knowledge. The barriers identified in this study were similar to findings in quantitative studies that have described the vaccination practices among OB/GYNs. Previous studies have identified financial

barriers, supply and demand issues, patients' educational background, and the OB/GYNs' attitude and education about vaccines as barriers to immunization (Schrag et al., 2003; Gonik et al, 2000; Leaphart, Seigler, Arnold & Bivins, 2003). Gonik et al. (2000) also found that the OB/GYNs' belief that 'it is not part of my usual patient care activities' was a barrier to administering vaccines, as was uncertainty regarding current vaccine recommendations, lack of comfort with administration, and the perceived unwillingness of patients to accept the vaccine. While the four main barriers found in the present study were similar to previous findings, the present study revealed additional barriers relating to provider knowledge not yet identified in the research literature. A discussion of how the barriers identified in this study relate to previous studies follows.

Cost. Cost as a barrier, including both the cost to store the vaccine and the reimbursement rates, was mentioned numerous times by participants, not just in this study, but in several others. However, cost does not have to be a barrier for OB/GYNs, especially for their younger patients. Informing these doctors about the existence of the state's immunization program, which enables physicians to provide the required and recommended vaccines to their eligible patients, free of charge, may be one way to reduce cost as a burden to the practice for offering immunizations to their patients under the age of 18. Also, in most cases, OB/GYN practices and the various third-party payers contractually establish the reimbursement rates between themselves. To reduce this as a barrier, the OB/GYNs may need to consider renegotiating their rates with these companies.

OB/GYNs in private practice must consider the cost and benefit ratio to providing any service, and unless the reimbursement for vaccines improves, there will be little incentive for the OB/GYNs to offer more vaccines. While the practice of writing prescriptions may help the providers save money on storing the vaccines, this practice is not ideal, for it puts the viability of the vaccine into question. Having a patient responsible for maintaining the correct temperature and handling the vaccine appropriately until they can return to the provider's office to receive it puts the effectiveness of the vaccine in jeopardy.

Patient knowledge. Patient fear, misinformation, or lack of education about vaccines is a barrier to all vaccine providers, not just OB/GYNs. Fortunately, overcoming patient misconceptions about vaccines can be as simple as providing education about the importance, safety, and efficacy of vaccination (Leaphart et al, 2003). Addressing patient concerns about vaccine safety seems to be a large barrier facing the OB/GYNs and one that may require additional training for the physicians to appropriately address. For example, this study found that some OB/GYNs were answering questions from their pregnant patients about vaccines and its relationship to autism. However, not all of the information that the study participants were relaying to their patients was accurate, and may point to the need for additional education about this issue.

Increasing patient knowledge about their need for vaccines was another matter. In this study, flu and HPV vaccines were the vaccines most often requested by the participants' patients, but the OB/GYNs reported that these requests were very infrequent. The participants typically had to broach the subject of immunizations with

their patients. Many studies have shown that the majority of adults are unaware of their need for vaccine, but such studies also found that one of the strongest predictors of immunization is a physician's recommendation to receive the vaccine (Ashby-Hughes & Nickerson, 1999).

One participant in this study related a parent's concern that receiving HPV vaccine might encourage sexual activity in their children. Other studies that have explored provision of the HPV vaccine have identified this issue as a barrier (Keating et al., 2008). However, a study by Brewer, Cuite, Herrington and Weinstein (2007), which specifically investigated whether receiving a vaccine can cause people to engage in risky behaviors by interviewing 705 adults over the telephone, found support for the belief that vaccines could reduce protective behaviors, but the evidence was not strong enough to support the belief that vaccination with HPV vaccine would cause or promote sexual activity (Brewer et al., 2007).

Provider knowledge. One component of this barrier related to participants' remembering to incorporate vaccines into their daily routine. Finding ways for OB/GYNs to remind themselves to talk about vaccines with their patients as part of their routine physical may be all that is necessary to overcome this barrier. This could include the use of standing orders or examination checklists by population group by the physicians. In addition, encouraging OB/GYNs to use all of their visits, and any additional points of contact with their patients, to discuss appropriate immunizations can result in fewer missed opportunities for vaccination. Also, ensuring that the OB/GYNs

know which vaccines to discuss at these opportunities may help improve the vaccination practices and uptake at their offices.

Another way to overcome this barrier would be to make it more part of the culture of the OB/GYN's office. For example, Participant H's medical practice was not in the habit of offering many vaccines, and he felt that if his partners were more willing to discuss and offer a broader array of vaccines, then his own mindset about vaccines might change. Overcoming the barrier of incorporating vaccines into the daily habits of the OB/GYNs and the practices is possible, but it requires commitment and dedication on the part of the physicians and their office staff.

