The experience of pregnant women being offered influenza vaccination by their midwife, a qualitative descriptive approach

A thesis completed in part for the award of Professional Doctorate in Advanced Healthcare Practice

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Summary

Aim To explore, interpret and develop an understanding of pregnant women's experience of being offered the seasonal influenza vaccination by their midwife and whether this affects the woman's decision to either accept or decline the vaccine.

Research Question 'Does the relationship between the woman and the midwife impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy?'

Objectives

1 To investigate factors which when drawn from women's experience of being offered the seasonal influenza vaccination, influence their decision to accept or decline the vaccine.

2 To explore whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine.

3 To identify whether women's experience differs according to their geographical location.

Methods The study was carried out within five geographical Boroughs within a large University Health Board in South East Wales. Semi-structured interviews were held with twelve pregnant women. A qualitative descriptive approach was used and data were analysed thematically. The theoretical framework of 'reproductive citizenship' developed by Wiley et al (2015) was used for interpretation of the study findings

Findings Women's beliefs conflicted with their actions. Participants believed they were not at risk of influenza yet had the vaccination regardless. Characteristics of wanting to be a good mother and doing the right thing were evident, despite many competing priorities of pregnancy. The environment in which the women had their vaccination was not of concern and they displayed a quiescent approach to the influenza vaccination within the context of their antenatal care. Women placed trust in the midwife, relying on their advice without question.

Discussion Fatalism, passive acceptance and influence of the healthcare professional was apparent and participants spoke warmly of the 'good midwife'. Magical beliefs and superstition explained the women's perception of risk, derived from family experience. Fate, luck and perceived lack of control over life events framed women's views. Women placed trust in the midwife taking comfort in that the knowledgeable professional was making the

right decision ‘for them’ displaying traits of quiescent reproductive citizenship as characterised by Wiley et al (2015).

Conclusion Influenza vaccination and the consequence of disease were perceived to be low down amongst many competing priorities of pregnancy. Participants did not believe that they were at risk of influenza disease and sometimes shifted responsibility for decision-making to the midwife, placing trust in the mother / midwife relationship.

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For My Darling Elis

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Contents

Chapter 1: Introduction to the study

This study was undertaken in part fulfilment for the degree of Professional Doctorate (Advanced Healthcare Practice). This thesis explores the experience of pregnant women who have been offered the seasonal influenza vaccination during pregnancy by their midwife and considers barriers or facilitators which may affect vaccination uptake rates. Chapter one provides the rationale for the topic chosen, research question, aims and objectives and provides the context of seasonal influenza vaccination for pregnant women in the United Kingdom at the time of the study.

1.1 Rationale for the topic chosen

The Welsh Government's (2018) plan for a Healthier Wales provides recommendations to ensure people life a long, healthy, happy life. For this to happen, the right health and social care services need to be in place to help people stay well, get better when they are ill or to live the best life possible when they have problems that will not improve. In order to ensure that people's physical, social and psychological needs are assessed and responded to, nurses and midwives must pay special attention to promoting well-being, preventing ill-health and meeting the changing health and care needs of people during all life stages (Nursing and Midwifery Council 2018).

This national and professional focus on promoting health and preventing ill-health was central to my leadership approach when I joined a large University Health Board in Wales at a turbulent time, as during the months leading up to my appointment, an external review of the maternity service by Health Inspectorate Wales (HIW 2008) had revealed a number of service failings. This resulted in the former Trust's maternity service being placed into special measures requiring weekly reports to Welsh Government in order to provide assurance of progress against an agreed action plan. This brought a steep professional learning curve in changing culture: raising professional standards, modernising service delivery and addressing staff shortfalls were a daily occurrence. Within a matter of months, we were facing the additional challenge with the arrival of the influenza A/H1N1 pandemic.

On reflection, the arrival of the pandemic did not initially appear to be overly concerning for staff, women and their families. Staff were trained to ensure adherence to wearing protective personal equipment and there was increased education which gathered at pace. However, despite these measures the profound impact of the pandemic was not truly realised until the service was faced with a maternal death as a direct result of the respiratory complications associated with influenza A/H1N1.

This quickly escalated the requirement for a mass vaccination programme as pregnant women were deemed to be in a high-risk group, yet women across the Trust often appeared reluctant to receive either the seasonal or the A/H1N1 vaccine. The reasons for this were not well understood. There was also concern that midwives were averse to becoming active advocates and promoters of the vaccine for pregnant women. These concerns along with continued low uptake of seasonal influenza vaccine by pregnant women in subsequent years indicated the need for further study.

Reflecting on my role as a midwife and registrant, the rationale for the topic chosen was that I had directly experienced the devastating impact of influenza and the A/H1N1 pandemic for pregnant women. A key motivator for this research is the Welsh Government driver that 75% of all pregnant women should receive the seasonal influenza vaccine (Welsh Government 2019), yet uptake rates in Wales have not met this target since surveillance began.

The focus of my study required careful consideration. I had originally considered exploring midwives' attitudes toward offering the seasonal influenza vaccination in pregnancy, given the hesitancy that had been noted in practice. However, whilst there is some evidence which explores midwives' experience and it is acknowledged that further study may be needed, I considered my own position as both researcher and senior midwife known to midwives in several organisations, which I perceived could be an impediment. I was concerned that midwives may not have been comfortable to participate or that they would have not been candid in their responses, potentially providing 'model' answers or telling me what they felt I wanted to hear rather than an account of their personal beliefs about the influenza vaccination and their own midwifery practice. I was concerned that midwives would not perceive me as a researcher but in my capacity as a senior manager.

In contrast, I thought that my dual role would not be problematic if I focused on women's experience. In addition, there also appeared to be a paucity of literature exploring women's experience of being offered the influenza vaccination. For these reasons I chose to explore women's experience of being offered the seasonal influenza vaccination in pregnancy.

Static uptake rates and evidence that only 45-50% of women internationally receive the seasonal influenza vaccination in pregnancy (www.cdc/flu, www.ecdc.europa.eu, www.gov.uk accessed 16.3.2021) required further review of available evidence to determine why this is the situation and understand what may be contributing to some of the barriers. Evidence associated with mortality and morbidity for pregnant women is considered in chapter two and suggests that perception of risk and safety of the vaccine as well as cultural and family influence may be a determination in uptake rates. A literature review conducted systematically (chapter three) identified that some women found their risk of seasonal

influenza as being less than during a pandemic and they held concern around safety of the vaccine. Much of the evidence reviewed for the purpose of this study was of low to moderate quality and was mostly quantitative, thus there being a paucity in the literature to explain women's experience of being offered the seasonal influenza vaccination in pregnancy and any barriers or facilitators to uptake rates. A deeper insight into women's decision making can only be achieved through a qualitative approach, therefore providing a rationale for the study.

As a senior leader in Wales, I have a duty to ensure that women receive unbiased, accurate and up to date information to support them in making decisions about their care. On a national level, I believe that this study will have the potential for impact on professional practice from many perspectives:

- It will be of interest to local and national public health teams who set the agenda for the vaccination programme in Wales
- It will give public health teams insight into the midwife / woman relationship, thus enabling them to support midwives locally to deliver vaccination programmes
- It will be of interest to Welsh Government when setting the priorities for maternity services in Wales, measuring performance and outcomes for women
- It will be of interest to Health Boards when examining their own performance in the promotion of the influenza vaccine and uptake rates for pregnant women. Organisations may better understand some of the challenges midwives face when accessing or promoting influenza vaccination within local populations
- This work may also impact local midwifery services and highlight an opportunity to celebrate good clinical practice.

1.2 Aim, research question and objectives of the study

The aim of this study is to explore, interpret and develop an understanding of pregnant women's experience of being offered the seasonal influenza vaccination by their midwife and whether this affects the woman's decision to either accept or decline the vaccine.

The research question asks: 'Does the relationship between the woman and the midwife impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy?' The study has three research objectives:

1 To investigate factors which when drawn from women's experience of being offered the seasonal influenza vaccination influence their decision to accept or decline the vaccine
2 To explore whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine
3 To identify whether women's experience differs according to their geographical location.

1.3 Influenza vaccination programmes for pregnant women

Prior to the 2009 A/H1N1 pandemic and the subsequent introduction of seasonal influenza vaccination programmes, the vaccine had not been routinely offered to pregnant women in the UK despite the World Health Organisation (WHO) considering the inclusion of seasonal influenza vaccination for pregnant women in 2005.

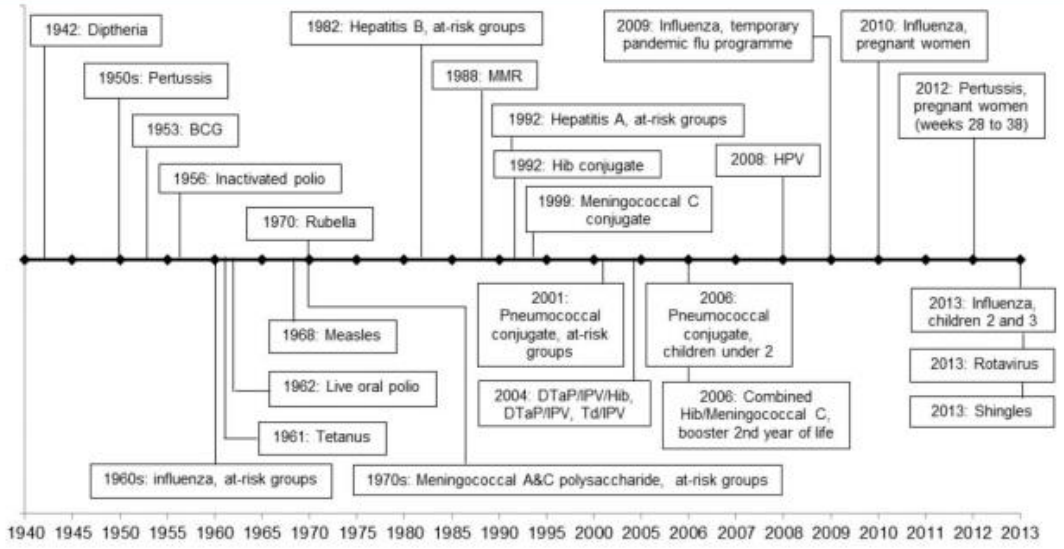
In 2003, the Global Advisory Committee on Vaccine Safety discussed recommendations for the use of inactivated influenza vaccine for pregnant women, particularly during the first trimester. The Committee subsequently concluded that as other inactivated vaccines had proven safe and given the high risk to mother and foetus of the disease itself, the risk-benefit of influenza vaccination at all stages of pregnancy should be considered.

The World Health Organisation was subsequently advised of this view (2004), however differences in health priorities and limitations in health budgets led to restrictions in the common use of influenza vaccines to high-risk groups which now included pregnant women in industrialised countries. There followed a delay in these recommendations being implemented which resulted in different practices across the World. It was not until 2008 that the United States of America concluded that pregnant women should be classed as a high-risk priority group for receiving the vaccine and that increased seasonal influenza vaccine coverage may improve uptake rates during a pandemic (Rasmussen et al 2009). This happened even though the US Advisory Committee on Immunisation Practices began recommending routine seasonal influenza vaccination for healthy pregnant women regardless of trimester in 2005 (Centers for Disease Control and Prevention 2004, Yamada et al 2015).

In Australia, the inactivated vaccine has been recommended for pregnant women since 2003, however only since the 2009 A/H1N1 influenza pandemic has the vaccine been government funded (Regan et al 2014). Similarly, seasonal influenza vaccination was only

routinely offered to women in the UK following the influenza A/H1N1 outbreak of 2009 (Figure 1) (Atchison and Hassounah 2015).

Figure 1: Timeline of the introduction of vaccinations in the UK (Atchison and Hassounah 2015)



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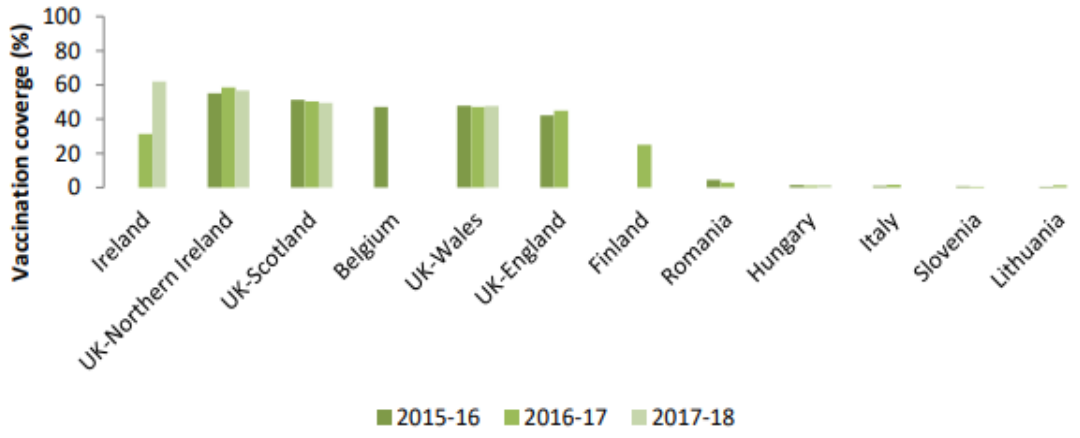
The UK Government (including the devolved nations) recommends that all pregnant women should receive the influenza vaccine in pregnancy regardless of trimester (Public Health England 2020). Immunisation programmes in the UK are typically commissioned within primary care services and there is no requirement for midwives to administer the influenza vaccination to pregnant women. In many countries including the UK, USA, Canada and Australia, midwives and / or obstetricians are often the only healthcare professionals pregnant women have contact with during their antenatal care yet vaccination is usually delivered within primary care by a GP or family physician (Wilcox et al 2020, Skirrow et al 2021).

The National Institute for Health and Care Excellence (2018) recommends that off-site provision offered through collaborative working (e.g., secondary care), needs to be negotiated by commissioners because there is a potential loss of income for general practices. Interestingly, NICE (2018) does not specify who should give the vaccine but recommends that every opportunity should be made to offer the vaccine such as within antenatal clinics. Furthermore, NICE (2018) also recommends that providers of influenza vaccinations should work together with other agencies including intervention developers, commissioners and local stakeholders to develop programmes to increase uptake. This could include assigning flu champions and leads within and across Organisations to manage programmes.

UK Public Health Organisations monitor seasonal influenza vaccination rates for pregnant women using data collected in general practice (Public Health England 2020). However, there is inconsistency among GP surgeries in how they record and use their data to monitor progress (NICE 2018). Pregnant women may be vaccinated in settings other than the GP surgery and therefore information transfer and collection may not be robust. A technical report produced by the European Centres for Disease Prevention and Control (2018) reported that 28 of 30 Member EU/EEA States recommended vaccination for pregnant women during the 2017-18 influenza season. Nineteen countries recommended vaccination for all pregnant women, three countries had recommendations to vaccinate pregnant women in the second or third trimester of pregnancy (Cyprus, Belgium and Italy). Croatia and the Netherlands recommended vaccination for women with medical conditions only. Germany, Norway, Denmark and Sweden recommended vaccination for all healthy pregnant women in the second and third trimesters while women with chronic medical conditions were recommended vaccination during the first trimester. Bulgaria and Malta have not issued recommendations for vaccination of pregnant women. The most common place to receive vaccination as indicated by 26 EU/EEA Member States was the general practitioner or family doctor surgery. Maternity out-patient and antenatal clinic settings were indicated by eight and six EU/EEA Member States respectively (www.ecdc.europa.eu). Figure 2 provides a history of seasonal influenza coverage rates for pregnant women in 9 EU / EEA Member States for seasons 2015-2018 however there are notably vast differences in uptake rates between the UK, Ireland and the rest of the member EU states

Figure 2: Seasonal influenza vaccination coverage rates for pregnant women in nine EU/EEA Member States, influenza seasons 2015-16, 2016-17, 2017-18.
(www.ecdc.europa.eu)



Source: National seasonal influenza vaccination survey, January 2018
**: Data for UK is displayed by respective country (England, Northern Ireland, Scotland, Wales)*

Surveillance of uptake rates for pregnant women in the UK began in 2010 but the first separate breakdown of uptake rates for pregnant women with or without a clinical risk condition were not reported in England, Wales and Scotland until 2012-2013. Uptake rates within Northern Ireland have been consistently reported as an overall annual percentage. Table 1 outlines seasonal influenza vaccination uptake for pregnant women in the United Kingdom and the United States of America between 2010-2020:

Table 1: Seasonal influenza vaccination uptake rates in the UK & USA 2010-2020 (www.gov.uk, www.cdc/flu).

Year	Risk Status	Wales	England	Scotland	Northern Ireland	USA
2010-2011	At Risk	55.3%	56.6%	74.8%	n/r	
	No Risk	39.7%	36.6%	64.9%	n/r	
	ALL	**n/r**	**n/r**	**n/r**	**59.9%**	**44%**
2011-2012	At Risk	31.7% *	50.8%	60%	n/r	
	No Risk	n/r	25.5%	39.65	n/r	
	ALL	**n/r**	**27.3%**	**41.1%**	**58.4%**	**43.2%**
2012-2013	At Risk	59.6%	59%	68.7%	n/r	
	No Risk	42.1%	38%	52.9%	n/r	
	ALL	**43.6%**	**40.3%**	**54%**	**64.6%**	**50.5%**
2013-2014	At Risk	60.2%	59%	65%	n/r	
	No Risk	42.2%	38.2%	47.9%	n/r	
	ALL	**43.7%**	**39.8%**	**49.2%**	**58%**	**52.2%**
2014-2015	At Risk	62.1%	61.5%	65%	n/r	
	No Risk	43.7%	42.5%	49.5%	n/r	
	ALL	**45.5%**	**44.1%**	**50.9%**	**56.1% ****	**50.3%**
2015-2016	At Risk	61.1%	55.9%	61.5%	n/r	
	No Risk	45.3%	40.6%	49.9%	n/r	
	ALL	**47.1%**	**42.3%**	**51.2%**	**55.1%**	**49.9%**
2016-2017	At Risk	58.3%	58.7%	58%	n/r	
	No Risk	45.7%	43.3%	49.3%	n/r	
	ALL	**47.2%**	**44.8%**	**50.3%**	**58.6%**	**53.6%**
2017-2018	At Risk	61.7%	62.1%	61%	n/r	
	No Risk	46%	45.7%	48.1%	n/r	
	ALL	**47.6%**	**47.2%**	**49.4%**	**56.7%**	**49.1%**
2018-2019	At Risk	59.1%	60.2%	57.5%	n/r	
	No Risk	45%	43.7%	44.5%	n/r	
	ALL	**46.6%**	**45.2%**	**45.7%**	**44.3%*****	**53.7%**
2019-2020	At Risk	60.6%	56.9%	56.9%	n/r	
	No Risk	46%	42.1%	42.9%	n/r	
	ALL	**47%**	**43.7%**	**44.4%**	**46.3%**	**61.2%**

*This figure appears incorrect. Whilst reporting uptake rates for pregnant women with a condition, Public Health Wales have given the denominator as all pregnant women in Wales

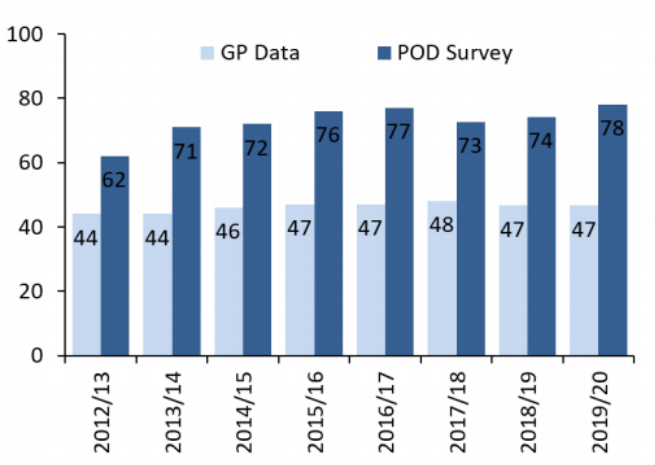
**Northern Ireland's figures for 2014-15 are estimated due to difficulty in accurately determining the number of pregnant women during an influenza season

***Northern Ireland's data for 2018-2019 were generated from the Northern Ireland Maternity Administrative System (NIMATS) which provides vaccine uptake rates for women giving birth in hospital or at home in Northern Ireland.

As identified in Table 1, seasonal influenza vaccination uptake rates remain static despite efforts by multi-professional teams to increase them. Uptake rates for pregnant women with underlying co-morbidities are consistently higher in three of the four UK nations however this still falls well below the UK target of 75%. Overall uptake rates within the UK and the USA are similar. Trends in vaccination levels have continued to fluctuate however it must be acknowledged that as most data is captured from GP practices, women may be receiving their vaccination from other sources such as community pharmacy or secondary care services and so overall reported uptake rates may not be robust. Evidence within available literature however, suggests that between 40% and 50% of pregnant women receive the seasonal influenza vaccine in Canada (Liu et al 2012), Australia (McCarthy et al 2015, Regan et al 2016). These rates are similar to those in the USA (Groom et al 2016) and the UK (Dabrera et al 2014, Regan et al 2018).

In Wales, at the height of influenza season each January, a point of delivery survey is carried out. In 2020, The survey included 413 women giving birth during a five-day period in January 2020. During a five-day period, the number of women giving birth in each of the major maternity units are asked whether they recall being offered or receiving the seasonal influenza vaccine. This audit has taken place annually since 2012/13 and these results are consistently higher than the nationally reported annual uptake rates (Public Health Wales 2021).

Figure 3: Uptake (%) of influenza vaccination in pregnant women by data source, Wales, 2012/13-2019/20 (Public Health Wales 2021).



This may be due to the aforementioned fact that immunisation data for pregnant women in Wales is calculated from GP practice data which represents the proportion of women whose practice records contain codes associated with pregnancy. There is potential therefore that nationally reported uptake rates across the UK are lower than the number actually received as pregnant women may have received their vaccine elsewhere. This is supported by evidence within the literature which suggests that self-reported data may be higher than medically reported data. The American Committee for Obstetricians and Gynaecologist's research department recruited four medical centres to participate in a study on the attitudes and practices of medical providers and pregnant patients regarding influenza vaccination. US Medical providers and patients were given voluntary surveys and medical record data were collected over two flu seasons, from 2013 to 2015. Discrepancies between self-reports of medical providers and patients and medical records were observed. Nearly 80% of patients self-reported accepting the influenza vaccine, but medical record data only reported 36% of patients accepting the vaccine (Stark et al 2016).

Bisset and Paterson (2018) carried out a systematic review of peer reviewed literature to identify effective strategies in increasing uptake of vaccination in pregnancy in high-income countries and make recommendations for improving uptake rates in England. The review found 22 papers, the majority of which were conducted in the USA which explored strategies to increase influenza vaccination in pregnancy. The review found that there is limited high quality evidence for strategies in high income countries to increase coverage. Reminders about vaccination on antenatal healthcare records, midwives providing vaccination and education and information provision for healthcare staff and patients are all strategies found to be effective in increasing rates (Jacobson and Szylagi (2005), Stark et al (2016). Studies carried out by Kuehn (2010), deAvila-Kfouri and Richtmann (2013), Laenen et al (2015), McCarthy et al (2015), Chamberlain et al (2015), Chamberlain et al (2016), Ditsungnoen et al (2016), Regan et al (2016), all found that recommendations by a healthcare provider have a powerful impact on women's decision-making and lead to an increase in influenza immunisation rates. Strategies to increase uptake rates across the UK include examples of a 'one stop shop' where women either receive their vaccination from the practice nurse at the same time as they attend their antenatal clinic appointment with their midwife or have systems in place to enable midwives to administer seasonal influenza vaccination as part of routine antenatal care (MacDougall and Halperin (2016), Green et al (2017), Smeaton and Green (2017).

When considering effective strategies to increase uptake for pregnant women, it is important to acknowledge that vaccination status amongst midwives in the UK is unknown. Available evidence suggests that healthcare professional vaccination status is an important predictor

of vaccine delivery to patients (Panda et al 2011). Vaccination uptake rates for midwives within the UK however are not reported separately to nurses. In Wales during the 2019/20 influenza season, uptake rates for nursing and midwifery staff were reported to be at 59% (Public Health Wales 2021), in England this figure is reported as 73.2% and rates for all frontline healthcare workers in the UK was 74.3% (Public Health England 2021). Individual international studies have alluded to low uptake rates amongst midwives (Vilca et al 2018, Loubet et al 2019) however there is a lack of available information to provide statistical detail for midwives as separated from nurses and other frontline healthcare staff.

1.4 Summary

In my position as a senior manager, I am accountable and responsible to drive performance and ensure the delivery of safe, effective care (Welsh Government 2019). As a midwife, I also have a professional responsibility and a duty of care to ensure pregnant women are given evidence-based information to enable them to make informed decisions about their care. The literature suggests seasonal influenza vaccination provides benefits for mother and baby leading to reduction in mortality and morbidity for both. As an advocate for women and families, I have an understanding of the benefits and improved outcomes associated with the seasonal influenza vaccination and it is therefore important that I provide this context to the study. It is also important to understand what is already known about women's experience of being offered the seasonal influenza in pregnancy and what is already known about some of the barriers or facilitators to uptake.

This chapter has provided a rationale for the topic chosen, aim, research question and objectives and provided the context of influenza for vaccination for pregnant women in the UK at the time of the study. Chapter two considers the history of influenza morbidity and mortality and the risks posed to pregnant women with consequence of influenza disease. Chapter two will also discuss concerns around the safety of medication in pregnancy and potential barriers to its uptake.

Chapter 2: Morbidity and mortality of influenza disease

2.1 Introduction

This chapter considers the history of influenza morbidity and mortality, the risks posed to pregnant woman and consequence of disease. Chapter two also explores concern around the safety of medication in pregnancy.

2.2 History of influenza morbidity and mortality for pregnant women

Morbidity and mortality of pregnant women as a result of influenza disease is not a new phenomenon. Influenza was established as a significant mortality risk for pregnant women during both the 1918 and 1957 pandemics (Healy 2012). During the 1918 pandemic, Harris (1919) identified through a statistical study of 1350 cases, that the mortality rate from pneumonia and influenza was 50% among pregnant women in the United States of America. In 1957, influenza was the leading cause of maternal mortality accounting for 20% of all US maternal deaths (Freeman and Barno 1959). According to Naleway et al (2006), for both the 1918 and 1957 pandemics, mortality rates among pregnant women were higher during the latter stages of pregnancy than in the first trimester.

In the 1957 pandemic, half of all deaths in women of childbearing age within three Scandinavian countries (Denmark, Sweden, Norway) and the US occurred in pregnant women and were caused by viral pneumonia following influenza infection (Bloom-Feshbach et al 2011). However, during inter-pandemic years, the vast majority of influenza related deaths occurred in the elderly. Moreover, between 1890 and 1917, deaths among females in England and Wales aged 0-14 years and 15-35 years accounted for 25% and 45% of all female influenza deaths (Nguyen-Van-Tam and Hampson 2003). Although there is no explanation for why this is the case, women between 15 and 35 years would include females of childbearing age who may have been pregnant.

According to Mak et al (2008), following the severe 1989-1990 influenza season in the UK, a random sample of records of all fatal cases from influenza was compared with a regular influenza season (in this case 1985-1986). Using these methods, eight deaths in pregnant women were counted in the severe season and two in the regular influenza season suggesting a four times higher risk of death during a severe influenza season. These figures were extrapolated to an excess of 90 deaths in pregnant women out of the 25,185 total excess deaths estimated in the 1989-1990 influenza season.

In 2003, Nguyen-Van-Tam and Hampson wrote that the pandemics of the 20th century indicated what could be predicted when the first pandemic of the 21st century made its

appearance. They predicted that the next pandemic would emerge from China (or a nearby country) and could include surface antigens or virulence factors derived from animal influenza viruses. Several waves of infection would occur once the virus acquired the ability to be transmitted effectively from person to person, spreading rapidly throughout the world. While there would be little that people could do to change or control the variables, the authors stated that society could be prepared for managing the consequence of the pandemic by ensuring adequate supplies of vaccine and antiviral agents to lessen and control its impact (Nguyen-Van-Tam and Hampson 2003).

The 2009 influenza pandemic confirmed historic observations and further expanded knowledge of influenza in pregnancy. Early in 2009 reports emerged in Mexico of a severe pneumonic like illness that mostly affected young, healthy adults (Carlson et al 2009). This infection was subsequently identified as influenza A (Novel H1N1 subtype). On April 27th 2009 the World Health Organisation (WHO) raised the worldwide alert to 'Pandemic Level 4', indicating confirmed human to human transmission with the ability to cause community level outbreaks. The alert was raised to 'Pandemic Level 5' two days later signalling that a worldwide pandemic was imminent. By May 20th 2009, the Centers for Disease Control and Prevention in the US reported severe complications of influenza A/H1N1 in pregnant women consisting of 20 confirmed cases and one death in the US. Finally, as of July 6th 2009, 94,500 confirmed cases of novel A/H1N1 infection had been reported in more than 100 countries around the world (Carlson et al 2009).

During 2009, the A/H1N1 pandemic maternal death in the US accounted for 5% of all influenza related deaths, equal to 1% of the total population (Louie et al 2010). The 2014 Confidential Enquiry into Maternal Deaths across the UK found that one in eleven maternal deaths were due to complications from influenza (Knight et al 2015). Carlson et al (2009) acknowledge that the 2009-2010 sample contained the A/H1N1 pandemic yet the report added that more than half the deaths could have been prevented had pregnant women received the influenza vaccination (Knight et al 2015). The 2009 pandemic led to an increased uptake of seasonal influenza vaccination during pregnancy (Ault et al 2012). Influenza vaccination is the best strategy for influenza prevention. It is recommended that all pregnant women should receive inactivated influenza vaccine during influenza season (Swamy and Phillips-Heine 2015) however this did not happen until the years following the 2009 influenza A/H1N1 pandemic.

2.3 Influenza and the risks for pregnant women

Influenza poses unique risks to pregnant women as they are particularly susceptible to increased morbidity and mortality (Yudin 2014). The risk of serious illness from seasonal

influenza for pregnant and newly postpartum women is about four to five times higher than the non-pregnant population (Dodds et al 2007, Siston et al 2010, Kennedy et al 2012). Since 1918 it has been recognised that influenza in healthy pregnant women carries a two to five times higher risk of severe respiratory illness and hospital admission compared with influenza in non-pregnant women.

Pregnant women are more vulnerable to severe disease (Rasmussen et al 2012). Compared to non-pregnant individuals within the general population, pregnant women suffer disproportionately from severe outcomes of influenza (Ortiz et al 2011) and are more likely to develop influenza related complications, severe disease or death (Rasmussen et al 2012). Complications arise from influenza due to the normal physiological changes in their body that accommodate the growing foetus (Jamieson et al 2006). They may also be more susceptible or severely affected by certain viral pathogens because of pregnancy related immunological and anatomic alterations (Beigi 2014).

The risk of complication and death caused by influenza in pregnancy is higher due to changes in the immune system. This is explained by the suppression of cellular immunity in pregnant women, leading to increased susceptibility to viral infections. The changes involve predominance of T helper 2 (Th2) and relative reduction in T helper 1 (Th1) in the decidual and peripheral blood (Takeda et al 2015). Moreover, Yamaguchi et al (2009) demonstrate that while the Th1/Th2 ration in maternal blood varies among individuals during the first trimester, it tends to decline as pregnancy progresses. A woman's cardiopulmonary function dramatically changes during pregnancy and her oxygen requirements rise by 20%, a third of which is necessary for the foetus and placenta. These physiological changes are likely to be attributable to the effects of progesterone and such adaptations explain why women's respiratory systems are particularly vulnerable to viral infections at this time (Yamaguchi et al 2009).

The consequence is even more significant for pregnant women with chronic high risk medical conditions such as diabetes or asthma who are more likely to be hospitalised than healthy pregnant women (Neuzil et al 1998, Hartert et al 2003). Rates of influenza related hospitalisations are higher during the second or third trimester of pregnancy compared to the first trimester and is even higher for women who have underlying co-morbidities as described above (Callaghan 2010, Hewagama et al 2010).

Yates et al (2010) report that the pre-term birth rate increases threefold among pregnant women admitted to hospital with influenza. Women who are infected with influenza during pregnancy may have an increased risk of adverse outcomes such as pre-term delivery, small for gestational age infants, congenital abnormalities, lower birthweight babies and

stillbirths (Yates et al 2010, McNeil et al 2011, Omer et al 2011, Pierce et al 2011, Yuen et al 2013) especially if the mother has multi morbidity (World Health Organisation 2010) or are in their third trimester (World Health Organisation 2010, Callaghan et al 2010, Knight and Lim 2012). Despite this evidence, it appears that uptake rates of seasonal influenza vaccination to prevent such morbidity and mortality remain static.

2.4 Safety of medication in pregnancy

Just as uptake rates vary each season, influenza vaccine effectiveness estimates vary year to year and are the highest when the vaccine antigens are well matched with the influenza strains that are circulating in the community each season (Naleway et al 2006). This is because circulating influenza virus and vaccine immunogenicity varies greatly from year to year (Jamieson et al 2012). Characteristics of the recipient such as age, immune and pregnancy status may also influence efficiency and effectiveness. Nonetheless, when offering or advising the vaccine in pregnancy midwives are often faced with anxious patients looking for certainty regarding medicines and vaccinations in pregnancy which is a difficult task (Bainbridge 2009).

Much has been written about the role of the healthcare professional in recommending the influenza vaccine to pregnant women with several studies concluding that the advice of the antenatal care provider is a key determinant of uptake rates among this group (Ahluwalia 2010, Lynch et al 2012, Mak et al 2015, Silverman and Beigi 2018). However, it could be argued that healthcare professionals may be hesitant or unable to provide a clear opinion as there is poor historical opinion around the safety of medication in pregnancy. Guidance on formularies about the use of individual drugs in pregnancy commonly advise clinicians to weigh up the risk or benefit without offering sufficient information (Yates and Thomas 2012).

It is unsurprising that there remains such anxiety around the safety of medication, there have been some tragic precedents when it comes to the medical establishment and pharmaceutical companies assuring women that their products are safe during pregnancy only for this information to be far from accurate (Bainbridge 2009). The strong belief by pregnant women to avoid unnecessary exposure to medicine became part of popular culture after the experience of thalidomide in the late 1950s and 1960s (Arao et al 2015). In 1958, the anti-sickness drug ‘Thalidomide’ was first licenced for use within the United Kingdom. Within three years, the Lancet Medical Journal reported an increase in the number of babies with limb defects (phomocalia) and the drug was withdrawn (Anon, The Guardian 2012). Further, in 1982 Donaldson and Bury reported a case of an infant born with multiple abnormalities following pregnancy complicated by medication given to the mother for the treatment of chronic schizophrenia over a number of years. It was reported that the likely use

of fluphenazine, particularly during the first trimester of pregnancy contributed to the abnormalities. In 2015, Bek et al reported several cases of congenital abnormalities both to mothers with epilepsy and attributable to the teratogenic effects of drugs such as valproic acid, carbamazepine and phenytoin. More recently, an alert and drug safety update has been circulated by the UK government advising that carbimazole (used for the management of hyperthyroidism) is associated with an increased risk of congenital malformations when used during pregnancy, particularly in the first trimester (Medicines and Healthcare Products Regulatory Agency 2019).

