Labouring for Quality:

Crossing the Chasm in Maternal Health Care in Trinidad and Tobago

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This study is dedicated to my daughter Fayola who was the inspiration for my research study. Thank you for the continued inspiration and lessons.

Abstract

Trinidad and Tobago is a Caribbean country which is striving towards achieving developed country status in the global economic sphere. However, this is against a backdrop of a medical care system which is in a state of flux, and, in particular, has a high maternal mortality rate. The aim of this study was to investigate the quality deficit in maternal health care utilising an adapted version of a maternity quality model. This acted as a conceptual framework in order to explain the gaps in maternal health care and diagnose its weaknesses. This study adopted a mixed method approach using a combination of semi-structured interviews and a small-scale quantitative survey with key stakeholders within the public health system.

Two principal themes emerged: firstly, that the women who accessed maternity services were passive, with them mainly being receivers of the service provided and not using their agency to act within the system and exercise their right to choose. Secondly, health care professionals were passionate and devoted to their professions. However, they tended to be constrained by a health system that has been weakened by competing political, social, generational and cultural agendas, maldistribution, staff shortages, ageing workforce, facilities and equipment deficits.

The study concludes by suggesting that quality has been used as the vehicle to drive health sector reforms and has led to multi-sector alliances and partnerships. However, these alliances would be more effective with better cohesion of activities at all levels within the health system. Despite this, quality is perceived by the users as new and young and in a growth stage as it continues to grapple with the friction and fuzziness of logic of medical, managerial and administrative professionalism.

Key concepts explored: definitions of quality, health quality, Total Quality Management (TQM), Continuous Quality improvement (CQI), health quality models and frameworks, organisational behaviour, health reform, new public sector management, maternity care models, health and health care systems and health policy.

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List of Acronyms and Abbreviations

ANC	Antenatal Care
CBOs	Community-Based Organisations
CMOH	County Medical Officer of Health
CNCDs	Chronic Non-Communicable Diseases
DHFs	District Health Facilities
DHV	District Health Visitor
ERHA	Eastern Regional Health Authority
GDP	Gross Domestic Product
HIV/AIDS	Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome
ICT	Information Technology Communication
IoM	Institute of Medicine (now called NAM effective July 2015)
IVCD	Insect Vector Control Division
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
MoH	Ministry of Health
NAM	National Academy of Medicine (previously called IoM)
NCRHA	North Central Regional Health Authority
NGOs	Non-Governmental Organisations
NHS	National Health Service
NWRHA	North West Regional Health Authority
PAHO	Pan American Health Organisation
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission
QPCC&C	Queens Park Counselling Centre and Clinic
RHAs	Regional Health Authorities
SOPs	Standard Operating Procedures
SWRHA	South West Regional Health Authority
THA	Tobago House of Assembly
TRHA	Tobago Regional Health Authority
TT	Trinidad and Tobago
WHO	World Health Organisation

Chapter 1. Introduction

1.0 Background

The purpose of this chapter is to position the development of the health care system in Trinidad and Tobago by outlining some of the factors that have shaped the health care system. It also serves to provide a brief demographic description of the country, including an outline of the factors that influence the health profile of the population. This will provide a context to the study by introducing the major forces that have and continue to influence the issue of quality in maternal health care, which is the focus of this thesis. Finally, a brief outline of subsequent chapters in this thesis is provided.

1.1 Developing a Research Focus

One of the key goals identified by the Government of the Republic of Trinidad and Tobago in its Vision 2020 Draft National Strategic Plan was to achieve developed country status (Government of the Republic of Trinidad and Tobago 2006) and health is a key indicator of being a developed nation state. Consequently, this research focuses on quality in maternal health care in Trinidad and Tobago as one aspect of this indicator. Trinidad and Tobago is classified as a high-income developing country (World Bank 2016), and to maintain its economic status, it is important that aspects of being 'developed' continue to be maintained and improved, including health. The importance of health to developing nations is further reflected in established global concerns for health.

Global concerns for improvement in health are enshrined in the United Nations Millennium Development Goals (MDGs) and subsequently the Sustainable Development Goals (SDGs). Three of the eight MDGs are health related: MDG 4 aims to reduce child mortality rate, MDG 5 is focussed on improving maternal health, while MDG 6 seeks to combat HIV/AIDS, malaria and other diseases (World Health Organisation 2000; United Nations 2015). MDG 5 identifies unmet need for contraceptive prevalence and antenatal care and calls for governments to reduce maternal mortality and increase the proportion of births attended by skilled health personnel (Raven et al. 2011). Further two of the SDGs are health and gender related: Goals 3 and 5 each focus on maintaining healthy lives and positive wellbeing for all

and gender equality for women and girls (United Nations 2015). This global emphasis, commitment and focus on gender and maternal issues reinforces the notion that maternal health care is a universally important element of health care.

From a health system view, studies show that pregnancy provides an opportunity to identify existing health risks in women and to prevent future health problems for women and their children (Khan et al. 2006; Tunçalp et al. 2015). It is also highlighted that the risk of maternal and infant mortality and pregnancy-related complications can be reduced by increasing access to quality care pre-conception (before pregnancy), antenatal (during pregnancy), and interconception (between pregnancies) (Healthy People 2020 2019). The management framework for delivering appropriate prevention and care is continually evolving as countries strengthen their health systems towards these health goals. The World Health Organisation (2006) note that there is a growing urgency, concern and consensus internationally in improving the performance of health systems to achieve these MDG goals. This urgency has been heightened with the launch of the SDGs in 2015 (United Nations 2015). The need to improve the performance of health systems is interrelated to and interdependent on health sector reforms.

1.1.1 Shaping the Health System Globally: Impact on Trinidad and Tobago

The New Public Management (NPM) movement started in the 1980s prominently in the US and the UK (Bouckaert and Peters 2002). Post-war expansion of the welfare state had raised expectations of the role of governments (Pollitt and Bouckaert 2011). However, by the 1980s, these expectations were not sustainable because of fiscal public budgetary constraints and socio-political pressures. In a bid to solve this crisis, the US government promised to do more with fewer resources, a government that works better and costs less (Gore 1993; De Vries and Nemec 2012). The UK followed a similar trajectory as the US with addressing bureaucracy by reducing the size and role of government (Dunleavy 1986). Other early adopters of these reforms were English speaking countries such as New Zealand, Australia and Canada and it later spread to other countries including Spain, Italy, Germany, Netherlands, and some developing nation states like Trinidad and Tobago (Chernichovsky 1995; Baptiste 2000).

NPM and Health Sector Reform

Pollitt and Bouckaert (2011) identified four core strategies of public sector reform, namely: minimise by introducing privatisation; marketise with private sector techniques and values in government; modernise by changing public sector techniques and values and maintain by reinforcing successfully tried and tested public sector techniques. Further, Osborne and Gaebler (1992) view NPM as improving the way governments work externally via market ideology, in that the public sector should deliberately lessen control or withdraw and allow the private sector to deliver services. Contrastingly, in the UK, Hood (1991; 1995) saw NPM as providing recommendations to improve the public sector by better internal organisation and management.