While barriers to immunizing certainly exist, the participants' perceptions about the number and the difficulty of these barriers may be greater than warranted. In this study, it appeared that the participants who identified the most barriers to immunizing were also the ones who offered the fewest number of vaccines. Other studies have also noted this finding. For example, Keating et al. (2008), conducted telephone interviews with medical practices in North Carolina to assess potential concerns about HPV vaccine provision and found that, "practices not providing the HPV vaccine consistently had more concerns than did HPV vaccine providers" (Keating et al., 2008, S65). Providing vaccines may not be as difficult as the OB/GYNs' perceive, and their reluctance to do so may be because of their resistance to change more so than the actual barriers that exist.

Pediatricians and family practitioners have been immunizing children for decades, and have had experience overcoming barriers relating to assessing patients immunization status, dealing with reimbursement and cost issues, managing the storage and handling

logistics, and overcoming patient misperceptions about vaccines. OB/GYNs have traditionally had limited exposure to the practice of immunizing and may be unfamiliar with strategies useful in overcoming some of the barriers associated with this service. The OB/GYNs may be able to learn from pediatricians and family practitioners about how best to manage the vaccines and immunize the patients in their practices. Finding ways to reduce the OB/GYNs' perceptions of these barriers and to increase their sense of self-efficacy with the administration of vaccines may help enhance the immunization offerings in these practices.

Cue to Action

In the HBM, cues to action refer to reminders that may help start or encourage the desired behavior (Hodges & Videto, 2005). Encouraging OB/GYNs to incorporate vaccines more fully into their practice may not be too difficult if health educators utilize the correct cues to action. In this study, at the conclusion of the interview, the participants would ask the researcher about ways in which they could improve their immunization services or would suggest a need existed to consider providing one or more of the vaccines for their patients. Most of the participants expressed a willingness to vaccinate; however, they were unsure about how to overcome some of the barriers associated with immunizing.

The researcher asked participants in this study who were uncomfortable or not interested in having a larger role with immunizations about what strategies would encourage them to provide more vaccines. Their responses often involved finding ways to remind them to incorporate the process of immunizing into their daily practice, either

through offering financial incentives, incorporating systems that would alert them about the recommended vaccines, or providing additional education about primary care responsibilities during residency.

On the patient side, providing additional education about the immunizations offered at their practice may help to increase patient demand for the vaccines. As the study by Malone et al. (2002) demonstrated, many OB/GYN patients were willing to use their OB/GYN for vaccination services, if vaccines were available. All of the participants who offered vaccines in the present study reported that they had some type of education material about vaccines, but their educational offerings were limited and mainly focused on the HPV vaccine. Increasing the amount and availability of quality patient education materials may help educate women about the immunizations they need and may increase the patients' demand for the vaccines.

Simply finding ways that the OB/GYNs can better incorporate immunizations as part of the standard routine of care during patient visits and increasing the patients' knowledge about the existence of and availability of such vaccines may serve as needed cues to action that can facilitate behavior change for both the OB/GYN and the patient.

Strengths & Limitations

This study has both strengths and limitations. Qualitative data provided detailed information about the OB/GYNs' perceptions and experiences with immunizations. The defined meaning, perceived role, influences, and beliefs of the OB/GYNs affect their immunization practices and provide suggestions for areas in need of additional study.

The qualitative design for this study included a purposive sample of OB/GYNs. Due to purposive sampling, findings associated with this study cannot be generalizable to all OB/GYNs. However, the findings from this study may be transferrable to similar individuals under similar circumstances.

One limitation of this study was that the researcher was unable to interview any general practice OB/GYNs who did not offer any vaccines. Their lack of representation may affect the findings. In addition, because the researcher collected data through the use of face-to-face interviews, the potential for response bias was greater. This bias occurs when the participant seeks to please the person conducting the interview (Crosby, DiClemente, & Salazar, 2006). The researcher's knowledge about vaccines and presence may have had an impact on the participants, and also on the research findings. Although the researcher attempted to avoid this bias by keeping her body language and comments neutral, this type of bias may still have occurred. The researcher also assumed that the participants answered honestly and truthfully during the course of the interview. She also assumed that participants answered according to what they felt or believed about the topic, not what they perceived to be socially acceptable or the 'right' answer. These assumptions may be a limitation of the study.