Low uptake of A/H1N1 influenza vaccination by pregnant women may have been the result of public scepticism, distrust of health authority indications and misinformation being raised by a growing anti-vaccination lobby who actively contested the need for the pandemic influenza vaccine across Europe (Blasi et al 2012). In contrast to the controversy surrounding the A/H1N1 vaccination, the trivalent inactive seasonal influenza vaccine is considered safe for pregnant women (Munoz et al 2005, Moro et al 2011). The vaccine brings neonatal benefits to maternal influenza vaccination. Due to active placental transfer of maternal antibodies influenza vaccination in pregnancy is a highly effective measure to protect infants from influenza during the first six months of life (Zaman et al 2008, Eick et al 2011), a stage where they are at increased risk of influenza and hospitalisation (Bhat et al 2005, Poehling et al 2006, Schrag et al 2006).

Considering the relative safety of the seasonal influenza vaccination, it is unclear why seasonal influenza vaccination rates for pregnant women within the UK remain low (Carlisle et al 2019). Accordingly, both the Royal College of Midwives (2020) and the Royal College of Obstetricians and Gynaecologists (2014) recommend seasonal influenza vaccination in pregnancy. Zaman et al (2008) carried out a prospective randomised double blind controlled trial of 172 pregnant women in the third trimester who received the inactivated influenza vaccine (study group) and 168 women who received 23 valent pneumococcal polysaccharide vaccine (control group). Mother infant pairs were followed up from seven days post vaccination until 24 weeks of life. No maternal adverse events or differences in pregnancy outcomes were found. There were no differences in gestational age, proportion of caesarean section delivery, birthweight or Apgar score. This study however did not have statistical power to address infrequent outcomes such as hospital or severe illness as a consequence of influenza disease. Rapid diagnostic testing kits used were received late or were in short supply which resulted in a number of infants not being tested. This suggests that there may have been episodes of laboratory proven influenza that remained undetected in mothers and babies.

Omer et al (2011) conducted a cohort analysis of surveillance data from the Georgia US Pregnancy Risk Assessment Monitoring Programme (PRAM). Among 4,326 live births between June 1st 2004 until September 30th 2006, maternal influenza vaccination was available for 4,168 (98.3%). The primary intervention evaluated was receipt of influenza vaccine during any trimester of pregnancy. The main outcome measures were prematurity ≤37 weeks gestation and small for gestational age (low birthweight <10th centile for gestational age). The analysis found that infants who were born during the influenza season and whose mothers had received influenza vaccination in pregnancy were less likely to be premature compared to infants born to unvaccinated mothers in the same period. Compared to new-borns of unvaccinated women, new-borns of vaccinated mothers had 69% lower odds of being small for gestational age during the period of widespread influenza activity. A limitation of this study however is that the PRAM dataset did not contain information about the precise timing of vaccination and therefore the effect of vaccination a specific trimester could not be evaluated. Moreover, it could be argued that mothers of premature infants had less time to receive the vaccine than mothers of term infants (Omer et al 2011).

According to Nordeng et al (2010) the health, cultural, familial and societal beliefs of pregnant women may impact their decisions regarding whether to use medication or not during pregnancy, which may have important consequences if their attitudes negatively affect their adherence to medication. This is of particular importance when the disease may be more harmful to the unborn child than the prescribed medication (Nordeng et al 2010).

Much has been written about intentions and attitudes towards the influenza vaccination as a predictor of vaccine uptake (Tong et al (2008), Myers and Goodwin (2011), Dube et al (2012), Rodas et al (2012). As long ago as 1992, Walsh and McPhee asserted that attitudes, beliefs, motivations, perceptions, expectations and demographics are all factors that pre-dispose people to seek preventative care such as vaccinations and this remains true today. Given the potential negative outcomes of influenza infection in pregnancy, it is imperative that healthcare professionals understand what motivators and barriers influence a woman's decision to either accept or decline the influenza vaccination during this stage of her life.

2.5 Summary

This chapter has considered the history of influenza morbidity and mortality, the risks posed to pregnant women and the consequence of disease. Chapter two also explored some of the concerns around safety of medication in pregnancy and how this may be a barrier to uptake rates of seasonal influenza vaccination. The literature on which this study is based will be discussed in chapter three.

Chapter 3: Literature review

3.1 Introduction

This chapter explores and critiques the literature and contextualises the study within the existing knowledge base. Literature relating to the history, burden and consequences of disease has been discussed in chapter two. The second chapter has also considered the overall safety of influenza vaccines (seasonal and A/H1N1), influenza disease prevention and some of the general barriers, motivators and inconsistent messages women appear to receive. The chapter begins with a description of the search strategy undertaken and the approach taken to the review. Next the findings that arose from analysis of the literature are critiqued and explored and gaps in the literature identified. Finally, a summary and justification for the study is provided.

3.2 Scope of the review

A literature review using a systematic approach was undertaken to identify, appraise and synthesize the available evidence in relation to my research question (Cochrane 2013) which was:

'Does the relationship between the woman and the midwife impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy?'

Parahoo (1997) suggests that the literature review should provide a rationale for the current study and review relevant research on the same or similar topics. The aim of the literature review was to explore and critique the body of evidence already available to understand what is known of women's experience of being offered the influenza vaccination by their midwife and explore factors which influence women's decision to accept or decline the vaccine. Consequently, the objective of the literature review was to explore barriers or facilitators to pregnant women receiving the influenza vaccination. To synthesise and present my findings, a thematic analysis (Braun and Clarke 2006) was undertaken with a systematic approach to searching and reviewing the literature. A detailed search strategy was developed and revised accordingly.

3.3 Search strategy

The aim of a search strategy is to gain as comprehensive and relevant a picture as possible regarding the literature (Newell and Burnard 2010). Reviewing the literature for the study is an iterative process which Chen and Patton (2012) suggest should be undertaken simultaneously before, during and after data collection. A systematic search strategy was

undertaken to reduce the risk of bias. The following inclusion and exclusion criteria were applied:

Inclusion criteria

- Primary research relating to women's experience of being offered influenza vaccination in pregnancy including quantitative and qualitative studies
- Literature reviews
- Systematic reviews
- Publications written in English language
- Evidence available from international studies (not restricted to any country)
- Relevant policy documents
- Publications in peer reviewed journals
- Papers from 2010 onwards to coincide with the implementation of seasonal influenza vaccinations for pregnant women

Exclusion criteria

- Pertussis vaccination in pregnancy
- Measles, mumps, rubella, tetanus
- Seasonal influenza vaccination in the general population
- A/H1N1 influenza vaccination in the general population
- Uptake rates of influenza vaccination in healthcare workers
- Opinion articles
- Paediatric and /or neonatal outcomes
- Vaccine safety within the general population
- Recommendations from healthcare providers to the general population
- Duplicate articles
- Magazines and editorials
- Theses and conference proceedings
- Articles not written in the English language

Cochrane Library, Scopus, Medline and CINAHL via EBSCO, and EMBASE via OVID electronic databases were accessed to locate the relevant literature, Google Scholar was also searched. The Cochrane database of systematic reviews was searched to identify systematic reviews focusing on the subject area (Ecker and Skelly 2010). The initial literature search started prior to receiving ethical approval in 2015. The search was repeated towards the end of data collection in October 2016 and was updated as the study

progressed to capture current and emerging evidence. The initial search strategy explored literature from 2010 to 2015; by exploring this timeframe, the literature considered the situation following the A/H1N1 swine flu pandemic in 2009, as well as the literature relating to seasonal influenza. As the study progressed, the search was revisited and updated to include literature until the end of 2018 to provide a more comprehensive review.

The Boolean operators AND / OR / NOT were used together to search for specific concepts (Leeson 2013). CINAHL and Medline via EBSCOHOST wildcard * were employed to truncate words in order to search for all alternative endings (Leeson 2013). Evidence from the UK and Welsh Government, World Health Organisation, Public Health bodies, NICE, Royal Colleges and other agencies were used as supportive literature as these bodies outline key performance measures and detail uptake rates of the influenza vaccination among pregnant women. Due to the nature of the topic hand searching was not undertaken as articles were located from several sources and not restricted to any one particular journal. References from relevant articles were cross-checked to make comparisons with relevant literature. The review did not exclude any country of publication as the intention was to explore the international position as identified within the inclusion criteria above. Country of publication for all the included studies are detailed in Appendix 1.

Key words relating to the nature of the study are detailed below in Table 2.

Table 2: Key words relating to the nature of the study

Population	**Intervention**	**Comparison**	**Outcome**
Pregnant	Influenza	Attitude	Accept
Pregnancy	Flu	Attitudes	Acceptance
Women	Vaccine	Belief	Decline
Women's	Vaccination	Beliefs	Declining
Midwife	A/H1N1	Risk	Refuse
Midwives	H1N1	Perception	Refusal
Nurse	Pandemic	Experience	
Nurses	Season	Barrier	
Obstetrician	Seasonal	Barriers	
Obstetricians		Facilitator	
Gynaecologist		Facilitators	
Gynaecologists		Decision	
Physicians		Decisions	
Physicians			
Healthcare Professional			
Healthcare Professionals			

To ensure the search was sufficiently focused, the key words needed to be present within the text of the article title and / or abstract. Much of the evidence found in the initial database

search explored pertussis, tetanus, measles, mumps, rubella and vaccination in the general population and therefore did not meet the inclusion criteria.

3.4 Findings

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was developed to facilitate transparent and complete reporting of systematic reviews. PRISMA was designed to help prepare transparent accounts of a review and its recommendations have been widely endorsed and adopted (Page and Moher 2017). As I undertook a systematic approach to searching and reviewing the literature, PRISMA was deemed an appropriate tool to demonstrate this. The following PRISMA diagram (figure 4) highlights these results (Moher et al 2009).

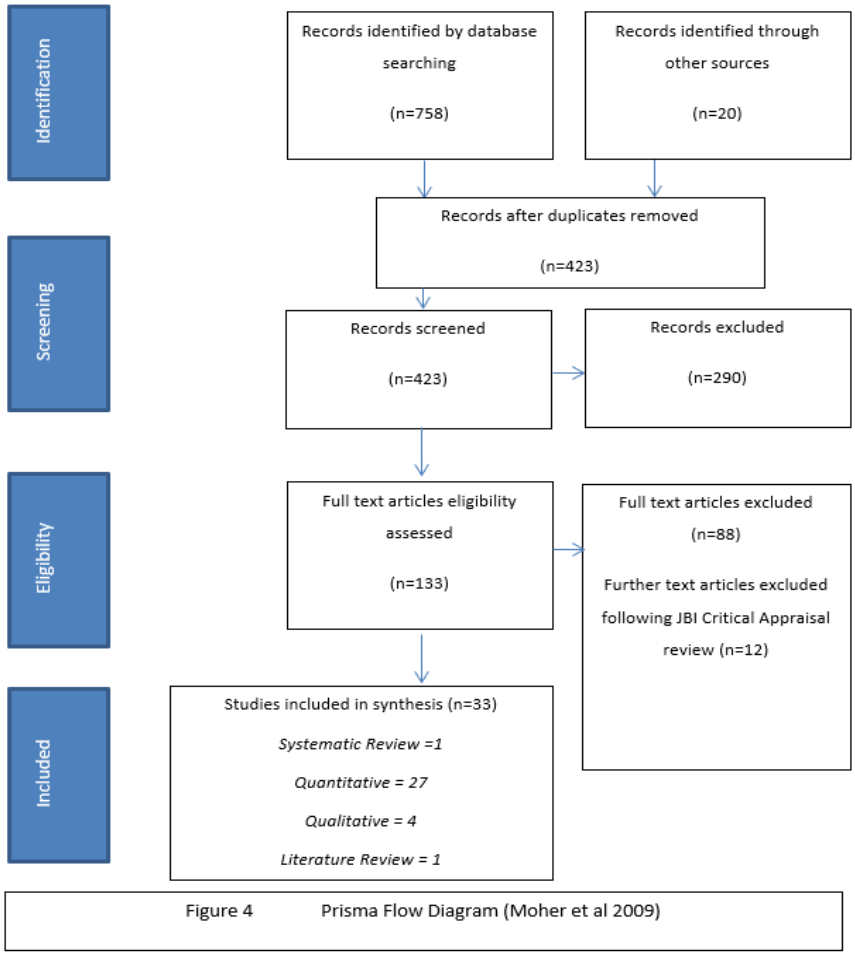


Figure 4 Prisma Flow Diagram (Moher et al 2009)

Figure 4: Prisma flow diagram (Moher et al 2009)

3.4.1 Methodological quality, data extraction and synthesis

Following screening of titles and abstracts 133 full text articles were assessed for eligibility: This included 11 systematic reviews related to influenza vaccination in pregnancy (Mosby et al 2011, Lee et al 2012, Galvao et al 2013, Yuen and Tarrant 2014, McMillan et al 2015, Mertz et al 2016, Sayakhot et al 2016, Fell et al 2017, Schmidt et al 2017, Giles et al 2018, Bisset and Paterson 2018), ten of which were excluded as they did not meet the inclusion criteria, with one systematic review (Yuen and Tarrant 2014) taken forward to critical appraisal. In total 88 studies were excluded as they failed to meet the inclusion criteria. According to Borgerson (2009), the methodological strength of scientific studies is reflected within an evidence hierarchy, following full text screening for eligibility 45 remaining studies were assessed using a standardized critical appraisal tool. The purpose of critical appraisal is to assess the methodological quality of a study and to determine the extent to which a study has addressed the possibility of bias in its design, conduct, analysis (Joanna Briggs Institute 2020) and establish the validity of evidence for clinical practice (Pearson et al 2007). Many checklists have been developed to support study appraisal however according to Santiago-Delefosse et al (2016), there is no clear consensus about what criteria should be assigned. Among the plethora of available quality checklists, the Joanna Briggs Institute appraisal checklist was chosen as there is a clearly developed methodological and rigorous process to aid critical appraisal, synthesis, and clinical decision-making in healthcare (Joanna Briggs Institute 2020). Following critical appraisal, a further 12 primary research studies were excluded as they failed to meet essential criteria derived from the JBI critical appraisal tool and were deemed methodologically unsound on the grounds of poor quality.

By applying a level of evidence to information based on study design, clinicians can make a preliminary judgment on the methodological rigour and quality of the evidence (Joanna Briggs Institute 2014). For the purpose of this literature review, each study was assessed as low, moderate, or high quality based on the scoring system derived from the JBI (2020) checklists. There is however an amount of subjectivity in each decision and it is acknowledged that should another person evaluate same body of evidence, they may reasonably arrive at different conclusions about its certainty (Siemieniuk and Guyatt 2021). When considering the levels of evidence included within the review, most would be considered lower-level evidence based on study types (Glover et al 2006, Hassan Murad et al 2016). Grading of the quality of evidence for included studies is reported in Appendix 1.

Study methods, intervention, and phenomena of interest relevant to my review question were extracted along with specific details about geographical location, context, culture, and population (Appendix 1). Most of the reviewed literature originated in the USA (n=11), followed

by Australia (n=4), Canada (n=3), UK (n=3), Hong Kong (n=2). The remainder were undertaken in Netherlands (n=1), Spain (n=1), Italy (n=1), Germany (n=1), Thailand (n=1), Saudi Arabia (n=1), South Korea (n=1), USA & Canada (n=1), Australia & Scotland (n=1), Poland & Scotland (n=1). The review of the literature was undertaken in accordance with the study objectives. Following paper selection and critical appraisal, Braun and Clarke's (2006) framework for thematic analysis was used to identify and compare recurring themes within the various papers. Thematic analysis is a method for identifying and analysing patterns of meanings. Although usually utilised in qualitative research, it can be applied across a range of research paradigms because it offers a method, unbounded by theoretical commitments (Clarke and Braun 2017). When quantitative and qualitative data are identified that both answer the same question they can be integrated using the data transformation approach recommended by Sandelowski et al (2006) and Hong et al (2017). This approach involves converting quantitative data into qualitative data (i.e. qualitizing) so data can be converted into themes, categories, typologies or narratives. I used this method in order to present the data, both quantitative and qualitative in athematic analysis using Braun and Clarke's thematic approach. Clarke and Braun (2017) also argue that thematic analysis can be used for both inductive and deductive analyses, and to capture both explicit and underlying meaning.

The selected papers were read and analysed thematically (Braun and Clarke 2006). All studies and reviews were read several times to become familiar with the data (Phase 1). Interesting findings were coded in a systematic manner (Phase 2). Codes were subsequently gathered and collated into potential themes (Phase 3). I subsequently reviewed and checked that the themes were appropriate in relation to both the coded extracts and the entire dataset (Phase 4), following which I continued to refine the specifics of each theme, defining and naming them (Phase 5). Three themes were developed, which identified key themes within each paper, however the findings of most studies did not fit discreetly into one area and cut across more than one theme:

1. Pregnant women's perception of risk of influenza illness (n=11)
2. Healthcare professionals' attitude towards influenza vaccination in pregnancy (n-10)
3. Pregnant women's perception of influenza vaccine safety (n=12).

3.4.2 Pregnant women's perceived risk of influenza illness

Eleven studies focusing on women's perception of risk of influenza illness were included in this theme, quantitative (n=9) and qualitative (n=2). It is clear from the data that women's perception of risk of influenza disease is complex with much of the literature considering both A/H1N1 and seasonal influenza vaccinations. This may have provided a skewed interpretation as the literature represents a time when A/H1N1 and vaccination was a new

priority for pregnant women and discussion would have been more prevalent within the media.

A cross-sectional self-administered questionnaire survey study by Tucker Edmonds et al (2011) in the USA determined that intention to receive the A/H1N1 influenza vaccine in pregnancy was related to higher risk perception regarding the probability of susceptibility to A/H1N1 influenza. In the study, which yielded a 72% response rate, 173 pregnant women were recruited from two obstetrics and gynaecology practices at an urban academic medical centre in Philadelphia, US. The study sought to ascertain how risk perceptions, worry and distrust related to pregnant women's intentions to accept the A/H1N1 vaccine. Of the 173 pregnant women included, 51.8% believed they had a very high likelihood of getting A/H1N1 without the vaccine (OR=1.52, 95% CI= .56-4.09 95%, p.41) and 59% felt they were more susceptible whilst pregnant (OR=1.78, 95% CI=.65-4.84 p.26) There was evidence that although the majority of participants expressed worry about vaccine safety for themselves and their foetuses, this did not affect their intention to be vaccinated. The study also found that those women who planned to receive the seasonal flu vaccine during their current pregnancy were 19 times as likely to plan to receive the A/H1N1 vaccine. However, recruitment to the study took place over a period of eight weeks during a time when increasing A/H1N1 vaccine and media coverage may have influenced women's behaviour and perceptions of risk; the study also has the potential for selection bias as the sample was drawn from an urban population of women receiving care in an academic centre, meaning the findings may not be generalisable to women from other settings.

Similarly, selection bias was also a limitation in Sakaguchi et al (2011) who explored women's perceptions of risk and the factors associated with deciding whether to receive the A/H1N1 influenza vaccine. Pregnant women who had contacted the Motherisk* programme requesting counselling for the safety of the A/H1N1 vaccine but who had not received it were contacted for follow up using a structured questionnaire. Of the 130 respondents, 26 decided not to receive the vaccine following their initial call to Motherisk for advice, six of whom said they that they felt the vaccine was unnecessary. The study also found that the perception of risk with respect to seasonal influenza was of concern because a majority of the participants did not feel that there was sufficient risk for them to worry about. Among those who received the vaccine (n = 104), concern about the risk of H1N1 infection in the foetus and/or themselves was the most cited reason for their decision (73.1 %), followed by recommendations encouraging vaccination (34.6 %), and previous history of complication or illness from influenza (3.8%). Given that only women who contacted Motherisk for advice were included, the lack of generalisability should be noted as the main limitation of this

study. Most of this cohort of women were more educated and had a higher socioeconomic status compared to women in the general population.

The impact of the vaccination for pregnant women during the A/H1N1 pandemic was considered by Halperin et al (2014) who explored key factors influencing influenza vaccination acceptance among pregnant women following the A/H1N1 pandemic of 2009. A survey was used to compare pre- and post-pandemic knowledge, attitudes, beliefs and intended behaviours among pregnant women regarding both seasonal and / or A/H1N1 influenza vaccinations. A total of 662 pre-pandemic and 159 post-pandemic surveys were completed. The most common reason cited by women who were less likely to receive the seasonal influenza vaccine after the pandemic was that they were not affected by the A/H1N1 influenza pandemic and thus were unconcerned about seasonal influenza. A fifth of the participants also reasoned that as they had already received the A/H1N1 influenza vaccine they would be protected against seasonal influenza and therefore were less likely to receive the seasonal influenza vaccine. Study limitations include its failure to clearly explain how the participants were recruited but does recognise that the numbers were small and consisted of mainly white, well-educated women which is unlikely to be representative of the general population, limiting external validity.

Perceived lack of risk was the primary reason for vaccine refusal in a qualitative descriptive study of 32 postpartum women in Hong Kong during the 2011 influenza season (Yuen et al 2016). Echoing the findings of the study by Halperin et al (2014), the participant demographics revealed that most women were over the age of 30 with ten holding a university degree. Only two participants had received the influenza vaccination in pregnancy. How women framed their perception of risk in this study was that influenza was a mild self-limiting disease rather than a serious condition. The participants revealed that they felt natural infection was better than having the vaccine and that were they to contract influenza, the infection could easily be managed. Only two participants in the study had been vaccinated, limiting the study's ability to explore factors which promote vaccination. Participants were also recruited from only one hospital setting and as the study took place a year after the H1N1 pandemic, it was unclear whether the women's recollections and perception were of seasonal flu or the pandemic vaccine.

Similarly, a study by Lohm et al (2014) found that participants believed that the risks associated with influenza disease were low and that adoption of healthy behaviours would mean that influenza would not affect them. In the second of only two qualitative studies identified in the review, Lohm et al (2014) also examined how pregnant women took account of their influenza disease. Between 2011 and 2012, in depth individual, paired and focus

group interviews with 14 participants were held to discuss their experiences of the A/H1N1 pandemic. The study was carried out in Australia and Scotland with the purpose of addressing the global qualities of the 2009 pandemic using an exploratory theory research approach. The women were surprised to find themselves at risk of pandemic influenza, emotional repercussions were revealed and an interaction between risk management and consideration for her risk of disease. The women balanced such risk through social distancing combined with the expectation to be a good mother. However, some women had trouble reconciling the advice to accept a rapidly developing vaccine due to being advised by their healthcare professional to avoid many vaccinations and medicines during pregnancy (Lohm et al 2014).

Evidence was produced by Vila-Candel et al (2016) which determined that pregnant women underestimate their risk of contracting or being harmed by influenza. In an observational retrospective study of 200 pregnant women in Spain, only 40.5% were vaccinated. For those who rejected the vaccine, women felt that they were not at risk and some considered the vaccine to be superfluous. Having an underlying co morbidity was not found to contribute to a higher uptake rate. Unlike other literature reviewed, the study did not consider educational attainment or socioeconomic status of the women and whether this was a factor in how women perceived their risk of influenza disease. A lower educational attainment was found to be associated with women's perception of risk in a cross-sectional study by Napolitano et al (2017) (OR=0.8, 95% CI= 002-.36) primary school; (OR=.11, 95% CI=.04-.28) secondary school level of education). The Italian study of 372 pregnant women (90.7% response rate) revealed that whilst 74.2% of the sample knew that influenza is more dangerous for pregnant than non-pregnant women and that unlike findings from the study by Vila-Candel et al (2016), women who had a high-risk pregnancy were more knowledgeable regarding their susceptibility to influenza and their increased risk of morbidity. Women of older age (OR=1.07;95% CI 1.01-1.13), Italian (OR-4.97; 95% CI 1.64-15.09) and with a pregnancy at high risk (OR=11.43; 95% CI 2.22-58.85) were more likely to know that influenza is more dangerous for pregnant women. Conversely, the study acknowledges that participants who held more favourable attitudes towards vaccination were potentially more likely to respond to the survey.

The literature has revealed that some pregnant women who believe they are more susceptible to disease are more likely to have the vaccination. In a study by Gorman et al (2012) this perception was linked with the emotional aspects such as worry and regret in the event of inaction and consequence of not having the vaccination ($p<0.001$). The cross-sectional telephone survey during the influenza 2010-11 season in the US and Canada involved a survey of 199 pregnant women of whom 81% reported receiving the vaccine. A

limitation of this study however is that whilst there was no acknowledgement of sociodemographic background or educational attainment of the women, most participants were recruited through Teratogen information services which may meant that the women in the study had multi-morbidity or were more concerned over their own health.

A German nationwide web-based prospective cohort study between 2012 and 2014 conducted by Bodeker et al (2015) further confirmed such findings. Eight hundred and thirty-eight women were recruited to the study during pregnancy and were followed up on three separate occasions until their children were 14 months old. Reinforcing previous evidence, the most frequently cited reason for declining was that the vaccination was unnecessary (52.2% p<0/0001) and the women felt they were at low risk of contracting seasonal influenza. A limitation of the study however, is there may have been some selection bias as it was a web-based survey. Women with higher levels of education were also represented in this study which, given the association between education and higher vaccination knowledge this study, (r=.10, p<0.05), an over-estimation of the presented general vaccination knowledge may be present. (Bodeker et al 2015).

A cross-sectional descriptive correlation study of 750 pregnant women carried out by Kang et al (2015) found that 505 women had not been vaccinated. The study explored pregnant women's attitudes toward seasonal influenza with the results revealing that 201 felt that as they were healthy, they were not at risk of influenza and a further 247 said that the vaccine was unnecessary. The study found that the intention to receive the influenza vaccine was significantly correlated with the attitudes towards influenza vaccination (r=.468, p<.0001). Higher levels of educational attainment were present in 68.9% of the study population and therefore findings are similar to the study by Bodeker et al (2015). Just as Bodeker et al (2015) reported a potential for selection bias, this is also a limitation of the study in question. Vaccination rates within the study were self-reported, which may have introduced potential recall bias as it is impossible to validate whether those who self-reported having the vaccine actually did so.

Finally, a further cross-sectional survey carried out by Lu et al (2012) assessed the uptake of influenza vaccination by pregnant women and maternity care providers involving 337 pregnant women and 96 maternity care providers in a tertiary public hospital in Australia. Pregnant women attending the general antenatal clinic were approached by one of the investigators and asked to voluntarily participate and complete an anonymous self-administered questionnaire while waiting for their appointment. Only 24.5% of women who perceived themselves to be at high risk of complications reported that they had either received or planned to receive the vaccine (p .05 (n/s) RR 1.0, 95% CI=0.8-1.4). Moreover,

only 15% (50) were aware that they were at high risk of influenza related complications. Women were more likely to receive the seasonal influenza vaccination if they had been vaccinated in the previous two years. The study did not however differentiate between those who said planned to have the vaccine versus those who actually received it.

3.4.3 Summary of pregnant women's perceived risk of influenza disease

The quality of evidence reviewed within this theme was appraised as either low or moderate. Some studies failed to acknowledge their limitations. Selection bias was evident throughout potentially limiting what is confidently known about pregnant women's perceived risk of influenza disease. Some of the literature has identified that women may perceive themselves to be more at risk of influenza disease if they have underlying health concerns. Although women with higher educational attainment (where acknowledged) appear to be more knowledgeable, this does not appear to influence their decision to accept the vaccine. The literature reviewed has demonstrated that women perceive themselves to be at less risk of seasonal influenza than during the A/H1N1 pandemic and that seasonal influenza is less threatening in comparison to A/H1N1. Women appeared to have adopted ways of managing their risk such as social distancing and adopting healthy behaviours as self-protection. Women perceive influenza illness as not serious; a self-limiting disease where some women felt that it was better to have the illness than the vaccine. However there remain some gaps in evidence due to a lack of research. There is a paucity in the literature which explores vaccine intent with vaccine status. Much of the literature is quantitative and does not explain 'why' some women do not perceive themselves to be at risk. The literature also fails to address whether women with lower educational attainment would actively seek information or how perception of risk is constructed within this group. There also appears to be a lack of evidence to establish why women who do not perceive themselves to be at risk of influenza disease choose to receive the vaccine. Much of the literature coincides with the A/H1N1 pandemic, further study is needed to explore seasonal influenza vaccination for pregnant women as a separate area of research.

3.4.4 Attitudes of healthcare professionals towards influenza vaccination for pregnant women

The second theme for discussion from the thematic analysis is the attitude of healthcare professionals towards influenza vaccination for pregnant women. There is a wealth of evidence acknowledging that healthcare provider recommendation has a powerful impact on decision-making and has a direct effect on uptake rates for vaccination (Regan et al 2016, Kuehn 2010, Chamberlain et al 2016, Laenen et al 2015, Ditsungnoen et al 2016, McCarthy et al 2015, and deAvila-Kfouri and Richtmann 2013) as discussed in chapter one. These

studies also suggest that inconsistent messages from healthcare providers were a key determinant in declining the vaccine. A total of twelve peer-reviewed articles were located for the purpose of the review and these focused on the attitudes of healthcare professionals (midwife / obstetrician / physician / nurse / general practitioner) regarding influenza vaccinations for pregnant women.

Only two studies solely exploring midwives' attitudes were located which met the inclusion criteria for the review. Firstly, Ishola et al (2013) explored UK midwives' views of vaccination for pregnant women in partnership with the London Regional Epidemiology Unit of the Health Protection Agency. In this cross-sectional survey of 266 midwives, whilst most respondents (n=184) agreed with the UK's policy of universal seasonal influenza vaccination of pregnant women, they expressed significant reservations about their role in developing the policy. Midwives said that they were happy to routinely advise pregnant women about influenza vaccination; however, there was less support for them becoming vaccinators due to concerns regarding potential liability, for example being blamed if things went wrong, safety, lack of training and increased workload. Similar findings from an Australian study by Regan et al (2018) revealed that midwives viewed antenatal influenza vaccination as their responsibility and were receptive to education. Of the 252 midwives participating through a self-reported survey, most respondents were aware that it was their role to advise women about vaccination. The study found that midwives lacked knowledge about specific information in relation to timing e.g., that the influenza vaccine could be given in any trimester (44.7% 95% CI 38.5-50.9). One third of midwives stated staff time required to immunise was a major barrier to vaccinating pregnant women (36.2% 95% CI 29.1-43.2%). Increased workload, being blamed if things go wrong, safety and a lack of training were concerns also raised by midwives in the study by Ishola et al (2013). Both Ishola (2013) and Regan (2018) recognise their limitations however in that their findings may not be generalisable to all midwives due to selection bias in both studies.

Concerns about training resonate in a study by Vishram et al (2017) who conducted a survey analysis of 3441 healthcare workers in England between May and August 2015 to determine attitudes towards influenza during pregnancy. The participants were midwives, practice nurses and health visitors working in England. Of the respondents a significant proportion were midwives (n=2393). Whilst the study found that 85% of midwives were aware that influenza vaccinations were recommended in pregnancy, 62% had not received any training and were less confident to give advice (60%) compared to practice nurses (82%). Trained healthcare workers were generally more confident to give advice in pregnancy and of those who had received training, 84% (95% CI 81-85%) were more confident than those who had not (46%, 95% CI 44-46%). Furthermore, the study found that only 9% of midwives gave the

influenza vaccine to pregnant women compared to 92% of practice nurses. These findings are unsurprising as discussed in chapter one, whereby pregnant women in the UK typically receive their seasonal influenza vaccination from their practice nurse or GP.

Three studies meeting the inclusion criteria specifically explored attitudes of obstetricians and gynaecologists. In one such investigation, Kissin et al (2011) conducted a self-administered mail survey in the US to explore the attitudes and practices of obstetricians / gynaecologists. The survey was mailed to 3,096 professionals during the 2009 A/H1N1 pandemic, at which point there were frequent reminders regarding the importance of the influenza vaccine during pregnancy within the media and via government. Despite this heightened awareness, there was a poor response rate of 42%. Most obstetricians / gynaecologists reported that they routinely offered the seasonal (77.6%) and A/H1N1 (85.6%) influenza vaccines to pregnant women, yet a proportion did not recommend the vaccine to women during the first trimester of pregnancy (*p* .97). This represents a missed opportunity to prevent influenza virus and the consequences of severe disease. Further research is needed to determine whether such advice and vaccine hesitancy remains present during annual influenza seasons. Data were collected immediately after the 2009 H1N1 pandemic season and as a result the findings may not be generalisable to non-pandemic influenza seasons when fewer patients experience serious consequences of influenza and demand for vaccination decreases.

Vaccine hesitancy was considered in a US study by Dvalishvili et al (2016). A cross-sectional survey of 278 obstetrician / gynaecologists found that only 43% would recommend the vaccine in pregnancy, even though 88% perceived influenza to be a serious infectious disease, with pregnant women being more susceptible than the general population. There was a fear amongst the respondents akin to findings from the midwives' studies by Ishola et al (2013) and Regan et al (2018) where a perceived lack of knowledge, worry and fear of being blamed for any side effects, even those not caused by the vaccine itself, was a significant barrier to recommendation. The study has acknowledged however that there may be selection bias as responses were self-reported.

Similar beliefs were held by medical staff as discussed in a study by Stark et al (2016) who explored the attitudes and practices of medical providers and pregnant women regarding the influenza vaccine. Voluntary surveys were completed over two influenza seasons across four States in the US between 2013 and 2015. Seventy-six healthcare providers responded to the survey including obstetrician / gynaecologists, nurse practitioners, physician assistants and nurse / midwives. Whilst the study found that all practitioners would recommend the vaccine in any trimester, medical providers believed that 'patients' did not accept the vaccine

because they believed it was not safe, because it was not required, or they had a fear of needles. Furthermore, despite medical providers stating that they provided information to women, only 66.4% of pregnant women said they received it and there were discrepancies between patient and medical provider opinions. When asked why they believed patients did not accept the vaccination, nearly all stated that they thought the patient felt it was not safe (85.5%) or that they did not think they needed the vaccine (65.8%). The survey was voluntary and carried out in doctors' offices across four sites, which could have resulted in a degree of bias. The study did not address why medical providers held such views about women who declined the vaccine.

Reasons for not recommending the influenza vaccine to pregnant women were however explored in a study by Praphisiri et al (2017). A self-administered questionnaire was distributed to 1,134 hospitals with an antenatal clinic in Thailand between January and April 2013 which yielded a 67% response rate (n=643). Only 25% of physicians reported routinely recommending influenza vaccine to pregnant women with most citing that they were unaware of recommendations for pregnant women (70%, *p-value 0.07*). Reasons for not recommending the vaccine included organisational barriers, availability and storage (60%, *p<0.001*), not offering the service, having an ambiguous policy, and a lack of reimbursement. Nonetheless, the study also identified a lack of medical knowledge in that physicians were unaware that the vaccine was free to pregnant women as a priority group and reported that pregnant women refuse the vaccination (63%, *p-value 0.93*). As with other studies, selection bias was prevalent as hospital directors chose the respondents and as such may have biased the results in favour of those who have a positive attitude towards influenza vaccinations for pregnant women and may not be representative of all physicians.

Webb et al (2014) held a series of semi-structured interviews with 15 perinatal health professionals (midwives, obstetricians and GPs) in a tertiary care hospital in South Australia. The interviews were transcribed and coded using thematic analysis, with the findings indicating that healthcare worker knowledge was variable across vaccines and professional groups and that the obstetricians in the group may have regarded vaccination as being outside their realm of responsibility. The participants were unanimously supportive of maternal vaccine provision as a preventative health measure, but in practice the study found that information was not consistently distributed; in contrast to rubella prevention, which was reported at the time to be part of routine antenatal care, influenza vaccination was not consistently recommended. Limitations of the study being conducted at only one hospital meant that wider insights into healthcare worker knowledge was limited and does not articulate what the policy or practice is across other areas of maternity services within Southern Australia.