The international health sector reform agenda was a natural progression and derivative of NPM (Russell et al. 1999). Health sector reform is a group of policy measures affecting the organisation, funding and management of health systems. Health sector reform seeks to improve the population health status through promoting and enhancing access, equity, quality, sustainability and efficiency in the delivery of health care services to most of the population (Zwi and Mills 1995). Green and Matthias (1997) report that health sector reform in Latin America and the Caribbean was driven by the need to broaden coverage, establish equity in health service provisioning whilst simultaneously controlling health care spending by governments, nongovernmental organisations and donor agencies. This contrasts with health sector motives of developed nations in Europe and US whose focus was cost containment.

NPM in UK and Trinidad and Tobago

The experience of the UK with NPM is instructive for its adoption in Trinidad and Tobago because it is a former British colony and the foundations of its administrative systems are set within British constructs. In the UK, NPM has been associated with several specific initiatives including the creation of Next Steps Agencies, management information systems for ministers, the financial management initiative, the Citizen's Charter, the open government initiative and market testing. Many features of UK NPM include a greater emphasis on controlled delegation, value for money, a stronger consumer or customer orientation, the formulation of business plans and agency agreements enshrined in formal contracts, and decentralised cost centres

performance targets and performance related pay. It also involved a shift from a relatively rigid, hierarchical, well ordered routine public sector towards a more fragmented, polycentric public sector (Bissessar 2003).

NPM was introduced by the Government of the Republic of Trinidad and Tobago in 1991. The introduction of this novel private sector style management was partly in response to the broad objectives of structural adjustment measures which had been imposed in 1989 by the International Monetary Fund (Mills 1995). Similar contentions accompanied the introduction of NPM in Trinidad and Tobago as in the UK. Like other policies in Trinidad and Tobago, NPM doctrines, procedures and ideas were imported nearly carte-blanche from the United Kingdom and indirectly from New Zealand through consultants and international agencies.

Performance standards, the introduction of mission statements and contracting out were introduced in the public sector in Trinidad. Initially, the World Bank was quite instrumental in driving health sector reform with Trinidad securing services of a consultant group from the Inter-American Development Bank to develop the framework for the details of the reform (Mills 1995). The resulting Health Sector Reform Programme (HSRP) and the National Health Services Plan (NHSP) in 1994 were utilised to guide health sector reform (Pan American Health Organisation 1996; 2012). However, regulatory mechanisms, such as the introduction of a Charter or new accountability measures were absent in the early stages of reform and were developed later in the 2000s. Overall, the adoption of NPM and by extension health sector reform was not at the scale that has been implemented in the UK. Health sector reform which was part of the overall public sector reform has made improvements to Trinidad and Tobago's health care system in terms of organisation and structure through decentralisation and private sector outsourcing of services and governance (Lubben et al. 2002; Rafeeq and Paul 2000). However, the overall success of it was questioned by Baptiste (2000, p.73) who observed that:

> "… while the reform effort in Trinidad and Tobago between 1992 and 1995 more or less satisfied the Commonwealth Secretariat's nine point 'best practices' list in so far as methodology was concerned . . . it was difficult to identify any concrete outputs of the programme."

Many countries have adopted NPM in a variety of ways as observed by Hood (1995) in his survey of the OECD countries. He noted that the extent to which NPM is implemented was dependent on several factors. These include whether the change was prompted by interests, ideas and ideology, reflect deep-rooted changes in the sociotechnical system or stem from economic competition between states for comparative advantage in low-cost, high efficiency public services. One of the arguments and contentions of this thesis is the difficulties and incompatibility of developed countries transference of policies and agendas and their overall success rates. This will be addressed in more detail in Chapters 4 and 5.

Health sector reform as part of overall public sector reform has been globally pursued by many nations to improve their services (Beck and Milo 2014). There have been improvements made to Trinidad and Tobago's health care system in terms of organisation and structure through de-centralisation and private sector outsourcing of services (Lubben et al. 2002; Rafeeq and Paul 2000). However, the outcomes are not sufficient with respect to maternal health care which is the focus of this study.

1.1.2 Models, Outcomes and Quality

Management research and professional guidelines for improving health care in the Caribbean, including Trinidad and Tobago have been designed and developed by agencies, such as the World Health Organisation (WHO) and Pan American Health Organisation (PAHO) for international countrywide implementation. Despite this, maternal mortality rate (MMR): the number of maternal deaths per 100 000 live births, remains significantly higher in Trinidad and Tobago than comparable Caribbean countries and Organisation for Economic Cooperation and Development (OECD) countries like the UK. Maternal mortality is defined by WHO as:

> "The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes." (World Health Organisation 2000, para 29).

However, the health sector reform in the early 1990's has impacted health care progress and there has been a reduction in MMR from 89 in 1990 to 84 in 2013 (World Health Organisation 2014). Comparatively, the MMR in Trinidad and Tobago when

compared regionally (Barbados) and internationally (UK) is 84:52:8 respectively (World Health Organisation 2014). Nevertheless, there remains an incongruence in the level of improvement in TT when compared to comparable Caribbean countries and OECD countries like the UK. The implication of this variance in maternal mortality rate points to a gap in efficacies of prevailing health models, and by extension, quality. Therefore, this study seeks to understand the nature of good quality of care and establish the role of quality in improving maternal health services.

For the purpose of this study and to contextualise and define the term quality, the concept of quality is situated within a health care context. The universally accepted definition of quality in terms of health is defined by the Institute of Medicine (IoM) and this has been adopted for the study. Quality of care is defined as:

> "The extent to which health care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred." (Institute of Medicine 2001, p.21).

A comprehensive survey of the literature will be used to further explore definitions, perspectives and core concepts of quality, quality management, and models of quality of care for maternal and neonatal health. The aim is to inform the development of an adapted conceptual framework in maternal health that will potentially assist in unravelling the existent gaps. This will be explored in depth later in Chapter Two, the literature review.

1.1.3 Developing the Research Problem

The narrative thus far indicates that while health and wellness are an integral part of the national vision for Trinidad and Tobago, there is still a quality deficit in Trinidad and Tobago's maternity health care. This has led to a national debate – with one Non-Governmental Organisation (NGO) identifying it as one of the top ten demands of the women of Trinidad and Tobago (Girvan 2010). This was in response to several high-profile cases that resulted in either maternal or newborn fatalities through misadventure or mishaps. In 2015, then Minster of Health indicated that a Director of Women's Health would be appointed to deal with identifying policies and strategies to improve maternal care and women's health in general (Loubon 2015). However, questions remain about the structure and framework of TT maternal health care.

It is one of the arguments of this thesis that utilising a quality approach to analyse the Trinidad and Tobago health care system will expose the gaps in the system. Further, this will result in the production of an enhanced model of quality that builds on previous models, such as the Institute of Medicine (2001) and Tunçalp et al. (2015) that support quality guidelines. This helps bridge the gap between the expectations of the health care model and the reality of the experiences of mothers and health care providers in Trinidad and Tobago. This should also define a transferrable process through which models of maternal health care quality can be customised for similar contexts internationally and implemented with appropriate guidelines.

1.2 Locating the Research Study

This section starts with a profile of Trinidad and Tobago followed by an overview of its health care system, providing a context for this research study.

1.2.1 Profile of Trinidad and Tobago

Trinidad and Tobago became independent of Britain in 1962. Its experience of development as a nation and its physical location have contributed to a country which historians have referred to as holding "an infinite promise of prosperity" (Wood 1998, p.1). In the past, some doubts existed as to whether a viable society could be formed, largely because of the complexities related to the diverse ethnicity, class, culture and religion. This sentiment was echoed in the words of George Harris, who served as Governor of Trinidad and Tobago in the mid 1800's in a critical period post slavery and before the system of indentureship. He stated: "… a race has been freed, but a society has not been formed" (cited in Williams 1964, p.96). Thus, a review of the profile and context of health provision is necessary to give perspective and insight into factors that helped to shape the system and the type of society it serves, as it is currently known.