Another potential limitation occurred due to a discrepancy in how the researcher and the participants defined the term "offered." Some of the physicians would state they offered a particular vaccine, but upon further questioning, revealed that they did not have the vaccine physically in their practice. Some would state they offered it, but meant either that they would recommend it, or that they would be willing to order it or write a

prescription for it and have the patient come back to the practice to receive it. The researcher made attempts to clarify the participant's meaning during the course of the interview, but the report of immunization practices may be inaccurate. Lastly, the findings in this study could be subject to other interpretations.

Implications for Health Education & Promotion

Findings from this study have implications for the field of health education and promotion, as they may suggest strategies for how health educators can best develop effective outreach programs that will encourage the expansion of vaccination services and enable OB/GYNs to more completely vaccinate the patients they serve. These strategies could potentially include implementing policy changes, developing educational programs, and utilizing the Health Belief Model.

One way health educators can encourage the expansion of vaccination services of the OB/GYNs is by implementing policy strategies that impact their practices. For example, health educators can strive to communicate state requirements for screening, education, or vaccination of certain populations of women. An example of this might be a state guideline that requires all post-partum women to receive a dose of Tdap vaccine, if it has been more than five years since their last dose of tetanus-containing vaccine. Another example could be a state policy or guideline that requires all pregnant women to receive information about the vaccines that they and their child will need. Health educators could work with their local and state legislative representatives to introduce and enact policy changes.

The policy strategies can impact areas other than state requirements. Health educators can also partner with insurance companies, including Medicare and Medicaid, to mandate certain screenings or immunizations for certain populations. For example, health educators could collaborate with Blue Cross Blue Shield to create a mandate that all women over the age of 60 receive education about and have the opportunity to obtain the shingles, pneumococcal and influenza vaccines. Finding ways to enact policies, both in state government and with those paying for vaccines, might be one way health educators can impact the vaccination practices of OB/GYNs.

This study also has implications for the field of health education and promotion, as one considers the educational needs of the OB/GYNs. Health educators can implement educational outreach strategies that improve the providers' knowledge about many different aspects of immunizations, including who is eligible to receive the vaccines, proper storage and handling procedures (including the practice of prescription writing), and common side-effects.

In addition, health educators can implement education strategies that address OB/GYNs' knowledge about common vaccine concerns. For example, this study found that some participants were answering questions from their pregnant patients about vaccines and its relationship to autism, but were doing so with inaccurate or outdated information according to the Institute of Medicine (IOM, 2004). The evidence overwhelming demonstrates that there is no link between autism and vaccines, and the studies that had shown association between the two variables has been discredited (National Network for Immunization Information, 2009). OB/GYNs who are answering

questions about associations between autism and vaccines should be well versed in this issue and able to ease their patients' fears. If OB/GYNs address this fear, it might be beneficial for health educators to assure the availability of current information and ensure that OB/GYNs have readily available access to the latest research on this topic. An educational campaign should include components that teach OB/GYNs how to effectively address this concern. In addition, an educational campaign could include a variety of other immunization-related topics so that OB/GYNs are well-informed about all components of vaccinating.

One way health educators can address the educational needs of OB/GYNs is by providing Continuing Medical Education (CME) credits to these physicians and their staffs for attending lectures or presentations about adolescent and adult vaccinations or about how to successfully implement or expand the immunization services in their practice. These lectures or presentations could be located at any number of places, including Grand Round events at hospitals; within the physician's office; or at regional Area Health Education Centers (AHEC). Another way health educators could enhance the immunization education of OB/GYNs is by holding regional or statewide immunization conferences, meetings, and training programs.

Health educators could also develop online education seminars about adolescent and adult vaccinations that the OB/GYNs could receive CME credit for completing. Other ways to reach these physicians could include partnering with organizations such as the North Carolina OB/GYN Society, the North Carolina Medical Society, or the local ACOG districts. Health educators could also work with residency programs at local

medical colleges to develop curriculum for the OB/GYN residents about vaccinations. These partnerships could alert health educators to opportunities to reach their members and could serve as useful vessels for disseminating important vaccination information and CME opportunities. By improving OB/GYNs' education and knowledge about vaccines, health educators may be able to influence OB/GYNs' vaccination offerings so that more of their patients are educated about and offered vaccines.

Before health educators implement strategies to enhance OB/GYNs' knowledge about immunizations, they should collaborate with the physicians during the development of the educational outreach components. Incorporating the OB/GYNs' feedback about the type of information offered, the format in which it is presented, and the best methods to reach them with the information will ensure that the outreach is effective and successful in accomplishing its goals. Without the vital feedback of the OB/GYNs, health educators may struggle in the implementation of educational outreach strategies to this group.