Routinely recommending the influenza vaccine in pregnancy was also reported in 88.5% of surveyed pre-natal care providers in a study by Arao et al (2015) during the 2010-2011 influenza season. A state-wide survey in Oregon, US, was mailed to a random sample of obstetricians and family physicians. Of the 1,114 surveys mailed, only 496 responded (44.5%). The study found that despite such a high number of respondents recommending the vaccine, the number of women in the US receiving the vaccine during the same period was only 51%. Physician prenatal care providers younger than 50 years of age were 2.0 times [95 % confidence interval (CI) 1.3–3.1] more likely to routinely recommend influenza vaccine than those older than 50 years of age, and those who saw 11 or more pregnant patients per week were 2.0 times (95 % CI 1.3–3.1) more likely to routinely recommend influenza vaccine than those who saw fewer than 11 pregnant patients per week. While the study did not acknowledge any limitations responder bias may have been present as those with an interest in influenza and vaccination in pregnancy may have been more likely to respond.

The final study included in this theme is Maher et al (2014), who carried out a qualitative descriptive study of 17 general practitioners (GPs) in Sydney, Australia. Although most were aware of the recommendation for influenza vaccination in pregnancy, they were not confident in all aspects of the recommendations such as timing of the vaccine or why it had become a priority for this group of women. The GPs also raised significant concerns regarding the safety of the vaccine. The study found that GPs who had strong patient / doctor relationships where trust was important reported higher vaccination rates for their patients. Some also reported that they had 'significant power' in convincing women to accept the vaccine; however, the study did not explore this aspect or any ethical issues surrounding informed consent in further detail.

3.4.5 Summary of attitudes of healthcare professionals towards influenza vaccination for pregnant women

Literature reviewed within this theme revealed that the evidence is of particularly low quality, often using self-reported data with low response rates and selection bias which may not be representative of the views of healthcare professionals. The literature has shown that midwives appear happy to support and recommend the influenza vaccination to pregnant women but are concerned about their own workload, lack of training and the possibility of future liability in the event that something goes wrong. Only two studies explore midwives' attitudes toward influenza vaccination in pregnancy, whereby their knowledge appears to be limited. More research in this area is required to enable a thorough understanding of midwives' hesitancy and concern.

Seasonal influenza vaccination in pregnancy does not appear to be viewed as part of routine care unlike the measles, mumps and rubella vaccines. Recommendation of the influenza vaccine by a healthcare professional is varied and there is hesitancy among some professionals to offer it despite the known benefits and recommended guidelines due to concerns with safety, fear of being blamed for side effects and a lack of professional knowledge. There is a gap in the literature which explores why this is the case and what the consequences could be. Vaccine hesitancy and advice requires further exploring to determine whether this is still present during annual influenza seasons with pregnant women. Some healthcare professionals appear to make assumptions about women's decision to have the vaccine, citing safety concerns and a lack of requests to have the vaccine as key barriers. Other barriers include storage, availability and a lack of reimbursement, with cost to the healthcare professional being of concern. Conversely, some healthcare professionals felt they had significant power to convince pregnant women to have the influenza vaccine in pregnancy, particularly where there were strong, trusting relationships between women and their healthcare provider in place.

3.4.6 Pregnant women's perceptions of influenza vaccine safety

As previously discussed, much of the data gleaned from literature was relevant to more than one theme. Through a process of rigorous thematic analysis, concerns about influenza vaccine safety in pregnancy were most prevalent in twelve of the peer reviewed articles considered for the literature review. Six of the earlier reviews (pre-2013) specifically explored influenza vaccination in the context of A/H1N1 pandemic influenza.

There is increasing evidence to suggest that influenza vaccination is safe and effective in reducing influenza illness in women and their infants (Mak et al 2008, Omer et al 2011, Munoz et al 2015, Keller-Stanislawski et al 2014, Steinhoff et al 2014). For some women however there is evidence to suggest that vaccine hesitancy may be attributed to fears over vaccine safety for themselves, their baby or both. One of these earlier studies conducted by Goldfarb et al (2011) sought to explore vaccination rates for both seasonal and A/H1N1 influenza in Massachusetts, US. Throughout January until March 2010, a cross-sectional survey was distributed to 696 postpartum women prior to discharge from hospital. The response rate of 53% found that 81% reported receiving both the seasonal and A/H1N1 influenza vaccine. Further, of the 19% that had not been vaccinated, the safety of the vaccine in pregnancy for both themselves and their baby was a major deterrent. Women who declined to have the vaccination cited concerns over safety as a major deterrent however the study did not explore why women displayed such concern. The study acknowledges that the sample size was small however and as such the findings might not

be generalisable to all pregnant women. The study's limitations are further acknowledged in that, as this was an anonymous survey, self-reported influenza vaccination could not be verified using other data sources and the results may also be limited by selection bias. Patients who had not been vaccinated may have been less inclined to complete the survey and there was potential bias with a response rate of only 53% which may have led to an overestimation vaccination rates within the study population. Moreover, the researchers relied on hospital staff who were primarily available to distribute and collect the study surveys between Monday and Friday, meaning they may have missed patients who gave birth and were discharged from hospital during weekends.

A qualitative interview-based study comparing the views of Polish and Scottish pregnant women of the A/H1N1 vaccine was carried out at the height of the 2009 pandemic and during the first few weeks of the rollout of the vaccination programme in November 2009 by Sim et al (2011). The study sought to compare how Polish and Scottish pregnant women considered the benefits and risks of the vaccine. One-to-one interviews were carried out with ten women (five Polish and five Scottish) and found for both nationalities, there were striking similarities in how the women considered their decisions. Women found the decision to accept the vaccine difficult owing to the fact that they felt it was relatively untested but felt 'urged' to receive it. The study found that the women were largely informed by their degree of trust in official information about vaccine safety but found it difficult and anxiety provoking. The study acknowledges that the numbers were small (n=10) however and that educational attainment was not gathered as part of the sampling strategy which may could possibly have influenced how women frame their own health needs and how they form their decisions.

Similarly, Fisher et al (2011) surveyed 813 postpartum women in Colorado US to explore uptake rates for seasonal and A/H1N1 influenza in pregnancy and understand the reasons why women declined to have the vaccine. The respondents frequently reported that they were unaware of the vaccine importance (25%), closely followed by concerns about the vaccine safety for their own (18%) or their baby's health (95%). Limitations of the study resonate with that of Goldfarb et al (2011) in that it to address the reasons why women hold such concerns about vaccine safety even though at the time, there would have been widespread media reports of influenza being streamed across the world detailing the potential catastrophic consequences for pregnant women. Unfortunately, no demographic or educational differences were reported within the study; such details may have impacted uptake rates and helped explore women's reasons for declining in further detail.

A cross-sectional study by Fabry et al (2011) in Quebec specifically explored uptake rates of the A/H1N1 vaccine for pregnant women in February 2010. Pregnant or newly postpartum

women completed the survey (*n*=250), with the results indicating that, in contrast to the findings by Fisher et al (2011), women with higher education levels (college or university) and in their third trimester were statistically associated with higher vaccination rates. Although 76% of women were immunised, those in both the vaccinated and unvaccinated groups believed that the A/H1N1 vaccination had not been tested sufficiently (61.66%); meanwhile, 39% felt it could lead to Guillen-Barre syndrome and only 54% of women felt it was safe for them or the baby (52%). Participants displayed concern that during times of a pandemic, vaccines would be marketed without sufficient testing for safety. Whilst acknowledging that healthcare professional advice is important (80.2%) and that information was received by either a family physician (41.2%), obstetrician (34.4%) or nurse (30.4%), the study did not explore why women held such beliefs or concerns about safety of the vaccine for themselves or their baby and did not explore what women felt the consequences could be.

Fridman et al (2011) conducted a similar cross-sectional study in the US to determine factors that influenced acceptance of the A/H1N1 vaccine during the 2009 pandemic for pregnant women. Two hundred and twelve pregnant women completed the questionnaire but only 54 reported that they had received the A/H1N1 vaccine. According to the researchers, this was an increase on the previous year's seasonal influenza vaccination uptake. Akin to the findings of Fabry et al (2011), higher levels of education were associated with increased uptake. The main perceived barrier was that women felt the vaccine was harmful for the baby. Fears about side effects for the foetus were not considered within the study; this area may have offered greater insights into women's perceptions and why they forge such beliefs. The study was unable to confirm that the vaccine had been offered during the encounter with primary care providers, and the researchers were also unable to provide adequate informed consent to non-English speaking members of many minority communities. Consequently, the generalisability of the results to minority groups is unclear.

Following advice in 2009 from the Dutch Government that all pregnant women should be vaccinated against A/H1N1 influenza, 14,259 women were invited to complete an internet survey by Van Lier et al (2012). The study had a response rate of 2,993 women, 63% of whom reported having the vaccine. Uptake rates were higher among older women, those who had been pregnant before and women with underlying medical conditions. Unlike other studies, educational attainment was not a factor yet perceived possible harmful effects for the foetus and a lack of sufficient knowledge about vaccine safety were the greatest predictive factors for non-vaccination (Van Lier et al 2012).

Drees et al (2013) examined changes in patient characteristics and attitudes regarding influenza vaccination and the sustainability of efforts to vaccinate following the 2009 pandemic. The cross-sectional survey of 300 postpartum women in 2010-2011 revealed that vaccine safety concerns were cited by most women (55) declining vaccination during 2009-2010; however, this figure fell to 27% in 2010-2011, which may suggest that there are less concerns regarding the safety of influenza vaccination compared to the A/H1N1 vaccine. The participants responded that concerns were for both of them during the 2009-2010 season whereas this fell to mainly concern for themselves during the 2010-11 influenza season. Limitations of this study include its relatively small sample size and single site, which may limit its generalisability. The content and context of the healthcare provider recommendation was based on the participants' recollections and the study acknowledged that the quality and content of the discussion between participants and their obstetric providers was not validated. As with other studies of vaccination behaviour, this survey was also subject to social desirability bias.

A retrospective prevalence survey exploring predictors of seasonal influenza vaccination uptake in pregnancy was conducted by Taksdal et al (2013) in Western Australia. The researchers conducted computer assisted telephone interviews with randomly selected women who were pregnant during the 2010 influenza season. A stratified, random sample of 570 women (285 new mothers residing in the Perth metropolitan area and 285 residing in rural or remote areas) was selected from the eligible population and these individuals were sent a patient information sheet inviting them to participate in the survey. A response rate of 70% was calculated to yield a minimum final sample size of 400, giving a maximum relative standard error of ±4.9% at the standard 95% confidence interval for the total cohort. Willingness to participate was assumed unless the women actively opted out of the survey by telephone or email. Results revealed that only half of the women felt that the vaccine was safe for their infant (n=199, OR 46.49, 95% CI 11.17-193.52). The largest barrier was a belief that the vaccine was not safe for their unborn baby; but much like other studies critiqued, the participants reported that they would have the vaccination if their healthcare professional recommended it (n=144, OR 31.69, 95% CI 16.5-60.88) and they believed it was safe and protective for their infant and themselves. Whilst the study does not clearly state its limitations, the potential for recall bias must be acknowledged.

In a systematic review carried out by Yuen et al (2014), vaccine side effects for women and babies were the two most frequently cited reasons for not having the vaccine. In total, 41 international studies referencing both seasonal and A/H1N1 vaccination programmes were included for the purpose of the review. The review found that risk from the vaccine to mother and / or baby and that they held substantial concerns about the safety and efficacy of the

vaccine. Concerns about side effects were present in more than two thirds of the studies included. Although studies as cited above have shown that seasonal influenza vaccines are safe for pregnant women during any trimester, concerns around teratogenicity were frequently identified as reasons why pregnant women did not want to receive the vaccine. A later literature review undertaken by Wilson et al (2015) sought to understand factors influencing vaccination acceptance during pregnancy. Articles focused on influenza vaccine were included in the review (*n*=113), and the main concerns cited were the safety of vaccines in pregnancy. Despite not distinguishing between women's perceptions and those of the healthcare professional, the review did acknowledge that the attitudes of healthcare professionals were more likely to cite barriers around women's perceived lack of knowledge.

These results were echoed in a prospective convenience sample of 796 pregnant women in Texas, US by Healy et al (2015), who found that factors impacting vaccine decision making were safety for the baby, safety for the mother and insufficient information from the healthcare professional. The study did however reveal a greater acceptance of the influenza vaccine in later gestations and that healthcare providers significantly under-estimated how well-informed pregnant women were about vaccines (*p<0.0001*). Acknowledged limitations in this case include the fact that the study was a single centre and that those individuals who chose to deliver there may have been more likely than the general population to be pro-vaccine and have a higher educational attainment. Evidence of poor awareness among pregnant women that the seasonal influenza vaccine is safe to administer in pregnancy was collated by Mayet et al (2017). The researchers conducted a cross-sectional prospective study of 998 pregnant women at an antenatal clinic in Saudi Arabia in 2013. The results demonstrated that physicians rarely advised pregnant women to have the influenza vaccine, which may have contributed to pregnant women's beliefs that the influenza vaccination is not safe in pregnancy (86.1%). Only 18.1% of respondents had received the vaccination and, similar to other studies, low education was associated with poor knowledge. However, the study failed to address why women believed the vaccine to be unsafe.

3.4.7 Summary of pregnant women's perceptions of influenza vaccine safety

The literature sourced for this theme was mainly quantitative and predominantly made up of cross-sectional surveys. Quality of evidence reviewed was again low with low response rates, single sites and social desirability bias being acknowledged therefore limiting what can be confidently known about women's perceptions and a lack of generalizability to the wider population. Although discussion has revealed that influenza vaccine safety is of concern to women, the studies generally failed to address why women hold such beliefs. There is some evidence to suggest that assurances around vaccine safety are associated with the quality of

information provided to women by their healthcare professional. Some studies acknowledged women's socioeconomic, ethnicity and educational status, whereas others did not. Uptake rates of influenza vaccination were varied between studies and there is evidence to suggest that older women with higher educational attainment are more likely to hold a positive view of and receive the influenza vaccination in pregnancy. Women appeared to have more concerns surrounding the safety of the A/H1N1 vaccine and the speed at which it was developed. Throughout the studies examined, women revealed concerns regarding both vaccines; however, those citing safety concerns about the A/H1N1 vaccine felt that the vaccine had been developed too quickly for its full consequences or safety assurances to be fully understood. Pregnant women are more likely to be willing to accept vaccination in pregnancy if sufficient discussion of safety and rationale for the vaccine is provided by the healthcare professional (Healy et al 2012) yet influenza vaccination rates remain suboptimal (Yuen and Tarrant 2014). Women's knowledge regarding influenza is poor (Fisher et al 2011, Fabry et al 2011, Yudin et al 2009). There is evidence that healthcare professional knowledge about the safety of vaccines in pregnancy is also poor (Van Lier et al 2012) and that further education is needed (Goldfarb et al 2011) as women are more likely to have the vaccine if they think it is safe (Taksdal et al 2013). There is a gap in the literature exploring why healthcare professionals and pregnant women hold such beliefs however none of the literature critiqued and discussed has explored this.

3.5 Summary

This chapter has explored and critiqued the literature pertaining to the research question and what is already known about pregnant women's perception of risk of influenza disease, healthcare professionals' attitudes toward influenza vaccination in pregnancy and pregnant women's perception of influenza vaccine safety. Using the Joanna Briggs Institute critical appraisal checklist (2020) ensured that the studies were of reasonable quality for inclusion within the literature review. The literature review has identified that there remain some gaps in the literature and that much of the evidence is of low-quality research. The literature has identified that within the three specified themes, women with higher educational attainment may hold a positive view of the vaccine; nonetheless, this does not always appear to influence their decision making. Some women perceive their risk of seasonal influenza as now being less than during a pandemic, yet they remain concerned about seasonal vaccine safety for both themselves and their baby.

The review has shown that there is paucity in the literature regarding midwives' attitudes with only three studies being identified. However, there is evidence that whilst midwives hold a favourable view of the vaccine they are concerned about their own workload, potential

liability for adverse consequences and are reluctant to become vaccinators. Healthcare professionals do not appear to view seasonal influenza vaccination as part of routine antenatal care, recommendations to women by a healthcare professional are varied, and women's concerns about safety of the vaccine have been cited as a barrier. Such concerns over safety for women and their babies are prevalent and this does not appear to differ between the seasonal or A/H1N1 variants.

As previously discussed, most of the research evidence included in the review has been quantitative with many cross-sectional surveys being undertaken (Appendix 1). A literature review conducted systematically (chapter three) identified that some women found their risk of seasonal influenza as being less than during a pandemic and they held concern around safety of the vaccine. Much of the evidence reviewed for the purpose of this study was of low to moderate quality and was mostly quantitative, thus there being a paucity in the literature to explain women's experience of being offered the seasonal influenza vaccination in pregnancy and any barriers or facilitators to uptake rates.

It is therefore difficult to determine why women do not perceive themselves to be at risk of influenza or why they still hold such safety concerns. Whilst the literature review has provided some insight into these issues, there remains a gap in our understanding of women's experience of being offered the influenza vaccine during pregnancy and their subsequent response. As discussed in chapter one, seasonal vaccination rates for pregnant women in Wales remain static and well below the national target of 75%. Therefore, it is imperative that a deeper understanding of why such barriers exist to women's decision making is achieved and as such the requirement for the study is justified. A deeper insight into women's decision making can only be achieved through a qualitative approach, therefore providing a rationale for the study.

Chapter 4: Research methodology and methods

4.1 Introduction

This chapter outlines the research methodology and methods I used for the study. I begin by outlining the emergence of the study aim, research question and objectives. The ontological and epistemological position used to guide this research and the decision to use qualitative descriptive analysis, as well as the methodologies and methods I discounted, are discussed. I further outline the research design process and methods used, including the choice of sampling strategy and the use of convenience sampling. Data collection methods i.e., the use of semi-structured interviews are reviewed and the decision to use thematic analysis as a framework is justified. Finally, I provide an explanation of how ethical considerations and research approval were addressed.

4.2 Research question, aim and objectives

My research question was developed from gaps in knowledge from the literature, personal experience as a previous maternity service user, a midwife and senior leader / manager. Midwives can influence positive health choices due to having regular contact with women and building relationships through providing continuity of carer (McNeill et al 2012). I sought to understand the rationale for decisions women made about whether to have the influenza vaccination. My research question therefore was:

"Does the relationship between the woman and the midwife impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy".

The overall aim of the study was to explore, interpret and develop an understanding of pregnant women's experience of being offered the seasonal influenza vaccination by their midwife and whether this affects the woman's decision to either accept or decline the vaccine. The study has three objectives:

1. Investigate factors which when drawn from women's experience of being offered the seasonal influenza vaccination influence their decision to accept or decline the vaccine.
2. To explore whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine.
3. To identify whether women's experience differs according to their geographical location.

4.3 Ontological and epistemological position

Ontology is concerned with the assumptions we make about what exists in the world in terms of how it should be viewed and studied (Thomas 2017). When considering the ontology of midwifery practice, Walsh (2006) suggests that thinking ontologically opens the researcher up to new possibilities, helping to answer the fundamental question, 'what does being a midwife mean for me'. Walsh (2006) further asserts that only after working through the ontological question can we move on to ask an epistemological one; for example, what are the most appropriate types of knowledge to serve this way of being. Epistemology can also be considered in relation to gaining an understanding of the nature and forms of knowledge, as well as how it is attained and shared with other human beings (Meadows-Oliver 2009). My own ontological and epistemological position will now be discussed.

4.3.1 Ontological position

My ontological position is one of relativism, a concept which asserts that society exists as both subjective and objective reality and that nothing can be known for definite (Andrews 2016). We can never get beyond multiple constructed realities (Cromby and Nightingale 1999), all we have are representations or accounts of what reality is (Braun and Clarke 2013).

Within the sphere of midwifery, it is essential to understand women's perspectives and experience so that we can provide care that is holistic, high quality and compassionate. Relativism as an ontology supports midwives to provide such care through recognising their individuality, perspectives, cultural beliefs and moral values (Chambers et al 2013). This position was a key influencing factor for my research. Reality of the women's experience is constructed through meaningful dialogue and interpretation in a specific context rather than empirical study alone (Baghramian and Carter 2015). Consequently, relativism offers the midwife researcher an opportunity to understand the perspectives of the woman by situating her experience within a wide range of physical, psychological, sociocultural, economic and geopolitical factors (Denzin and Lincoln 2011).

I sought to theorize that women may be influenced in their decision-making not only by their midwife's perception and attitude towards immunisation but also through their own prior experience and those of their peers and family members. Immunisation in pregnancy is a relatively new phenomenon in the UK. For example, I can recall early in my career as a midwife, advising women not to take any medication other than paracetamol in pregnancy. Culturally, women are influenced by their own prior experience of pregnancy and birth as well as the experience of peers and family members. This encouraged my desire to

understand what their experience of being offered the influenza vaccination in pregnancy was like, with the resultant study aiming to explore whether any potential barriers exist, what the motivators are and what the influencing or inhibiting factors could be. I subsequently chose a qualitative approach to answer my research question as it suggests that people's knowledge, views, understandings, interpretations, experience and interactions are meaningful properties of reality (Mason 2005) which my research question is designed to explore.

4.3.2 Epistemological position

Epistemology concerns the question of what should be regarded as acceptable knowledge in a specified discipline (Bryman 2012). Epistemological considerations can be described as positivist, realist or interpretivist (Neuman 2006). Interpretivism challenges the notion that the world is simply out there but asserts that it is different for each of us with words and events carrying different meanings in every case (Thomas 2017). Interpretivism is characterised by the ontological assumption that reality is complex, holistic and context dependent. Given that reality and human experiences are variable, multiple ways of knowing are valued to uncover the knowledge that is embedded in human experience (Kenney 2002). There was a need for me as the researcher to understand the experience of women in the context of being offered influenza vaccination in pregnancy. I considered the discussion of Kenney (2002) and Thomas (2017) and reflected on my own role as a woman in society, midwife and midwifery manager. There was a requirement to learn from the women's experience and use this information to further increase knowledge, as I did not know what barriers exist to improving seasonal influenza vaccine uptake rates in pregnancy. Through this process I was able to affirm that the epistemological position of interpretivism was aligned with my ontological position of relativism.

4.3.3 Paradigms

A paradigm is a basic set of beliefs that guide action (Guba 1990). Paradigms encompass the philosophical assumptions that guide the researcher's approach to enquiry (Polit and Beck 2012). While all researchers bring their own values to a study, qualitative researchers make their values known within the study (Creswell 2013). This form of research is largely associated with interpretivism, the researcher explores and seeks to understand the social world through their perspectives and those of the participants (Ritchie and Lewis 2006).

Midwifery research has seen the use of qualitative methodologies grow significantly over the past two decades and has gained popularity in recent years within nursing and midwifery research (Bradshaw 2017). These methodologies have enabled researchers to use participants' stories to represent an insight into the humanistic aspects of midwifery work

(Miles et al 2013). Returning to my ontological and epistemological positions, it was apparent that a qualitative approach to answering my research question was appropriate in exploring women's experience of being offered the seasonal influenza vaccination by their midwife. The data I wanted to collect would not be available in other forms such as a quantitative approach i.e., a survey. An important limitation of quantitative research is that positivism cannot account for how the social reality is shaped and maintained or how people interpret their actions or those of others (Blaikie 2007). It also fails to ascertain deeper underlying meanings and explanations (Rahman 2017). As described by Mason (2005), asking pregnant women for their accounts by talking to and listening to them was the only way to generate the kind of data required for this research.

Although I accept that a quantitative approach is of value in contributing to new knowledge, I do not believe that a quantitative analysis would provide an understanding of the women's experience and provide recognition of their culture, personal values and any social interactions which may have contributed to their reality. Furthermore, it was not my intention to make causal connections and a quantitative approach did not fit with my ontological and epistemological position. Neither did I wish to generalise the findings which is a position assumed by the positivist view that reality of the women's experience already exists (Crotty 1998, Denzin and Lincoln 2011).

4.4 Methodology

Methodological approaches are grounded in epistemological positions and should fully describe the research techniques used (Thomas and Hodges 2010). The training and values of the researcher cannot be ignored and form a component of the context of research methods in that they may influence the research area, questions and methods used for investigation (Bryman 2012). Silverman (2017) recognises that there are many different qualitative methodologies which Bryman (2012) asserts researchers should become familiar with to reduce the risk of becoming blinkered and restricted with regard to their knowledge base. In this section I discuss the rationale for methodologies considered but discounted and the chosen methodological approach of qualitative description.

4.4.1 Ethnography

Ethnography can be defined as a qualitative design in which the researcher describes and interprets the shared and learned patterns of values, beliefs and the language of a culture (Harris 1968). On embarking this research journey, I considered an ethnographic approach with participant observation to understand the culture studied (Seale et al 2007) with the aim of uncovering insights into how women and midwives behave and how they interacted with

each other. Placing emphasis on the midwife's behaviour in relation to their cultural and social environment, ethnography appeared to be a well-suited approach to my research question. However, the immunisation agenda was rapidly changing and I was concerned that being an observer in an area that I was professionally aligned to in a senior capacity, midwives would deliver care to women in a 'text book' fashion, or they may have told me what they felt I wanted to hear. I was anxious that I would not receive honest accounts. Parahoo (1997) argues that observers cannot adopt a detached role. I was concerned that I would not recognise certain patterns as I was so familiar with the environment and I would be unable to remain objective (Lipson 1984). An ethnographic approach would also not give me the in-depth insights into women's experience of being offered the vaccination that I was seeking. Returning to my own values, I reflected that the philosophy of midwifery encourages me to look holistically and care for women according to their individual needs. I was anxious that the voices of the women may not be heard and so for these reasons an ethnographic approach was discounted.

4.4.2 Grounded theory

An alternative approach considered was grounded theory. The purpose of grounded theory is to develop a theory emerging from the researcher's intimate association and manipulation of the data (Locke et al 2010). Its strength lies in allowing researchers to start afresh and not be influenced by current knowledge thereby opening up the possibility of new perspectives to old problems (Parahoo 1997). Having reflected on this approach, I acknowledged that I would find it difficult to set aside my own ideas as I was so entrenched in midwifery practice. As researcher I would need to set aside my notions and theoretical ideas (Creswell 2013). Researchers using this methodology do not start with a pre-existing theory, instead a theory is generated as the data is collected and analysed (Merriam 2009). When revisiting the research question, aim and objectives I reflected that generation of theory was not the intention and as such grounded theory would not have been the appropriate methodology to follow.

4.4.3 Phenomenology

I considered the use of phenomenology for this study. Phenomenological researchers are interested in understanding the essence of a phenomenon and what it means to those experiencing it (Polit and Beck 2012). Phenomenology has been described as being about an individual's lived experience (Parahoo 2014). It can be seen as a philosophical method for questioning to gain understanding (Van Manen, 2014). However, Crotty (1998) emphasises that phenomenology 'seeing' is not easy. The researcher must select purposively people who are equal and who are co-researchers, genuinely wanting to inquire

into their own experience of the phenomenon in order to elucidate the essential elements (McNamara, 2005). This approach may have resulted in the researcher making assumptions that the experience of women accepting or declining the vaccine had deeper, philosophical meaning and would be at risk over interpretation of findings as opposed to understanding the phenomena in its natural state and so was discounted.

4.4.4 Qualitative Descriptive Approach

Qualitative description is grounded in the general principles of naturalistic enquiry which Lincoln and Guba (1985) suggest deals with the concept of truth. Using an eclectic compilation of sampling, data collection and data analysis techniques, the researcher studies the phenomena in its natural state and does not attempt to manipulate or interfere with the ordinary unfolding of events, thus establishing a true understanding (Jiggins-Coloraffi and Evans 2016). A qualitative descriptive research methodology aims to provide a descriptive summary of the research organised in a way that best reflects the collected data (Sprague et al 2013). This approach explicitly presents the facts from the participant's point of view (Sandelowski 2000).

Qualitative description is amenable to health environment research because it provides factual responses to questions about how people feel concerning a particular space and factors used to facilitate or hinder it (Jiggins-Coloraffi and Evans 2016). In her seminal paper of 2000, Sandelowski argued that in contrast to other methodological approaches such as phenomenology, qualitative descriptive studies present the facts in everyday language. Researchers who conduct this approach stay closer to their data and to the surface of words and events with language being a vehicle of communication. Approaches such as phenomenology require the researcher to move further into or beyond the data as they demand reading into, between or over words and scenes (Sandelowski 2000). Qualitative description does not however remove the researcher's obligation to undertake any interpretation or analysis and data never speaks for itself (Sandelowski 2010). A descriptive, qualitative design is particularly important to obtain straight answers to questions of importance to healthcare professionals and policymakers (Sandelowski 2000). This contrasts with other qualitative approaches that aim to seek to understand (ethnography) develop theory or seek interpretive meaning of an experience (Neergaard et al 2009). Qualitative description research seeks to provide a rich description of the experience depicted in easily understood language (Sullivan-Bolyai et al 2006).

There are many examples where a qualitative descriptive analysis has been used within nursing and midwifery including studies by Waters et al (2012), Ohaja et al (2013), Hunter and Warren (2014), McDonald et al (2014), Ong et al (2014), Poh et al (2014), Wuytack et al

(2015), Abdul Mumin (2016), Kelleher et al (2016) (Appendix three). Using qualitative description as a methodology, I sought to discover the perspectives of the women involved (Caelli et al 2003), therefore offering an opportunity to gather rich descriptions about a phenomenon little may be known about. It does not require the researcher to move as far from the data and it does not require a highly abstract rendering of data compared with other qualitative designs (Lambert and Lambert 2012). For these reasons, I considered the use of qualitative descriptive analysis was justified to answer my research question having considered my own ontological and epistemological positions. I will now discuss the research methods used to guide the research process.

4.5 Research methods

Research methods are sets of specific techniques for selecting cases, measuring and observing aspects of social life, gathering and refining data, analysing the data and reporting on results (Neuman 2006). They comprise the procedural steps for data collection and data analysis (Brewer 2000). Without careful choice of methods, the research question will not be answered and the aim and objectives of the study will not be met (Carter and Little 2007).

4.6 Sample and recruitment to the study

With regards to the characteristics of the sample, it is vital to ensure they represent the population appropriate to the topic (Cluett and Bluff 2007). The researcher should have a strategic purpose in selecting a specific, relevant range, the relationship between the sample and the wider universe must not be ad hoc, opportunistic or accidental (Mason 2018). From this perspective, all pregnant women had the potential to be included in the study, however it is important to recognise the sources which were available and could practically be used for the purpose of the study.

4.6.1 Setting the scene

The study was carried out within five geographical boroughs which made up a large University Health Board in South Wales. The Health Board comprises two district general hospitals, which between them provide antenatal services, obstetric led intrapartum care, two alongside midwifery units within the hospital setting and two freestanding midwifery units for approximately 5,600 births per year. The University Health Board has a culturally diverse population of 595,000 people including an urban inner-city population (with a BAME population of 13.9%), rural farming communities, areas of affluence, traditional mining communities, areas of high socio-economic deprivation and marginalised groups of society such as members of the traveller communities, asylum seekers and the pregnant homeless

population (overall BAME population within the Health Board = 4.76%) (Welsh Government 2021).

Each of the boroughs provides antenatal care to women receiving midwife and obstetric led care within a community and hospital antenatal clinic setting. The local procedure for influenza vaccinations within the maternity service across all sites within the Health Board at the time was that midwives discussed the vaccine with women, informed them of the risks and benefits of having the seasonal influenza vaccination and signposted them to their primary care provider where the vaccination would be given by the general practitioner or practice nurse. As previously identified in chapter one, midwives do not routinely vaccinate pregnant women as funding and resource for immunisation programmes flows to primary care services. This practice was consistent across all areas of the Health Board.

4.6.2 Sampling strategy

In qualitative research, sampling aims to ensure that the chosen sample is typical of a larger population and is not about statistical representation or random selection (Ritchie et al 2003). My intention was not to generalise findings and consequently there was no requirement to seek large numbers of participants (Paley 2005, Steen and Roberts 2011). I had intended to use purposive sampling as a strategy. As a researcher, I was interested in the range of experience encountered in the hope that I would obtain as complete an understanding of the phenomenon as possible, acknowledging that the women's experience may vary in terms of geographical location, ethnicity, age, or social class (Parahoo 1997).

Purposeful sampling is a useful approach for allowing researchers to explore unique and common manifestations across a wide range of demographically varied cases (Sandelowski 1995). As the University Health Board from which the sample was drawn is large and diverse, it was hoped that securing a small but purposive sample in this context would result in data collection and analysis yielding high quality, detailed descriptions of the case (Patton 1990). Due to challenges with recruitment however, as outlined in section 4.6.4 below I made the decision to amend my strategy from purposive to convenience sampling with strict inclusion and exclusion criteria. Working full-time and undertaking the research alongside my role I was concerned about time constraints and challenges experienced, I reflected that convenience sampling was a more feasible strategy. I acknowledge however that convenience sampling could be perceived as lacking intellectual credibility (Marshall 1996) and that it has been identified as the least rigorous and justifiable sampling method (Sandelowski 1995). The sample were accessible to myself as researcher (Patton 2002) within the antenatal clinic setting and participants were notably approached as they were

presenting for their antenatal care within the hospital environment. I have reflected on these challenges within chapter five.

Sandelowski (2000) does not comment upon sample size. If the purpose of qualitative study is to explore experience, Brinkmann and Kvale (2015) suggest that one participant is sufficient. At the beginning of the study, the aim was to recruit at least one participant from each borough in attempt to reflect the geographical diversity (Boroughs 1,2 and 5 were areas of sociodemographic deprivation in traditional mining communities, Borough 3 was an area of urban, built-up populations with increased numbers of BAME communities, asylum seekers, travelling communities and homeless populations, Borough 4 was rural and affluent. I also returned to my research objectives which were to explore whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine and to identify whether women's experience differs according to their geographical location, therefore providing further rationale to continue with recruitment across all sites within the Health Board. My aim was not to explore differences within general practice settings, age, or educational attainment. Recruiting at least one participant from each area would provide sufficient insight into the phenomena while still being manageable for a single researcher to handle. Robinson (2014) asserts that the practical reality of research is that most studies require a provisional decision on sample size at initial design phase, without which the duration and resource allocation of the project cannot be ascertained. However, a priori sample specification does not imply inflexibility and an approximate sample range can be provided with a minimum and maximum.

4.6.3 Sample

I made the decision early on in the study to recruit pregnant women and not those who had recently given birth. The rationale for doing so was as follows:

1 There is greater antenatal contact between the midwife and women who are receiving scheduled antenatal appointments. This meant that the participants were easier to identify and follow up if necessary.

2 As the vaccination was being offered during pregnancy, women were likely to have experienced the phenomena more recently and would possibly have a more accurate recollection than if they were interviewed during the postnatal period at which point their time and commitment would be focused on their new-born.

3 Postnatal women are busy. I would have needed to consider the ethics around participant burden, lone working, and home visits. Contact with women at this

time may have been difficult as they settle into family life and their recollection of discussions within the antenatal period dissipates.

For these reasons, recruitment to the study was drawn from the pregnant population of women who were deemed to have capacity to consent and who had an ongoing confirmed, viable pregnancy of ≥24 weeks gestation:

Inclusion and Exclusion Criteria	
Inclusion	**Exclusion**
≥24 weeks gestation	<24 weeks gestation
Women who had the ability to communicate in English or Welsh	Women who were a hospital in-patient at the time of the study
Women receiving either midwife led or obstetric led care at any of the five geographical boroughs within the Health Board	Postpartum women

Included in the study were women receiving antenatal care regardless of whether they were deemed to be low risk midwifery led or receiving obstetric led care. Women with or without any underlying co-morbidities were included. To satisfy the requirements of Welsh Language Measures (2011), an interpreter was made available in the event that women chose to conduct their interviews in Welsh. The rationale for exclusion of women who were unable to communicate in English (or Welsh) was that there was no funding available to procure additional interpretation services.