Although considered one country, Trinidad and Tobago is a twin-island republic with distinct physical and historical features. Trinidad, the larger of the two islands is home to approximately ninety-five percent of the republic's population and is roughly sixteen times the size of its 'sister' island (Pan American Health Organisation 2012; UN-OHRLLS 2015). Both islands are located at the most southerly end of the Caribbean archipelago, with Trinidad located just seven miles off the north coast of Venezuela

(Pan American Health Organisation 2012). Historically, Trinidad and Tobago have quite distinct political evolutions. Trinidad was a Spanish colony for over three hundred years before becoming a British colony. In the same period, Tobago changed hands multiple times having British, Spanish, French, Dutch 'conquerors' before finally becoming a British colony. However, during a period of economic decline in 1889, Tobago was 'annexed' to Trinidad by the British (Kirton et al. 2010).

Following independence, Trinidad and Tobago became a democratic republic within the Commonwealth of Nations in 1976. It has a parliamentary form of government, with a President appointed as Head of State. However, the Prime Minister governs the country, with legislative power residing with the Parliament, which has an elected House of Representatives and an appointed Senate. Trinidad and Tobago prides itself as a progressive country, albeit the country's first female Prime Minister was elected in 2010. The local government system has fourteen municipal corporations and nine regional corporations that have responsibility for public health and sanitation services and development planning and other related areas. Tobago has its own local government structure, which is administered by the Tobago House of Assembly (Pan American Health Organisation 2012; Kirton et al. 2010).

This colourful history largely contributes to both the diversity and inequalities in the current Trinidad and Tobago context. According to the Central Statistical Office (CSO), figures from the 2011 Population and Housing Census, the total population of Trinidad and Tobago was 1,328,019, with 86.8% of the population living in rural areas. Further, the population density in the year 2000 stood at 246 persons/km^2 and by 2011 had increased to 259 persons/km^2. This growth in population mandates infrastructural reform. The statistics also show an ethnically diverse population with members descended from East India (35.4%), followed by Africa (34.2%), 20.5% of mixed race, and 2% of other racial and ethnic groups (including, Chinese, European and Middle Eastern). This ethnic mix of groups characterises Trinidad and Tobago as a 'plural society' (Ryan 1984; Smith, Meeks and Burnham 2011). The concept of 'plural society' refers to more than the mixing of ethnicities, but also the coexisting and the mixing of these cultures in varying degrees, depending on laws, customs or social pressure in interpersonal relations (Furnival 1944). This too may have an impact on the provision and the experience of care within the Trinidad and Tobago context.

Over the past decade, the demographic profile of the country has undergone a transition marked by a declining fertility rate (1.74 in 2006 to 1.72 in 2011), a decrease in the population aged under fifteen and an increase (doubling) in the over sixty age group (CSO 2011). The crude birth rate increased from 12.9 in 2006 to 14.37 in 2011, and the crude death rate fell from 10.57 in 2006 to 8.21 in 2010 (Pan American Health Organisation 2012). With the changing age structure of the population, human capacity in terms of the labour supply to support the aging and nonworking population declines, resulting in the need for increased support of the elderly; particularly for government health expenditure.

However, Trinidad and Tobago has generally maintained a high Human Development Index and is ranked 64th out of 169 of the world's countries in the 2015 Human Development Report (United Nations Development Programme 2015) and it has a relatively stable economic environment. However, as is common with Small Island Developing (SIDs) countries, it can be affected by the global economic crisis and other socio-political factors (UN-OHRLLS 2015). The country is one of the most prosperous in the Caribbean mainly due to petroleum and natural gas production and processing. Tourism, mostly in Tobago, is targeted for expansion and continues to grow (World Travel and Tourism Council 2005). Although TT is classified as a high-income economy by World Bank (2016), TT still exhibits the phenomena of a middle-income developing economy. Kharas and Kohli (2011) and Felipe et al. (2017) have observed that some countries experience difficulties after having successfully transitioned from middle-income to higher income levels. Trinidad and Tobago perceived difficulties and underperformance is attributed to fundamental challenges associated with its culture, values and attitude, institutional structures affecting progress of socio-economic transformation and macroeconomic policy (Government of the Republic of Trinidad and Tobago 2017).

The economy is heavily dependent on the energy sector (oil and natural gas), with increasing initiatives to diversify the economy in other sectors, such as agriculture, manufacturing and tourism. Oil and gas contribute 40% to the gross domestic product (GDP), which represents 80% of the country's exports and 5% of employment (United Nations Development Programme 2010). GDP per capita rose from US$ 22,000 in 2008 to US$ 32,800 in 2015 (World Bank 2016); unemployment rates fell from 5.3%

in 2009 to 3.8% in 2015 (World Bank 2016). Despite Trinidad and Tobago's relatively stable economy, there are pockets of poverty.

The 2005 Survey of Living Conditions reported that 16.7% of the population was poor and 1.2% was indigent (CSO 2011), with women more likely to be affected by this. Further, the survey found that there was a tendency for poorer households to be headed by women. Poorer women were also more likely to have larger families and start childbearing at an earlier age than women with higher incomes. This may also have some impact on the current trends witnessed in the maternal sector. Generally, educational attainment in Trinidad and Tobago parallels socioeconomic status with lower educational attainment correlating with lower socioeconomic status (United Nations Development Programme 2015).

The Government provides free education at primary, secondary and tertiary levels. Access and enrolment levels are high, with over 97% in primary and more than 75% in secondary level education. In 2009, the female–to–male ratio was 0.95 at primary level and 1.06 at secondary level; whilst at university level, females outnumber males. The 2009 literacy rate for adults was 99% (CSO 2011; United Nations Educational, Scientific and Cultural Organisation 2013). The high level of female literacy suggests that women receiving care are able to participate fully in the process.

In 2014, Trinidad and Tobago was ranked 64 out of 146 countries on the Gender–related Development Index, with a Gender Inequality Index of 0.371. However, in 2008, the country was ranked at 48 with an index value of 0.47 (United Nations Development Programme 2010). This index reflects the disadvantages for women in three dimensions: reproductive health, empowerment and the labour market and exposes differences in the distribution of achievements between males and females. Despite increased female participation in government and greater educational advancement in the country, these inequalities still exist. This is despite males having lower participation in the education system, engaging in higher–risk behaviours (early sexual activity, use of drugs and alcohol), and being more likely to be affected by violence and accidents (World Health Organisation 2006).

This pattern of behaviour should be considered within the context of the 2005 Survey of Living Conditions, which indicated 78% of households lived in owner–occupied

homes and 14% in rented accommodation (KAIRI 2007). In 2009, 92% of households had electricity; 55% had landline telephones; 97% had electric or gas stoves; 84% had refrigerators; and 87% had televisions (CSO 2011). The outcomes of these various studies reported here illustrate a country that is endowed with material resources on the one hand but continues to be plagued by inequities in the system on the other. One of the key areas of development in Trinidad and Tobago is the health care system. As part of this thesis, I will focus on quality in maternal health care.