Utilizing the Health Belief Model as a framework for outreach strategies is a third potential way that health educators can facilitate change in OB/GYNs' vaccination practices. This model may also provide insights into the best types of messages to include in educational materials that will have the greatest affect on the vaccination behaviors of the OB/GYNs. For example, health educators can focus on messages that strive to improve the perceptions of OB/GYNs about their non-pregnant patients' susceptibility with certain vaccine-preventable diseases. Helping OB/GYNs understand the actual number of their patients that are susceptible to meningococcal, HPV, flu,

pertussis, hepatitis A, hepatitis B, pneumococcal, and shingles will allow them to assign the appropriate level of risk these patients face by being unimmunized and may cause them to provide more vaccines. Additionally, improving OB/GYNs' perceived severity of these diseases by clearly communicating the consequences of not being immunized can improve their perceptions of this threat.

Reducing the perception of barriers may be a particularly important step that health educators can take to change immunization behaviors with this group. Health educators can do this in a number of ways. For example, to reduce cost as a barrier, health educators can develop messages that educate OB/GYNs about the existence of the State Immunization Program, which provides free vaccine to providers for use with all children under the age of 18 years. Health educators can also encourage OB/GYNs to renegotiate their third-party contracts to get better reimbursement rates for immunization administration. To reduce OB/GYNs' own knowledge about immunizations as a barrier, health educators can help these physicians understand what ACOG's recommendations are for vaccines, which patient populations are eligible to receive the vaccines, what opportunities they have to discuss immunizations, and what they can do to help remember to incorporate vaccines into their daily routines (i.e., cues to action). Health educators can also strive to clarify all of the benefits of providing vaccines.

The findings from this qualitative study have implications for the field of health education and promotion. Health educators can use the data from this study to develop effective outreach programs that will encourage the expansion of vaccination services and enable OB/GYNs to vaccinate more completely the patients they serve. They can

use strategies such as implementing policy changes, developing educational programs, and utilizing the Health Belief Model to bring about change in OB/GYNs' immunization practices. Using these strategies may vastly enhance OB/GYNs' practice of immunization.

Implications for Future Research

The findings from this study suggest several areas for future research. This study did not include general OB/GYN practices that did not offer any vaccines. Their opinions and perspectives about vaccines may be far different from the OB/GYNs interviewed in this study, and additional research is necessary to capture their perceptions about vaccines.

To date, the majority of studies that have examined OB/GYN vaccination practices or their role with vaccines were prior to the introduction of the meningococcal, HPV, Tdap, and shingles vaccines. A survey that assesses the immunization practices and opinions of OB/GYNs in light of these new vaccine offerings may shed more light onto the changing immunization practices and beliefs of these physicians. In addition, research that examines the OB/GYNs' knowledge about ACOG's recommendations for immunizations may provide interesting information.

Studies that examined OB/GYNs' specific vaccination practices might also prove useful. For example, determining the frequency in which the OB/GYNs were taking opportunities to discuss vaccines, to educate patients about vaccines, and to assess their patient's immunization status might provide helpful data about the actual immunization practices of these providers. Another potential study that might provide beneficial

information is one that assessed the cost to the practice to provide the vaccines and the reimbursement rates available.

Qualitative studies that examine OB/GYNs' perspectives and opinions about any health related issue are largely lacking from the research literature. The researcher was only able to identify one other qualitative study that examined the OB/GYNs' perspectives about another health topic. Having this rich, thick descriptive data is important to supplement the quantitative research already completed with these physicians.

Conclusion

OB/GYNs are certainly in a unique position to enhance the health of their patients by offering vaccinations. While the OB/GYNs in this study were willing to educate their patients about vaccines, their view of their role with vaccines, and with primary care, was inconsistent and varied by provider. Efforts to expand the vaccine services offered in these settings should utilize the Health Belief Model framework and focus on increasing the OB/GYNs' perceptions about the severity of the diseases; the susceptibility of their patients; and the benefits to vaccinating. In addition, reducing the barriers to vaccinating and enhancing their reminders to act will potentially have lasting effects on the OB/GYNs' practice of immunizing.

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APPENDIX A: ADVERTISING FLYER

Dear OB/GYN:

I need your help! My name is Amanda Dayton, and I am a graduate student at East Carolina University. I am working on my master's thesis, which is about OB/GYNs' perceptions of their role in vaccinations.