4.6.4 Recruitment to the study

I gave careful consideration to how recruitment should be undertaken. I decided that I would need to access potential participants within an antenatal setting. NHS research ethical approval was received at the end of the influenza season (which is typically December to March) in May 2016 (Appendix 4). This coincided with starting recruitment in late summer and continuing into the following Autumn when the subsequent influenza vaccination programme was underway.

Before recruitment of participants began, I made appointments and met with the antenatal clinic midwives at each of the hospital sites as well as the community midwifery team leaders in each borough to introduce myself, discuss the purpose of the study and to explain the paperwork. As the study had already gained Health Board Research and Development approval, the Head of Midwifery and Director of Nursing were aware of the

study, happy to provide support and provide contact details for midwives working within antenatal clinics across all areas of the Health Board (Appendices 5 & 6). Each midwife was provided with a participant information sheet, informed consent form, interview schedule, proposed questions, and a copy of the research proposal (Appendices 7-10).

Following initial discussions, I returned to each area and repeated the process with midwives providing antenatal care within either the midwife led or the obstetric led setting which helped build rapport and support within the clinical setting for recruitment to begin. Women who met the inclusion criteria were initially approached and informed of the study following their antenatal clinic appointment by the midwife caring for them and provided with a participant information leaflet. After being offered opportunity to find out more and possibly participate, women who were interested provided their contact details to the antenatal clinic midwife. I then contacted the women via telephone to discuss potential recruitment to the study and agree a mutually convenient time and place for the interview to be carried out.

This approach to recruitment did not go well initially. Despite arranging a mutually agreeable time and date, three of four potential participants did not return to meet with me for their interview as previously arranged. I subsequently made a follow up telephone call and email but they did not return my messages. I reflected on this and was concerned that as pregnant women were often busy with other children or at work, I would need to adapt my approach to recruitment. Not hearing from potential participants, I assumed they did not wish to proceed with the study and so chose not to pursue them any further. I then returned to the antenatal clinic settings to discuss my challenges with the midwives and as a result, negotiated my attendance at antenatal clinics within each Borough on nominated days where women who met the inclusion criteria were scheduled to attend. I reflected on other approaches that could be utilised, however interviewing pregnant women within their home, a primary care or voluntary sector facility would have been outside the remit of the study and additional ethical approval would have been required to enter such establishments.

I subsequently returned to the antenatal clinics as agreed. Potential participants were approached by the antenatal clinic midwife on their arrival, provided with information about the study and a participation information leaflet. Following completion of the women's antenatal assessment, the midwife again discussed the study and offered women an opportunity to meet with me as the researcher.

Potential participants were introduced by the midwife to me as researcher and the women were provided with further explanation of the study requirements, frequently

asked questions and a copy of the consent form (Appendices 7-9). Participants were made aware of the full aims of the research as well as potential benefits, risks, or harms and that they were giving consent to the study voluntarily without coercion or undue reward incentive (RCN 2009). Prospective research participants have the right to decide voluntarily whether to participate without risk of penalty. They have the right to ask questions, give information and withdraw at any time (Ryen 2004, Polit and Beck 2018) and so this was further discussed and reiterated prior to gaining consent.

Research participants were assured from the outset that their anonymity and confidentiality would be maintained. Anonymity and confidentiality were addressed within the participation information leaflet and were reiterated again verbally prior to commencement of the interview. Participants were informed that my plan was to disseminate the study findings and submit for publication. Careful consideration was given to maintaining confidentiality as there were only twelve participants, meaning the potential for each to be identified was greater (Baker 2006). I ensured the right to fair treatment and afforded those participants who wished to decline participation or withdraw from the study at any time the same treatment with utmost respect and sensitivity (Polit and Beck 2018).

Following their antenatal clinic assessment, the women who chose to participate were further offered a mutually agreeable time, date, and location to return for their interview. What transpired was that following physical introductions and meeting me as the researcher, the participants were happy to continue that day and happy to be interviewed within the vicinity of the antenatal clinic. Some of the women chose to return later the same afternoon following lunch or collecting children from school, other participants made the decision to continue immediately following their antenatal consultation I have reflected on these challenges within chapter five.

Gaining informed consent is essential to safeguard participants (Polit and Beck 2012) and is central to ethical practice being obtained before recruiting any participant into a research study. Through conversations with individual participants, I made sure that they were aware of the full aims of the research as well as potential benefits, risks or harms and sought their consent voluntarily without coercion or undue reward or incentive (RCN 2009). Time was allowed for each participant to consider their involvement and all were encouraged to ask questions. Once the potential participant had made a fully informed decision and given their consent, they were asked to sign a consent form (Fedor et al 2006).

4.7 Data collection

Qualitative data can take a range of forms (Mason 2018) including interviews, participant observation and focus groups (Holliday 2007). Sandelowski (2000) considers that the aim of a qualitative descriptive study is to uncover the where, what and who of an experience and recognises that although focus groups and observation may be used, semi-structured interviews are usually the method of choice.

Interviews are the most widely employed data collection method in qualitative research (Bryman 2012, Mason 2018). Spoken accounts of experiences need to be analysed in terms of the cultural responses people use to construct them, the kinds of interpersonal functions they fulfil and the socially distributed forms that they take (Atkinson et al 2003). Interviews provide the ability to access directly what happens in the world, examining what people actually say they do (Silverman 2011).

I discounted participant observation as this is the method closely aligned to an ethnographic approach as discussed in section 4.4.1 above. Focus groups were considered but discounted as I recognised that pregnant women have busy lives with children, work and family commitments and may be challenging to arrange given the demands on women's time. I was also concerned that the presence of other pregnant women could inhibit quieter individuals and influence the way a judgment is formulated or an answer given, thus pushing participants to express more socially desirable and stereotypical answers (Acocella 2012). My rationale for using a semi-structured interview as a method was also determined during reflections of my ontological and epistemological position. Referring to Mason's (2018) description, semi-structured interviewing was chosen as the data collection tool of choice for the following reasons:

1 My ontological position suggests that people's experiences are meaningful properties of the social reality that my research question was designed to explore.
2 My epistemological position allows that a meaningful way to generate data on these ontological properties is through talking to and interacting with women, listening to them and seeing them as witnesses in the world (Mason 2018).

4.7.1 Semi-structured interviews

Data were subsequently collected using semi-structured one to one interviews with all participants. The interview process should be a series of friendly conversations wherein the researcher introduces new elements to help guide the participants responses. The tool of data collection for semi-structured interviews is an interview guide (Parahoo 2014). Having an interview guide at hand enables interviewees to reply freely and the researcher to probe

further for more detail if further clarification is needed (Flick 2015). Probing questions help manage the conversation and supports the researcher to ask for examples of clarification (Rubin and Rubin 2005).

Questions within the interview guide were developed to enable participants to provide a response which was related to the overall study aim (Holloway and Wheeler 2010). My intention was not to follow a directed rigid format (Dahlberg and McCraig (2010) but having an interview guide helped steer the conversation using prompts and allowing opportunity for more probing questions to elicit more depth to the participants' responses (Appendix 10). Having prepared questions allowed for open ended conversations such as 'tell me why', 'explain what you understand by that' to glean independent thoughts of each participant (Adams 2015). Use of a reflexive journal helped support my note taking during interviews.

A quiet room away from the general 'hustle and bustle' of where the main antenatal clinic activity was taking place within each geographical setting was identified for the interviews to take place to minimise disruption. The antenatal clinic environment was used as it was familiar to patients whereas other sites or areas of the hospital may have been unfamiliar to them, thus potentially heightening their anxiety and possibly hindering the interview environment further. Rooms and capacity for the purpose of interview within other areas of the hospital sites would also have needed to be booked some weeks in advance. I also considered that interviews being carried out within the hospital setting could be perceived as heightening the power relationship between the women and myself as the researcher. I had given this due consideration throughout recruitment and data collection, particularly given the initial challenges with recruitment. An alternative approach such as interviewing women in their own homes would have required renewed ethical approval, travel time, expense and lone worker arrangements. What transpired was that the women appeared comfortable to continue within the antenatal clinic environment. Quiet rooms were available with physical barriers removed in order to minimise such power dynamics. My dress code was casual throughout as I did not wish to appear to dress formally which may in turn have produced an air of authority and power imbalance. Staff working within the clinic were made aware that interviews would be taking place and a 'do not disturb, meeting in progress' sign was hung on the door at the beginning of every interview. Telephones were switched to silent to minimise distraction and ensure the environment was conducive to audio recording.

On the participants return and prior to any interviews being commenced, further introductions were made to establish rapport with the women and develop a connection built on mutual trust, respect and ongoing consent. I reiterated the information within the participation information leaflet that I was a midwife by background but meeting with them as

researcher on that occasion, being sensitive to any potential power relations (Prior 2018). I recognised that as a researcher, the study was being undertaken 'with' participants not 'on' them (Kvale and Brinkmann 2009, Gubrium et al 2012). Each room was laid out to support open non-verbal communication with desks and tables being removed as physical barriers from the interview area.

Interviews began by thanking the participants for supporting the study and offering their time and insight into their experience. They were informed that the anticipated length of interview would be approximately 30-45 minutes as too long a period could prompt refusal (Adams 2015) and I was appreciative that the participants had spent time at the clinic already that day. Before the interviews began, the participants were again informed that their anonymity and confidentiality would be maintained, that the study was voluntary and that they could withdraw at any time without penalty.

My plans to disseminate and publish the study findings were also shared with participants. Throughout these conversations, I sought to ensure that the participants were aware of the full aim of the research as well as potential benefits, risks or harms and sought their consent voluntarily without coercion, undue reward, or incentive (RCN 2009). Time was allowed for each participant to consider their involvement and ask any further questions to ensure process consent. Once the women had made a fully informed decision and agreed to participate, they were asked to sign a consent form (Appendix 8).

Written consent was obtained from each participant along with permission for their interviews to be digitally audio recorded. Recording the interview has three clear advantages in that they are a public record, they can be replayed to improve transcripts and the sequence of talk is preserved allowing interviews to be transcribed verbatim. This ensured that all participants' viewpoints were accurately reflected (Silverman 2011).

Forming relationships with women is fundamental to the role of the midwife. Having acquired such skill over many years in clinical practice supported my role as researcher to form a relationship with each participant. I was conscious not to jump into the conversation too quickly, listening to hear the content of what the participant was saying and taking care not to fill silences (Adams 2010). Using non-verbal communication such as open posture and maintaining eye contact helped support a light and easy tone to the conversation which was not rushed. Brinkmann and Kvale (2015) argued that positive feelings of respect and curiosity in a reciprocal process leads to deeper understanding of the topic and generation of richer data for analysis. The anticipated length of interview was 30-45 minutes but ranged from eight to 21 minutes, the brevity of which is discussed further in chapter five. On

conclusion of the interview, the participants were offered sincere thanks for their time, the information they offered and for answering all questions honestly and sincerely.

4.8 Data analysis

Qualitative analysis transforms data into findings with no right way of undertaking the analytical process (Lathlean 2010) and no existing recipe for that transformation which is unique for every inquirer (Patton 2002). According to Endacott (2008), a central tenet of qualitative research is early data analysis whilst data collection continues.

I made a conscious decision to transcribe the interviews myself so that I could become immersed in the participants' words and continually reflect on them, examining their reaction to each question. According to Chafe (1995), a researcher cannot fully understand data unless one has been involved from the beginning. Whilst time consuming, detailed transcripts of the whole interview including my questions allowed me to inspect sequences of dialogue which included hesitancies and other nuances (Silverman 2014). The interviews were transcribed soon after they had taken place, which forced me to pay attention to what the interviewees were saying and helped me prepare for subsequent interview sessions (Rubin and Rubin 2005). Reading the transcripts several times ensured that sections or ideas from the transcripts were not neglected during data analysis (Schmidt 2004).

The transcripts included events that interrupted the interviews such as external traffic and members of staff inadvertently walking into the room (Rubin and Rubin 2005). Stalling words such as 'um' and 'ah' were included and words were spelt as they were pronounced. Silences, pauses and hesitations were identified in brackets along with any laughter which influenced interpretation and analysis. Through this method of self-transcription, I was able to note and recall the participants' body language and other important physical gestures such as 'shrugs' of the shoulders (Rubin and Rubin 2005). I took notes during the interviews and tried to ensure that the transcripts accurately reflected the entire interview experience. The data were checked and re-checked whilst simultaneously listening to the audio recordings.

Analysis began early on as I transcribed the interviews and refined the transcripts to make sure they were accurately reflected. I began with rough transcriptions as a first draft of the entire interview, putting words and other striking features of the conversation on paper and then going back and re-transcribing for more detailed analysis (Reissman 2002). Based on this ongoing analytical process, the questions were refined and further enquiries were established to pursue emerging ideas. All interviews were then examined together to pull out

coherent and consistent descriptions, themes and theories that would help to answer the research question (Rubin and Rubin 2005).

Sandelowski (2000) advocates the use of content analysis as the analytical strategy of choice in qualitative descriptive studies. It is a method based on using categories derived from theoretical models and aims to classify the context of texts by allocating statements, sentences, or words to a system of categories (Flick 2015). In contrast, Auerbach and Silverstein (2003) suggest that there are no universal rules or a single right way for analysing qualitative data; nonetheless, the analyst must be proficient in discerning patterns and weaving them together in an integrated way. Sixteen of the peer-reviewed articles within nursing and midwifery practice obtained and reviewed for this study utilised a qualitative descriptive approach, thus supporting the decision to use either content or thematic analysis (Appendix 3). Of the 16, four used content analysis, ten used thematic analysis, one open coding and one was described as qualitative descriptive analysis.

Miles et al (2014) suggest that both content and thematic analysis are often erroneously used interchangeably due to the various similarities, for instance searching for patterns and themes (Vaismoradi et al 2013). Braun and Clarke (2013) suggest that our ways of knowing in the world are tied to what we know of it and what we know of ourselves, while other objects in the world are constructed through the various discourses and systems of meaning we all reside within. The constructivist philosophical perspective is more closely aligned with thematic analysis (Vaismoradi et al 2013), which also serves as a useful tool to illuminate the process of social construction (Joffe 2012).

Following a review of previous qualitative descriptive studies that have successfully used thematic analysis, I justified my decision to use thematic analysis as the method for data analysis. It is however important to remember that whichever method is chosen, the use of a named framework for data analysis which is carefully described is vital to demonstrate the rigour of the study (Bradshaw et al 2017). Thematic analysis is well suited to investigating under-researched areas. Other reasons for selecting this approach include its flexibility in terms of theoretical framework, research questions, methods of data collection and sample size (Braun and Clarke 2006). The approach chosen for analysis was that of Braun and Clarke's (2006) six-phase approach. The aim of thematic analysis is not only to summarise data content but to identify and interpret key themes; it can be used to identify patterns across data in relation to the participants' experience, views, behaviours, perspectives and practices in order to better understand what they think, feel and do (Braun and Clarke 2017). Thematic analysis has in-built quality procedures such as a two-stage review process where

candidate themes are reviewed against the coded data as well as the entire dataset (Braun and Clarke 2017).

Figure 5: Six phases of thematic analysis (Braun and Clarke 2017)

No	Phase	Description of the Process
1	Familiarisation of the data	Transcribing data, reading and re-reading the data, noting initial ideas
2	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire dataset, collating data relevant to each code
3	Searching for themes	Collating codes into potential themes, gathering all relevant data for each potential theme
4	Reviewing the themes	Checking that the themes work in relation to the coded extracts (Level 1) and the entire dataset (Level 2), generating a thematic map of analysis
5	Defining and naming themes	Ongoing analysis to refine the specifics of each theme and the overall story the analysis tells; generating clear definitions and themes for each theme
6	Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis

As the decision was made to transcribe the data following each interview, phase one of Braun and Clarke's (2006) framework for thematic analysis had been achieved as I had listened to each interview repeatedly during the transcription process. Once I was content that I had accurately captured the participants' words, all twelve fully transcribed anonymised interviews were printed. I employed a primarily inductive approach to thematic analysis, where codes and themes were developed from the data content (Braun and Clarke 2006, Braun et al 2013). All raw material was archived to provide an audit trail and benchmark against, which later data analysis and interpretation could be tested for accuracy (Nowell et al 2017). Throughout phase one, I retained and made notes about potential ideas for coding that were returned to in subsequent phases to be reflexive (Lincoln and Guba 1985).

Following phase one, I began the task of developing initial codes from the ideas and detail of importance within the transcripts. Miles and Huberman (2014) describe a code as a tag or label for assigning units of meaning to the inferential or descriptive information compiled during a study. Coding allows the researcher to simplify and focus on specific data characteristics (Nowell et al 2017). Building on my preliminary notes, reflexive diary and transcription, the entire dataset was given close and full attention so that full consideration could be given to any repeated patterns. Sections of text were coded as many times as I saw relevant, with full and equal attention given to each data item during a systematic assessment of the dataset (Braun and Clarke 2006).

The original intention was to use the computer software tool NVivo, but unfortunately this was not available at the time. Despite my initial disappointment I found manual coding to be very productive, reflecting Patton's (2015) view that seeing the data in a concrete form is vital in recognising emerging themes. Using Post-it notes, highlighters and writing notes on the interview transcripts helped me identify all segments of data (Braun and Clarke 2006). These segments were labelled and grouped by category and subsequently examined and compared both within and between categories as described by Flick (2014). Once the initial coding was complete, I moved to phase three where codes were written on paper and placed into theme piles (Braun and Clarke 2006). Identified codes that were found to be relevant to the research question were incorporated into themes. I then developed an initial thematic map, which Braun and Clarke (2013) argue is a useful aid for explaining the relationships and helping to visualise themes, sub-themes and overarching themes.

I physically reduced the entire dataset through deconstruction of paragraphs and sentences using scissors, blu-tac, sticky tape and coloured post it notes. These were then coded and built back up into themes. Any themes that did not have sufficient data to support them were discarded. After finishing this task, I completed phase four, reviewing candidate themes and collating together all the data extracts relevant to each theme; subsequently, I reviewed and reflected on my thematic map. Following discussion with my supervisors, the themes were refined and I was content that they revealed a story which could be told through my chosen theoretical framework. Phase five will be discussed in chapter six.

4.9 Ethical considerations

Ethical considerations for the study were guided by the biomedical ethical principles developed by Beauchamp and Childress (2013) of autonomy, beneficence, non-maleficence and justice. According to Beauchamp and Childress (2009), being both a researcher and clinician has the potential to create a conflict of obligation and interest. As an investigator the clinician acts to generate new scientific knowledge to benefit patients and populations, yet as

a clinician there is great responsibility to act in the best interest of individual patients. I was aware that I needed to acknowledge that such potential for conflict of interest and bias existed as a midwife, manager and researcher within the field being studied. To overcome such complexities, Steen and Roberts (2011) recommend that reflexivity, which involves acknowledgement from researchers of their personal bias and the need to be self-aware, is integral to qualitative research. My reflexive journey as a researcher is discussed in chapter five. There must be recognition by the researcher of the influence they may have over the participants and how much their own beliefs may affect the study. Baker (2006) advocates the use of a research diary, which I kept to reflect and ensure an ongoing process of reflexivity.

Anonymity, confidentiality and the participants' well-being were a priority throughout the study. Anonymity and confidentiality are crucial elements of ethical research (NHS Health Research Authority 2015). The identity of those taking part should not be evident to those not known outside of the research team. Every effort was taken to protect participant identities by using pseudonyms which were included within the transcripts. The method of gaining informed consent has been discussed in section 4.6.4 recruitment to the study.

Pregnancy is an emotive time and the participants' well-being was paramount throughout the study. Although the topic does not lend itself to being associated with trauma, I had considered that participants could become distressed during the interview, for example if they had experienced loss or suffering from influenza or adverse event arising from prior vaccination experience. I therefore acknowledged that should a participant become distressed, consideration would be given to continue, or terminate the interview. If this had occurred, a further opportunity would be provided for the participant to withdraw from the study to ensure ongoing process consent. Signpost and referral to the most relevant clinician was also considered and made available to ensure women receive timely and appropriate support.

Ethical research projects require that participants are protected from harm (Moule and Goodman 2014). The principles underpinning this includes beneficence where the risk of harm must be minimised. The researcher must make sure that the sum of any potential benefit and the importance of knowledge gained should outweigh the risk of harm to participants (Ritchie and Lewis 2003). In the event that during the interview process, I identified poor or unsafe practice, escalation of concerns to the senior midwife in charge of the clinical area and / or the Head of Midwifery would have occurred. As a researcher and registrant, I am an autonomous, accountable professional with a responsibility to ensure that

I always act in the best interest of other people, immediately putting right the situation if someone has suffered actual or potential harm arising from an incident (NMC 2018).

4.10 Storage of data

The Data Protection Act (1988) emphasises that researchers are responsible for ensuring compliance with the Act. The RCN guidance (2009) supports the researcher in setting out principles for data storage governance; accordingly, confidential data was stored in a locked cabined with authorised access only and will be kept for no less than five years in accordance with Cardiff University's storage of records and governance framework (2010). Data storage principles were made available to research participants through the participant information leaflet to provide reassurance that any confidential information relevant to them was safely secured. Secure, password protected electronic records were managed through storage within Cardiff University. Using a system of centralised filing, folders were developed for emails and data allocated according to theme. Recordings were erased from the digital recording device as soon as they had been electronically saved. Following completion of the study, project records were stored within Cardiff University in accordance with information governance and compliance procedures.

4.11 Ethical approval

Governance frameworks require all research involving patients, service users, care professionals or volunteers to be reviewed independently to ensure that it meets ethical standards (Welsh Government 2009). The process of submitting the research proposal for ethical consideration and approval was guided by Cardiff University's Research Governance Framework (2010), the Welsh Government's Research Governance Framework for Health and Social Care in Wales (2009), the Data Protection Act (1988), the Human Tissue Act (2004) and the NHS Ethics Committee (NRES) as approval was required due to the study involving human participants and access to participants via the NHS.

Cardiff University Research Ethics were sought and approved via the School of Health Care Sciences. Cardiff University requires any research involving human participants, material or data to be reviewed according to the relevant School Research Ethics Committee (SREC). Such committees have a monitoring and educational role, aiming to help improve the quality of the research as well as provide the researcher with confidence that the proposal has given due consideration to all potential risks (Cardiff University 2013).

Application for ethical approval was made by registering the study with the Integrated Research Application System (IRAS) via www.myresearchproject.org.uk. NHS ethical approval was obtained via proportionate review (Appendix 4). Using this system as a support

mechanism, the study was also submitted to the local NHS Research and Development office in which the study was carried out. Comprehensive documentation in relation to the study was produced to accompany the proposal submission as identified below.

This documentation included a covering letter to the Head of Midwifery and Nurse Director for the Health Board in which the study was carried out (Appendix 5). According to Bryman (2012), gaining access is usually mediated by gatekeepers who may be concerned about the researcher's motives, what the organisation can gain, or what it could lose by participating in the research in terms of staff time and other costs including potential risks to its image. As the study had already gained Health Board approval, the Head of Midwifery and Director of Nursing were aware of the study and happy to provide support (Appendix 6). A participation information sheet, informed consent form, interview schedule and proposed questions also accompanied the research proposal (Appendices 7-10).

4.12 Summary

This chapter has considered the research methodology and methods used for the study. The chapter has discussed the emergence of the research question, aim and objectives by situating myself as researcher and others within the study. The ontological and epistemological position used to guide this research has also been examined. Chapter four has also discussed the research design process, methods used, ethical approval and considerations. Chapter five will discuss the reflexivity demonstrated throughout the research process.

Chapter 5: Reflexivity

5.1 Introduction

In chapter four I discussed the research methodology and methods used to guide the study process. Chapter five explores the reflexive journey I have undertaken as a researcher and the approach I took to qualitative research. This chapter also considers how maintaining reflexivity supported me as the research instrument to maintain awareness of my own potential bias. Chapter five concludes with recommendations for researchers undertaking this type of research in the future.

5.2 Reflexivity

Reflexivity has been established as one of the ways qualitative researchers should ensure rigour and quality in their work and is the gold standard for delivering trustworthiness (Teh and Lek 2018). It is about giving as full and honest account of the research process as possible, explicating the position of the researcher in relation to the research (Reay 2007). Berger (2015) argues that reflexivity helps identify and explain potential or actual effect of personal, contextual or circumstantial aspects on the process and findings of the study and maintain their awareness of themselves as part of the world under investigation (Berger 2015). It is the conscious revelation of the underlying beliefs and values held by the researcher in selecting and justifying their methodological approach (Shacklock and Smyth 1998) and is essential because our own position may not always be clear to us, being sometimes unaware of our own prejudices and relationships within our cultural contexts and settings (Verdonk 2015). It is therefore fundamental that I acknowledge and situate myself as researcher in this context to provide transparency about my position as a midwife, woman, mother and researcher. Such transparency and acknowledgement of potential biases and assumptions is vital in judging accounts of qualitative research, credibility and authenticity of the findings (Reid et al 2018).

5.3 Situating myself as the researcher

Because the researcher is the instrument in qualitative research, the study should include information about the researcher such as experience, personal connections and prior knowledge (Patton 2002). In order to support the study's credibility, self-awareness regarding the role of the researcher is paramount. Credibility is enhanced where the researcher interprets their own experience (Koch 2006).

I qualified as a registered adult nurse in 1995 and soon embarked on a post-registration eighteen-month programme of study to become a registered midwife. Being aware of the

1992 House of Commons Report on the future of maternity services in the UK (Winterton Report), I was keen to be part of the emerging transformation agenda. Helping to re-shape maternity services by placing the midwife as the central care provider for pregnant women, I was excited to be part of a new era of continuity of care, supporting women to have control over their maternity care decisions and increased choice when choosing place of birth (House of Commons 1992, Department of Health 1994).

As a registered midwife providing an integrated model of midwifery care, I worked in an area of high socio-economic deprivation. It was apparent to me that women's overall poor physical and emotional health and well-being limited their choice of place of birth with multi-morbidity often leading to poor birth outcomes such as small for gestational age babies or stillbirth. The women within my caseload required obstetric led care and as such their recommended place of birth was within a high-risk obstetric led delivery suite. This experience ignited my interest in public health and a desire to work with women to improve their own health and that of their baby. I had interests in substance misuse, smoking cessation, domestic violence and infectious diseases in pregnancy. Influenza disease at this time was not considered as a public health issue until the 2009 A/H1N1 pandemic and the devastating impact of this, as identified in chapter one where I have outlined my rationale for undertaking this study.

As a woman with a family and having been fortunate to be in good health for both of my pregnancies, I was both personally and professionally distressed to learn that women were dying as a consequence of influenza. Prior to the pandemic, I had never witnessed morbidity or mortality from influenza disease amongst my family, peers or colleagues. My own preconceived notion of influenza was that flu was not fatal. The pandemic brought new perspective and stark focus. It is therefore important that I situate myself as researcher in this context as it enables a better understanding of how my own beliefs, values and decisions made may be influenced by my own experience.

Having subsequently progressed into a more senior leadership and management position, I realised that whilst I was no longer in a position to make a difference by providing frontline care, I could contribute and influence at a more strategic level, influencing national and organisational policy through research and development. Consequently, having considered that influenza vaccination in pregnancy was something new to maternity care in Wales and an area I wished to study, I was supported by my employer to embark on a professional doctorate programme. I selected this route rather than a PhD as I intended to continue in an operational nursing and midwifery role as opposed to a purely academic career pathway. As

a researcher I felt my knowledge and clinical experience would add to the findings of the study.

5.4 Situating the others

Whilst I have experience of being pregnant and receiving antenatal care, this was at a time long before vaccinations were offered in pregnancy and I have not personally experienced having to make the decision whether to have a vaccination whilst pregnant. Neither have I personally experienced loss, harm or suffering from the consequence of influenza disease and cannot envisage what it must be like for families who have experienced this. Gaps in the literature identified a need for this study; although midwifery continuity of care and recommendations from a healthcare professional are known to have a positive impact on women's care decisions (RCM 2020), little is known about why women make decisions to have the influenza vaccination or not and why uptake rates during each influenza season fall short of the Welsh Government target of 75% for pregnant women. I was therefore in a privileged position to have access to this time in the women's lives and seek an opportunity to learn more about the decisions they made. Without the women who took part in this study, further contribution to new knowledge would not have been possible.

5.5 Reflections on the environment

The study was carried out in South Wales. Traditional mining communities made up much of the geography which has a population catchment of over half a million people. The women who consented to participate in my study were typically white, Welsh women. Having grown up and worked in such a community, I was able to identify both personally and professionally with the backgrounds of the women in the study. According to Denscombe (2014), the researcher's relationship may affect how they approach the setting. By clearly describing the contextual intersecting relationships (race, socio-economic status, age, cultural background) between the participant and the researcher, it increases credibility of the findings (Berger 2015), I have provided details of the women's demographics in chapter six.

To establish my identity as a researcher, I chose to conduct this study in a Health Board where I was not employed and had not worked as a clinical midwife. I did this to reduce some of the potential limitations of conducting insider research. Insider / outsider status is the degree to which a researcher is located within or outside the group being researched because of his or her common experience or status as a member of that group (Gair 2012). Drake (2010) suggests that having an insider position of familiarity carries the risk of blurring boundaries and so I reflected that it was possible for me to impose my own beliefs and perceptions. According to Papadopolous and Lees (2002), having in-depth knowledge and

understanding of the political and sociocultural dynamics of the research setting poses a risk of the researcher imposing their own patterns of behaviour, values and beliefs on the cultural settings and participants within the study and could potentially lead to invalid data being collected and wrong findings being made. I was aware that it would not be entirely possible for me to be either insider or outsider due to having grown up in a similar culture, having experience of pregnancy and being a midwife. Conversely having never experienced a vaccination in pregnancy, or personally experiencing influenza disease, I could be considered an outsider for this investigation. I therefore reflected on the distance needed to undertake objective analysis and to provide balance with my familiarity of the subject.

5.6 Acknowledging potential bias

Researcher bias can be defined as a systematic source of error that could favour particular kinds of results which may be generated through the research process such as asking leading questions or favouring results in line with pre-judgements, political or ideological persuasions (Hammersley and Gomm 1997). From an early stage of my research, I was conscious that I may be challenged to maintain the position of an objective researcher due to my professional background as a midwife. Being both researcher and clinician has the potential to create conflict of obligation and interest. As investigator, the clinician generates new knowledge in order to benefit patients and populations, yet as a clinician there is a great responsibility to act in the best interest of individual patients (Beauchamp and Childress 2009). I was acutely aware throughout the study of my potential biases and power dynamics as researcher and midwife. As a researcher, my position was one of experience and knowledge of vaccination in pregnancy and as such I had a shared identity with the participants. I considered that while this may be valuable on one level, caution was needed as there was potential for bringing potential assumptions and bias into the research which were not made explicit or could have ethical implications (Reid 2018).

I acknowledged that whilst interviewing participants, there was a potential for both bias and power dynamics to influence my data collection, which I attempted to negate through the actions I took, outlined below.

5.7 Reflexivity within data collection

I had intended to use purposive sampling and choose who to include in the study. However, my plans to use purposive sampling were frustrated early in the recruitment process as discussed in chapter four as women who were selected for possible recruitment did not return, declining to participate and so I reflected that I possibly needed to change my approach. I subsequently returned to my research objectives which included an exploration

of whether the antenatal clinic environment in which the discussion took place had any influence on the decision to accept or decline the vaccine and whether the women's experience differed according to their geographical location. I therefore determined that recruitment across all sites was still appropriate. Following discussions with my supervisors about the challenges I was experiencing with recruitment, I embarked on a strategy of convenience sampling. I was conscious that a limitation of convenience sampling is that it would not enable me to generalise my findings (Hedt and Pegano 2010), however I had hoped to recruit from all five geographical boroughs to explore the diversity from which the population was drawn across the Health Board. It was not my intention to explore differences within age, general practice settings or educational attainment as outlined in chapter four. Women were approached and recruited by virtue of being at the antenatal clinic therefore potentially introducing bias which I have acknowledged as a limitation of the study.

As a midwife and a mother, I shared a cultural identity with the women which had potential to build trust in the relationship, however I was aware of the power dynamic that existed. I was concerned that due to my role as a midwife, participants may have perceived my views to be very much in support of the seasonal influenza vaccine in pregnancy. I was conscious that, although I may have held some knowledge and understanding of local values, I had an obligation use my reflexive diary to ensure I did not overlook routine behaviours. I ensured that I did not make assumptions about the meaning of events particularly being alert to signs that participants may have been telling me what they perceived was the 'correct' answer or sharing responses that they believed I wanted to hear. Unluer (2012) reinforces this notion and through reflexivity I sought clarification about the meaning of events and did not assume I already knew the views of the participants when carrying out interviews with the women.

The interview is a maximal space where the interviewer and participant attempt to fix their social reality producing an interpretation of the world around them in the process (Perera 2020). The purpose of using semi-structured one-to-one interviews for my data collection was to try and understand the women's experience from their perspective and explore the meaning for them. Dodgson (2019) argues that the researcher, as educated expert who will be determining the results of the study, is asking the participants to do something that involves giving of herself, often without any control over the outcome (Dodgson 2019). I acknowledged that the participants and myself as researcher were not equal and approached the interviews with sensitivity and empathy. Kvale and Brinkmann (2009) suggest that the researcher defines and controls the interviews. With this in mind, I also knew that there was a potential that I could influence the women's responses which in turn could affect the study findings. I used my reflexive diary which Baker (2006) argues helps to ensure the ongoing process of reflexivity to bring forth continued awareness of how my

demeanour and body language may potentially impact the participants and tried to make sure that they were able to speak freely through my ongoing efforts to not fill any pauses or gaps in conversation. This was needed to help overcome the challenge of maintaining my role as researcher and not slip into clinical conversations, thus avoiding giving clinical advice. According to Ashworth (2008), the qualitative research interviewer needs to be able to understand the discussion and not be a passive recorder. I would have been naïve however to believe that I could remain impartial from the phenomena and the participants due to my life and work experience. Regular reflexive discussions with my supervisors helped challenge the decisions I was making or any pre-judgements I may not have been consciously aware of as recommended by Barrett et al (2020).

Being reflexive and acknowledging my own upbringing, life experience and clinical background also helped set the tone of the interview. I was aware that my own values could potentially influence participant responses which Finefter-Rosenbluh (2017) suggests could affect the study. Although I am a senior midwife with 25 years of experience within various roles, I am a novice researcher. Many years have passed since I last completed formal study and whilst my clinical career has not provided opportunity until undertaking the professional doctorate to participate in formal research, I have gained vast experience of service improvement and innovation. Writing reflexively and having reflexive peer discussions enabled me to grow as a researcher, critically analyse my own beliefs and reflect that a clinical or managerial interview is very different to one taking place within a research context. I strove to avoid imposing such beliefs and that I needed to do this through a continuous process as the environment was so familiar to me. I also needed to be careful of potential pitfalls of misinterpreting any cues or nuances that as a woman and a midwife were well versed to me. Participants regularly used the words ‘you know’ as though to seek reassurance and validation from me to their response but as a researcher I could not provide. Being self-reflective during the interview also helped me become aware of my own reactions to the participants’ thoughts and emotions (Berger 2015), such as pauses in conversation, laughter and their nonverbal communication such as eye contact, shoulder shrugs and hand gestures.