1.2.2 Brief Overview of the Health Care System

In general, the context in which the Trinidad and Tobago health care system operates has a few key challenges. Firstly, while health spending is now exceeding economic growth in many developed countries and constitutes at least 9% of their GDP (Klazinga 2010), in Trinidad and Tobago, the contribution of total health expenditure as a percentage of GDP is approximately 5.9% (United Nations Development Programme 2010; World Health Organisation 2014). Although increasing spending in the latter seems a natural response to ameliorating issues in the system, in both contexts there has been a move towards countries improving on health quality to improve efficacy. This is reinforced by the literature that suggests that one of the key aspects of quality includes elements of cost savings or cost effectiveness and overall efficiency gains (Spath 2009; Berwick et al. 1990; Shaw et al. 2016). However, improving quality in this context is another challenge given that Trinidad and Tobago, as with many parts of the developing world, is considered to have an aging population (World Health Organisation 2010; International Labour Organisation 2010). Thus, set within rising health costs, aging populations and the issues related to this has resulted in health and quality of health being placed on the political agendas of many countries, as evidenced in the Healthcare Quality Strategy for NHSScotland and similarly in Trinidad and Tobago in its Vision 2020 (Government of the Republic of Trinidad and Tobago 2006; Scottish Government 2010).

Another aspect of Trinidad and Tobago's health system is the mix of public and private health care. Among other things, given the economic disparity identified above, the public health system is the primary way in which most citizens access health care in the country. Thus, for the purpose of this study only the public system was examined

as it will provide a rich source of data. As previously indicated, Trinidad and Tobago has prioritised and made significant progress in improving the health of its population. However, the major challenge continues to be those facing women, particularly related to maternal and reproductive health. Over 95% of women attend antenatal clinics at least once during their pregnancy and are attended to by skilled health professionals at delivery. The maternal mortality ratio for 2013 was 84 deaths per 100,000 live births (CSO 2011; United Nations Development Programme 2015). Most of these deaths were from preventable causes such as pre–eclampsia, diabetes, premature labour and infections. Antenatal care plays a pivotal role in potentially reducing maternal morbidity via early intervention, and therefore, improving care in this area could potentially improve morbidity statistics (Lincetto et al. 2006). Thus, this study also focuses on the antenatal aspect of maternal care in Trinidad and Tobago.

It is a national aspiration, in its Vision 2020 Draft National Strategic Plan that Trinidad and Tobago want to match or surpass counterparts in health care as part of its developed nation status. This is especially problematic given the significant decrease in oil prices since February 2014, which has had serious implications socially and economically (Rogoff 2016). This brief profile of Trinidad and Tobago, and its health care systems aims to show the complexities of a health system which evolved alongside a complex and young nation.

1.2.3 Context of Research

In Trinidad and Tobago, like other countries in the Caribbean, “the health problems of today and tomorrow are increasingly complex and evermore related to social, economic and behavioural factors” (Pan American Health Organisation 1996, p.339). Health institutions and health professionals have always had core functions that relate to curing the sick. This was appropriate fifty to sixty years ago when the main objective was to treat and cure diseases that were mainly non-communicable. In the last twenty years however, the prevalence of communicable diseases and other health issues, which have determinants that are behavioural and psychosocial, have increased. Thus, the core functions of the health sector must be expanded, and its approach should respond to the social determinants of the health of the population (World Health Organisation 2010).

Social determinants refer to the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economic, social policy, and politics (World Health Organisation 2010). Therefore, it is important to review the role and functions of the key users and providers of the service and understand whether their structure and functions are designed for an expanded approach to tackle the conditions of daily living. A WHO report in 2008 recommends such an approach and calls on countries to "adopt a social determinants framework across the policy and programmatic functions of the Ministry of Health and strengthen its stewardship role in supporting a social determinants approach across government" (World Health Organisation 2008, p.11).

These recommendations reinforce the principles of a public health approach to improve the quality of life and avoid premature death in this instance, in terms of maternal health care. Even more relevant to addressing social determinants of health is what has been described as the 'new public health', which requires:

> "a comprehensive understanding of the ways in which lifestyles and living conditions determine health status and a recognition strategy to mobilise resources and make sound investments in policies, programmes and services which create, maintain and protect health by supporting healthy lifestyles and creating supportive environments for health" (World Health Organisation 1998, p.3).

Government of the Republic of Trinidad and Tobago has made attempts at an expanded approach to health care provision and has identified its vision statement as one that:

> "establishes national priorities for health and ensures an enabling environment for the delivery of a broad range of high quality, people-centred services from a mix of public and private providers" (Government of the Republic of Trinidad and Tobago 2011, p.9).

At the same time, as is illustrated later in this chapter, the practice coming out of the decentralised health sector does not reflect the concept of the new public health.

With specific reference to maternal health, there is a dearth of research either within the Caribbean in general or within Trinidad and Tobago which have examined the relationship of health care quality and maternity care in TT. The WHO, for example,

has done a few studies focusing on developing nations and health quality in Cuba, Jamaica, India and several African countries. However, Trinidad and Tobago had not, at the time of this research, been included in a study pertaining to health quality in maternal care (Langer et al. 1998; World Health Organisation 2000; Hulton et al. 2000; 2007; Austin et al. 2014). Trinidad and Tobago's smaller population size, mixed economy type and land size might be attributable to this omission. Despite this, some researchers have argued that there are many lessons that could be learnt from other non-OECD nations (Øvretveit 1998; Hantrais 2009).

Further to this, and in line with the Millennium Development Goals, proffered by the United Nations, the Government of the Republic of Trinidad and Tobago created a National Strategic Plan that would guide all its government ministries and their divisions and authorities in identifying and performing their roles and functions. The Vision 2020 Draft National Strategic Plan outlines in its goals that "All citizens will be empowered to lead long, healthy lifestyles and have access to good quality health care" (Government of the Republic of Trinidad and Tobago 2006, p.103). Included among the strategies to achieve this is "to improve the general health status of the population and promote healthy lifestyles" (Government of the Republic of Trinidad and Tobago 2006, p.108).

This current plan seeks to include all the necessary components for a holistic approach to, inter alia, a goal of ensuring that the quality of health care in Trinidad and Tobago improves (Government of the Republic of Trinidad and Tobago 2006). The main way of achieving this seems to be through: "instituting a Total Quality Management (TQM) strategy and establish a system to ensure rationalisation and utilisation of health care services to the public by health care providers" (Government of the Republic of Trinidad and Tobago 2006, p.135). With specific reference to maternal health, the 2020 Vision refers to providing skilled birth personnel as an indicator of the quality of the national health care service.

In 2016, Trinidad and Tobago adopted a comprehensive National Development Strategy (NDS) 2016-2030, Vision 2030, which lays out a pathway for development that is sustainable and inclusive by 2030. Vision 2030 builds on the principles, mission and processes of Vision 2020 which laid a solid foundation for preparing the Vision

2030 Strategy. The Vision 2030 NDS aims to provide a broad long-term socio-economic development framework to the year 2030 inclusive of the SDGs. Vision 2030 development goals for health in alignment with SDGs are that “the health care system will be sustainable and modern and deliver higher standards of health care, be efficient and provide quality services and our citizens will be healthy” (Government of the Republic of Trinidad and Tobago 2016, p.73).

These aspirational aims form the context of the research – essentially in an island with health issues like its cosmopolitan neighbours, and with a vision of developing a health system within a shifting economic system. Additionally, evaluating the government’s response to this, in terms of the reorganisation of systems, implementation of policy by service providers and the use of these systems by relevant stakeholders is the substance of this thesis.