I am looking for OB/GYNs to volunteer to be interviewed about their vaccination practices and beliefs. You **DO NOT** have to administer or offer vaccine in order to participate. In fact, I'd like to speak to OB/GYNs who don't provide ANY vaccine, as well as those that offer multiple vaccines to their patients.

If you are interested and willing to be interviewed, please contact me at: (919) 523-4440 or by email at amanda.dayton@yahoo.com. The interview should last no more than one hour and can be scheduled to occur at a time and location convenient to you. I am more than willing to work around your schedule, and can even come to the hospital while you are on-call. I can also do the interview over the telephone.

Thank you so much for your consideration. I hope to hear from you soon!

Sincerely,

Amanda Dayton

APPENDIX B: WAKE COUNTY MEDICAL SOCIETY LETTER

**Wake County Medical Society**

2500 Blue Ridge Road, Suite 330
 Raleigh, NC 27607
 Ph: (919) 783-0404
 Fax: (919) 510-9162

Dear OB/GYN Physicians:

I am writing on behalf of Ms. Amanda Dayton, an ECU graduate student and colleague of mine in association with our newest grant- "NC Vaccines for Adolescents Program." Amanda is the Adolescent Immunization Coordinator for the NC DHHS Immunization Branch. The focus of her master's thesis is OB/GYNs' perceptions of their role in vaccinations. And she needs some volunteers to be interviewed in this regard. Please consider her request (below) and contact her if you are interested in helping this future public health care leader. Her request follows.

Thanks,
 Paul

My name is Amanda Dayton and I need your help! I am looking for OB/GYN volunteers to be interviewed about their vaccination practices and beliefs. You do not have to administer or offer vaccine in order to participate.

I am a graduate student at East Carolina University and serve as the Adolescent Immunization Coordinator for the NC Immunization Branch. In this capacity, I work closely with the Wake County Medical Society and Paul Harrison, Executive Director. I am currently working on my master's thesis about OB/GYNs' perceptions of their role in vaccinations.

If you are willing to be interviewed, please contact me at: (919) 523-4440 or by email at amanda.dayton@yahoo.com. The interview should last between 30-45 minutes and can be scheduled at your convenience.

Due to time restraints of the semester, I need to conduct the interviews within the next few weeks. Please contact me if you are at all interested in participating. Thank you so much for your consideration and prompt reply.

Amanda Dayton
 (919) 523-4440
amanda.dayton@yahoo.com

APPENDIX C: INTERVIEW GUIDE

1. How are you currently using vaccines in your practice?
 - a. What vaccines offered?
 - b. Age groups/populations immunized?
 - c. Why particular vaccines offered?
 - d. Why some not offered? (meningococcal, HPV, Tdap, flu, shingles, etc.)
 - e. What ones considered?
 - f. How/when assess patient's immunization status?
2. What do you see as the benefits to offering vaccines?
 - a. How often patients request?
 - b. Which ones most frequently requested?
3. What are the barriers or obstacles in offering vaccines?
 - a. Concerns about offering?
 - b. Patient questions about vaccine safety?
 - c. Own questions about safety?
 - d. Willingness of various populations (such as Latinos or African Americans) to receive vaccines?
 - e. How do you stay current with vaccine recommendations?
 - f. How do you handle the logistics of administration? Storage and handling? Reimbursement?
4. What do you see as the OB/GYNs role in vaccination?
 - a. Education / Counseling?
 - b. Administration?
5. Where do you think immunization fits within the realm of routine OB/GYN care?
 - a. Willingness to offer vaccines outside of practice's scope of work?
 - b. Meaning for OB/GYNs to be able to offer?
 - c. Meaning for you to offer?
6. What factors have influenced your immunization practices?
 - a. Impact of ACOG's recommendations on decision to offer?
 - b. Who makes the decision to provide/not provide vaccines?
 - c. Process to expand or limit vaccines offered?
7. Tell me about the immunization educational materials you provide to patients interested in particular vaccines?
 - a. What is missing?
 - b. What ed materials needed?
 - c. What opportunities do you have to educate patients about vaccines?
 - d. Counseling or information provided to pregnant women?

8. Is there anything about immunizations and OB/GYNs that I haven't asked or we haven't yet talked about that you think is important?
 - a. Would you be willing to review the findings from this report?

Demographic Questions:

- Describe practice:
 - Age range of patients you serve?
 - Insurance status of patients in general?
 - Size of practice – in terms of staff and number of patients?
 - In what areas of OB/GYN practice do you engage? (preconception, pregnancy, menopause, infertility)
 - What is your membership status in ACOG?
 - What services do you offer that might be considered more 'primary care' or that might fall outside the scope of traditional OB/GYN practice?
 - About what percentage of women in your practice would you estimate considers you to be their primary care provider?
 - Describe this population (age, insurance status, etc.)