5.8 Reflexivity within data analysis

The interplay between our multiple social locations and how these intersect with personal biographies needs to be considered at the time of analysing the data (Mauthner and Douce 2003). The world view and background of the researcher affects the way in which language is used, questions are posed and the lens chosen for filtering the information gathered by participants. This may shape the findings of the study (Kacen and Chaitin 2006). Themes were developed and shaped by the choices I made as a researcher over the course of the research process. It is important for me to acknowledge how during data analysis I brought in my midwifery knowledge and experience when developing the themes. As a professional guided in practice by guidelines, policy and procedure, this process was somewhat unsettling yet invigorating as I embarked on the journey of developing my own interpretation of the women's experience. As a novice researcher, I was anxious about my level of experience when undertaking data analysis and my ability to make sure that my findings would provide adequate rigour. I often found myself searching for a 'perfect theme'. The more insight I developed, the more I doubted myself and my imposter syndrome became increasingly heightened.

In order to ensure ongoing reflexivity, transcription began almost immediately after each interview which helped ensure due attention was paid to non-verbal cues such as 'shrugs' before such observations were forgotten. I listened to the transcripts several times to ensure accuracy and became immersed in the participants' words and other nuances such as laughter, pauses and hesitancies in order to further support the study authenticity. In order to increase credibility of the findings, all transcribed data were repeatedly read to develop a sense of the whole beyond the immediate impression of what it contained (Teodora et al 2018).

5.9 Criticality and integrity

Integrity must be evidenced in the process to assure that the interpretation is valid and grounded within the data (Whittemore et al 2001). When reporting findings in qualitative descriptive studies, it is paramount to stay close to the data and describe the participants' experience in language similar to that used by the participants themselves (Neergaard 2009). Whilst attention to process issues creates confidence in the findings, qualitative research findings require more steps to be taken to ensure that researcher bias or over-enthusiasm has not systematically skewed the findings of the study (Thorne 1997). Three processes to enhance criticality and integrity of qualitative descriptive research are recommended by Milne and Oberle (2005): reflecting on researcher bias, respondent validation and peer review.

Member checking is a means of enhancing rigor in qualitative research, proposing that credibility is inherent in the accurate descriptions or interpretations of a phenomena (Lincoln and Guba 1985). According to Thorne (1997), returning the data to participants for a credibility check create contradictions within the process of developing knowledge therefore the process of member checking was discounted. I was concerned that either the data would not be returned, or I would be unsuccessful in contacting participants as they would be approaching their expected date of confinement or would have recently given birth. Such a course of action would not be ethically appropriate timing due to the added participant burden. Having further considered Thorne's (1997) argument, this proved to have been a wise decision given the initial challenges with recruitment and women not returning to their pre-arranged appointment. However, peer review did occur throughout the study. This process is pursuant to the ultimate aim of qualitative description as themes should be discussed with colleagues to ensure that the findings demonstrate a logical flow and for the peer reviewer to invite any alternative interpretations (Milne and Oberle 2005). For this study, peer review was achieved through monthly supervision sessions with my research supervision team of three experienced nursing and midwifery academic researchers who have strong qualitative research backgrounds.

5.10 Reflexivity within the discussion

Being reflexive enabled me to determine how the chapter developed through working through many iterations of the coded data from the study findings. Re-reading the narratives of the participants, reviewing the interpretation paragraphs of my findings chapter and re-visiting my literature review supported me to synthesise concepts relating to my research question. I found that my own pre-suppositions about how women perceived influenza vaccination in pregnancy had been challenged. I have reflected that having trained as a midwife and being pregnant at a time when medication in pregnancy was discouraged, I had not considered the impact of the powerful, trusting relationship between the midwife and the woman in this context or how the women framed their decision-making, beliefs or past experience.

5.11 Methodological challenges and recommendations

I had anticipated lengthy, in-depth and varied conversations but despite the preparation of a semi-structured interview schedule on which to base my interviews, responses from participants were brief as discussed in chapter four. I spent time probing and trying to explore the topic further, however the women did not have a lengthy narrative to share. Aside from their initial interest in participating, they did not appear to display any real enthusiasm for the topic as evidenced through their non-verbal communication. Lengthy,

reflexive discussions ensued with my supervisors as despite undertaking the research across five different sites within the Health Board, the interviews did not vary in their brevity. I had returned to my semi-structured interview guide and reflected on my approach to ensure my questions were open-ended. At each interview I was mindful of my dress code, making every effort to establish rapport with the women as detailed in chapter four. Finally, I determined that to return to the field in an attempt to collect more data was unlikely to yield different results. I had completed interviews with twelve women and despite alternating and adapting my approach, the resultant interviews were much the same in terms of length. Data analysis subsequently progressed and with it an interesting narrative started to develop.

Reflecting on the method of choice, I wondered whether focus groups in this situation would have gleaned more detailed insight, however I considered that the challenges with recruitment I had already experienced may not have been any different had I used this approach as pregnant women were often busy with other competing priorities. Many of the women in the study were accompanied by a friend or family members. To enable them to participate would have been outside ethical approval for this study, however I would consider this a recommendation for future research in this field as the contribution of significant others to support the women's experience may generate new insights.

5.12 Summary

Reflexivity is an iterative process that involves reflection to continuously construct and shift our understanding and social realities as we interact with others and talk about experience (Cunliffe 2003). Although a researcher's knowledge is based on his or her positionality (Mullings 1999), as qualitative researchers we have an appreciation for the fluidity and multi layered complexity of human experience (Corbin Dwyer and Buckle 2009). In this chapter, I have detailed the reflexive journey I have undertaken during the writing of this thesis. I have discussed my position as researcher and the cultural context in which reflexivity has been maintained. Reflexivity through data collection, analysis and discussion has also been explored and recommendations for future research considered. As a social researcher, I acknowledge that only certain aspects of truth have been explained and that further questions will arise from my study. However, this is a unique story shared between myself as researcher and twelve pregnant women as participants, thereby claiming my findings as an original contribution. Chapter six will now discuss the study findings in relation to the research question posed.

Chapter 6: Findings

6.1 Introduction

This study sets out to understand the experience of women being offered the influenza vaccination by their midwife. Three main themes and seven sub-themes which were identified following the rigorous process of data analysis as outlined in chapter four. The following chapter will present and discuss the findings identified from the interpretation of the women's experience. Description and direct quotations are included to ensure accurate representation of the participants on their own terms, capturing their views and experience in their own words (Patton 2002). Participants have been given pseudonyms in order to maintain their confidentiality and demographics are included along with direct quotations which support the rationale for the themes chosen. Finally, the chapter provides a summary of each of the themes prior to discussion of these findings in relation to the body of available literature in chapter seven.

6.2 Participant demographics

As discussed in chapter four, convenience sampling was carried out within each of the five geographical boroughs within the Health Board. In total, twelve pregnant women who met the inclusion criteria were recruited to the study. Participant details are provided in Table 3. Participants have all been given pseudonyms in order to protect their anonymity and confidentiality. The women's reasons for having the vaccine are included (baby/me/both) along with the gestation at which women either accepted (A) or declined (D) the vaccination. Eleven of the women in the study were white Welsh and one participant originated from the Philippines. Eight of the participants described their occupation as either unemployed (7) or as a homemaker (1). Three women in the study had continued their education until 21 years of age, of which two worked full-time and one worked part-time.

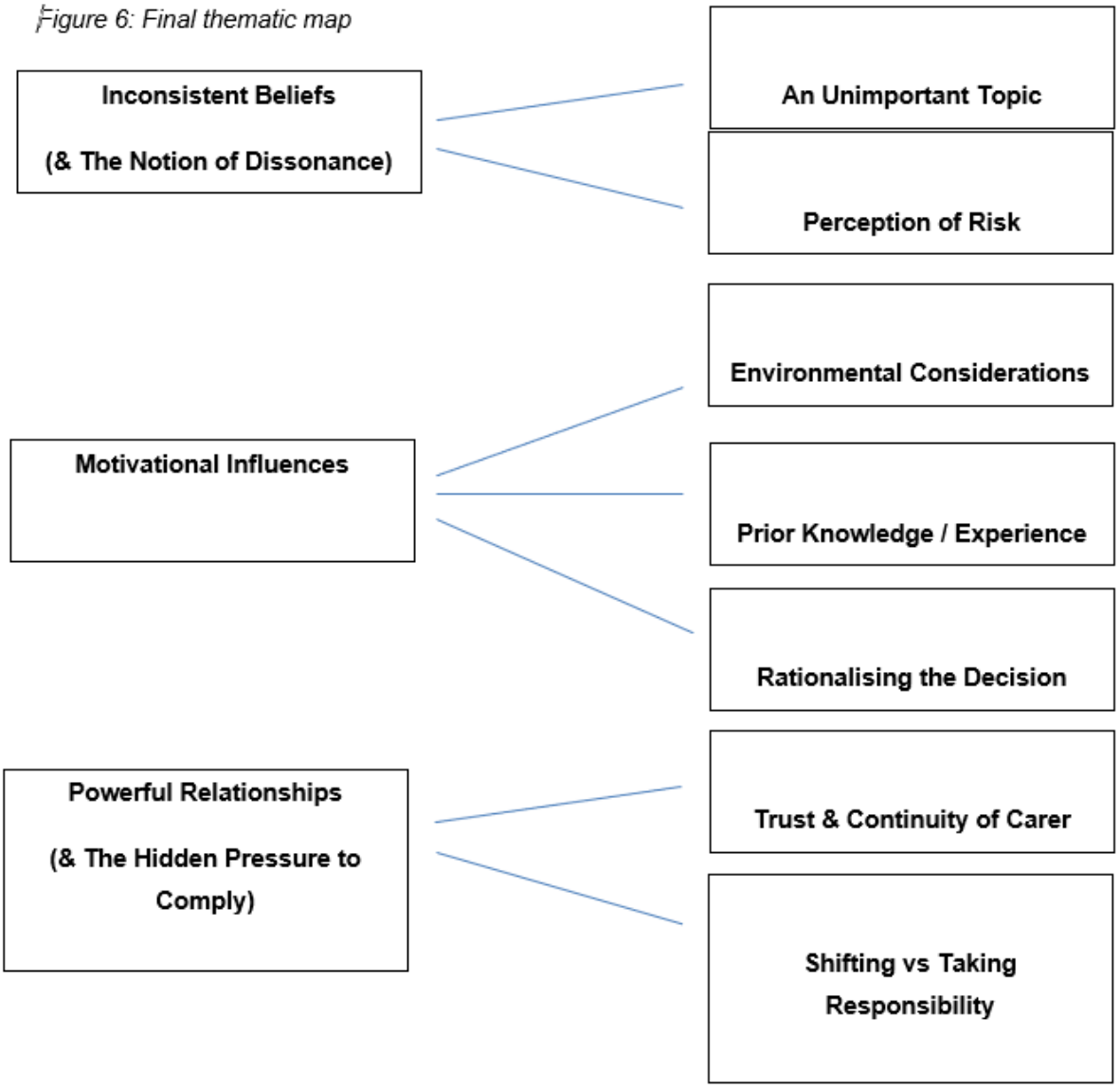
Table 3: Participant Demographic

Table 3: Participant demographics											
Interview date	**Borough**	**Pseudonym**	**Age**	**Nationality**	**Education (Age leaving full time)**	**Employment**	**Gestational age (Identified by participants)**	**Gravida / parity**	**Gestation vaccine offered**	**Gestation vaccine accepted or declined**	**Accepted (A) or Declined (D)**
12.8.16	1	Zoe	20	White Welsh	16	Unemployed	36	2 p1	16	24	A
12.8.16	1	Martha	17	White Welsh	16	Unemployed	35+5	2 p1	12	16	A
24.8.16	2	Laura	19	White Welsh	16	Unemployed	34	Primip	8	8	D
24.8.16	2	Amy	28	White Welsh	18	Part-Time	35	2 p1	20	22	A
24.8.16	2	Sarah	23	White Welsh	16	Unemployed	37	2 p1	8	5	A
30.8.16	3	Beth	30	White Welsh	21	Full-Time	31+6	5 p4	16	18	A
30.8.16	3	Alex	32	White Welsh	18	Homemaker	31	3 p2	Previous pregnancy	17	A
12.9.16	4	Lily	27	White Welsh	18	Unemployed	30	3 p2	29	32	A
12.9.16	4	Maisy	25	White Welsh	18	Unemployed	36+4	Primip	8	14	A
22.11.16	5	Lois	33	White Welsh	21	Full-Time	39	2 p1	25	26	A
22.11.16	5	Abi	39	Filipina	21	Part-Time	36+4	3 p2	8	28	D
22.11.16	5	Julia	26	White Welsh	18	Unemployed	32	3 p2	12	20	A

6.3 Identification of themes

The following section within this chapter explores the results of thematic data analysis undertaken using stage five of Braun and Clarke's (2006) approach. Many iterations of the themes were developed through a rigorous process of data analysis as discussed in chapter four until the final thematic map outlined in chapter four was developed. The thematic map represents the key areas that best represent the data. Three main themes with seven sub-themes were identified and are displayed in Figure 6 below:

Figure 6: Final thematic map



6.4 Theme 1: Inconsistent beliefs (and the notion of dissonance)

On reviewing the coded data, it was evident that the women held beliefs that were inconsistent with their actions. Participants often felt that the topic of influenza was not of significance and were unable to recall information given to them by their midwife, nurse or doctor. The women also conveyed that they did not consider the topic of influenza vaccination to be important, nor did they perceive themselves to be at risk of influenza disease but had the vaccine regardless.

6.4.1 Sub-theme 1: An unimportant topic

The women revealed that the topic of influenza disease and / or vaccination was unimportant to them. This was evidenced in the brevity of their answers, body language and non-verbal cues such as shrugs, pauses and silences. At times there were looks of confusion and puzzlement as a response to direct questions asked about influenza and the vaccine. The participants displayed an apathy toward the information being shared by the midwife and a sense of boredom in the language they used to describe their experience.

Zoe *'she [the midwife] was going on about all the injections I'm meant to be having, so, well, there's so many injections to be honest with you'*

Beth *'I don't take notice of that; I just go in and they say you got to have something so it's like…. Yeah'*

Sarah *'I didn't see, read up on the side effects of anything, I don't do that I just had it….. I think I had a leaflet about the flu, I don't think I read it though (laughs)*

The participants' words suggest that they were unconcerned and were unable to recall information given to them about this aspect of their antenatal care. There was a passive approach displayed toward the information provided by the midwife, accepting without question thus potentially making uninformed decisions about their care. Despite probing questions during the interview, the women were unable to share any further insights. Some participants did however confirm that the midwife had explained the vaccination to them but when asked further if they could recall the conversation that had taken place, they were unable to do so.

Lily *'I can't actually, I've had too much going on to remember that to be honest.'*

Julia *'she gave me a load of stuff and to be honest, sometimes it goes in one ear and out the other'*

Martha *'she gave me loads of leaflets and did tell me like a load of stuff, I just can't remember what it was…. and then she also explained to me what it was for and stuff as well, I can't remember what she said.'*

Some of the women's experience differed in that the midwife may not have held a direct conversation with them about influenza:

Researcher	*'what did she [the midwife] tell you about influenza?'*
Laura	*'nothing, really she just gave me the book and just told me to read it'*
Researcher	*'and did you have a look at the book?'*
Laura	*'no, not really (laughs)*

Researcher	*'what did she [the midwife] explain to you about the vaccination?'*
Alex	*'oh… umm…. Nothing, I don't think really, it's quite a well-known vaccine so she probably told me something about it but I really can't remember'*

Researcher	*'… did the midwife explain?..'*
Beth	*'she might of, but at the time I had sickness and stuff, so I dunno why, it was all going in so I was just like, yeah….. I'll have anything to be honest'.*

The participants' apathy and revealed lack of interest in the information being conveyed may have resulted in a passive acceptance of the vaccine without consideration of risks, benefits or safety.

The second sub-theme identified is that of the women's perception of risk. Just as the participants revealed that they did not acknowledge the topic as important, whether they perceived themselves to be at risk (or not) of catching influenza resonated with the perception of risk of (or lack of) morbidity and mortality as a consequence of influenza disease.

6.4.2 Sub-theme 2: Perception of risk

Present in the coded data was evidence of how the women viewed their chance of either catching influenza during pregnancy or becoming unwell and the ensuing consequences of disease for themselves, their unborn baby and / or other children.

Closer inspection of the data suggested a notion of superstitious beliefs and magical thinking in the way the women made sense of their risk of disease which will be discussed in more detail in chapter seven. Some women revealed disembodiment, displaying detachment between their physical self and the pregnancy, not making the connection between protecting themselves and the provision of protection for their foetus. Participants shared that they did not believe they were at risk of contracting the influenza virus but had the vaccination anyway. This reinforced the dissonance between their beliefs which were often

borne of superstition and their actions. Zoe's words displayed an optimism bias, which is realised through the following extract where she discussed whether she felt she was at risk of influenza:

Zoe *'touch wood, I've actually been quite lucky, I'm pretty immune to everything, but I went for it (the vaccination).'*

Zoe's response and her use of the phrase 'touch wood' is an example of magical thinking as though expressing a hope that her good luck would continue. Zoe's words highlight a folklore belief that factors beyond her control could protect her from future illness. Describing herself as 'lucky' she duly complied with having the vaccination. Similarly, Martha displayed superstitious beliefs through her perception of risk and luck as she shared her story:

Martha *'We usually get away scot free.. I don't know what the risks were for me, I didn't know there was any, she just basically said we were in flu season and it would be best for the baby for me to have the vaccination so I agreed.'*

Martha's choice of phrase 'scot free' suggests that she too had been fortunate to be escaping or getting away freely from harm. Abi revealed that as she perceived herself to be well, she may not have been at risk but also used superstition in how she made sense of her risk. At the time of interview Abi was 36 weeks pregnant and being in her third trimester, not having the vaccine would have meant that she was most vulnerable to the serious consequences of disease:

Abi *'I'm well enough not to catch flu or if I catch it, hopefully I'm able to fight it off.'*

Abi's words resonate with those of Zoe and Martha in that she was 'hopeful' akin with 'luck' that should she become unwell she would be able to defend herself against advancing disease and be able to drive it away. Social distancing was seen as a factor for lessening risk. Alex made sense of her perception of risk through aligning it with her role in society:

Alex '*Well, I haven't got a job, I'm basically just a homemaker at the moment so I'm not really getting germs from anywhere… well not now cause I'm not really doing anything at the moment. When I was in college, uni, yes then because I was always sanitizing my hands because I….from desks and things, cause you can catch everything so yeah then, but not now.'*

Alex did not perceive herself to be at risk but had the vaccine regardless. She believed that being 'just a homemaker', her role in society had changed and her risk of influenza disease had lessened. Alex appeared to have detached herself from the disease which was 'out there'. Alex's inconsistent beliefs further revealed juxtaposition in her thinking as she acknowledged that having the vaccine was a good idea, thus affirming her vulnerability as

she further stated *'you can catch anything while you're pregnant'*. These views echoed of fatalism. Beth revealed that she did not perceive her pregnancy to be a risk factor for contracting or becoming unwell from influenza disease. There were parallels to the perception of the other women in the study in that their chances of becoming unwell were all down to luck:

Beth *'I just think if you're gonna catch a cold, you're gonna have it anyway, aren't you? So, it don't matter whether you're pregnant or not. I don't know, but I think you're gonna catch it, you're gonna catch it anyway, aren't you? That's my views on it anyway (laughs)… touch wood, I've been okay so….*

The women displayed apathy toward how they perceived their risk or lack of influenza disease in pregnancy. This resonates with influenza being an unimportant topic, not worthy of further thought, discussion or consideration. Lily explained that she was asthmatic and had the influenza vaccine annually. She did not perceive herself to be more vulnerable to disease as a result of her underlying co-morbidity and her pregnancy. Lily acknowledged her condition but this appeared to be disconnected from her pregnancy:

Researcher *'are you in a high-risk group of getting flu?'*
Lily *'no I don't think so, no'*
Researcher *'why not?'*
Lily *'I dunno, I just don't ask, I really don't know.. (laughs)'.*

In addition, there was further dissonance as Maisy revealed:

Maisy *'I think your immune system is low isn't it when you're pregnant, so you're more at risk of catching things I believe probably yeah (laughs)'.*

Yet when asked directly about groups that may be more at risk than others, Maisy did not make a connection with pregnant women:

Maisy *'Older people, or people with a lower immune system…..(pause)… I don't know, I've not really ever thought about it (laughs).*

6.4.3 Summary of Theme 1

The participants revealed that whilst they did not believe themselves to be at risk of influenza, their belief that they would not become ill was predominantly borne out of luck or superstition. Social distancing was present as a means of self-protection and a changing role in society would lessen the risk.. Light-hearted responses and the succinctness of the conversations revealed that this was not a topic of importance; nonetheless, despite these inconsistent beliefs, the perception they were 'well enough' not to catch influenza and the ability to recall any information given to them by the midwife, most of the women received the influenza vaccination regardless.

6.5 Theme 2: Motivational influences

How the women perceived their risk of influenza was also aligned with what motivating influences helped shape their decision-making. Personal beliefs, prior knowledge, experience, environmental considerations and how they rationalised their decision were all factors that impacted their beliefs and the decisions they made.

6.5.1 Sub-theme 1: Environmental considerations

Most participants shared that they were required to make a further visit to have the vaccination with either a practice nurse or GP. For the majority, having to make a return visit was not a barrier to access and was viewed positively. Participants appeared comforted by this opportunity yet duly complied with the request to return without giving much thought or consideration to what was being requested of them:

Zoe *'yeah, I went back to have it then and umm, she (practice nurse) asked me again there and then if I was sure I wanted it done umm, it's not too late to change my mind.'*

Julia *'I just made an appointment at my doctor's surgery and when it was time to get the appointment, it was, I think a nurse that did it'*

Lois *'when I saw the midwife, she asked me if I'd had it and to, you know, think about whether I wanted to have it done and then I booked in then and it was the following weeks then'*

Alex *'I had to ring the doctor's myself and book myself in and then go to the doctors'*

Participants were matter of fact in their responses and accepted the midwife's recommendation as an instruction without question. Only one participant who consented to the vaccine was concerned about making a return visit and actively questioned why the midwife was unable to give the vaccine during her routine antenatal appointment. Sarah saw this as an inconvenience:

Sarah *'a bit time consuming really, cause you are like, at the time I was still working, better if it could have been done there and then cause if the midwife needs to take blood, she does your bloods so I can't see why a vaccination can't be given at the same time to be honest'*

Sarah's response was confident, assured and she raised a reasonable argument, offering the solution of a cohesive approach in a system where every antenatal contact should count. None of the other participants offered this perspective, however Sarah revealed that although now declaring herself as unemployed, she was in employment during her second trimester; making a return appointment meant taking time off work. Aside from Sarah's reflection and challenge of the process, accounts from other participants revealed passive

acceptance of the request without further thought. This may be linked to theme three and the impact of powerful relationships or alternatively could be attributed to the participants previous knowledge or experience.

6.5.2 Sub-theme 2: Prior knowledge and experience

Participants often shared that they had little knowledge or experience of influenza disease or the vaccination in pregnancy. They revealed that their own, family or the experience of their peer group could be a factor in decision-making, yet influenza and / or the vaccination were not topics of conversation among social groups. Some participants expressed their views as being associated with protection from harm and self-preservation; others had no prior experience and found it difficult to articulate the difference between a cold and influenza. Zoe's experience of ill health appeared to have shifted her attitude favourably toward the vaccine however her prior health concerns were unrelated to influenza. She appeared reflective in her thoughts and was concerned about how any further illness could impact her ongoing pregnancy:

Zoe *'so that I wouldn't catch anything cause if I caught anything I would at the beginning of my pregnancy I was bleeding a lot so I was just worried that I ain't taking care of myself sort of thing as best as I should be.'*

Some participants revealed how they perceived underlying co-morbidities were a consideration for influenza vaccination but had not recognised pregnancy as an equally important high-risk category. This resonates with the dissonance demonstrated in theme one as there was a disconnect between their perception of what could happen to others without recognising the risk to themselves:

Sarah *'I think with asthmatics they can probably get a lot more ill with the flu than a normal healthy person would cause their lung function's obviously compromised…. So having the flu is gonna make that even worse and asthma can be fatal anyway'*

One participant was asthmatic but had not made the connection that the vaccine would provide added protection from influenza during pregnancy or recognised her increased risk or morbidity if she became unwell with influenza:

Lily *'I don't see the difference when I have it to be honest, so I dunno what it actually does….. (pause) cause I dunno like when winter comes, I'm used to having a bad chest with my asthma anyway so with the flu jab I don't see what it does anyway, I dunno'*

The disconnect and lack of understanding displayed by Lily revealed that she did not understand the purpose of the vaccine, its benefits and her increased risks. It was also apparent that other participants had no experience or knowledge of influenza disease on which to frame their views or decision-making but continued to have the vaccination. Never

having experienced influenza previously, participants struggled to articulate what influenza disease was:

Julia *'I mean, it's hard to know, sometimes it's just a bad cold, isn't it?*

Alex *'I've definitely heard stories where people can't get out of bed for days and it's like 'proper flu' like I think I've had, I've been quite ill, but I haven't been…. I haven't had it properly I don't think*

Lily *'I've had colds but I've had like bad chest infections but I don't think I've had the 'flu flu' itself'*

The women distanced themselves from influenza. Referring to 'proper flu' and 'flu' they appeared to be legitimising the illness making it more genuine or accepted than the 'heavy cold'. This distancing continued as the participants conveyed they knew very little about influenza and had not actively sought information; nor did they discuss the topic as part of a conversation with others:

Laura *'I never really read into it and I've never suffered with flu at all. I don't really know anything about the actual injection or what it did really'*

Beth *'no, I'm not that type of person to be honest, I just get on with my doings and just have things done'*

Julia *'not to a great extent really, just like 'oh I had the vaccine like, ok''*

Referring to theme one, participants again reinforced the lack of importance they gave to the topic. This was demonstrated through the superficiality of their answers, being very matter of fact. Only one participant (Abi) confirmed that her own views were shaped by the experience of her work colleagues. Abi was also only one of two participants who declined the vaccination. Although Abi was a health professional who worked in an acute medical ward, she appeared to base her decision-making on the experience of her peers rather than the professional evidence available to her:

Abi *'I don't know, maybe what puts me off as well, cause some of the girls I know who've had the vaccine, the flu vaccine, after, they fall ill…. One of the girls I worked with said she had the flu before and she couldn't even get out of bed so I know how bad it would be but I just don't feel I should have it for now… I could see how bad she has it so it's like probably traumatised me as well'*

Conversations with peers and learning of their experience appeared to have a profound impact on shaping Abi's views. Her words are powerful and resonate of witnessing a disturbing experience resulting in lasting shock. Family influence was revealed to be an influencing factor but for others such as Lois, witnessing a family member's negative experience from the vaccine did not prevent her from having it herself:

Lois *'my grandad had it years ago and he had a really bad reaction to it so I was a bit like, you know, in two minds with that, whether I had it or whether I'd have a reaction to it after I had it done'*

Despite displaying caution and indecisiveness, Lois had earlier revealed that she was offered the vaccine by her midwife at twenty-five weeks gestation, accepted, made an appointment and received the vaccine a week later. This decisive action could be considered a consequence of the powerful relationship between Lois and her midwife as discussed in theme three or simply that she had made her decision earlier in her pregnancy.

Distancing herself and failing to make the association with risks in pregnancy from influenza disease, Martha's family experience appeared to have helped shape her beliefs:

Martha *'she's [her sister] famous for catching stuff, she umm works in a restaurant, she's constantly like dealing with different germs and stuff as well…. yeah, I don't get ill very often that's why I'm so 'bleh' about it'*

Martha's prior knowledge was derived from how she perceived her sister's risk which she had attributed to her profession. Martha suggested that her sister's role was hazardous and as such Martha saw herself as being at less risk of disease. Martha's words resonate with the consideration that influenza was unimportant and something she was not engaged or concerned about 'bleh' reflecting boredom, her reaction to a situation which does not require an emotional reaction.

6.5.3 Sub-theme 3: Rationalising the decision

The participants' decision-making revealed that their main concern was protection from illness for the baby (n=7) followed by having the vaccination to protect themselves from influenza and the burden of being unwell (n=3). Only two participants acknowledged that the influenza vaccination could offer protection for both mother and baby.

Julia, for instance, had the vaccine for protection for herself from illness but could not recall the conversation with the midwife in any great detail:

Julia '*She just said oh we offer it to you because you can be more susceptible to everything and umm yeah it can just affect you more and I know everything just seems to hit you more when you're pregnant and just from experience I don't think I've had flu when I've been pregnant but I have everything just seems to take its toll a lot more on you then so…just to try and cover myself, just umm anything you can do that's gonna make you as well as you can be has got to be a good thing'*

This was Julia's third pregnancy and she appeared to perceive this pregnancy with pessimism. Her use of the idioms 'everything takes its toll a lot more' and 'everything seems to hit you more when pregnant' suggests that things affect her in a profoundly negative way and was having a cumulative negative effect; indeed, Julia did not refer to or mention her

unborn baby throughout the interview. Julia's focus was on herself; she was pessimistic about her overall health and the extent to which her pregnancy influenced her physical and emotional wellbeing. She rationalised her decision as wanting to do anything to keep herself well and free from illness and was pragmatic in her approach. Others used bargaining in their approach to the influenza vaccination and protection from influenza disease:

Alex *'I know it (influenza) can make you really ill if you have proper flu, so I'd rather have umm, pain for ten minutes with a needle than actually be in bed for two weeks with flu so that's why I had it.'*

Alex had weighed up her options and her words echoed of a compromise, short term pain in return for protection from possible illness. Her account appeared to be derived from having some prior knowledge, however Beth's experience was largely uninformed.

Beth *'Well, I just think it's a good idea to have it rather than suffering to be honest with you, being pregnant you can catch colds or whatever. Like I said, nothing's to say I wouldn't have it (flu) if I didn't have it (the vaccine) so anything to like protect yourself like I said and hopefully the baby in anyway, I think it's good to have'*

Beth acknowledged her vulnerability to becoming unwell in pregnancy, firstly for herself but also for her baby, revealing a maternal responsibility to shield them from the burden of disease. Having the vaccine to protect the baby from harm was the main focus for most of the women in the study. Maisy's main focus was the indirect effect catching influenza may have on her unborn baby:

Maisy *'I wouldn't want anything harming the baby if I was to get flu, I wouldn't want you know, I wouldn't want anything to harm the baby so in case of my fear of that I suppose'*

Whilst Maisy had not articulated that she had considered the ongoing protection for her baby after birth, she demonstrated qualities of good motherhood, doing the right thing to protect the baby from harm. Powerful language was used by Sarah as she too revealed very similar views:

Sarah *'to get an illness that could potentially cause problems for the developing baby… further through your pregnancy, even though your immune system's getting back to normal it's still fighting this other person as well, so you've got your one immune system fighting for two people so if you can get flu, that could probably make you a lot much more ill…. I think I'd rather have a dead arm than a dead baby'*

Sarah's evocative words used to describe her views and knowledge spoke of conflict and challenge in her quest to do the right thing and protect her baby. Sarah also demonstrated the compromise as a positive approach to the short-term impact of having an injection. There was however, no acknowledgement of the impact influenza disease could have on her

own health during pregnancy. Maternal responsibility and revealing protective qualities were evident for Zoe. Zoe's response spoke warmly of maternal nurturing qualities, taking responsibility to look after both her own and her unborn baby's health:

Zoe *'I done it for the baby more than me but I'm carrying the baby so I needed to do it for myself to be able to protect the baby sort of thing then so I really done it for the both of us'*

Taking responsibility and being a good mother in this way revealed Zoe's connection to her pregnancy and the will to defend and protect her baby from possible harm. Similarly, Amy's decision was to protect both herself and her baby from influenza disease. It was clear that Amy had some underlying knowledge and her decision had been reached through her understanding of how influenza was circulating at the time rather than being influenced by the interaction with the midwife:

Amy *'well it protects me and the baby, I think that there's been an increase in the cases of flu in the UK and since introducing the vaccine there's been less cases of flu so I thought it was better to have the injection to be safe than sorry'*

Amy's words in the form of the idiom 'safe than sorry' imply that she was being wise and careful, protecting both herself and the baby from risk of disease and harm. Laura however had declined the vaccine in pregnancy. She had earlier shared that she was uninformed about the vaccine and thought that it was not needed. As the pregnancy progressed however, Laura's baby was diagnosed in-utero with a cardiac anomaly. Consequently, due to her experience and new knowledge, her views had altered:

Laura *'just the risks to the baby and stuff like that, or a lot of risks to their health and she's got enough of those as it is…. I would have it now definitely because I really didn't look into it until it was too late'*

Laura's words spoke of the maternal responsibility she felt to protect her baby from further harm. The changing health diagnosis led to Laura not wanting to add to the burden already bestowed, but Laura had not connected the risks from influenza disease to her own health and well-being. Laura appeared to display regret and possible feelings of remorse at not making an earlier decision to have the influenza vaccine.

6.5.4 Summary of Theme 2

Participants displayed that their motivations for having or declining the vaccination were multi-faceted and they were not always fully informed regarding how they reached their decisions. Conversations with their health professional, prior knowledge and experience of others were all influential factors. For some participants, the influence of family members and peers were considered in their decision-making; however, some did not actively seek

out further information on which they could enhance their knowledge and become more informed in their rationale. The environment in which the influenza vaccination was administered was not of concern and the women revealed that when asked to make an appointment at a later date, they mainly did so without question.

There were distinct differences in what motivated the women to have the vaccination. Most did so to provide protection from disease for their unborn baby, not acknowledging the ongoing protection the influenza vaccination would provide to their new-born infant. Some revealed a disconnect between their own health, that of the baby and the protection afforded by the vaccine. Participants also displayed a lack of understanding as to how the effects of ill-health for themselves and their baby are inextricably linked. There was evidence however of the women displaying traits of good motherhood and maternal responsibility to protect themselves and their baby from harm.

As will be identified in Theme 3, relationships between the health professional and the women appeared to be a powerful influence which may have subconsciously contributed to the women's motivation.

6.6 Theme 3: Powerful relationships

The women's experience and decision-making were also influenced by the relationship the participants held with their healthcare professional. The theme of powerful relationships was present throughout all iterations of analysis as participants revealed an unconscious acknowledgement that they should comply with the professional advice with little or no thought, question and without further discussion. This is evidenced within the two sub-themes below: trust and continuity of carer and shifting versus taking responsibility.

6.6.1 Sub-theme 1: Trust and continuity of carer

The women highlighted their trust in the advice given to them by the midwife or healthcare professional without much challenge or further information being given, bringing into question whether they were making fully informed decisions.