This context raises issues of how this problem can be addressed. See Chapter 2, Section 2.7 for a development of the research questions and the steps of the research process.

1.3 Overview of the Chapters

Overall the thesis is divided into seven chapters. After this opening introductory chapter, Chapter 2, Review of Literature, presents the context to this study through a review of the literature in Quality in Health Care Management and defines the key concepts as they are applied in the study. This chapter will also clarify the terminology associated with quality. This will be done at two levels, first at a managerial and/or industrial level and then exploring terminology from a maternal health care perspective. Chapter 3, Research Methodology and Methods, sets out the qualitative and quantitative research tools and techniques used to examine the aims and objective of this research. This chapter also presents the main challenges encountered during the research process and provides a consideration of the ethical issues. Chapter 4, Bridging the Gap: The QUALITT Model, presents a proposed model of quality for health care in Trinidad and Tobago that incorporates literary elements, methodological inputs and initial empirical inputs from this research study.

Chapters 5, Analysis and Discussion: Emergent Themes begins the consideration of the emergent themes, findings and discussion. Chapter 6, Analysis and Discussion II, examines the results of the women's questionnaire and interviews with key participants using themes derived from the coding. Using Fetters et al.'s (2013) narrative style, both Chapters 5 and 6 seek to interpret these findings and draw comparisons with other research literature in the area and with similar maternity surveys conducted in the UK. Chapter 6 will also address any limitations found within the conceptual framework. Chapter 7, Conclusion, closes the thesis. It provides a holistic overview of the aims and objectives of this research, highlights the main findings, provides recommendations for improving maternal health in Trinidad and Tobago and suggests a number of future research directions.

Chapter 2. Review of Literature

2.0 Introduction

This chapter presents the literature review around the topic of quality in maternal health care in Trinidad and Tobago. It will explore a range of historical and contemporary perspectives of quality in health care, including how to define quality, examine related concepts and situate health care quality management within the larger debates about quality management. Overall, it seeks to develop research questions to explore quality in maternal health care.

For this study, established academic literature was consulted from the start. This facilitated a comprehensive understanding of key areas and concepts surrounding the research. The study of the literature continued throughout the research process to facilitate a broader understanding of the data collected (questionnaire and interviews) and to direct overall improvement of the initial conceptual framework (see Chapter 4, Bridging the Gap: The QUALITT Model).

This chapter is divided into eight sections. Following the introduction, Section 2.1, Previous Research Studies and the Gaps, discusses the research relating to Trinidad and Tobago in the context of quality in maternal health. It seeks to highlight the gaps in the literature and the contribution to the development of research questions. Section 2.2, Building a Definition of Quality in Maternal Health Care, sets the scope of the literature review and provides a background to the development of the definition quality by outlining the linkage between scientific management, NPM and performance to quality. Subsection 2.2.3, Defining Quality: Historical Perspectives, provides a historical perspective of the origins of quality and seeks to define the meaning of quality beyond the dictionary definition of a perceived degree of excellence (Merriam-Webster 2011). Subsection 2.2.4, Defining Quality shifting from Industry to Health Care, explores the existing meanings of quality and associated terms such as, quality of care (QoC) within the health care literature. Subsection 2.2.5, Defining Quality in Maternal Care, examines how quality is defined in maternal health. It explores the challenges women and their families face, such as reproductive rights, midwifery or medical model approach. It also inspects the important components, such as the provision and experiences of care.

Section 2.3, Quality of Care Models, examines the models and frameworks of quality of care and discusses the prominent models, including maternal models, within the prevailing literature from a systems perspective or characteristics approach. It provides a basis for the conceptual model used for my research study. Whilst Section 2.4, Quality Management Models used in Health Care, discusses frequently used quality management models in health care contexts. Section 2.5, Measuring and Implementing Quality through Quality Improvement (QI), gives an insight of supporting methods and tools for improving quality and the relevance of QI methods within health care. Section 2.6, Quality in Health Synopsis, provides an understanding on TT's health quality strategy and philosophy and summarises key points of the overall discussion of Chapter Two. Finally, the chapter closes with Section 2.7, The Research Proposal, which presents the development of the research questions.

2.1 Previous Research Studies and the Gaps

This section provides a comprehensive discourse of previous research on quality in health care in Trinidad and Tobago, the rest of the world. The section will conclude by highlighting the gaps in literature in quality in health care in Trinidad and its relevance to my research study arising.

2.1.1 Related Research in Trinidad and Tobago

The field of quality and health care span across many disciplines. Despite this, quality in maternal health care in Trinidad and Tobago has not been studied either directly or at length; the small number of studies published in quality in maternal health care in TT evidences this. Some of the published health related studies featuring Trinidad and Tobago have been clinically based focusing on maternal mortality (Bassaw et al. 2012; Acosta et al. 2016); patient satisfaction in primary health care (Phillips 1996; Mustapha and Singh 1999; Rudzik 2003); trust in public health system, (Peters and Youssef 2016) or on health sector reform, policy and planning (Mills et al. 2001; Bissessar 2003); and epidemiology (Macinko et al. 2016; Barreto et al. 2012).

These research studies provide useful insights into the health agenda and their findings contribute to overall literature quality of health care. However, to comprehensively understand quality in maternal health care a broader level of research is required. For example, patient satisfaction is a measure of quality and it

challenges the notion of how to assess quality. Furthermore, research on quality in health care has shown that patient satisfaction is one domain of quality and the measurement of satisfaction is inherent within models of health care (Redshaw 2008). Research conducted by Phillips (1996) and Singh et al. (1996) both focussed on service users' perceptions and satisfaction of services in primary health settings in Trinidad and Tobago. They used traditional quantitative methodologies to examine primary health care but did not specifically focus on maternal care. They also neglected to assess the viewpoints of the service providers. Thus, my research seeks to address this gap in the literature on service providers views by conducting qualitative research on TT Health providers' perspectives on the quality of provision of maternal health care. Further, these studies were conducted over 18 years ago and much has changed within the health sector landscape, and therefore, there is a need to provide a more current understanding of users' perceptions of health care in Trinidad and Tobago. To address the gap and provide a more current understanding of users' perceptions in maternal care, my research will conduct an exploratory quantitative study of TT Women's' experiences of maternal health care provision.

2.1.2 Related International Research

There are many international studies that have examined quality in health care and quality in maternal health care (van den Broek and Graham 2009; Althabe et al. 2008) and quality in antenatal (Beeckman et al. 2013; Hansell 1991; Sikorski et al. 1996; Carroli et al. 2001). Langer et al.'s (2002) study measured satisfaction with the provision of antenatal care in developing countries, including Argentina, Cuba, Saudi Arabia and Thailand. Others research has focussed on Latin America and the Caribbean (LAC), Asia and African countries (e.g. Jewell 2009; Kyei et al. 2012; Adjiwanou and LeGrand 2013). However, these studies failed to include Trinidad and Tobago directly. As highlighted in Chapter One, the absence of TT within previous research could be attributed to an overall global health research inequity in the form of research underfunding, scarcity of technical research expertise, lack of interest, isolation from other researchers in developed countries coupled with factors associated with being a small island nation (IJsselmuiden and Matlin 2006; Barreto et al. 2012).