APPENDIX D: ACIP RECOMMENDATIONS & ACOG PUBLICATIONS TABLE

Vaccine	Summary of ACIP Recommendations	Year of ACIP Publication	ACOG Committee Opinion Published?
Hepatitis A	<ul style="list-style-type: none"> • All persons wishing for protection from hepatitis A virus (HAV) infection • All previously unvaccinated children, adolescents, and adults age 2 years and older who: live in a state, county, or community with a routine vaccination program already in place; travel anywhere except U.S., W. Europe, N. Zealand, Australia, Canada, or Japan; have chronic liver disease, clotting factor disorder; are men who have sex with men; or are injecting or non-injecting drug users • All persons who work with HAV in experimental lab settings (not routine medical laboratories); or are food handlers when health authorities or private employers determine vaccination appropriate • All unvaccinated adults age 40 years or younger with recent (within 2 weeks) exposure to HAV (IAC, 2008a; IAC, 2008b)	2006	No formal opinion published, but Hep A is included as part of periodic assessment for primary and preventive care for high-risk women 13 years and older in Committee Opinion #357, December, 2006. (ACOG, 2006b)
Hepatitis B	<ul style="list-style-type: none"> • All children age 0 through 18 years. • All adults wishing for protection from hepatitis B virus infection • High-risk persons, including household contacts and sex partners of HBsAg-positive persons; injecting drug users; sexually active persons not in a long-term, mutually monogamous relationship; men who have sex with men; persons with HIV; persons seeking evaluation or treatment for an STD; patients receiving hemodialysis and patients with renal disease that may result in dialysis; health care personnel and public safety workers who are exposed to blood; clients and staff of institutions for the developmentally disabled; inmates of long-term correctional facilities; and certain international travelers • Persons with chronic liver disease (IAC, 2008a; IAC, 2008b)	2005 (adolescents) and 2006 (adults)	No formal opinion published, but Hep B is included as part of periodic assessment for primary and preventive care for all women 13-18 years and all high-risk women 19 years and older in Committee Opinion #357, December, 2006. (ACOG, 2006b)
Herpes Zoster (shingles)	<ul style="list-style-type: none"> • Persons age 60 years and older (IAC, 2008a)	2008	No formal opinion published, and no mention in the periodic assessment for primary and preventive care.

Vaccine	Summary of ACIP Recommendations	Year of ACIP Publication	ACOG Committee Opinion Published?
HPV	<ul style="list-style-type: none"> • Give 3-dose series to girls at age 11–12 years (May be given as early as age 9 years) • All previously unvaccinated women through age 26 years (IAC, 2008a; IAC, 2008b) 	2007	Yes, in Committee Opinion #344, September, 2006. (ACOG, 2006a)
Influenza	<ul style="list-style-type: none"> • All children and teens age 6 months through 18 years, as well as all household contacts of infants and children through age 59 months. • Persons age 19 years and older who have a risk factor (e.g., pregnancy, heart or lung disease, renal, hepatic, hematologic, or metabolic disorder [including diabetes], immunosuppression, or have a condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration) or live in a chronic-care facility; or live or work with at-risk people as listed above • All other persons who want to reduce the likelihood of becoming ill with influenza or of spreading it to others • All persons age 50 years and older • Women who will be pregnant during the influenza season (December–spring) • All health care personnel and other persons who provide direct care to high-risk people. • Household contacts and out-of-home caregivers of children age 0–59 months • Travelers at risk for complications of influenza who go to areas where influenza activity exists or who may be among people from areas of the world where there is current influenza activity (e.g., on organized tours) • Students or other persons (IAC, 2008a; IAC, 2008b) 	2008	<p>Yes, for women during pregnancy in Committee Opinion #305, November, 2004. (ACOG, 2004)</p> <p>Also included as part of periodic assessment for primary and preventive care for all women 50 years and older and for high-risk women between 13 and 49 years in Committee Opinion #357, December, 2006. (ACOG, 2006b)</p>