Abi, for example, specified that the midwife had discussed the vaccination with her but her language displayed a sense of pressure and coercion to comply as opposed to informed decision-making:

Abi *'I can remember receiving a letter, yeah I think it's from the surgery yeah, but the midwife have spoken to me about it, I think she managed to persuade me last minute'*

Abi's experience resonates with possibly feeling that she had little choice but to accept the vaccine at that time. This trusting relationship between midwife, healthcare professional and the participants was also evident for Alex who demonstrated compliance without any need for questions or further information:

Alex *'Well I tend to just go along with what sort of the medical profession do tell me… I tend to agree or go with what I'm told by people who know then… I've always got plenty of time to talk to my midwife it might be 'cause I've got Jane [pseudonym] as my midwife and I've had her for all three'*

Alex's relationship with the midwife and the continuity of care she received across her three pregnancies may have influenced the level of positive regard and trust she held for the professional. Her use of possessional qualities such as 'my midwife' and 'I've had Jane/her' suggest a familial quality, which may have also contributed to Alex's actions to follow the midwife's advice. Her words revealed that she valued the opinion and recommendations of 'her midwife' however this could be viewed as compliance rather than choice as Alex did not appear to be in control of her decision-making. Julia's relationship with the midwife was also longstanding and one she held in high regard:

Julia *'She's [the midwife] very thorough, she's been my midwife with all three which is nice, she's just right for me and she's just so lovely and gentle.'*

Julia's encounter reveals that she perceives 'her' midwife as someone who takes great care and completeness in regard to detail, implying that the midwife is knowledgeable. Positive affirmations toward the midwife were also conveyed by Maisy. Despite Maisy not having met 'her' midwife, she still considered health care professionals involved in her care to be trustworthy:

Maisy *'it would have been nice to have met my midwife, to know who you were going to see… they advised me to have it and I had it yeah, I don't think I thought too deeply about it, I think I trust people too much (laughs)'*

Maisy also placed great confidence in the midwife, relying on their integrity and ability to do the right thing for her. Beth's experience differed however and she alluded to some conflict at feeling powerless to participate in her care. There were assumptions made by the midwife as to how much time or information Beth needed without seeking her opinion. This displayed a paternalistic approach to her care which Beth perceived she was unable to challenge. Beth appeared disappointed as trust and continuity of care were important to her but she had not been afforded the time and attention she needed; yet she duly complied with the instruction given by the midwife when offered the vaccine.

Beth *'I have managed to see the same one all the way through which have been nice, but like I say I just feel like you're in and out and there's no, you know, they don't ask you how you are or don't discuss that, a lot of stuff with you to*

be honest'. You don't get time with your midwife anymore; well, I used to be there quite a lot and have a lot of discussions with them and like I haven't had a birth plan done cause I was told I don't need it cause I'm on my fifth child.'

However, despite displaying her disappointment so articulately, when discussing the influenza vaccine Beth demonstrated compliance without question:

Beth *'My midwife said it's there so just have it.'*

Martha's experience was similar in that she demonstrated compliance with the instruction to have the vaccine without question:

Martha *'Well she [the midwife] just said basically we were in flu season and it would be best for the baby for me to have the vaccination so I agreed… when it was flu season it was recommended to have the jab sort of thing so I've always said well yeah I will and made the appointment.'*

Amy's experience differed in that she acknowledged that she had made an informed decision having researched the flu vaccine herself. There appeared to be no further discussion of risks or benefits by the midwife once Amy had disclosed that she had undertaken her own information search:

Amy '*Well she said are you gonna have the flu jab and I said that I was going to and she said did I know about it and I said yeah I'd done my own research and that was the end of the discussion.'*

For Amy there appeared to be reciprocal trust in the relationship, i.e., Amy assured the midwife that she knew about the vaccine and the midwife, trusting Amy, did not question or discuss the issue any further.

6.6.2 Sub-theme 2: Shifting versus taking responsibility

Participants revealed that they often handed responsibility for the decision to the midwife or doctor. Martha shared that she would readily accept what was advised without question, thus deflecting personal responsibility for the decision. There was a passive acceptance of the vaccine, yet Martha did not take responsibility to find out more information:

Martha *'they're like, 'you should have this' and I'm like 'right okay fine' that sort of thing cause you think you're doing the best thing… it's like when they do vaccinations like when they're born and that you never know like you know why'*

Martha's response revealed a passive approach to other healthcare decisions and a lack of personal responsibility to find out more in order to make informed decisions about her care. Conversely, despite sharing what appeared to be an informed decision, when asked about

the timing of the vaccine, Sarah stated that she was given the vaccine by the GP before funding out she was pregnant:

Sarah *'I went to a doctor's appointment and the doctor told me I needed a flu jab which I wasn't aware of why because I don't have an…. I don't come under the criteria of having a flu jab so he said you can just have it anyway 'cause he had a jab there for me… luckily enough I was pregnant at the time so I was covered then'*

Despite this being considered a paternalistic approach, Sarah viewed this encounter as fortuitous and consented to the vaccine without question. Having a brief conversation with the GP resulted in Sarah not knowingly needing the vaccine at that moment in time. Sarah appeared to have shifted responsibility to the GP for making the decision. Sarah recalled the conversation with confidence as she recanted the encounter, however Sarah did not question the GP's actions further which demonstrates the powerful relationship between Sarah and the GP. Rather than making an informed decision, Sarah duly complied with the request. Julia however took responsibility for the decision to have the vaccine. Revealing herself to be a responsible mother, Julia's motivation was for self-protection for herself and her family

Julia *'I didn't want to get the flu, I've got a little boy and he's had the child version as well. My daughter's in school and so you know they can bring home everything and um yeah just to try and cover myself'*

Conversely, although Abi appeared to take responsibility for her decision-making, she associated this with being disobedient:

Abi *'the occy health nurse came up to the ward and she was doing the vaccines to some of my colleagues. She'd just finished giving the vaccine to one of the girls, I walked in to get something and she said 'would you like to have your flu vaccine' and I said 'no thank you', she said 'oh all right then no problem' yeah so I know, I was a bit naughty, a bit hot-headed (laughs).*

Despite taking responsibility for her decision, Abi's portrayal of events sounded of being mischievous or head-strong. Her descriptions of being naughty and hot-headed could be viewed as metaphors for rebellious behaviour, disagreeing with organisational policy and making a decision which may not have been perceived as acceptable to either her employer or the healthcare professional.

6.6.3 Summary of Theme 3

Participants often spoke of the midwife with fondness and it was evident that the women placed value in the continuity provided, which may have informed a more positive approach to accepting the vaccine. There was however evidence that a significant amount of trust was placed in the health professional; advice was accepted without question and a reliance on

some occasions that the healthcare professional was responsible for doing the right thing for them. Passive compliance to having the vaccine with little or no question was present for most of the study participants.

6.7 Summary

In this chapter, I began by discussing who the participants were along with their demographic data at the time of interview. As a result of the data analysis process specified in chapter four, three main themes have been identified:

1 Inconsistent beliefs (and the notion of dissonance)
2 Motivational influences
3 Powerful relationships (and the hidden pressure to comply)

These main themes and their accompanying seven sub-themes have been discussed. Direct quotations from the participants have been provided in order to illustrate how the themes and associated sub-themes were developed. Chapter seven will discuss these findings in more detail through the theoretical framework of the reproductive citizen.

Chapter 7: Discussion

7.1 Introduction

This chapter considers the study findings in relation to the research question posed, including a discussion of the theoretical framework that was selected to support interpretation of the findings. The chapter then considers strengths and limitations of the study and recommendations for clinical practice, policy makers and future research.

The study set out to explore women's experience of being offered the seasonal influenza vaccination during pregnancy by their midwife and whether this affects their decision to have the vaccine. At the outset, there was one research question to which I sought an answer:

'Does the relationship between the woman and the midwife impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy?'

The study has provided some answers to my research question although there is much more to explore as identified within the recommendations for further research, policy and practice later within this chapter.

The aim of this study was to explore, interpret and develop an understanding of pregnant women's experience of being offered the seasonal influenza vaccination by their midwife and whether this affects the woman's decision to either accept or decline the vaccine. The study has explored the women's experience and has provided some original insight, informed by the theoretical framework of the reproductive citizen as developed by Wiley et al (2015). The study has also met the requirements of three objectives which were as follows:

- To investigate factors which when drawn from women's experience of being offered the seasonal influenza vaccination influence their decision making to accept or decline the vaccine.
- To explore whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine.
- To identify whether women's experience differ according to their geographical location.

7.2 Theoretical frameworks considered but discounted

The purpose of the theoretical framework is to help explain and place the study findings within the context of science within a specific field of investigation (Mock et al 2007). The use

of the theoretical framework is important to demonstrate how findings from the study subsequently flow from the theory represented (Polit and Beck 2018). I had intended to use the Behaviour Change Wheel developed by Michie et al., (2014) as I considered whether planned or alternative interventions to improving influenza vaccination uptake rates may have been required. As the study progressed, the findings revealed that most of the women had already received the vaccination and as such there would have been no behaviour change for the future anticipated.

Ajzen's (1985) Theory of Planned Behaviour was also considered; however, whilst some of the study findings could have been explained through concepts such as subjective norms, the participants had already undertaken the behaviour of having (or declining) the vaccination and it would not have been possible to fully discuss the findings through this theoretical lens. Although this theory may have provided some useful explanation regarding women's practice of health-related behaviour, Sarafino and Smith (2016) argue that the theory is incomplete as it does not include the role of prior experience within that behaviour. Interventions and behaviour are not strongly related as people do not always do what they say they will (Sarafino and Smith 2016).

Health belief models were also discounted. Some critics of health belief models argue that they strongly emphasise motivational factors with little consideration of behavioural factors and omit people's beliefs regarding the level of control they have over their health behaviour (Armitage and Connor 2000). In order to understand health behaviour, the cultural and social context in which it is placed should be considered (Milburn 1996). As I revisited my analysis, I was struck at how my findings could be interpreted through the theoretical lens of reproductive citizenship developed by Wiley et al (2015). The theory of reproductive citizenship considers this context and I have therefore chosen this framework to explain my study findings. Detail of this framework will be discussed in section 7.4 prior to the application of this to explain my findings.

7.3 Reproductive citizenship

A Foucauldian perspective argues that, rather than being docile citizens who are governable through crime and punishment, citizens of neoliberal governments take responsibility for their own welfare actions. Citizens are encouraged to position themselves voluntarily as responsible individuals through discipline and regulation in their own interest (Lupton 2012). In the Western neoliberal policy context, there are assumptions that responsible citizens engage in activities that support their own needs and those of their family and the wider economy (Stone 1984, Gleeson 1998).

An example of reproductive citizenship within pregnancy and motherhood can be found in a study by Hallgrimsdottir and Benner (2014), which reviewed historical maternal hygiene manuals (self-help guides to pregnancy and motherhood) published in Canada, the US and the UK between 1880 and 1920. The review found that pregnancy was presented to be potentially dangerous, with those involved requiring constant surveillance of themselves and others to ensure positive outcomes. There was an expectation during this time for pregnant women to mitigate risk with factors including sleep, exercise and ensuring the health of the father-to-be. For much of the 20th and 21st centuries however, mothers have been seen as responsible for the surveillance of their own and their baby's health. This reflects the responsibility for women to be good mothers, ensure appropriate surveillance and avoid risk whilst experiencing what Hallgrimsdottir and Benner (2014) refer to as 'an explosion of advice' from her healthcare professional.

To further place this in the context of reproductive citizenship, pregnant women believe that they are responsible for protecting the health of their unborn infant but also feel that there are others judging their behaviours (Lupton 2008, Burton-Jeangros 2011, Wiley et al 2015). Good reproductive citizenship asserts that the mother places the needs of her unborn baby above her own (Wiley et al 2015).

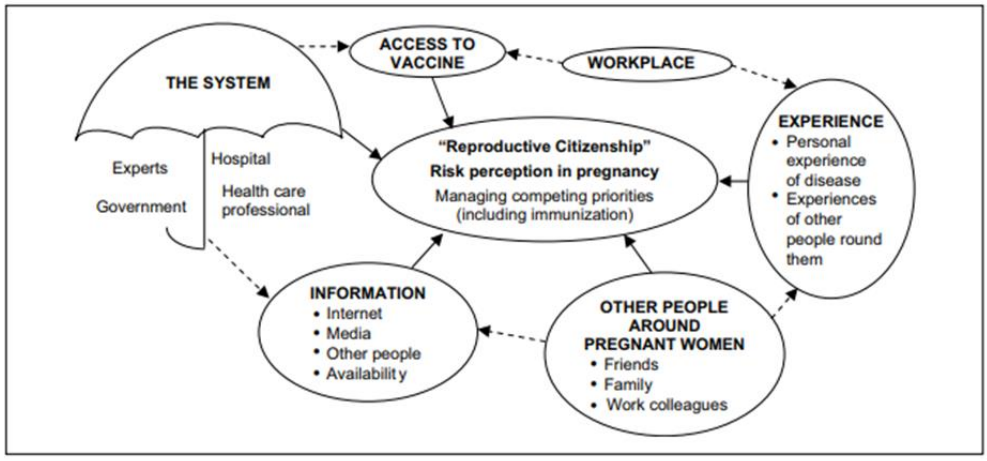
7.4 Theoretical framework: Reproductive citizenship and its application to influenza vaccination in pregnancy

The theoretical framework chosen for the purpose of discussion and to assist with explaining the study findings is that of reproductive citizenship and its relationship with vaccination in pregnancy, as developed by Wiley et al (2015). The purpose of their original 2015 study was to understand pregnant women's perceptions of risk from pertussis, influenza and associated vaccinations in pregnancy, as well as how such risk was constructed.

Their study was completed in two parts. An initial anonymous survey with 815 participants explored pregnant women's awareness and attitudes towards pertussis (Wiley et al 2013a) and influenza vaccination in pregnancy (Wiley et al 2013b). The women were mainly tertiary educated and were recruited from antenatal clinics within three hospitals in New South Wales, Australia. The hospitals were chosen due to the diverse range of patients in order to seek a broad range of vaccination views. Each woman was also invited to participate in a qualitative interview, with 132 participants providing the researchers with their contact details. In-depth interviews were subsequently held with 20 women, nine were face to face and eleven were conducted by telephone from July to November 2011 using a semi-structured interview process. A grounded theory methodology was employed and themes

were developed using line by line focused and axial coding. These themes were used to develop the theoretical framework of reproductive citizenship. As the construct of reproductive citizenship emerged from the complexity of the women's experience, this theoretical approach was deemed by Wiley et al (2015) most useful to ground their analysis. Their findings revealed many factors (see figure 7) which influence how women manage the competing priorities of pregnancy:

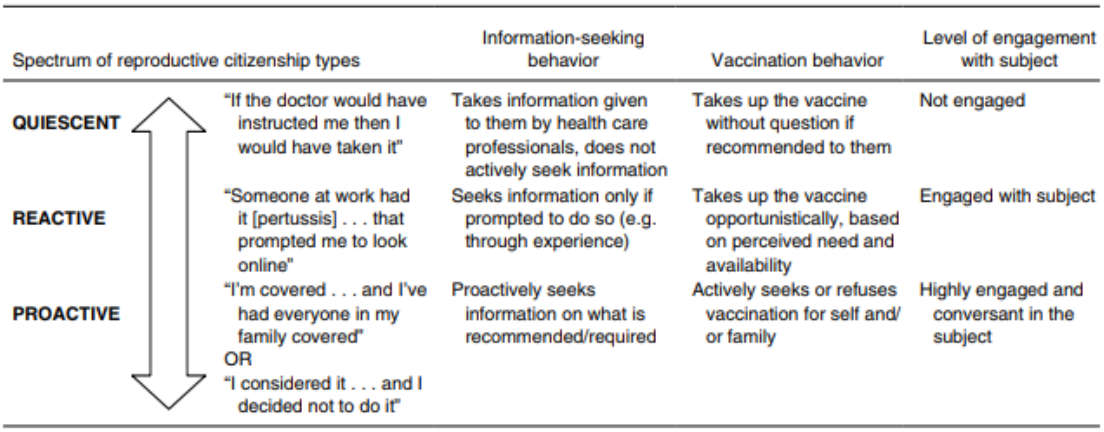
Figure 7: Factors influencing pregnant women's management of the competing priorities of pregnancy. Solid arrows indicate that a factor has a direct effect on prioritisation during pregnancy; broken arrows indicate an indirect effect through interaction with other factors (Wiley et al 2015).



The findings revealed that all of the women adhered to the values of reproductive citizenship and were aware of what they should and should not do during pregnancy. Each participant was assigned a category along a reproductive citizen spectrum of quiescent, reactive or proactive (see figure 8) and the researchers defined each category as follows:

- **Quiescent** reproductive citizens passively gain information, usually relying on that given to them through sources in the system such as their healthcare professional
- **Reactive** reproductive citizens are engaged but only seek information after being prompted to do so
- **Proactive** reproductive citizens actively and independently seek out information on the diseases / vaccination; the women are highly engaged and conversant in the subject

Figure 8: Spectrums of reproductive citizenship types (Wiley et al 205).



Spectrum of reproductive citizenship types		Information-seeking behavior	Vaccination behavior	Level of engagement with subject
QUIESCENT	"If the doctor would have instructed me then I would have taken it"	Takes information given to them by health care professionals, does not actively seek information	Takes up the vaccine without question if recommended to them	Not engaged
REACTIVE	"Someone at work had it [pertussis] . . . that prompted me to look online"	Seeks information only if prompted to do so (e.g. through experience)	Takes up the vaccine opportunistically, based on perceived need and availability	Engaged with subject
PROACTIVE	"I'm covered . . . and I've had everyone in my family covered" OR "I considered it . . . and I decided not to do it"	Proactively seeks information on what is recommended/required	Actively seeks or refuses vaccination for self and/ or family	Highly engaged and conversant in the subject

There are some similarities between the work of Wiley et al (2015) and with my study in that my study was drawn from antenatal clinics within a large University Health Board. However, whereas the population in their study were mainly tertiary educated, the participants in my study revealed that only three women received further or higher levels of education. My study did not use grounded theory methodology but adopted a qualitative descriptive approach and Braun and Clarke's (2006) thematic analysis. Although I did not seek to assign each participant to a category, these traits and characteristics were an integral part of the theoretical framework developed by Wiley et al (2015) and are referred to throughout this chapter. As discussed in chapter six, my study findings were developed through the process of rigorous data analysis into three main themes with seven supporting sub-themes. The theoretical framework outlined above (Wiley et al 2015) has been considered a suitable framework through which to interpret my study findings as the framework provides further insights into my data. Before presenting my findings, I have provided an explanation of how my findings have been interpreted within the reproductive citizen characterisation developed by Wiley et al (2015) in Table 4 below:

Table 4: Theoretical Framework developed by Wiley et al (2015) and its application to the findings within this study:

Reproductive Citizenship Factors influencing women's management of the competing priorities of pregnancy Wiley et al (2015)	*This study*

• The System
  ○ Experts
  ○ Government
  ○ Hospital
  ○ Healthcare professional
	'The System' in this study relates to the role of the midwife within the system. in particular the **powerful relationships** and influence of the midwife (or gp) as noted in **theme** 3. This aspect of the framework also incorporates the sub themes of **trust and continuity of carer** and **shifting vs taking responsibility** to demonstrate how the relationship with midwives in this context influences their decision-making to accept or decline the influenza vaccination in pregnancy

• Access to the vaccine	Access to the vaccine in this study explores the research objective which was to determine whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine. This component of the framework by Wiley et al (2015) is relevant to this study within **theme 2 motivational influences** and **sub-theme 2 environmental considerations.**
• Experience • Other people around pregnant women • Information	Experience, Other women around pregnant women and Information could not be interpreted separately for the purpose of discussion of the findings in this study. This study has found that these particular components of the Framework by Wiley et al (2015) often overlapped with other themes. Therefore, findings from this study are discussed through the Framework as identified within **theme 2, motivational influences** particularly in relation to how the women's prior knowledge and experience impacts their decision-making. These elements of the framework are also reflective of **theme 1** where **inconsistent beliefs and dissonance** revealed by the women were largely informed by a lack of information and they revealed that the **topic was unimportant** to them.
• Reproductive Citizenship • Risk perception in pregnancy	The concept of reproductive citizenship has been discussed within this study throughout all findings, in accordance with the spectrum of reproductive citizenship 'type' displayed by the participants within the main themes and sub-themes. Risk perception in pregnancy was a main theme within this study **(theme 1**), most notably the participants held inconsistency in their beliefs and dissonance displayed in how they framed their perception risk of influenza disease. Participants made sense of this risk through **superstitious beliefs and magical thinking.**
• Workplace	The workplace did not feature as a finding within this study and has therefore not been included for the purpose of discussion.

This chapter will now present the findings in the order discussed within chapter six. I also explore how my findings relate to the theory of the reproductive citizen and the characteristics displayed by the women relating to the spectrum of reproductive citizenship types as defined by Wiley et al (2015).

7.5 Theme 1: Inconsistent beliefs (and the notion of dissonance)

Reproductive Citizenship / Risk perception in pregnancy (Wiley et al 2015)

Theme one is that of inconsistent beliefs and the notion of dissonance. Participants revealed that they often held inconsistent beliefs about the influenza vaccine and displayed cognitive dissonance in that their beliefs did not always align with their actions. They did not always believe that they were at risk of disease yet had the vaccine regardless, displaying traits of a 'quiescent' reproductive citizen (Wiley et al, 2015).

The theory of cognitive dissonance was developed by Leon Festinger (1957) and is described as a psychological state in which an individual's beliefs, behaviour, attitude and cognition are at odds. Festinger's original (1957) theory of cognitive dissonance concerned situations in which individuals have two cognitions that are relevant to each other. The smoker who is aware that smoking is unhealthy is an example of cognition as knowledge which may be relevant or irrelevant to others (Harmon-Jones 2015). An example of this was provided by one participant in my study (Zoe). Rationalising her decision to have the vaccine, she knew that her baby would receive the ongoing protection from influenza once born '*anything I'm getting she's having'*, however in her hand at the time of interview she clutched a packet of cigarettes and lighter.

When we act in a way that appears inconsistent with our beliefs, we feel the same tension and seek to resolve this tension by bringing our beliefs in line with our actions (Barrett 2004). As we feel compelled to try and find new ways to alter the behaviour or bring inconsistent beliefs together, a change emerges in order to reduce the stress caused by holding such inconsistent beliefs (Hilberg 2016). Participants in my study frequently shared their belief that they were not at risk of catching influenza, reinforcing such dissonance. Harmon-Jones (2015) suggests that most situations causing dissonance involve difficult decisions and a commitment to action. Most participants in my study appeared largely uninformed about the vaccine and had not given it much thought. The dissonance exhibited by the women continued after they had the vaccine in that they believed they were not at risk of disease; yet when probing further to determine why, the women conveyed that they knew very little about influenza or the vaccine revealing that they had not given it much thought and that it was of little importance further revealing quiescence and a lack of engagement in the subject

(Wiley et al 2015). How they managed this dissonance was signified through their perception of risk which included optimism bias, magical thinking and superstitious beliefs.

7.5.1 Theme 1: Sub-theme 1: - Inconsistent beliefs; an unimportant topic

Experience / other people around pregnant women / information (Wiley et al 2015)

It was apparent that participants had little knowledge of the consequence of influenza disease or the benefits of cocooning strategies by having the vaccination in pregnancy. There was a clear display of indifference for the topic which was revealed not only through nervous laughter in response to questions, but also through their non-verbal communication. During discussions and when asked to share what they knew about influenza and the vaccine there were exchanges of puzzled looks, shoulder shrugs, long silences and pauses before answering. Such non-verbal communication was observed throughout all twelve interviews. Non-verbal communication, body language and paralinguistic cues account for more than 65% of human communication (Pease 2004, Anders 2015). Body movements, gestures and facial expressions are used to demonstrate when one is happy, sad, angry or frustrated (McCorry and Mason 2011) or to increase the appeal of messages to the person one is speaking to (Phutela 2015). Participants were engaged with myself as interviewer and retained good eye contact, however they were largely unengaged with the topic. Conversations were light and pleasant in tone but participants regularly used shoulder shrugs or nervous laughter to demonstrate that they did not either remember or recall what had previously been discussed with the midwife. Maisa et al (2018) found that professionals do not spend enough time discussing benefits and risks of vaccination however some participants felt that too many vaccinations were given (Maisa et al 2018). This was somewhat present in my study as the participants used phrased such as '*she was going on', 'in one ear out the other', 'there's so many injections to be honest with you'*. Their words suggested they had little interest in what was being discussed or that there was simply too much information provided to them as part of their antenatal care for them to remember. Characteristics of the quiescent reproductive citizen were further evident as participants passively gained their information, relying on what was given to them by their midwife (Wiley et al 2015), remaining largely unengaged with the topic. According to Wiley et al (2017), pregnant women report being bombarded with advice about what they should and should not do in pregnancy and it could be argued that influenza vaccination becomes lost among other competing priorities of pregnancy related information.

Most participants had not sought information themselves but passively accepted the advice of the midwife or GP. This was conveyed through the women's admission that they had not given any further consideration to the written information provided to them '*did you have a*

look at the book?'…. 'no'; 'I think I had a leaflet but I don't think I read it'. Evidence within the literature suggests that a lack of endorsement by the healthcare professional leads to participants believing that the vaccine is unimportant (Maisa et al 2018). Women who are recommended the vaccine by a healthcare professional are more than ten times likely to receive the vaccine (Wiley et al 2017, Regan et al 2016, Mak et al 2015, Walker et al 2011). Recommendations from the midwife (or GP) appeared to have been made as acknowledged by participants which may suggest that the women were reactive reproductive citizens having accepted the offer of the vaccine opportunistically based on perceived need and availability (Wiley et al 2015), however none of the women could recall the nature of the conversation and their memory of the encounter appeared to have dissipated.

7.5.2 Theme 1: Sub-theme 2: - Perception of risk

Reproductive citizenship / risk perception in pregnancy (Wiley et al 2015)

Messages of risk surround pregnant women, persuading them to take care (Carolan 2008). Pregnant women are expected to create a safety shield, acting as a safe repository for their baby (Hammer and Inglin 2014). They are also expected to engage in a wide range of healthy, risk free behaviour to ensure the best opportunity for the baby's development (Lupton 2012) and follow healthcare professional recommendations for self-surveillance in order to be a good mother (Copelton 2007, Bessett 2010, Knaak 2010). Oakley (1974) asserts that the mother must be good because nobody can cure her mistakes which could be embedded in the life of the child forever. In the context of reproductive citizenship, not taking sufficient care over their own health and well-being could be considered as a potential threat to the health and development of the child (Lyerly et al 2009, Lupton 1999, 2012, 2013); however, individual women may not hold the same perception of risk (Hammer and Inglin 2014). Lohm et al (2014) found that the dissonance between women's risk management and expert advice is consistent with Beck's risk society theory (1992) where expert advice is often uncertain and contradictory.

Beliefs about severity of risk are also characteristic of how women perceive their level of risk during pregnancy (Lennon et al 2016). According to Yoram et al (2016), there is less likelihood of engagement in behaviours to lessen risk if people perceive themselves to be at lower risk. Studies exploring vaccine behaviour and uptake rates for pregnant women have confirmed this. Gorman et al (2012) for example found that women who perceived themselves to be more susceptible were more likely to be vaccinated. Halperin et al (2015) argue that if the perceived threat is low, women will be unlikely to take action. Other frequently cited reasons within the literature by pregnant women for declining the vaccination was the belief that the threat was not real and that vaccination is unnecessary (Meharry et al

2013, Henninger et al 2013). Yudin et al (2009) found that pregnant women have limited understanding of their susceptibility to influenza which affects uptake rates. However, this is not what my study found. Whilst my findings somewhat reflect what is already known within the body of available evidence i.e., pregnant women are unaware that they are at risk of influenza and underestimate the threat of influenza to themselves and their baby (Yuen and Tarrant 2014), participants in my study still chose to receive the vaccine. Schaffir (2007) suggests that people consider two factors when making a decision: the probability of occurrence and the desirability of the outcome. Within my study, women framed their perception of risk regarding influenza within the context of superstitious beliefs and magical thinking.

7.5.2a Superstitious beliefs and magical thinking

The illusion of control and superstition may be an adaptive response to a world which is uncertain (Hasselton and Nettle 2006) and is likened to the notion of magical thinking. According to Didion (2005), magical thinking is a childlike belief which asserts that controlling our outcomes can change the world around us through the energy of our inherent desires and wishes, giving us the power to reverse change or outcomes. There is a notion that other people cause ill health with infections being particularly relevant, which is exemplified in the literature by phrases such as '*they gave me their germs or cold'* (Helman 2007).

Superstitious beliefs and magical thinking were a major factor in how participants in my study perceived their risk of influenza. Participants shared accounts of how they felt they were well enough to fight off any illness, perceiving flu to be a mild, self-limiting disease, using phrases such as *'getting away scot-free'* from harm. Kang et al (2015) found that a major barrier to vaccination was that participants believed they were healthy and so not at risk. This was also present in the study by Maisa et al (2018) who found that there was a perception among participants that as they had not been previously ill with influenza, they would not become ill in the future. Similarly, Yuen et al (2016) found that women were not aware that being pregnant placed them in a high-risk group and this resonates with the findings in my study. Moreover, Lohm et al (2014) found that participants were surprised to find themselves at risk from A/H1N1 during the 2009 pandemic and in a position of 'hyper-risk motherhood'. Findings from my study are akin to the evidence from Steelfisher et al (2011), Drees et al (2013), Yuen and Tarrant (2014) and Kang et al (2015), who all found that women perceived that if they were to become infected and ill from influenza, it would not make them very ill. Women in my study also believed that influenza illness was pre-destined in that it would occur due to factors outside of their control and there was very little they could do to avoid it.

In pre-industrial times, health related knowledge and expertise were drawn from divergent traditions on a spectrum between magical thinking and empirical approaches (McCray-Beier 2008). With the creation of the National Health Service in 1948, such folk beliefs and illness remedies were suddenly brought into contrast with biomedical treatments (Helman 1978). Such beliefs were prevalent within my study as evidenced by participants through the use of idioms such as *'touch wood'*. The women displayed optimism bias and perceived that becoming unwell from influenza was not something that would happen to them; rather, factors outside their control were at play. According to Ofori (2016), superstitious beliefs emerge when people lack control and they fulfil a cathartic function for those believing in them, for example, many people believe that knocking on wood wards off back luck. One of the participants expressed magical thinking in that should she have thoughts of being unwell, it would be likely that such illness or side effects from the vaccine would appear on her body. This type of magical thinking, known as 'thought action fusion' (Rachman 1993, Amir et al 2001), plays a role in fears about responsibility of harm (Bocci and Gordan 2007).

Dickinson and Oxoby (2011) assert that people tend to underestimate the extent to which they are vulnerable to harm. This is manifested as optimism bias in an attempt to account for ways in which personal risks are compared to others (Green et al 2015). This was evidenced in my study findings as the women compared themselves to the experience of family members; for example, *'we're lucky we never get anything in our family'.* Using social distancing as a means of self-protection from influenza and reducing risk was prevalent in my study. This was akin to evidence found by Sim et al (2011) whereby busy places such as schools, shopping centres and buses were perceived as reservoirs of infection. The extent of which women encountered such places in the course of their daily lives bore on how they assessed their candidacy, i.e., changing their circumstances altered their perception of risk (Sim et al 2011). One of the participants in my study described herself as *'just a homemaker'* arguing that her risk of exposure was lower than when she was a student. Walby et al (1993) describe this as placing a 'cordon-sanitaire', deeming to have removed the risk due to the remoteness of her changing role in society between herself and potentially contaminated people. This participant alluded to her current situation as being of less value but revealed a paradox in that she saw herself as being more protected from the external dangers of disease. Lohm et al (2014) articulate this as being a 'self-isolated haven' and is also recognised in studies carried by Li et al (2018) and King et al (2019) who found women used strategies such as avoiding crowded places and staying at home as means of being protected from illness.

Despite having no scientific basis, magical beliefs are intuitively appealing (Lindemann et al 2000) and inform how people form personal beliefs about health and illness (Radley 1993).

Lu et al (2019) found that the effect of superstition influenced perceived susceptibility and severity of illness, perceived barriers and benefits of the vaccine resulting in a negative impact on influenza uptake rates. There are however some differences in my study in that whilst superstition had an impact on how the women perceived their vulnerability to disease, superstitious beliefs did not influence their decision to accept the vaccine despite believing they were not at risk. The women's beliefs did however help them to make sense of their situation as suggested by Keinan's theory (2002) which helped promote a sense of control through providing an explanation of an unfamiliar phenomenon during a time of uncertainty and stress (Case et al 2004).

7.6 Theme 2: Motivational influences

How participants perceived their risk of influenza was aligned with what motivating influences helped shape their decision making. Besides their personal beliefs regarding their chances of catching or becoming unwell with influenza, there were other factors which impacted the decisions they made. Most of the women had never personally encountered anyone who had experienced influenza. Other factors included the environment in which the vaccine was offered and received (or not), their prior knowledge, experience and how they rationalised their decision.

7.6.1 Theme 2: Motivational influences: Sub-theme 1: - Environmental considerations

Access to the vaccine (Wiley et al 2015)

My research objectives included an exploration of whether women's experience of the antenatal environment in which the midwife / woman discussion takes place has any influence on the decision to accept or decline the vaccine and identify whether women's experience differs according to their geographical location. My study found that the environment in which the women were expected to access the vaccine was mostly not of concern. All the women were expected to return to a separate appointment at their GP surgery to receive their vaccination (as described in chapter one). These arrangements are similar to the evidence reported by MacDougall and Halperin (2016) whereby women were left to make their own arrangements to have the vaccine with their GP. None of the participants received their influenza vaccination as part of routine antenatal care despite evidence by Wilcox et al (2020) which suggests that antenatal appointments are an optimal place for vaccine delivery during pregnancy. According to Wiley et al (2013) pregnant women should have the opportunity to be immunised with easy access to the vaccine. There is evidence to support the findings in my study in that it is usually the woman's responsibility

to arrange a return appointment which could present a logistical barrier to accessing vaccination as it requires an additional appointment to those already required for antenatal care (Webb et al 2014, Maisa et al 2018, Wilcox et al 2020). Conversely, Meharry et al (2013) argue that women who perhaps fear influenza and the vaccine are 'stalled' in a holding pattern. If the threat is real and women do not have easy access to the vaccine in order to reduce the threat, then no action is taken. This is not what my study found however. Participants perceived the threat to be very low yet overcame such barriers without question and duly complied with having the vaccine.

Only one participant (Sarah) shared that returning to a separate appointment was a concern and raised a reasonable argument. Being in full-time employment, having other children and competing priorities meant that a return visit was a challenge for her. The inconvenience of needing to take time away from work was a frustration and she questioned why the vaccine could not have been given at a routine antenatal clinic appointment. This resonates with findings from a study by Beel et al (2013) which revealed that barriers to receiving the vaccination were loss of earnings, time away from work and lack of transportation. Lack of childcare and having responsibility to organise the vaccine hindered participants in a study by Maisa et al (2018) and other surveys have shown that many women find the models of primary care delivered vaccinations to be inconvenient (Taksdal et al 2013, Hayles et al 2015).

According to Green et al (2015), response efficacy is an effective factor related to an acceptance that the health action is a worthwhile goal. It asserts that individuals will not commit themselves to action until they accept or are able to overcome any environmental barriers. For participants in the study by Maisa et al (2018), the unvaccinated group had not got round to booking the vaccine. The participants in my study however made their decision following discussion with the midwife (or GP in the case of Sarah) meaning that the relationship between the environment and the health action appeared to be positive and did not provide a barrier to access. Some participants viewed returning to a later appointment as having further opportunity to consider their decision, reinforcing the theory established by Green et al (2015) that the health action is a worthwhile goal. Conversely, most participants were unable to recall any information given to them about influenza or the vaccine prior to their return appointment. They opted for action despite a lack of knowledge and the inconvenience of a separate appointment. Such actions are reminiscent of the characterisation set out by Wiley et al (2013) of the reactive reproductive citizen, where women in their quest to be responsible mothers accept the vaccine based on the need as identified by their healthcare professional prompting prioritisation for action.