Research by Hudelson et al. (2008) provides an example of an international research study that use a qualitative methodology. The study, based in Switzerland, defined quality from the perspectives of hospital-based doctors. It involved qualitative interviews with twenty-one doctors and nurses across five hospitals and explored ideas about quality in health care and their perceptions of the barriers to achieving health care and what factors lead to the delivery of quality health care. My research study will take a similar approach; however, it will also explore beyond the viewpoints of the care providers and include the perspectives of the service users (patients). Further, Hudelson et al. (2008) study was set in a high income developed country context. In contrast, my research will be conducted in a developing country setting and this will contribute towards an understanding of health care provider perspectives within a developing country context.

2.1.3 Relevance to my Research Study

Overall, while previous research has contributed to an overall understanding of quality in health care and maternal care, they have not directly addressed quality in maternal care in Trinidad and Tobago. Therefore, this represents a gap in this area of research and an opportunity to research quality within maternal health care within Trinidad and Tobago.

First, it is necessary to understand quality in the context of maternal health in Trinidad and Tobago. The starting point is to review the relevant literature on health, quality and maternal health care. This will lead to the development of appropriate research questions for the study.

2.2 Building a Definition of Quality in Maternal Health Care

This section provides the scope of the literature review, the development of the definition quality including the historical perspective of the origins of quality. the existing meanings of quality and associated terms such as, quality of care (QoC) are discussed including its shift from industry to health care. Quality in maternal health care is also defined.

2.2.1 Setting the Boundaries of the Literature Review

Quality is a complex concept and is linked to other frameworks and constructs within numerous fields and disciplines. The sheer volume of published work about quality, health and maternity care is insurmountable. There are many views, ideas or opinions of what quality in health care is. Therefore, to direct the focus and present a meaningful and manageable research process the concept of quality for this thesis will be viewed from a management and organisational perspective within the health domain literature. The literature review will cover a range of seminal and current works published between 1960 and 2018 in books, journal articles, reports, commentaries and outlooks. The review of the scientific literature included the following electronic databases: Business Source Premier, Emerald, Web of Science, Google Scholar and other interlinked online databases.

In Chapter 1, the meaning of the term quality was identified within a health context by adopting IoM's definition of quality of care. This section will examine the linkage of new public management (NPM), performance, managerialism and quality. Next, early definitions of quality will be defined leading up to defining quality within a health care perspective.

2.2.2 New Public Management: Performance, Managerialism and Quality

Beck and Melo (2014) highlight the link between scientific management during the industrial era and modern-day managerialism in the public sector and its association with the New Public Management (NPM) movement of the 1980s, which included health provision. NPM was informed by efficiency concerns from the onset by transferring efficiencies and cost effectiveness from private sector into public sector. These linkages explained by Beck and Melo (2014) provides an understanding of the increased importance of management as a core function of organisations.

The inefficiencies and inequities of public health systems in developing countries, and the need for reform, are widely acknowledged (e.g. Cassels 1995; Mills 1995; World Bank 2016). Globally, as governments reformed the issue of performance became one of the dominant agendas within public sector reform and performance management played a pivotal role in reform initiatives (van Dooren et al. 2015). Furthermore, progressively as organisations (private and public) adopted instruments and policies

to improve specific areas of performance; quality emerged as one of the key dimensions of performance (Beck and Melo 2014). The next section provides a discourse defining quality from a historical perspective.

2.2.3 Defining Quality: Historical Perspectives

The origins of quality are situated in industrial and management sciences and build upon the scientific management techniques adopted by Frederick Winslow Taylor (1856-1915). This type of quality is referred to as industrial quality. These techniques focused on fact-based systematic approaches to studying work. Additionally, systems theory and systems thinking, which relate to a more holistic perspective within a feedback system for self-regulation, are the founding principles upon which the concept of quality was developed (Colton 2000; McLaughlin and Kaluzny 1999). See Appendix I for a historical summary of defining quality.

Quality has been defined by early quality pioneers as ‘conformance to requirements’ (e.g. Crosby 1978; 1995), ‘meeting company expectations’ (Deming and Kilian 1988; Deming 2000), ‘fitness for use or purpose’ (Juran 1988) and ‘simply meeting the customer requirements’ (Oakland 2003). Oakland also includes ranking (top quality or high quality) and Deming explicitly introduces the concept of continuous improvement. These definitions suggest that quality has the potential to be measured and is distinguishing in nature.

Influential leaders, such as Deming (2000), Ishikawa (1985), Taguchi (1986) and Ohno (1988) focus their definitions on reducing variation, having a customer focus and eliminating waste and loss. Ohno, the father of the Toyota production system, focussed heavily on the elimination of waste (Beckford 2010). This is an extension of the zero defects concept, that is, ‘do it right the first time’. This showed another facet of the measurement of quality as the price of non-conformance is the expense of doing the wrong thing. These definitions of quality are a useful gauge of elements of quality from the users of products or services.

The term quality is widely used by practitioners and academics. However, as explained above there is generally no agreed definition of quality because definitions of quality vary depending on the circumstances (Garvin 1984; Reeves and Bednar 1994;

Ojasalo 2006). The International Standards Organisation (ISO), the world's largest developer and publisher of international standards, define quality as all the features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs (International Standards Organisation 2005). The adaption of the ISO standard is the starting point for identifying a modernised definition of quality.

Elshaer (2012) conducted an in-depth review and validation of the definitions of quality utilising Routio's (2009) criterion for what makes a good definition and concluded that the existing literature failed to provide a valid and reliable definition of quality. Elshaer (2012) propose a modified definition of quality taking inspiration from ISO:9000 (International Standards Organisation 2005) that provides a universal definition of quality with slight modifications to include the importance of continuously reviewing customer requirements and includes the term 'stakeholders'. Elshaer (2012, p.8) modified this definition to: "quality is a situation when a set of inherent characteristics, consistently fulfil the continuously changing requirements of an organisations customers and other stakeholders". This definition captures the dynamic nature of quality, taking into consideration that customers and stakeholders' requirements are not static, and a non-stop process is required to satisfy or fulfil needs or requirements.

In summary, an examination of these definitions and concepts of generic quality demonstrates that there is a vast array of definitions and perspectives defining the concept of quality. These definitions range from meeting requirements or standards, reducing errors and variations to a managerial responsibility and commitment or a societal viewpoint. However, traditional definitions of quality may not always be applicable to contemporary organisations. Beckford (2010 p.161) states that: "quality cannot be adequately defined in these absolute terms as something fixed or necessarily quantifiable".

Spath (2009) explain that when a health consumer perceives that their needs are being met at a reasonable cost and they experience a personal benefit from the health provider then this health care interaction is perceived as a quality experience. Therefore, the cost of a product or service is indirectly related to its perceived quality. A quality health care experience is one that meets a personal need or provides some benefit (either real or perceived) and is provided at a reasonable cost. Consequently,

it is necessary to further interrogate this concept of quality health care and seek to draw together the traditional concepts of quality and well-known quality improvement methods within the health domain. This leads to defining what exactly is health care quality and maternal health quality.

2.2.4 Defining Quality Shifting from Industry to Health Care

Having traced the development of the definition of quality in industry, these definitions are lacking when considered within a health care setting. As discussed in the previous section, whilst the concepts of quality in industry has been apparent for many years, it only started to be applied within the health care sector in the 1970s and 1980s as health care was faced with rising costs and an unstable fiscal climate (Colton 2000; Beck and Melo 2014). The concepts of quality and their perceived benefits were the initial drivers to the early restructuring of health care. The main gains identified were to eliminate unprofitable services, increase efficiency, improve outcomes and enhance cost-effectiveness.