Vaccine	Summary of ACIP Recommendations	Year of ACIP Publication	ACOG Committee Opinion Published?
Meningococcal	<ul style="list-style-type: none"> • All adolescents age 11 through 18 years should be given a one-time dose of MCV4 • All college freshmen living in dorms who have not been vaccinated • All children age 2 years and older who have any of the following risk factors: anatomic or functional asplenia, or terminal complement component deficiency; travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the “meningitis belt” of Sub-Saharan Africa) • Microbiologists routinely exposed to isolates of <i>N. meningitides</i> (IAC, 2008a; IAC, 2008b) 	2005	Yes, in Committee Opinion #314, September, 2005. (ACOG, 2005b)
MMR	<ul style="list-style-type: none"> • Persons born in 1957 or later (especially those born outside the U.S.) should receive at least one dose of MMR if there is no serologic proof of immunity or documentation of a dose given on or after the first birthday • Persons in high-risk groups, such as health care personnel (paid, unpaid, or volunteer), students entering college and other post-high school educational institutions, and international travelers, should receive a total of 2 doses • Women of childbearing age who do not have acceptable evidence of rubella immunity or vaccination (IAC, 2008a) 	1998	<p>Yes, for rubella vaccine in Committee Opinion #281, December, 2002. (ACOG, 2002)</p> <p>Also MMR is included as part of periodic assessment for primary and preventive care for high-risk women between 13 and 64 years in Committee Opinion #357, December, 2006. (ACOG, 2006b)</p>

Vaccine	Summary of ACIP Recommendations	Year of ACIP Publication	ACOG Committee Opinion Published?
Tdap	<ul style="list-style-type: none"> • All adolescents age 11–12 years should receive one booster dose of Tdap vaccine if 5 years have elapsed since last dose DTaP • All adolescents who have not received previous Tdap should receive one-time dose. Special efforts should be made to give Tdap to persons age 11 years and older who are in contact with infants younger than age 12 months or are health care workers with direct patient contact • All adults younger than age 65 years who have not already received Tdap • Adults in contact with infants younger than age 12 months (e.g., parents, grandparents younger than age 65 years, childcare providers, and health care personnel) who have not received a dose of Tdap should be prioritized for vaccination • Health care personnel who work in hospitals or ambulatory care settings and have direct patient contact and who have not received it (IAC, 2008a; IAC, 2008b) 	2006 (adolescents and adults)	<p>No formal opinion published, but Tdap is included as part of periodic assessment for primary and preventive care for all women 13-64 years in Committee Opinion #357, December, 2006.</p> <p>The Td booster is included in the assessment for women 65 years and older. (ACOG, 2006b)</p>

Vaccine	Summary of ACIP Recommendations	Year of ACIP Publication	ACOG Committee Opinion Published?
Pneumococcal	<ul style="list-style-type: none"> • Persons age 65 years and older • Persons who have chronic illness or other risk factors, including chronic cardiac or pulmonary disease, chronic liver disease, alcoholism, diabetes, CSF leaks, cigarette smoking, as well as people living in special environments or social settings (including Alaska Natives and certain American Indian populations age 50 through 64 years if recommended by local public health authorities) • Those at highest risk of fatal pneumococcal infection, including persons who have anatomic asplenia, functional asplenia, or sickle cell disease; have an immunocompromising condition, including HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome; are receiving immunosuppressive chemotherapy (including corticosteroids); have received an organ or bone marrow transplant; or are candidates for or recipients of cochlear implants (IAC, 2008a) 	1997	No formal opinion published, but pneumococcal is included as part of periodic assessment for primary and preventive care for all women 65 years and older and for high-risk women between 13 and 64 years in Committee Opinion #357, December, 2006. (ACOG, 2006b)

APPENDIX E: IRB APPROVED CONSENT DOCUMENT

CONSENT DOCUMENT

Title of Research Study: How Obstetricians and Gynecologists Perceive their Role in Vaccination: A Phenomenological Approach.

Principal Investigator: Amanda Dayton

Institution: East Carolina University

Address: 5539 Crabtree Park Ct. Raleigh, NC 27612

Telephone #: 919-523-4440

INTRODUCTION

You have been asked to participate in a research study being conducted by Amanda Dayton. The purpose of this qualitative research study is to explore and understand how obstetrician-gynecologists perceive, define and derive meaning from their role in immunizations. You are specifically invited to participate in a one-on-one interview that, with your permission, will be audiotaped. The discussion will be focused on exploring your personal experience associated with immunizations.

PURPOSE AND PROCEDURES

The purpose of this research is to understand how OB/GYNs perceive, define and derive meaning from their role in providing patient education about immunizations and in administering vaccines. In addition, the study will seek to identify the influences that have impacted your adolescent and adult immunization practices.