7.6.2 Theme 2: Motivational influences: Sub-theme 2: - Prior knowledge and experience

Experience / other people around pregnant women / information (Wiley et al 2015)

How women perceived their risk of influenza disease was aligned through their personal experience of disease and the influence of others around them. Pregnant women's perception of risk and decisions they make regarding their health may be influenced by beliefs, opinions and experience of family and friends (Heaman et al 2004). In the context of vaccination in pregnancy and comparable to the findings in my study, Maisa et al (2018) found that women receive vaccination information mostly from doctors and midwives but family and friends also. Most participants in my study had never personally experienced influenza or encountered anyone who had. Lohm et al (2014) argue that not knowing anyone who had experienced influenza creates an impression of safety and as such it could be argued that participants have no previous experience on which to base their decision making. For those participants in my study who held some prior knowledge, their experience was mainly shaped by family. Lois recalled how as a child her grandfather was ill following the vaccine, Martha's perception of infection of catching influenza was grounded in the belief that her sister '*famous for catching anything'*, was somehow more at risk due to her occupation. Wiley et al (2015) also found that women drew on the experience of others, describing how friends and family were important influences on how they viewed the vaccine.

Not having experience of being unwell from influenza also framed how they perceived the illness, likening influenza to a bad or heavy cold but never experiencing '*proper flu'* or '*flu flu'* as though legitimising the disease*.* Not perceiving themselves to be in a high-risk category for influenza was evident for all participants. Women who have a high-risk pregnancy are aware that influenza is more dangerous for pregnant women (Napolitano et al 2017). This evidence is conflicting however as Vila-Candel et al (2016) found that women who had an underlying co-morbidity were not found to be associated with increased uptake of seasonal influenza vaccination. Participants with underlying co-morbidities in my study did not perceive themselves to be at risk. For one participant (Lily) who was asthmatic, receiving the vaccine was an annual requirement but had not perceived her threat of becoming severely ill as having increased due to her pregnancy.

Having a limited understanding of influenza susceptibility has been shown to affect vaccination uptake (Yudin et al 2009). Two participants declined the vaccine (Laura and Abi), but both did so for very different reasons. Laura was offered the vaccine in her first trimester and shared that despite the conversation with the midwife, she had not previously

experienced influenza and did not think it was necessary, acknowledging that she knew nothing about the vaccine. Abi's experience differed however in that she had occupational knowledge of the vaccine being a frontline healthcare worker and had been offered the vaccine in her third trimester of a previous pregnancy. Abi described this experience through powerful and emotive language and revealed how her views had been shaped by hearing the adverse experience following receipt of the vaccine by her colleagues and friends. The experience of both Abi and Laura align with evidence presented by Bodeker et al (2015) and Vila-Candel et al (2016) who found that the most common reasons for declining was the perception that the vaccine is unnecessary, ineffective and having a low perception of risk of influenza disease. Despite vaccine refusal, both Abi and Laura could not be viewed as proactive reproductive citizens (Wiley et al 2015) in this context. Despite actively refusing vaccination, neither were highly engaged with the conversation and had not proactively sought information in light of the midwife's recommendations.

7.6.3 Theme 2: Motivational influences: Sub-theme 3: - Rationalising the decision

Reproductive citizenship (Wiley et al 2015)

Pregnant women receive a torrent of advice to stay well, avoid behaviours which can lead to unnecessary anxiety and fear, knowing they may be criticized (Brown and Savulescu 2019). King et al (2019) found that pregnancy was seen as a protected state and women saw themselves as the gatekeepers of decisions to keep themselves and their unborn baby safe. Good reproductive citizenship asserts that the mother protects her foetus by putting the needs of the foetus above her own (Wiley et al 2015). Evidence within the literature acknowledges that women are more receptive to vaccination if they believe the vaccine will provide new-born immunity (Yuen, Dodgson and Tarrant 2016). If the vaccine is promoted as more for protection for baby than mother, women appear more willing to accept (Regan et al 2016). Cultural expectations of good motherhood place women in the situation of caring for their foetus and their own bodies thus doubling their health responsibilities where conferred responsibility for the unborn is taken for granted (Lohm et al 2014). Participants in my study rationalised their decision as protection for the baby (7 participants), protection for themselves (3 participants) or both (3 participants). Women used emotive language when rationalising their decision and bargaining was present i.e., *'safe than sorry', 'rather have a dead arm than a dead baby'*. Most participants shared that their prime responsibility was for the baby, resonant initially of proactive reproductive citizenship however on further probing, the women were not engaged with the subject and had not actively sought information on which to base their decision, suggesting quiescence.

For the participants who primarily had the vaccination for themselves, there was a revealed health pessimism. These participants used emotive language referring to pregnancy as a *'fight'* or *'struggle*', where *'everything hits you harder'.* Pregnant women trust their healthcare professional and are primarily interested in the health and well-being of their baby (Wiley et al 2017). Evidence by Wiley et al (2015) suggests that framing information toward protection of the unborn increases uptake rates. In the case of Laura who declined, she did not think that this was important until the baby was diagnosed in-utero with a cardiac condition. This subsequently led to a change in her decision, however the way in which the midwife allegedly framed the conversation may have contributed to Laura's initial decision not to have the vaccine, having been told that the vaccine was not necessary. By the time the cardiac condition was diagnosed, the opportunity to receive the influenza vaccine had passed as the season had ended.

7.7 Theme 3: Powerful relationships (and the hidden pressure to comply)

The System (Wiley et al 2015)

The role of the midwife is crucial to providing impartial information, reassuring pregnant women about the safety of the vaccine and benefits for mother and baby (Maisa et al 2018). There is vast evidence to suggest that women whose healthcare professional have recommended the vaccine are more likely to receive it (Stark et al 2016, Napolitano et al 2017, Praphisiri et al 2017) and that one of the main reasons women do not receive it is because it was not offered (Maertens et al 2016). Symon (2006) suggests that in situations where patients are expected to make informed decisions, much of the knowledge is held by the healthcare professional, raising the issue of power relations. Traditionally, sociological researchers have treated doctor / patient interactions as an area where power over patients is exerted by doctors (Parsons 1951). Foucault (1977, 1980) argues that institutionalised discourses are sites of power and discipline and that power is far more than a hierarchical structure. The women's accounts in my study revealed such discourses of power through their quiescent acceptance of the vaccine mostly without challenge or question. There appeared to be an unsaid rule of compliance and acknowledgement regarding what they must do in their quest to achieve good motherhood and fulfil their role as a responsible reproductive citizen.

7.7.1 Theme 3: Powerful relationships: Sub-theme 1: - Trust and continuity of carer

The System (Wiley et al 2015)

Important determinants of pregnant women's level of risk include the level of trust she has in the healthcare professional along with her own sense of general health (Heaman et al 2004). Trusting relationships are particularly important in the context of midwifery (Page 2014). Trust impacts the professional's ability to form meaningful relationships which will in turn influence a woman's health outcomes (Rutherford 2014). Skirrow et al (2021) found that such meaningful interactions with healthcare workers influenced women's vaccination decisions. This was realised by participants in my study who spoke with fondness, referring mainly to the midwife with possessional qualities, for example; *'I'm lucky I've had Jane', 'my midwife', 'I think she's a good midwife', 'she's so caring'.* Such positive affirmations highlighted the level of trust placed in the midwife and the positive regard in which the midwife was held. Wiley et al (2015) found that women had a high level of trust in the system with evidence to support the fact that women relied upon the system to provide them with the right information. According to Fabry et al (2011), confidence in the healthcare professional is a predictor of vaccine uptake but for some women, not seeing the same healthcare professional during pregnancy meant that they had difficulty building trust (Maisa et al 2018). This was present for some participants in my study who revealed that continuity of carer was important for them but were disappointed when the level of continuity of carer they received from the midwife did not meet their expectations.

Trust increases with increased continuity of carer (Mainous et al 2001). The relationship between the midwife and the woman brings together all aspects of the midwifery service (Hunter 2006). Women report greater satisfaction with information and advice and report increased agency, control and less anxiety (MacLachlan et al 2016). According to Philips-Slalimi et al (2012), a sense of connectedness is believed to have a positive impact on health outcomes, particularly when there is a sense of comfort or safety as patients feel they can depend on or believe in others. Ten of the twelve participants in my study accepted the vaccine and appeared happy to follow the midwife's advice without question. The women expressed this as 'going along with what they tell me'. This resonates with the study by Maisa et al (2018) who also found that vaccinated pregnant women were no better informed than non-pregnant women. Maher et al (2014) reported strong doctor-patient relationships and patients trusting doctors as important factors in accepting the vaccine. The GP participants in the study by Maher et al (2014) spoke of 'convincing' pregnant women to have the vaccine. This was particularly pertinent to my study for one participant who spoke of being 'persuaded by the midwife' revealing the powerful and trusting nature of the relationship. According to Thompson (2007), not all patients want to be involved in their care, particularly those with limited experience of healthcare. This resonates with the findings in my study here participants where akin to the findings of Thompson (2007), participants

expressed trust in the midwife to do the right thing for them, showing faith in their knowledge and ability; giving confidence to allow the midwife to make decisions on their behalf reinforcing quiescence in their approach to their decision-making (Wiley et al 2015).

7.7.2 Theme 3: Powerful relationships: Sub-theme 2: - Shifting vs taking responsibility

The System (Wiley et al 2015)

Participants in my study displayed quiescence and a revealed passive acceptance which was further highlighted in their reaction to advice and admissions of going along with what they were told to do. Seeing professionals as experts has been found to make patients feel disempowered (Rose et al 2016) however the participants in my study were comforted in the fact that the trusted professional was doing the right thing for them. A study by Sogsveen et al (2018) found that some service users prefer to let professionals guide them and do not think they need to be involved. Patients take comfort in handing over responsibility knowing professionals are in charge (Hughes 1971); however, the healthcare professional may be tempted to persuade patients to make clinical decisions favoured by the professional in the name of making the patient responsible (Kelley 2005).

Reliance on the healthcare professional was evident within the study by Wiley et al (2015). Women in the quiescent reproductive citizen category expected the healthcare professional to tell them what was required because it was their job and they knew best. This was particularly evident for one participant in my study who was told by the GP that '*she needed a vaccine'* despite not knowing she was pregnant at the time or being in a high-risk category. A study by Lohm et al (2014) found that participants who were vaccinated presented as compliant health citizens who conformed to the recommendation of the physician, thus presenting docile subjects of biomedical regulation. These findings resonate with the participants in my study, reinforcing the quiescence displayed throughout. There was a revealed notion of compliance rather than informed choice. Differing degrees of influence play a major role in whether pregnant women accept or decline the vaccine. Evidence within the literature suggests that most women who accept the vaccine make their judgements about perceived threat of influenza as outlined to them by their healthcare professional (Meharry et al 2013). It is unclear from participants in my study whether informed choice was truly present as women were able to recall limited details *'my midwife said it's there so just have it', 'she said it wasn't really necessary'.*

7.8 The role of the midwife

The System (Wiley et al 2015)

Given their frequent contact with pregnant women, midwives have an important role in vaccine promotion (Regan et al 2018). Although available evidence is limited, studies suggest that most midwives agree with the policy and consider it their role to promote and offer the seasonal influenza vaccine in pregnancy (Ishola et al 2013, Vishram et al 2018, Smith et al 2021), being ideally situated to deliver education and be positive role models in encouraging pregnant women to accept the seasonal influenza vaccine (Smeaton and Green 2017). Evidence within the available literature also suggests that pregnant women are insufficiently informed about the risk of influenza in pregnancy and benefits of the vaccine (Yudin et al 2009, Blanchard-Rohner 2012, Eppes et al 2012, Yuen and Tarrant 2014, Bodeker 2015). Despite being supportive of the vaccination policy, there is also some evidence to suggest that midwives are less confident to answer questions about influenza vaccination when compared to other healthcare professionals (Leask et al 2008) with some midwives implying that they do not discuss seasonal influenza vaccination as it is outside their scope of practice (Lee et al 2005). Anxieties around workload, lack of education, training, vaccine safety and potential liability were common concerns cited by midwives (Ishola et al 2013, Vishram et al 2018, Smith et al 2021).

My study found that none of the participants received the influenza vaccination by a midwife due to the model of vaccination programmes embedded into practice in Wales as outlined in chapter one despite there being evidence of good practice within the available literature. Evidence from prospective cohort studies demonstrate significant increases in uptake of seasonal influenza vaccination for pregnant women following the introduction of midwife led vaccination programmes (Krishnaswamy et al 2018, Mohammed et al 2018), embedding influenza vaccination as part of routine antenatal care (Taksdal et al 2013). There is UK evidence which supports improvement in uptake rates when midwives deliver vaccines (McDougall et al 2015, Green et al 2017) realised in National Health Service Trusts such as Lewisham and Greenwich (Green et al 2017); Stockport Clinical Commissioning Group who have developed a model where midwives vaccinate women as part of routine antenatal care (Smeaton and Green 2017) and Imperial College NHS Trust where a dedicated a vaccine midwife with the necessary training and expertise administers vaccines (Skirrow et al 2021).

Studies outside the United Kingdom have found that midwife delivered vaccination programmes are able to improve maternal influenza vaccination uptake rates (Taksdal et al 2013, Krishnaswamy et al 2018, Mohammed et al 2018). However, as primary care delivered vaccination programmes have been the traditional model in the United Kingdom, support from GPs would be needed to ensure a smooth implementation of a new midwife led service, especially given that GPs receive funding for vaccine administration (Wilcox et al 2020).

Despite the potential for midwife involvement in vaccination programmes, there is a lack of good quality evidence to describe the nature and content of the conversations taking place between midwives and pregnant women in relation to influenza vaccination. The evidence discussed above demonstrates that midwives remain concerned that they lack training in this area. For example, Ishola et al (2013) found that midwives felt they had insufficient information to equip them and a study by Regan et al (2018) found that most midwives agreed that they should be expected to vaccinate pregnant women. Women may be choosing not to receive the seasonal influenza vaccine due to a lack of evidence-based information provided by the healthcare professional (Vila-Candel 2016), however this is not what my study found. Participants in my study could recall very little of the conversation and there is some evidence to suggest that the conversations that took place were limited e.g., '*my midwife said it's there so just have it'*. Despite the brevity of the conversations, most participants chose to have the vaccine, doing so without evidence of an informed discussion. Further research is required to explore the content and quality of the conversation midwives hold with pregnant women, which considers the model of midwifery care being offered (for example whether continuity of care is available). Trust and continuity of carer were important considerations for participants in my study which may have had a positive contribution to them receiving the influenza vaccine despite considering that they were not at risk of disease.

7.9 Women's perception of vaccine safety in pregnancy

Before I discuss my conclusions and contribution to new knowledge, I return to the literature review (chapter 3) to explain the absence of women's perception of vaccine safety in pregnancy from my findings and discussion. As discussed in chapter three, the literature reviewed has shown that pregnant women can be safely vaccinated against influenza (Tamma et al 2009) and it is an effective strategy to prevent disease in pregnant women and their families (Zaman et al 2008, Dabrera et al 2014). The literature has shown that possible side effects of the influenza vaccine are a pre-dominant concern of pregnant women (Yuen and Tarrant 2014). Available low to medium quality evidence also suggests that pregnant women's fear of safety of the influenza vaccine is shared by pregnant women around the World e.g., the US (Panda et al 2011), Switzerland, Poland, Scotland, Turkey, Canada (Yuen and Tarrant 2014), India (Koul et al 2014), Germany (Bodeker et al 2015), Australia (McCarthy et al 2015) and China (Li et al 2018). The literature also suggests that women often cite vaccine safety or concern over vaccine related harm as a reason for vaccine refusal (Naleway et al 2006, Yudin et al 2009, Goldfarb et al 2011, Steelfisher et al 2011, Regan et al 2016, Strassberg et al 2018). However, despite the wealth of evidence suggesting that this is an influencing factor this is not what my study found. Women's

perception of safety of the influenza vaccination in pregnancy was not a finding in my study and was not considered by participants as something to be concerned about. Vaccination safety has not been considered in the context this study for further discussion.

7.10 Conclusions and contribution to new knowledge

My research question was *'does the relationship between the woman and the midwife impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy'.* The study has provided some answers to this question although there is much more to explore as identified within the recommendations for further research, policy and practice.

The aim of the study was to explore, interpret and develop an understanding of pregnant women's experience of being offered the seasonal influenza vaccination by their midwife and whether this affects the women's decision to accept or decline the seasonal influenza vaccination in pregnancy. The study has explored the women's experience and has provided some original insight, informed by the theoretical framework of the reproductive citizen as developed by Wiley et al (2015). Three main themes and seven sub-themes were identified following the rigorous process of data analysis as outlined in chapter four. These include inconsistent beliefs and the notion of dissonance, motivational influences and powerful relationships and the hidden pressure to comply. Conclusions and contribution to new knowledge are presented in the same order as my findings are presented in chapter four and are not ranked in any order of priority.

7.10.1 Inconsistent beliefs (and the notion of dissonance)

Participants revealed traits of the quiescent reproductive citizen (Wiley et al 2015) in that despite not considering themselves at risk of influenza illness, the majority received the vaccine following a conversation with their midwife. The quiescence was further enhanced as participants displayed indifference, with evidence to suggest that the topic of seasonal influenza vaccine is lost among the many competing priorities of pregnancy. By the women's own admission, conversations with the midwives were held yet they paid little attention, taking information given to them by the midwife but not actively seeking information. Evidence within the literature supports that healthcare professional recommendation leads to increased influenza vaccination uptake rates (Wiley et al 2017, Regan et al 2016, Mak et al 2015, Walker et al 2011), yet the influence of the content and context in which the conversation is held remains unclear. The literature reviewed has shown that women who perceive themselves to be at risk are more likely to receive the vaccination (Halperin et al 2015, Gorman et al 2012, Meharry et al 2013, Henninger et al 2013). However, findings from

my study dispute this as the women did not perceive themselves to be at risk of influenza disease in pregnancy yet most had the vaccination regardless following a conversation with their midwife. This further reinforces traits of quiescent reproductive citizenship. Although participants in this study displayed mainly characteristics of the quiescent reproductive citizen, findings from this study extend those of Wiley et al (2015) by showing that women may not neatly fit in one category of the spectrum of reproductive citizenship types but could hold different positions across the spectrum. Participants' perception of risk was not derived from conversations with their midwife but through personal and family experience, rationalised through notions of superstition and magical thinking. It may be that such beliefs held by the women helped promote a sense of control during a time of uncertainty and stress. Prior to this study, discussion of the influence of superstition and magical thinking was absent in the literature in the context of influenza vaccination in pregnancy. This study provides a further contribution to new knowledge as it reveals the complexity of the decisions women make which for some is in relation to the position they perceive to hold in society.

7.10.2 Motivational influences

Following recommendation by their midwife, participants who accepted the vaccine duly followed the midwife's instruction to book a separate return appointment for the vaccination. The environment was therefore not a concern and not a barrier to access. Access to the vaccine had no direct impact on the women's decision-making and did not affect their acceptance of the vaccine, contrary to the evidence from other studies as discussed earlier (Webb et al 2014, Green et al 2015, Maisa et al 2018, Wilcox et al 2020). There were also no differences between the geographical locations in which the women received their antenatal influenza vaccine. Whilst returning for the vaccine was not a barrier for most women in my study, the majority worked part-time or were unemployed, therefore 'time' and environmental barriers may not have been a concern for them. Only one participant felt this was an inconvenience, citing time away from work as the pre-disposing factor similar to findings by Beel et al (2013). Contrary to response efficacy theory (Green et al 2015), which suggests that individuals will not commit themselves to action until they overcome environmental barriers, participants did not perceive the environment to be a barrier and duly complied with the instruction given reinforcing their position as quiescent reproductive citizens.

Despite this position, few women in the study had personally experienced influenza illness or the vaccination. For those who had, their experience was shaped by family, akin with the evidence provided by Wiley et al (2015) which showed that friends and family are important influences on how the vaccine is viewed. When rationalising their decision, findings in this

study resonate with the body of literature whereby protection for the baby was of great importance. However, women used emotive language when discussing their reasons such as bargaining. There was a clear desire to be a good mother as evidenced through the public accounts; protection of the baby was paramount for most participants yet none could explain what this meant in any detail. Prudent responsibility describes how people strive to behave in ways that align with their own interest and well-being (Brown et al 2018). Wanting to do the right thing for the baby was paramount for the participants, displaying traits of good motherhood and responsible reproductive citizens, however this was typically achieved through a quiescent approach (Wiley et al 2015), taking up the vaccine without question when recommended to them.

7.10.3 Powerful relationships (and the hidden pressure to comply)

A study by Skirrow et al (2021) found that women perceived midwives as knowledgeable, enthusiastic and warm. Trusting relationships between midwives and women influence health outcomes (Rutherford et al 2014) and influence women's vaccination decisions (Skirrow et al 2021). This was evident in my study where women used positive affirmations which highlighted the level of trust participants placed in their midwife. Continuity of carer was an important consideration for participants and may have contributed to the uptake rates found in this study although more research is needed in this area. Evidence within the literature has shown that vaccinated women were no better informed than non-vaccinated women (Maisa et al 2018); yet despite appearing poorly informed, participants in my study continued to have the vaccine thus reinforcing the trust they placed in the midwife to do the right thing for them. The quiescence and passive acceptance were present in the women's accounts of 'going along with' what they were told to do and contrary to evidence by Rose et al (2016) which purports that seeing professionals as experts leaves patients feeling disempowered. The level of trust and appreciation of the midwife's perceived knowledge may have been a contributory factor in the women's decision to accept the vaccine. Although midwives are placed within the overarching umbrella of 'The System' (Wiley et al 2015), they were perceived as knowledgeable, trusted, caring individuals who would do the right thing in order to ensure the safety of mothers and babies.

7.11 Reflections on the framework

My study found that a limitation of the framework (Wiley et al 2015) is that it was difficult to distinguish 'other people around pregnant women', from 'information' and 'experience'. My study found these conditions to be interconnected and could not be separated. In my study, women's perception of risk from influenza appeared to be shaped mainly by family or experience of peers, grounded in superstitious beliefs and magical thinking. Unlike the

framework developed by Wiley et al (2015) my study did not seek to explore women's perception of risk and as such there are components of the framework by Wiley et al (2015) which were not relevant to the findings in my study. The workplace was not an element which influenced the decision-making process for any of the participants and therefore it has not featured within this chapter for discussion. Participants in my study occupied more than one position of the reproductive citizenship type, revealing the complexity of their decision-making. A further limitation of the framework developed by Wiley et al (2015) is that it could be considered to be over-simplified in that women's experience of influenza vaccination is complex, multi-faceted as women do not fit neatly into one category.

7.12 Strengths and limitations of the study

This study has several limitations. Despite carrying out the research across a large, diverse and complex organisation, participants who gave their consent and were recruited to the study were largely white, Welsh individuals who may not be representative of the diverse population of pregnant women within our multi-cultural society. One of only two participants who declined the vaccine was Filipina but was unable to articulate why she felt she should not have it. Ethnicity may have an impact on the decision to be vaccinated (Healy et al 2015, Laenen et al 2015) and should be explored further in this context. Evidence from several studies suggest that women from Black, Asian and minority ethnic backgrounds are less likely to be vaccinated for seasonal influenza (Donaldson et al 2015, Lu et al 2015, Wilson et al 2015, McAuslane et al 2018, Skirrow et al 2021).

Challenges with data collection were also a main limitation of the study. A semi-structured interview guide was developed to supported myself as the research instrument with the freedom to ask additional and probing questions (Polit and Beck 2018). Despite this approach, the brevity of participants' accounts at interview however, was unexpected. It is acknowledged that some participants had competing demands on their time. Challenges with recruitment as discussed in chapter four resulted in participants being recruited and interviewed on the same day as they attended their antenatal clinic appointment which may have been a contributory factor to the brevity in the interviews.

A further limitation is that women who were more favourable to receiving the vaccine may have been more willing to participate, thus contributing to selection bias. It is important to note however that midwives within the antenatal clinics offered all women who met the inclusion criteria an opportunity to participate. In contrast, a strength of the study is that pregnant women from across all geographical boroughs within the Health Board were recruited. It is recognised however that these findings may not be generalisable to individuals in other Health Boards within Wales and the rest of the United Kingdom.

Interviews took place at the end of one influenza season and the start of the next. This would be considered a limitation as participants' memories of the encounter and recollection of events may have dissipated over time.

Limitations due to researcher / power dynamics must also be acknowledged as participants were aware that I was a midwife which potentially contributed to the limited quantity and quality of the data. However, this could also be considered a strength because participants being aware that I was a midwife, may have been honest in their accounts during the interviews.

A further strength of the study is that this qualitative approach compliments evidence from previous quantitative studies. As discussed in chapter three, there is little qualitative evidence to exploring women's experience of being offered the influenza vaccination in pregnancy. My study further helps clarify the phenomena from the women's personal experience, providing insights which help explain this complex issue and placing influenza vaccination in the context of women's life situations and the other competing priorities of pregnancy.

7.13 Recommendations

The following recommendations have been developed having emerged as a consequence of this study. These include recommendations for Government and NHS policymakers, education, training and clinical practice and further research:

Recommendations for Government and NHS policy makers:

- Policy makers should undertake a review of strategies and areas of known good practice to improve uptake of maternal vaccines to include midwife led influenza vaccination 'one stop shop' approaches and embed seasonal influenza vaccination as part of routine antenatal care.
- NHS and Welsh Government should explore opportunities for funding to be realigned from primary care to maternity services to deliver vaccination programmes as part of the 'Making Every Contact Count' policy (NHS Health Education England 2021).
- Findings from this study may offer local and national public health teams' further insight into the complexities pregnant women face when considering vaccination in pregnancy, thus enabling them to provide support to midwives and Health Boards locally to deliver vaccination programmes within the antenatal care settings.

Recommendations for education, training and clinical practice:

- Education providers should incorporate seasonal influenza vaccination training as part of undergraduate midwifery training programmes.
- As midwives, we must practice in line with the best available evidence (NMC 2018) and as such, midwives should avoid making general comments if they lack education in this topic area or are ill-informed (NMC 2018). Organisations should therefore facilitate appropriate training for midwives to enable them to provide evidence-based information when recommending influenza vaccination to pregnant women so that women can make informed decisions about their care.

Recommendations for further research:

- Further research is required to explore the quality of information given to pregnant women by midwives to enable women to make fully informed decisions about seasonal influenza vaccination in pregnancy. This should explore how the quality of information is influenced by the context and model of care provided.
- Further research is required to understand seasonal influenza vaccination uptake rates and its relation to ethnicity.
- Further research is required to explore midwives' knowledge and experience of seasonal influenza vaccination in pregnancy.
- Further research to explore the contribution and support from significant others in relation to pregnant women's perception of influenza vaccination may yield more insight into their decision-making.

7.14 Concluding statement

Returning to my research question and objectives, this study has shown that in this context, the relationship between the woman and the midwife does appear to impact on the woman's decision to accept or decline the seasonal influenza vaccination in pregnancy. I have also determined that the antenatal environment in which the discussion around influenza vaccination takes place does not appear to influence women's decision to accept or decline the vaccination. The geographical location in which the study was conducted did not make a difference to women's experience of being offered influenza vaccination by their midwife however it is recognised that the context of the study is set within one Health Board and will not be representative of all Health Boards or Trusts within the UK.

This study has found that despite not fully understanding the importance of seasonal influenza vaccination in pregnancy, participants revealed trust in the midwife to do the right

thing for them in their quest to be a good mother. Being largely disengaged, participants accepted the vaccine without question but did not seek any further information. Despite perceived lack of risk of influenza disease and where there were no perceived barriers to accessing the vaccine, women's risk perception was shaped by superstitious beliefs and magical thinking. Most participants duly complied with having the vaccination without thought or question following recommendation by the midwife, displaying traits of quiescent reproductive citizens. Understanding how lay people make sense of the determinants of health and illness is important for health professionals dealing with women, families and the promotion of public health (Fitzpatrick 1984). Women have many competing priorities during pregnancy. Time is precious and the subject of seasonal influenza vaccine may be overlooked and not prioritised when caring for other children, work, family commitments and preparation for labour and birth, yet pregnant women underestimate their risk of serious illness from influenza disease. As the world is now facing its latest pandemic (WHO 2020) with the Novel Coronavirus Covid-19, findings from this study may provide organisations and policymakers with an opportunity to further explore and understand the complexity of women's decision-making in the context of vaccination in pregnancy for future influenza seasons and pandemics.

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*The Motherisk programme provides evidence based information to women and their health care professionals regarding the safety or risks associated with drugs, chemicals, radiation treatments and infectious diseases during pregnancy or lactation. After the H1N1 Influenza A vaccination programmes for priority groups including pregnant women began in Ontario at the end of October 2009, Motherisk received many telephone calls from pregnant women inquiring about the safety of the H1N1 vaccination (Sakaguchi et al 2011).

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Appendix 1: Table of studies included within the literature review

No	Authors	Year	Title	Country of Origin	Study Design & Methodology	Key Findings / Contribution to Review	Quality of Evidence
1.	Tucker Edmonds BM, Coleman J, Armstrong K, Shea JA	2011	Risk perceptions, worry or distrust' what drives pregnant women's decisions to accept the H1N1 vaccine?	USA	**Quantitative** Self-administered cross-sectional survey *n=173*	Cross-sectional survey of 173 pregnant women recruited from two OB/GYN practices at an urban academic medical centre. Survey items were adapted from validated measures of risk, worry, and health care distrust. Vaccination intention was analysed as a dichotomous variable. Analyses were with student's t tests, chi squared tests, and logistic regression. Unable to account for potential changes in risk perceptions, worry and distrust in individuals over time. Recruitment for the study occurred over an 8-week time period. Increasing H1N1 flu and vaccine media coverage may have changed women's risk perceptions over time. Behaviour may be determined by a change in perception at a future moment intime. Potential for social desirability bias among respondents. Convenience sample, selection bias may have been introduced from interviewer selection. The sample was drawn from an urban population of women receiving care in an academic centre, findings may not be generalizable to all pregnant women	*Moderate*
2.	Sakaguchi S, Weitzner B, Carey N, Bozzo P, Mirdamadi K, Samuel N, Koren G, Eirnarson A	2011	Pregnant women's perception of risk with use of the H1N1 vaccine	Canada	**Quantitative** Follow-up telephone survey (Oct-Nov 2009) *n=130*	Pregnant women who had contacted the Motherisk* programme requesting counselling for the safety of the H1N1 and who had not received the vaccine were contacted for follow up using a structured questionnaire. Six women declined to participate and 26 were considered lost to follow-up after at least three unsuccessful attempts to contact them (response rate 85%). 26 women had decided not to receive the vaccine. 6 cited their main reason as feeling that the vaccination was not necessary. Among those who received the vaccine (n = 104), concern about the risk of H1N1 infection in the fetus and/or themselves was the most cited reason for their decision (73.1 %), followed by recommendations encouraging vaccination (34.6 %), and previous history of complication or illness from influenza (3.8%) Lack of generalizability is the major limitation of the study, only women who called Motherisk were included	*Low-Very Low*
3.	Halperin BA, MacKinnon-Cameron D,	2014	Maintaining the momentum; key factors influencing	Canada	**Quantitative** questionnaire survey	Compared pre and post-pandemic knowledge, attitudes, beliefs, and intended behaviours of pregnant women regarding influenza vaccination during pregnancy in order to determine	*Moderate*

	McNeil S, Kalil J, Halperin SA		acceptance of influenza vaccination among pregnant women following the H1N1 pandemic		*n=662 pre n=159 post*	key factors influencing their decision to adhere to influenza vaccine recommendations. 36% pre-pandemic respondents knew that influenza was more severe in pregnant women, compared to 62% post-pandemic respondents. The 2009 H1N1 pandemic experience appeared to change attitudes and behaviours of healthcare providers and their pregnant patients toward influenza vaccination. Small sample of mostly young, white, well-educated women, which is likely not representative of the general population of pregnant women. The inclusion criteria for the post-partum cohort were expanded to include higher risk pregnancies, which may have contributed to response bias. Ongoing research in a larger population is needed, with a particular focus on predictors of maternal vaccination both during a typical vaccine season as well as during a future possible influenza pandemic. Heed lessons learned from and maintain the momentum with imaginative, effective, evaluable public and professional education campaigns that continue to link perceived risk of disease with the pandemic experience. If the vaccine coverage seen during the pandemic is to be maintained, public health campaigns must transform their platform to highlight the construct of ongoing personal risk to pregnant women in the face of seasonal and/or pandemic influenza	
4.	Yuen CYS, Dodgson JE, Tarrant M	2016	Perceptions of Hong Kong Chinese women toward vaccination during pregnancy	Hong Kong	Qualitative Descriptive Study (April – June 2011) *n=32*	Recruited women who had just given births to alive infant from a large teaching hospital in Hong Kong, interviewed in the immediate postpartum period. the audio recordings were transcribed verbatim into English and crosschecked for accuracy. 2-step thematic analysis process. 40 women were invited to participate. 32 postpartum women were interviewed, and two had been vaccinated during pregnancy. Following thematic analysis, three themes emerged: perceived risk of influenza infection, Perceived risk of influenza vaccine, and decision-making cues. Only two vaccinated participants. Recruitment took place in one hospital setting and may not reflect perceptions of larger population. Conducted one year after the A/H1N1 pandemic, participants were unclear whether perceptions were of seasonal influenza or pandemic vaccines. Findings from this study can assist public health workers and policymakers in devising education and promotion programs to enhance influenza vaccination uptake and improve health outcomes for pregnant women and young infants. A multi-layered approach	*Low*

						to getting appropriate health messages out to the relevant audiences is needed and should involve both public and private agencies, HCPs and the media	
5.	Lohm D, Flowers P, Stephenson N, Waller E, Davis MDM	2014	Biography, pandemic time and risk; Pregnant women reflecting on their experiences of the 2009 influenza pandemic	Australia & Scotland	**Qualitative** Individual in depth, paired and focus group interviews (2011-2012) *n=14*	Five interviewers based in Sydney, Melbourne and Glasgow conducted in depth, paired and focus group interviews to discuss experiences of influenza and the H1N1 pandemic to address the global qualities of the 2009 pandemic in an exploratory theory building research approach. The findings revealed that respondents were surprised to find themselves at particular risk of pandemic influenza. Women found themselves to be newly at risk. Data analysis was a multistage, team activity. First, primary thematic areas were identified in all the data and coded using NVIVO. A period of piloting and double-coding was undertaken to ensure consistency between Melbourne and Sydney coders. Communication was maintained to discuss the progress of the coding and review and to refine the codes. Thematic categories were further analysed into a suite of interrelated and inductively derived child nodes. Transcripts and NVIVO files of the pregnant women were again examined by the senior author to note the specificities of their responses to the pandemic. No limitations of the study recognised and weak recommendations included within the paper	*Low*
6.	Vila-Candel R, Navarro-Illana E, Castro-Sanchez E, Duke K, Soriano-Vidal FJ, Tuells J, Diez-Domingo J	2016	Determinants of seasonal influenza vaccination in pregnant women in Valencia Spain	Spain	**Quantitative** Observational, descriptive, retrospective study (Oct 2014-Jan 2015) *n=200*	Observational retrospective study in 200 pregnant women, 100 vaccinated and 100 unvaccinated. Electronic medical records, immunization registry and telephone interviews were used to determine reasons for vaccination and immunization rejection. 40.5% of pregnant women in the health department were vaccinated. The midwife was identified as source of information for 89% of women. The vaccine was rejected due to low perceptions of risk of influenza infection (23%), lack of information (19%), considering the vaccine as superfluous (16%), close proximity of delivery date (13%) and fear of side effects (12%). The sample size was calculated to assess differences in the percentage of pregnant women that received advice from the health provider for influenza vaccination. Estimated 50% of vaccinated women received advice and 40% of the unvaccinated. An error of 5% and a power of 85%, the sample size needed was 194 women in total, 97 per group. Bivariate analysis was performed using Chi-square; for risk factors for vaccination, an odds ratio (OR) with a95% CI, was calculated.	*Low*