If health care organisations wish to improve quality, then quality definitions must be broadened to capture the complexities of a health care system. This has led to researchers defining quality in a health context (Donabedian 1966,1980; Institute of Medicine 2001; Spath 2009). I will now discuss various interpretations of quality in health care as defined by these researchers and authors. Table 1 provides a summary of commonly accepted definitions of quality in health care. It highlights the shifting of the definitions of quality of care (QoC) by different researchers from purely medical/clinical lens to a contemporary comprehensive outlook.

Early definitions of quality in health focused on biomedical outcomes (Donabedian 1966) as shown in Table 1. Donabedian later defined quality of health care as: “the application of medical science and technology in a manner that maximises its benefit to health without correspondingly increasing the risk” (Donabedian 1980, p.5).

Similarly, other researchers, such as Joss and Kogan (1995), agree that it is problematic to simply define quality in health care in general as its definition varies amongst different types of health professionals, patients, their carers and families. They develop the concept of quality in health care in terms of ‘modes’ or dimensions.

They propose that the concept of quality has three dimensions: technical which refers to the technical-professionals skills associated with the work in a given area; systemic which links and bounds the systems and process mechanisms between areas of health and generic which refers to those aspects of quality which involve inter-personal relationships for examples courtesy, respect, tardiness and relationships between individuals. This definition is useful as it gives a sense of the fullness of quality in the health sector. Similarly, Pope et al. (2002) summarise that the concept of quality in health care can be quite complex and multi-dimensional. As expressed earlier, translating quality from an industrial to a health discipline necessitates reviewing broader definitions of quality.

Table 1: Summary of Health Quality Definitions by Key Researchers

General QoC definitions	**Observations**
Early years pre-health care reform	
It is a reflection of values and goals current in the medical care system and in the larger society of which it is a part (Donabedian 1966, p.692).	Early and medically orientated.
1990s health care reform era - definition still relevant and valid to date	
The Institute of Medicine defines health care quality as: "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Institute of Medicine 2001, p.21).	Recent and more comprehensive universally accepted. Many researchers and organisations have adopted this definition.
2010s onwards reflecting contemporary issues outlined in the SDGs such as universal access, equity, avoiding overuse	
Quality refers to the degree of match between health products and services, on the one hand, and the needs they are intended to meet, on the other. Health care that meets needs is high quality; health care that does not meet needs is low quality (Berwick 2017, p.102).	Definition maturing to contemporary issues of universal health access, waste and overuse.

During the period of NPM and by extension health care reform, in the Western world, America appeared to be the forerunner of quality in health care. They identified a gap between perceived health care delivered and the actual care that was delivered, this triggered the formation of the Committee on the Quality of Health Care in America in mid-1990s. This committee was formed to research and develop an approach to

improve the quality of health care over a ten-year period in the first instance (Institute of Medicine 2001). Two papers that were fundamental in setting standards for improving quality of health care. The first, 'To err is human: Building a safer health system' (Kohn et al. 2000), focused on patient safety and highlighted the adverse outcomes of medical errors and their impact on overall quality of health care. The second, 'Crossing the quality chasm' (Institute of Medicine 2001), highlights the significant disparity between what needs to be delivered and what is put forward by the health system. They defined what is now the universally accepted definition of quality of care as: "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Institute of Medicine 2001, p.21). The IoM's definition highlights the importance of closing the gap between desired and actual health outcomes (Raven et al. 2011). This definition has been widely accepted and has proven to be a robust and useful reference in the formulation of practical approaches to quality assessment and improvement).

Several authors (e.g. Spath 2009; Buttell et al. 2008 and World Health Organisation 2006) also accept IoM's definition of quality. However, they elaborate or provide contexts for the key components of the definition. Spath (2009) explains that the three key stakeholders, namely consumers, purchasers and providers will each interpret the above definition from their own perspective. Buttell et al. (2008, p.62) amends IoM's definition by adding clarity phrases to core parts of the definition quality of care. For example, desired health outcomes with (quality principles), professional knowledge with (professional practitioner skill) and health care users with (the marketplace). These additions to the definition together with the inclusion of health care users (the marketplace) encapsulates the complexity of different priorities and different goals, depending on the perspective of the constituent: patients, their families, health care providers and professionals, regulators, insurers, and employers.

Further Butell et al. (2008) explicitly link desired health outcomes to quality principles. They explain that consumers expect quality in the delivery of health care services. Most consumers expect to receive the right treatment, experience good outcomes, satisfactory interactions and in a clean and clinical safe environment. This reflects one aspect of the definition as providers and purchasers experience quality in multiple

ways. In contrast, purchasers are individuals and organisations that pay for health care services either directly or indirectly and include government-funded health insurance programmes, private health insurance plans, and businesses that subsidise the cost of employees' health insurance.

Purchasers view quality in terms of cost-effectiveness, meaning they want value in return for their health care expenditure. Cost effectiveness is the minimal expenditure of money, time and other elements necessary to achieve a desired health care result. Providers are individuals and organisations that provide health care and can be divided into two categories:

1. Individuals, such as doctors, nurses, technicians, and clinical support and administrative staff;
2. Organisations, such as hospitals, skilled nursing and rehabilitation facilities, outpatient clinics, home health agencies and other institutions that provide care.

Buttell et al. (2008) acknowledges the complex concept and multiple definitions of quality of care and evaluate how it has become an increasingly important factor in the delivery of health care. Similarly, Sutherland and Coyle (2009, p.1) define quality in health care as: "a complex concept not easily transferable to a single performance measure or simple metric". This definition draws attention to the link between quality and performance and measurement which will be discussed in Section 2.5, Measuring and Implementing Quality through Quality Improvement (QI). Contrastingly, Joss and Kogan (1995) also comment on work done by Pfeffer and Coote (1991), who described the evolutionary journey of the concept of quality from a traditional elitist viewpoint where quality was viewed as something exclusive and prestigious to a modern day democratic approach, which is more egalitarian, participative and includes high levels of engagement by most of the stakeholders.

The World Health Organisation (2006) adopted IoM's definition of quality and modified it with prevailing interpretations of quality use the phrase individuals and patient populations instead of patients. The inclusion in the definition of both patient populations and individuals draws attention to the different perspectives that need to be addressed and the quality of care that needs to be delivered.

In summary, many researchers have referred to the IoM or WHO definition of health quality or quality of care as the default standard with minor adjustments or modifications depending on interpretation (Spath 2009; Buttell et al. 2008; Raven et al. 2011). The literature reflects that there is no simplistic definition of quality in health. Even within the context of health, quality appears to be subjective and multi-modal. It depends on who (from whose perspective we seek to measure), when (at what stage of accessing health care resources) and the environment under consideration. This is in contrast to the meaning of quality in industry where product-oriented domains are less complex than service-oriented domains like health. Having examined these generic health definitions, the next section will now examine definitions that are specifically relevant to maternal health care.

2.2.5 Defining Quality in Maternal Care

This section seeks to define quality in maternal care. The challenges involved in deriving a definition for quality of maternal care will be discussed and then the definitions of researchers, such as Bruce (1990), Pittrof et al. (2002), Engender Health (2003), Hulton et al. (2000; 2007), Carter et al. (2010), Raven et al. (2011), Austin et al. (2014) and Tunçalp et al. (2015) will be examined.