In participating in this research, you will be requested to offer your opinions, feedback and suggestions about immunizations during an interview with the researcher. With your permission, your interview will be audiotaped. However, your identity will remain anonymous through the use of a pseudonym. The data provided during your interview will be combined with data from interviews with other OB/GYNs and submitted in the form of a manuscript for professional presentations or publication. Your name will never be associated with the data since pseudonyms are the only identifiers used during and after data collection. Any other identifying information will be changed to protect your anonymity.

POTENTIAL RISKS AND DISCOMFORTS

Any risks associated with this study are anticipated to be minimal. It is a remote possibility that you may experience some emotional discomfort due to being asked questions about your immunization practices and beliefs. This discomfort should not be significant. Participation in the study is entirely voluntary and can be terminated at any time.

POTENTIAL BENEFITS

The knowledge gained from this study will be of value to the field of health education and promotion and to vaccine-related educational programming.

A potential benefit of this research to you is that your participation may cause you to reflect on your immunization-related beliefs and possibly on your immunization practices. You will also have opportunities to share your concerns or problems related to the provision of immunizations.

SUBJECT PRIVACY AND CONFIDENTIALITY OF RECORDS

Your privacy and confidentiality will be maintained in the final report of findings from this study because no name or identifying information will be connected with any of the perceptions that you express or experiences that you share. In addition, only the principal investigator will have access to the audiotape, and the principal investigator will be the only individual to listen to and transcribe the audiotape.

All information collected during this study will be stored in a locked safe for three years. The principal investigator will be the only person with access to the locked safe. After three years, the audiotapes, signed informed consent forms, and transcripts will be destroyed.

COSTS OF PARTICIPATION & COMPENSATION

You will not incur any associated costs as a result of participating in this research study.

You will not receive any monetary compensation for your participation in this study.

The interview is expected to take approximately one hour to complete.

VOLUNTARY PARTICIPATION

Participating in this study is voluntary. If you decide not to be in this study after it has already started, you may stop at any time without penalty.

PERSONS TO CONTACT WITH QUESTIONS

The investigators will be available to answer any questions concerning this research, now or in the future. You may contact the investigator Amanda Dayton at phone numbers 919-707-5565 (days) or 919-523-4440 (nights and weekends). If you have questions about your rights as a research subject, you may call the Chair of the University and Medical Center Institutional Review Board at phone number 252-744-2914 (days). If you would like to report objections to this research study, you may call the ECU Director of Research Compliance at phone number 252-328-9473 (for research studies conducted through ECU) or the PCMH Risk Management Office at 252-847-5246 (for research studies conducted through PCMH).

CONFLICTS OF INTEREST

Neither the research site, nor Amanda Dayton will receive any financial benefit based on the results of this study.

CONSENT TO PARTICIPATE

Title of research study: How Obstetricians and Gynecologists Perceive their Role in Vaccination: A Phenomenological Approach.

I have read all of the above information, asked questions and have received satisfactory answers in areas I did not understand. (A copy of this signed and dated consent form will be given to the person signing this form as the participant or as the participant's authorized representative.)

Participant's Name (PRINT)	Signature	Date	Time
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PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

Person Obtaining Consent (PRINT)	Signature	Date
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Principal Investigator's (PRINT)	Signature	Date
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APPENDIX F: IRB APPROVAL LETTER



University and Medical Center Institutional Review Board
 East Carolina University
 Ed Warren Life Sciences Building • 600 Moye Boulevard • LSB 104 • Greenville, NC 27834
 Office 252-744-2914 • Fax 252-744-2284 • www.ecu.edu/irb
 Chair and Director of Biomedical IRB: L. Wiley Nifong, MD
 Chair and Director of Behavioral and Social Science IRB: Susan L. McCammon, PhD

TO: Amanda Dayton, 5539 Crabtree Park Ct, Raleigh, NC 27612

FROM: UMCIRB *kk*

DATE: December 15, 2008

RE: Expedited Category Research Study

TITLE: "How Obstetricians and Gynecologists Perceive their Role in Vaccination: A Phenomenological Approach"

UMCIRB #08-0752

This research study has undergone review and approval using expedited review on 12.10.08. This research study is eligible for review under an expedited category because it is on collection of data from voice, video, digital, or image recordings made for research purposes. It is also a research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

The Chairperson (or designee) deemed this **unfunded** study **no more than minimal risk** requiring a continuing review in **12 months**. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of **12.10.08** to **12.9.09**. The approval includes the following items:

- Internal Processing Form (dated 10.29.08)
- Informed Consent (dated 11.25.08)
- Vaccine study—Interview Guide
- Cover letter

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.