						The significance level was set at $p < 0.05$. No limitations or recommendations of the study noted	
7.	Napolitano F, Napolitano P, Angelillo IF	2017	Seasonal influenza vaccination in pregnant women; knowledge, attitudes and behaviours in Italy	Italy	**Quantitative** Cross-sectional face to face questionnaire survey (Dec 2015-Feb 2016) *n=372*	Recruited women in 2nd or 3rd trimesters in an obstetric ambulatory centre in public non-teaching hospitals using a two-stage cluster sampling strategy. Stata version 10.1 was used to perform all statistical analysis.9.7% of women had the seasonal influenza vaccine in pregnancy. The majority of respondents considered the vaccine not very useful in pregnancy. Women with secondary school education and with more than one child revealed a lower perception. Limitations noted – difficulty to precisely determine temporal sequence between the dependent and independent variables. Possibility of bias due to participants with favourable attitudes towards vaccination potentially being more likely to respond to the questionnaire. This suggests that responses can be biased due to forgetfulness or exaggeration of attitude and behaviours, social desirability, or affected by feelings at the time of the interview. Data were obtained from interviews and the answers were not verified through chart review and, therefore, it is not possible to be certain that the respondents answered correctly and recall bias could have occurred. Finally, a non-standardized questionnaire has been used, although this limitation has been partially solved by piloting the questions on a group of pregnant women. Health educational programmes should be developed in order to improve the level of knowledge about seasonal influenza and its vaccination in this population focusing on the efficacy and safety. Gynaecologists and primary care physicians, who are the providers of health care during pregnancy, consultations and recommendations should play a more substantial role in promoting this vaccination and to increase the uptake in pregnant women.	*Moderate*
8.	Gorman JR, Brewer NT, Wang JB, Chambers CD	2012	Theory based predictors of influenza vaccination among pregnant women	USA & Canada	**Quantitative** Cross sectional telephone survey (Oct 2010-June 2011) *n=199*	Between 2009 and 2012, the Vaccines and Medications in Pregnancy Surveillance System (VAMPSS) conducted a prospective cohort study of influenza vaccine safety among pregnant women in the US and Canada that oversampled vaccinated women. Data are from an additional cross-sectional telephone survey completed during the 2010–2011 influenza season. The study examined predictors of influenza vaccination, focusing on Health Belief Model (HBM) constructs. Pregnant women enrolled in the vaccines and medications in pregnancy surveillance system (VAMPSS). A survey of 199	*Moderate*

						pregnant women, 81% of whom had received a seasonal influenza vaccine. Vaccination was more common among women who felt more susceptible to influenza (OR = 1.82, 95% CI1.10–3.01), who perceived greater vaccine effectiveness (OR = 3.92, 95%CI 1.48–10.43), and whose doctors recommended they have flu shots (OR = 3.06, 95% CI 1.27–7.38). Those who perceived greater barriers of influenza vaccination had lower odds of vaccination (OR = 0.19, 95% CI 0.05–0.75). Perceived social norms, anticipated inaction regret, and worry also predicted uptake, though demographic characteristics of respondents did not. Limitations - a cross-sectional ability to make causal inferences. Sample not representative of pregnant women in general as participants were a convenience sample from a larger cohort study that was not designed to reflect population vaccination rates. Because most participants were recruited through Teratogen Information Services. women in this study may have been more concerned about their prenatal health because of co-morbidities, additional exposures, or other health concerns and therefore, responded differently to health behavioural questions such as perceived susceptibility. Most were White (non-Hispanic) and had a high socioeconomic status. Influenza vaccination status self-reported and not verified by medical record. Relied on self-report of having received a doctor's reminder to have an influenza vaccination during pregnancy. It is possible that some women did not recall this information accurately. No recommendations noted.	
9.	Bodeker B, Betsch C, Wichmann O	2015	Skewed risk perceptions in pregnant women; the case of influenza vaccination	Germany	**Quantitative** National web based prospective cohort study (Feb 2012 - August 2014) n=838	Women were recruited to the study during pregnancy and were followed up on three separate occasions until their children were 14 months old. The most frequently cited reason for not having received the influenza vaccination in pregnancy was that the vaccination was unnecessary as the women's perception was that they were of low risk for acquiring influenza. Knowledge about the vaccination recommendation for pregnant women and a positive gynaecologist's attitude towards vaccination during pregnancy influenced the uptake greatly Descriptive statistics were used to describe the study population, general vaccination-related knowledge, risk perceptions among pregnant women, and reasons for not being vaccinated against influenza during pregnancy. The association between vaccination-related knowledge and sociodemographic variables were calculated using Spearman	*Moderate*

						correlation coefficient. To determine potential associations between influenza vaccination uptake and sociodemographic characteristics as well as attitude and knowledge items, we conducted univariate and multiple logistic regression analyses. Odds ratios (OR) and 95 % confidence intervals (CI) were calculated. A p-value of <0.05 was considered statistically significant. Variables with a p-value of <0.1 in the univariate analysis were entered in the first step of the multiple analyses. Statistical analyses were performed with StataSE13. Limitations – women who were born in Germany and with higher education were over-represented, possible over estimation of presented vaccination knowledge. Selection bias was acknowledged. Recruitment strategy could not calculate the response rate. Vaccination status was self-reported. Sample limited to German speaking women. recommendation - for gynaecologists to be made aware of their role in supporting vaccine decision-making.	
10	Kang HS, deGagne JC, Kim JH	2015	Attitudes, intentions and barriers toward influenza vaccination among Korean women	South Korea	**Quantitative** Cross-sectional descriptive questionnaire correlational study (Feb-March 2011) *n=700*	Of the 700 completed questionnaires analysed, 505 of the participants had not been vaccinated. 210 of the women felt that they were not at risk of influenza illness and that being healthy, the women felt the influenza vaccination was unnecessary A rigorous standard of a 50–50 chance that the sample would be evenly divided on a question, a 5% sampling error, and a 95% confidence interval, the required sample size for the study was estimated to be 377, while it was 643 with a 99% confidence level. 700 completed questionnaires were analysed. All analyses were performed using SPSS. Descriptive statistics were used to summarize the characteristics of the participants, as well as attitudes toward influenza vaccination, intention to receive the influenza vaccine, and barriers to vaccination. Differences in attitudes between the vaccinated and unvaccinated groups were compared by t-tests. Correlation of study variables was analysed using Pearson's correlation. Limitations acknowledged – convenience sampling which may have limited generalisability of findings. Vaccination rates were self-reporting introducing potential recall bias. Intention to vaccine was not followed up to confirm whether vaccine had been received. Recommendations – recommendation of influenza vaccine by clinicians would increase the vaccination rate during pregnancy. Continued outreach and concerted efforts are	*Moderate*

						needed among the government, clinicians, and family members to improve influenza vaccination rates among pregnant women and to reduce barriers through increased public awareness	
11	Lu AB, Abd Halim A, Dendle C, Kotsanas D, Giles ML, Wallace EM, Buttery JP, Stuart RL	2012	Influenza vaccination uptake amongst pregnant women and maternal care providers is suboptimal	Australia	**Quantitative** cross-sectional survey (April – May 2011) *n- 337 women & 96 maternity care providers*	56.8% of healthcare professionals believed pregnant women were at high risk of influenza related complications however 72.9% would recommend the vaccination to all pregnant women. Women were more likely to be vaccinated if they had received education about influenza and believed they were at high risk of influenza related complications while pregnant. Data were analysed using STATA 11. Student's t tests and 2 tests were used where appropriate. Risk ratios (RR) and 95% confidence intervals (CI) were calculated for questionnaire responses between groups. Statistical significance was accorded when $p < 0.05$. Limitations acknowledged – failed to differentiate between intention and receipt of vaccine. Recall bias present due to self-administered nature of questionnaires. Non response bias considered, reflection of opinions of sub groups with particular interests in the topic studied. Findings may be difficult to interpret widely as data was collected in a single tertiary hospital with large proportion of overseas patients. Recommendation for ongoing education for maternal care providers and pregnant patients to increase knowledge	*Moderate*
12	Ishola DA Jr, Permalloo N, Cordery RJ, Anderson SR	2013	Midwives' influenza vaccine uptake and their views on vaccination of pregnant women	UK	**Quantitative** Semi-structured online questionnaire *n=266*	69% (n=266) of midwives agreed with the policy of vaccinating all pregnant women and that midwives should routinely advise pregnancy women on vaccination however only 25% felt prepared for the role citing concerns such as lack of training, necessity and effectiveness Limitations – selection and representation bias, more senior experienced practitioners were disproportionately represented. Invitations to participate were cascaded to midwives via the goodwill of heads of midwifery, it was not feasible to compute a conventional response rate as the denominator was unknown. Recommendations – adequate information and training to better support midwives for a more proactive role to encourage influenza vaccination for women.	*Low*
13	Regan AK, Hauck Y, Nicolau L, Engelbrecht	2018	Midwives' knowledge, attitudes and learning needs	Australia	**Quantitative** Cross-sectional paper-based	Self-reported responses to a 41-item survey. Survey data were analysed in SAS version 9.4. Midwives employed at the only public tertiary maternity hospital in Western Australia. The majority of midwives supported influenza and vaccination for	*Moderate*

	D, Butt J, Mak DB, Priest R, Cukierman R, Effler PV		regarding antenatal vaccination		survey (Nov 2015-July 2016) *n=252*	pregnant women with 90% reporting they would recommend to pregnant women or family member and that midwives should administer vaccines to pregnant women. Midwives view antenatal vaccination as their responsibility and are interested and receptive to further education. Limitations – data were self-reported by a small sample of midwives at the only public tertiary maternity hospital in WA and may not be generalisable. Possible response bias, surveys could not be linked to participating midwives due to anonymity. Recommendation - Provision of vaccine education for midwives, through formal education and continuing professional development, should be a priority for midwifery professional development and antenatal vaccine programmes.	
14	Vishram A, Letley A, Van Hoek AJ, Silverton L, Donovan H, Adams C, Green D, Edwards A, Yarwood J, Bedford H, Gayatr A Campbell H	2018	Vaccination in pregnancy: Attitudes of nurses, midwives and health visitors in England	UK	**Quantitative** Cross-sectional online survey of English midwives, practice nurses and health visitors (May – August 2015) *n= 3441 midwives*	3441 healthcare workers who had been surveyed during May to August 2015. The participants were midwives, practice nurses and health visitors. Knowledge of vaccination in pregnancy was high in all professional groups. 73 % of all respondents would recommend the influenza vaccine to pregnant women. They were more likely to recommend vaccination in pregnancy if they would personally have the influenza vaccine themselves and/or if they had the influenza vaccine as a healthcare worker. Practice nurses were significantly more likely to recommend the influenza vaccines to pregnant women than midwives and health visitors. Health professionals who had received immunisation training were more confident in giving advice to pregnant women. Limitations - not possible to assess changes in opinions over time or the impact of programme changes, The survey is subject to selection and representation bias. The main limitation was a relatively low response rate (10%). Demographic data suggested that white ethnicity and practice nurses were over-represented Recommendations - To fully assess the impact of PHE developed resources, another survey could be undertaken	*Low*
15	Kissin DM, Power ML, Kahn EB, Williams JL, Jamieson DJ, MacFarlane K, Schulkin J, Zhang Y,	2011	Attitudes and practices of obstetrician – gynaecologists regarding influenza vaccination in pregnancy	USA	**Quantitative** Cross-sectional survey (Feb-July 2010) *n=3096*	Self-administered mail survey conducted among a random sample of American College of Obstetricians and Gynaecologist members involved in obstetric care. The majority of obstetricians and gynaecologists reported routinely offering both seasonal and 2009 H1N1 influenza vaccination to their pregnant patients (77.6 and 85.6%) physicians in solo practices were less likely to routinely offer influenza vaccine	*Low*

	Callaghan WM					Limitations - relatively low response rate, which is, however, slightly higher than reported in previous random surveys of general College members (averaged 40%). It is also possible that characteristics of respondents are different from that of non-respondents, Limitations of self-reported data, which can be subject to response bias. Data collected immediately after the 2009 H1N1 pandemic season, findings may not be generalizable to a non-pandemic influenza season No recommendations for practice noted	
16	Dvalishvili M, Mesxishvili D, Butsashvili M, Kamkamidze G, McFarland D, Bednarczyk RA	2016	Knowledge, attitudes and practices of healthcare providers in the country of Georgia regarding influenza vaccinations for pregnant women	USA	**Quantitative** Anonymous, self-administered written survey (June – July 2015) *n=411*	Cross sectional study of obs / gyn in 8 cities in Georgia. 280 surveys out of 411 distributed. 88% of physicians, perceived influenza to be a serious infectious disease and that pregnant women are more susceptible than the general population. Only 43% of this sample however responded that they would recommend the influenza vaccination in pregnancy Limitations - the survey was not administered to a random sample of physicians. Data could be biased by social desirability or social approval as responses were self-reported and not validated Recommendations - further education and training of physicians could potentially increase the number of physicians willing to recommend vaccination. Educational materials for pregnant women would correct preconceptions and alleviate fears of getting an influenza vaccine during pregnancy	*Low*
17	Stark L, Power ML, Turrentine M, Samelson R, Siddiqui MM, Paglia MJ, Strassberg ER, Kelly E, Murtough KL, Shulkin J	2016	Influenza vaccination among pregnant women; patient beliefs and medical provider practices	USA	**Quantitative** Cross-sectional survey Flu season data collection Sept-April 13-14, Sept – April 14-15 *n=984 patients & 4 hcps*	ECARN study – 4 sites recruited across 4 states in the US. 80% self-reported accepting the influenza vaccination but medical data only reported 36%. All medical providers said they gave a medical recommendation for the vaccine, 85% of women recalled the recommendation being made Limitations - sample was primarily White, highly educated and results cannot be generalized to the larger US population; survey was voluntary, possible that those who filled out the questionnaire were more inclined than other patients who did not respond to the survey in favour of influenza vaccinations. The demographics of the sites which were primarily persons being White and highly educated may also skew the results and be missing a population of women who have lower rates of vaccination. Patient responses are limited by the date they filled out the survey (beginning and end of flu season) Recommendations - Future research should explore reasons pregnant patients would be inclined to change previous immunization behaviour more thoroughly. Improving medical record tools, communication between medical providers and	*Moderate*

						patients, and determining more accurate ways of measuring self-reported vaccination rates should also be considered for future research.	
18	Praphasiri P, Ditsungnoen D, Greenbaum A, Dawood FS, Yoocharoen P, Stone DM, Olsen SJ, Lindblade KA, Muangchana C	2017	Do Thai physicians recommend seasonal influenza vaccines to pregnant women? A cross sectional survey of physicians' perspectives and practices in Thailand	Thailand	**Quantitative** Cross-sectional self-administered questionnaire study (Jan-April 2013) *n=643*	643 responses received from physicians practicing in antenatal clinics. A favourable attitude towards vaccination was expressed by 75% of physicians however only 25% reported routinely recommending influenza vaccine to pregnant women in their current practice. Limitations – sample not representative of all physicians working an ANCs as only one clinician was chosen by the hospital director (who may have chosen a member of staff with a favourable attitude toward vaccinations) Recommendations – need to increase availability and free vaccine services, address physician concerns re effectiveness and safety, increase influenza vaccination among physicians = no recommendations for future research.	*Low*
19	Webb H, Street J, Marshall H	2014	Incorporating immunisations into routine obstetric care to facilitate health care practitioners in implementing maternal immunisation recommendations	Australia	**Qualitative** Semi structured interviews (January-April 2012) *n=15*	Semi structured interviews conducted with perinatal HCPs at a tertiary maternity hospital in South Australia. No routine mechanism for women to receive the vaccination in hospital. Women were referred to their general practitioner, with cost being a concern. Influenza vaccines were not part of the routine system of antenatal care Limitations – conducted at only one hospital Recommendations - Embedding influenza vaccines into routine pregnancy care would remove the logistical barriers to implementation and provide the structures needed to ensure women are routinely offered these interventions	*Low*
20	Arao RF, Rosenberg KD, McWeeney S, Hedberg K	2015	Influenza vaccination of pregnant women; attitudes and behaviours of Oregon physician prenatal care providers	USA	**Quantitative** Cross-sectional survey *n= 496*	Routinely recommending influenza vaccine was associated with younger physicians. Recommendation was not significantly different between obstetricians and family physicians. More patients seen per week were significantly associated with routinely recommending influenza vaccine Limitations – none reported Recommendations – none reported	*Low*
21	Maher L, Dawson A, Wiley K, Hope K, Torvaldsen S, Lawrence G, Conaty S	2014	Influenza vaccination during pregnancy; a qualitative study of the knowledge, attitudes, beliefs, and practices of general	Australia	**Qualitative** Descriptive Study *n=17*	A third of GPs interviewed did not consider influenza during pregnancy to be a serious risk for the mother or baby. 2/3 of GPs stated they recommend vaccination however many were adopting principles of patient informed choice in their approach and encouraged women to decide for themselves whether to receive the vaccine Limitations - interviews were undertaken approximately six months after the implementation of a number of strategies	*Low*

			practitioners in Central and South Western Sydney			aimed to increase awareness of maternal influenza vaccination during pregnancy. Only 17 of the 44 general practitioners invited to participate in the study agreed to participate. A greater number of interviews may have provided greater diversity of practice types. Recommendations - general practitioners have a low perception of risk of influenza during pregnancy, and have considerable concerns about vaccine safety and potential liability, further research should investigate these issues	
22	Goldfarb I, Panda B, Wylie B, Riley L	2011	Uptake of influenza vaccine in pregnant women during the 2009 H1N1 influenza pandemic	USA	**Quantitative** cross-sectional questionnaire survey (Jan-March 2010) *n=370*	81% reported receiving H1N1 and seasonal influenza vaccine. The most common reasons for rejection were women's concerns about safety of the vaccination in pregnancy which was a major deterrent. Limitation - sample size was small and findings might not be generalizable to all pregnant women. As this was an anonymous survey, self-reported influenza vaccination data was not verified. Selection bias may have been introduced by the self-administered survey and unvaccinated patients may have been less inclined to complete the survey. Relied on the hospital birth registrars who were primarily available to distribute and collect the study Monday to Friday missing patients who delivered and were discharged over the weekend Recommendations - consideration should be given to the impact of obstetrical providers on patient vaccine and treatment acceptance	*Low*
23	Sim JA, Ulanika AA, Katikireddi SV, Gorman D	2011	Out of two bad choices, I took the slightly better one; vaccination dilemmas for Scottish and Polish migrant women during the H1N1 influenza pandemic	Poland & Scotland	**Qualitative** One-to-one interviews with 10 women (5 Polish & 5 Scottish) *n=10*	Deciding whether or not to accept the vaccine was difficult for women, all adopted a critical stance, some identified a contradiction between the culture of caution which characterizes pregnancy related advice and that they were being encouraged to accept what was perceived to be a relatively untested vaccine Limitations – small numbers, recruitment of women during a small-time scale meant authors were unable to sample purposively for characteristics such as educational attainment. Recommendations – it is crucial to include ethnically varied samples in research about vaccine acceptability and development of information	*Low*
24	Fisher BM, Scott J, Hart J, Winn VD, Gibbs RS, Lynch AM	2011	Behaviours and perceptions regarding seasonal and H1N1 influenza	USA	**Quantitative** cross-sectional questionnaire survey (Nov	Postpartum women in an academic medical centre. 6% received seasonal flu vaccination and 54% received H1N1 vaccine during pregnancy. Major reasons for not receiving were not knowledgeable about importance, concerns for effects on maternal and foetal health and not knowledgeable about where to obtain the vaccine	*Low*

			vaccination during pregnancy		2009-May 2010) *n=813*	Limitations - Inability to interview all 1553 eligible postpartum women, Recall bias Recommendations - Future campaigns should focus on vaccine importance and safety	
25	Fabry P, Gagneur A, Pasquier JC	2011	Determinants of A (H1N1) vaccination; cross sectional study in a population of pregnant women in Quebec	Canada	**Quantitative** cross-sectional questionnaire survey (February 2010) *n=250*	Pregnant and Postpartum women in an academic medical centre 95% of women knew the vaccine was recommended but only 76% received it. The belief that the vaccine had not been adequately tested were associated with lower vaccination rates. Limitations – participants were limited to pregnant women in one hospital. Unable to distinguish between disease severity and vaccine safety beliefs for women and / or baby. Study occurred remotely from the pandemic and three months after the beginning of the vaccination programme Recommendations – health authorities should primarily focus on reassuring the population that pandemic vaccines are safe. Efforts should be made for educating pregnant women on the risks of seasonal influenza and the benefits of vaccination	*Low*
26	Fridman D, Steinberg E, Azhar E, Weedon J, Wilson TE, Minkoff H	2011	Predictors of H1N1 vaccination in pregnancy	USA	**Quantitative** cross-sectional questionnaire survey (Nov-Dec 2009) *n=212*	Postpartum women in a tertiary medical centre212 women were invited to participate (postpartum) perceived barriers and severity were independent predictors of vaccination of vaccination. 25% of women had received the vaccine. Women who received the vaccine understood its safety, conversely fears about foetal effects played a key role in reducing the rates of vaccination. Limitations – unable to confirm that the vaccine was actually offered during the encounter with primary care providers. Because of language barriers, could not provide adequate informed consent and questionnaires to non-English speaking members of minority communities attending the hospital, therefore results not generalisable. A time-limited study, unable to analyze trends in vaccination. Recommendations - Addressing perceived barriers, explaining safety of vaccine for the fetus, and stressing the complications that are associated with infection in pregnancy may help to increase the rate of vaccination	*Low*
27	Van Lier A, Steens A, Ferreira JA, van der Maas NAT, deMelker HE	2012	Acceptance of vaccination during pregnancy; experience with 2009 influenza A	Netherlands	**Quantitative** Cross-sectional online survey (April-July 2010)	14,529 women were invited to complete an internet survey on vaccination during pregnancy in general and the 2009 H1N1 influenza A vaccine. 2993 women responded with 63% reporting to have been vaccinated against H1N1. Education level, country of birth or trimester did not differ significantly between vaccinated and	*Low*

			(H1N1) in the Netherlands		*n=2993*	unvaccinated women yet possible harmful effects of the vaccine for the foetus had the greatest predictive value for vaccination status and women expressed concern over lack of sufficient knowledge about vaccine safety. Limitations – the study had an elective response only 21% of invited women participated. Women with higher education were over-represented. Study was conducted post-pandemic when people may have felt that the need to vaccinate was not urgent Recommendations – a challenge for the government will be to provide pregnant women and healthcare professionals with clear and sufficient information about the severity of disease, benefits and safety of the vaccination.	
28	Drees M, Tambourelli B, Denstman A, Zhang W, Zent R, McGraw P, Ehrenthal DB	2013	Sustained high influenza vaccination rates and decreased safety concerns among pregnant women during the 2010-2011 influenza season	USA	**Quantitative** Cross-sectional questionnaire survey (Feb-March 2011 *n=300*	Postpartum women in an academic medical centre A major barrier was that they would not normally get a 'flu shot' as they had a lack of perceived risk of getting influenza and lack of awareness of potential severe illness from flu. Also found that following on from the pandemic of 2009 H1N1 Influenza A, women perceived their risk of becoming unwell with influenza to have decreased despite remaining at risk of severe complications from seasonal influenza Limitations - small sample size and single site, which may limit its generalizability. Provider recommendation were based on participants' recollection, unable to ascertain the content/quality of the discussion about vaccination between participants and their obstetrical providers. As with other studies of vaccination behaviour, this survey was subject to social desirability bias Recommendations - Continued efforts to maximize vaccine availability and to educate and inform both pregnant women and their obstetrical providers about influenza vaccination, emphasizing its safety and efficacy for both maternal and child health, will be required to sustain or improve influenza vaccination rates in pregnancy.	*Low*
29	Taksdal SE, Mak DB, Joyce S, Tomlin S, Carcione D, Armstrong PK, Effler PV	2013	Predictors of uptake of influenza vaccination – a survey of pregnant women in Western Australia	USA	**Quantitative** Computer assisted telephone survey *n=570*	Computer assisted telephone interviews were conducted with 416 randomly selected women who were pregnant during the 2012 influenza vaccination season. Coverage was 23%. When asked about the effect of influenza vaccination during pregnancy 23% reported a belief it was not safe. When asked about the effect on the baby 27% reported a belief that it was not safe	*Low*

						Limitations- None reported Recommendations for practice – recommending and offering seasonal influenza vaccination should become a routine part of antenatal care	
30	Yuen CYS, Tarrant M	2014	Determinants of uptake of influenza vaccination among pregnant women – a systematic review	Hong Kong	**Systematic Review**	Forty-five research papers were included in the review. 21 studies assessed coverage of seasonal influenza vaccination, 13 studies assessed coverage of A/H1N1 vac, and 11 studies assessed both. Many pregnant women were unaware that they were at high risk for influenza and its complications during pregnancy and were likely to underestimate the threat of influenza and its complications to themselves and their foetus. They also had substantial concerns about the safety and efficacy of the influenza vaccine during pregnancy. Although hcp recommendations were consistently associated with vaccine uptake, most did not recommend the vaccine to their pregnant clients Limitations – largely based on data from cross sectional studies, bias may limit generalizability beyond immediate settings. studies showing higher rates of vaccination uptake may not have been included. Recommendations - positive vaccination recommendations from HCPs as well as direct access to the vaccine would likely improve vaccine acceptance.	*Moderate*
31	Wilson RJ, Paterson P, Jarrett C, Larson HJ	2015	Understanding factors influencing vaccination acceptance during pregnancy globally: a literature review		Literature Review	42 articles were identified. Pregnancy related articles were further screened to identify those focused on concerns, trust and access issues regarding maternal vaccination reported by pregnant women and healthcare workers. Main barriers cited were related to vaccine safety, belief that the vaccine was not needed or effective and not recommended by the health care worker	*Low*
32	Healy CM, Rench MA, Montesinos DP, Ng N, Swaim LS	2015	Knowledge and attitudes of pregnant women and their providers towards recommendations for immunisation during pregnancy	USA	**Quantitative** Prospective convenience sample of women (May 2013-Feb 2014) *(n=796)* and providers *(n=63)*	Factors impacting vaccination decisions included safety for the baby, safety of the mother and insufficient information. Pregnant women are willing to accept vaccination in pregnancy if recommended by their physician and if sufficient discussion of safety and rationale occurs Limitations – Single centre with an academic ethos 0 women who chose to deliver there are more likely to be pro vaccine than the general population therefore pro vaccine bias potential. Recognition that intention does not translate into vaccine behaviour. Recommendations for practice, ongoing education of providers and negotiation of logistic and financial issues to increase uptake rates	*Low*

33	Mayet AY, Al-Shaikh GK, Al-Mandeel HM, Alsaleh NA, Hamad AF	2017	Knowledge, attitudes, beliefs and barriers associated with the uptake of influenza vaccine among pregnant women	Saudi Arabia	**Quantitative** Cross-sectional prospective survey *n=998*	998 women participated, there was a poor awareness that the flu vaccine is safe to administer during pregnancy (13.1%). There was a low uptake of the vaccine. Limitations – single centre, closed ended questionnaire. Recommendations – educational material aimed at pregnant women and support for the antenatal healthcare provider is needed to increase awareness and recommendation to increase the uptake of the vaccine	*Low*

Appendix 2: JBI Critical Appraisal Tool Examples

JBI Critical Appraisal Checklist for Systematic Reviews and Research Synthesis

Reviewer _____ Date _____
Author _____ Year _____ Record Number _____

		Yes	No	Unclear	N/A
1.	Is the review question clearly and explicitly stated?	☐	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	☐	☐	☐	☐
3.	Was the search strategy appropriate?	☐	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	☐	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	☐	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	☐	☐	☐	☐
7.	Were there methods to minimize errors in data extraction?	☐	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	☐	☐	☐	☐
9.	Was the likelihood of publication bias assessed?	☐	☐	☐	☐
10.	Were recommendations for policy and/or practice supported by reported data?	☐	☐	☐	☐
11.	Were the specific directives for new research appropriate?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐
Comments (including reasons for exclusion):

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JBI Critical Appraisal Checklist for Systematic Reviews and Research Synthesis

Reviewer ..... Date .....
Author ..... Year ..... Record Number .....

		Yes	No	Unclear	N/A
1.	Is there congruity between the stated philosophical perspective and the research methodology?	☐	☐	☐	☐
2.	Is there congruity between the research methodology and the research question or objectives?	☐	☐	☐	☐
3.	Is there congruity between the research methodology and the methods used to collect data?	☐	☐	☐	☐
4.	Is there congruity between the research methodology and the representation and analysis of the data?	☐	☐	☐	☐
5.	Is there congruity between the research methodology and the interpretation of results?	☐	☐	☐	☐
6.	Is there a statement locating the researcher culturally or theoretically?	☐	☐	☐	☐
7.	Is the influence of the researcher on the research, and vice-versa, addressed?	☐	☐	☐	☐
8.	Are participants, and their voices, adequately represented?	☐	☐	☐	☐
9.	Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	☐	☐	☐	☐
10.	Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐
Comments (including reasons for exclusion):

JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies

Reviewer ..... Date .....
Author ..... Year ..... Record Number .....

		Yes	No	Unclear	N/A
1.	Were the criteria for inclusion in the sample clearly defined?	☐	☐	☐	☐
2.	Were the study subjects and the setting described in detail?	☐	☐	☐	☐
3.	Was the exposure measured in a valid and reliable way?	☐	☐	☐	☐
4.	Were objective, standard criteria used for measurement of the condition?	☐	☐	☐	☐
5.	Were confounding factors identified?	☐	☐	☐	☐
6.	Were strategies to deal with confounding factors stated?	☐	☐	☐	☐
7.	Were the outcomes measured in a valid and reliable way?	☐	☐	☐	☐
8.	Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐
Comments (including reasons for exclusion):

JBI Critical Appraisal Checklist for Qualitative Studies

Reviewer_____
Date_____.

Author_____Year_____ Record Number_____

		Yes	No	Unclear	Not applicable
1.	Is there congruity between the stated philosophical perspective and the research methodology?	□	□	□	□
2.	Is there congruity between the research methodology and the research question or objectives?	□	□	□	□
3.	Is there congruity between the research methodology and the methods used to collect data?	□	□	□	□
4.	Is there congruity between the research methodology and the representation and analysis of data?	□	□	□	□
5.	Is there congruity between the research methodology and the interpretation of results?	□	□	□	□
6.	Is there a statement locating the researcher culturally or theoretically?	□	□	□	□
7.	Is the influence of the researcher on the research, and vice- versa, addressed?	□	□	□	□
8.	Are participants, and their voices, adequately represented?	□	□	□	□
9.	Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	□	□	□	□
10.	Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	□	□	□	□

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐
Comments (including reasons for exclusion):

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Appendix 3: Table of Qualitative Descriptive Analysis studies relevant to midwifery practice

Qualitative Descriptive Analysis **Examples of studies in midwifery research**					
No	**Authors**	**Year**	**Title of Paper**	**Publication**	**Analysis Used**
1	Hui LiPoh, SerenaSiewLinKoh, HuiChengLydiaSeow, Hong-Gu He,	2014	First-time fathers' experiences and needs during pregnancy and childbirth: A descriptive qualitative study	Midwifery 30 779–787	Thematic Analysis
2	Norna F. Waters A, Wendy A. Hall b,*, Helen Brown B, Hilary Espezel BC, Lynne Palmer B	2012	Perceptions of Canadian labour and delivery nurses about incident reporting: A qualitative descriptive focus group study	International Journal of Nursing Studies 49 (2012) 811–821	Content Analysis
3	Shu Fen Ong, Wai-Chi Sally Chan, Shefaly Shorey, Yap Seng Chong, Piyanee Klainin-Yobas, Hong-GuHe,	2014	Postnatal experiences and support needs of first-time mothers in Singapore: A descriptive qualitative study	Midwifery 30 772–778	Thematic Analysis
4	Francesca Wuytack, Elizabeth Curtis, Cecily Begley,	2015	The health-seeking behaviours of first-time mothers with persistent Pelvic girdle pain after childbirth in Ireland: A descriptive Qualitative study	Midwifery 31 1104–1109	Thematic Analysis
5	Sarah D McDonald, Wendy Sword, Leyla E Eryuzlu and Anne B Biringer	2014	A qualitative descriptive study of the group prenatal care experience: perceptions of women with low-risk pregnancies and their midwives	BMC Pregnancy and Childbirth 2, 14:334	Open Coding
6	Hannah Rice, Jane Warland,	2013	Bearing witness: Midwives experiences of witnessing traumatic birth	Midwifery 29 1056–1063	Thematic Analysis
7	Athena Hammond, Caroline S.E. Homer Maralyn Foureur,	2017	Friendliness, functionality and freedom: Design characteristics that support midwifery practice in the hospital setting	Midwifery 50 133–138	Thematic Analysis
8	Jenny McLeish, Maggie Redshaw	2018	A qualitative study of volunteer doulas working alongside midwives at births in England: Mothers' and doulas' experiences	Midwifery 56 53–60	Thematic Analysis
9	Seán Kelleher, Serena FitzGerald, Josephine Hegarty	2016	Factors that influence nursing and midwifery students' intentions to study abroad: A qualitative study using the theory of planned behaviour	Nurse Education Today 44 157–164	Content Analysis

10	Tracy Martin, Yvonne Hauck, Jennifer Fenwick, Janice Butt, Jennifer Woods	2015	Midwives' experiences of working in a new service delivery model: the next birth after caesarean service	Evidence Based Midwifery 13(1): 10-14	Thematic Analysis
11	M. Wibbelink S. James	2015	Perceptions Of Private Sector Midwives And Obstetricians Regarding Collaborative Maternity Care In The Eastern Cape, South Africa	Africa Journal of Nursing and Midwifery, Volume 17 Number 2 pp. 17–30	Thematic Analysis
12	Julia Lange Kessler, Julia C. Phillippi,	2015	Incorporating a Primary Care Practicum in Midwifery Education	Journal of Midwifery &Women's Health 60:258–262	Qualitative Descriptive Analysis
13	Monika Ndaudika Ndikwetepo, Nita Strumpher,	2017	Midwives' Experiences Of Stress Due To Emergency Childbirths In A Namibian Regional Hospital	Africa Journal of Nursing and Midwifery, Volume 19, Number 1 pp. 105–117	Content Analysis
14	Billie Hunter, Lucie Warren,	2014	Midwives' experiences of workplace resilience	Midwifery 30, 926–934	Thematic Analysis
15	Sprague S, Swinton M, Madden K, Swaleh R, Goslings JC, Petrisor B, Bhandari M	2013	Barriers to and facilitators for screening women for intimate partner violence in surgical fracture clinics: a qualitative descriptive approach	BMC Musculoskeletal Disorders Vol 14, p122-132	NVIVO / Content Analysis
16	Hunter A, Devane D, Houghton C, Grealish A, Tully A, Smith V	2017	Woman centred care during pregnancy and birth in Ireland: thematic analysis of women's and clinician's experiences	BMC Pregnancy and Childbirth Vol 17, p332 - 343	Thematic Analysis