Defining quality in maternal care presents several challenges as follows: a pregnant woman is normally healthy; consideration must be made about the health of the woman and the newborn (Pittrof et al. 2002; Engender Health 2003; Miller et al. 2016). The personal, culturally and emotionally sensitive nature of pregnancy and childbirth implies that non-biomedical outcomes may be more important compared to other areas of the health care system. Generally, most women accessing maternity services are well, but some will develop conditions requiring a higher level of maternity care (Pittrof et al. 2002).

One of the earliest definitions of quality of care that was specifically related to maternity was put forward by Bruce in 1990. This has become internationally recognised as the primary definition for quality in international family planning. Judith Bruce, a researcher for the Population Council, defined quality as “the way individuals and clients are treated by the system providing services” (Bruce 1990, p.62). The main feature of this definition is that it defines quality of care from the client perspective which is very

important considering the focus on person-centeredness in maternal care (United Nations 2015). Similar to Bruce (1990), the COPE (Client Oriented, Provider Efficiency) process developed by Engender Health (2003) suggested a framework for improving quality in maternal health that includes seven client rights and three staff needs. This provides a broader definition than Bruce (1990) as it covers more than family planning. Engender Health (2003) acknowledge that women and their babies have different needs, and therefore, require a health system that responds to these needs. Clinical outcomes as well as satisfaction for both users and providers are valued. It also includes a consideration of the costs of care for the health services and how this care can be sustained over time. Two key assumptions central to this framework are: first, recipients of health care services are autonomous health care consumers or clients who are responsible for making decisions about their own health and have a right to high quality care; and secondly health care providers want to perform their duties well and a lack of support and resources will jeopardise their ability to provide high quality care.

Hulton et al. (2000) definition of quality of care is like the Institute of Medicine (2001); however, it is within a maternal health care setting. Furthermore, based on insights from their research they include a rights-based approach within their definition:

> "The degree to which maternal health services for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights." (Hulton et al. 2000, p.9)

The IoM's definition of quality care is comprehensive and encompasses three key components of quality: clinical (safe and effective), interpersonal (patient-centred) and contextual (timely, efficient and equitable). Raven et al. (2011) and Austin et al. (2014) both default to this definition of quality of care for maternal health services. Similarly, Carter et al. (2010) utilises the Institute of Medicine's (2001) definition; however, they focus on 'optimal health outcomes' and they link cost to quality component within their definition. Quality of maternal care: "is the degree to which maternity care services provided to individuals and populations increase the likelihood of optimal health outcomes and are consistent with current knowledge" (Carter et al. 2010, p.s8). They also explain the difference between value and consideration of value; where the former

is defined as: “the optimal cost to quality ratio in the delivery of maternity care services. While the latter refers to the moral, ethical, and cultural issues important to consumers and other stakeholders” (Carter et al. 2010, p.s8).

Finally, the World Health Organisation (2016, p.16) revealed their ambition for a future in which “Every pregnant woman and newborn receives high-quality care throughout pregnancy, childbirth and the postnatal period”. To realise this vision, WHO has defined quality of care in the context of ongoing maternity research and in tandem with its vision for improving the quality of care for mothers and newborns around the time of childbirth. After a period of rigorous research and consensus they develop a supporting definition and explain quality of care for women and newborns as:

> “The degree to which maternal and newborn health services (for individuals and populations) increase the likelihood of timely, appropriate care for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and take into account the preferences and aspirations of individual women and their families” (World Health Organisation 2016, p.15).

This is a very thorough and comprehensive definition and addresses several challenges which have been raised, such as the rights-based approach for the woman, her family and of the newborn. This definition takes into consideration the characteristics of quality of care and two important components of care: the quality of the provision of care and the quality of care as experienced by women, newborns and their families.

Notwithstanding, the strength of World Health Organisation’s (2016) definition given the newness of this definition, when referring to the definition of quality in maternal health, many researchers agree on the utility of Hulton et al. (2000) definition of quality of care for maternal health and this is the definition I will adopt for my research study. Having defined quality of care for maternal health, I will now examine prevailing models of quality that are associated with the aforementioned definitions.

2.3 Quality of Care Models

I have examined the literature and arrived at definitions for quality of care and quality of maternal care. This section will examine the models and frameworks of quality associated with these definitions and categorised under four broad headings: systems

models, characteristics models, perspectives models and frameworks or models of care. Tables 2 and 3 provide a summary of key models ranging from general to maternity specific. The section concludes with a summary of key points.

There are a range of models of quality of care described in the literature (Donabedian 1980; Maxwell 1984; Øvretveit 1998; Institute of Medicine 2001; Tunçalp et al. 2015). Nevertheless, researchers Austin et al. (2014) and Raven et al. (2011) both agree that there are three models most frequently used and cited in the literature. They are systems models, characteristics models and perspectives models.

2.3.1 Systems Models

An early perspective to describe quality of care is from a health systems approach. Quality of care is interrelated to different aspects of the health care system and can be measured at different points in the system (Raven et al. 2011). Donabedian (1966) points out that it is quite difficult to measure quality, and it is based on a three-component approach namely: structure, process and outcomes (SPO). Structure refers to the attributes of the settings in which health care is delivered. Process of care represents what happens to the patient when they are given or receive care. Health outcomes are the direct product of patient's health status as a consequence of contact with the health care system.

Donabedian also debates whether outcomes are used or should the process of care be examined. He advocates that outcome could be used but must be highly contextualised as it emphasises the use of medical interventions for results. Whereas, by examining the process of care it analyses the efficacy of how this medical intervention was applied and implications of appropriateness. Donabedian's quality framework sometimes referred to as the SPO triad for quality, has been widely adapted by many researchers in conceptualising models for quality (Hulton et al. 2000; 2007; Raven et al. 2011; Austin et al. 2014 and Tunçalp et al. 2015) in developing conceptual frameworks for maternal health care. See section on maternity models of care which provide further insight on this approach.

In 2015, Berwick and Fox (2015, p.237) heralded the 50th anniversary of Avedis Donabedian's masterpiece 'Evaluating the Quality of Medical Care' by highlighting that it had been cited over 5,780 times and was the most frequently cited article of the Milbank Quarterly. Berwick and Fox (2015) provide insightful meaning to his work by stating that:

> "Donabedian's body of work remains significant for what is today an energetic international health care quality movement. The organizing concepts of structure, process, and outcome remain central to measuring and improving quality. No less important has been his insistence that research on quality and the use of findings from that research should emphasize measurement, analysis, management, and governance." (Berwick and Fox 2015, p.240).

Critique of Donabedian's Model

Despite these accolades, Berwick and Fox (2015) highlight the unintentional shortcomings of Donabedian's framework. Berwick and Fox (2015) critique the framework through 21st century lens and acknowledged three gaps. First, the absence of explicit patient centred, or person-centred focus is glaring as currently there is a shift in power from health providers to receivers of care. Second, advances in this digital age and the significant impact on both risks and possibilities for care and health could not have been anticipated by Donabedian. Third, real excellence can only be achieved by seeing and acting upon health care as a system. Donabedian's quality model has also been criticised as being too linear (Maxwell 1992).

Table 2: Quality of Care Models Overarching General Health Quality Frameworks/Models

Author (year)	Document/ Study Type	Theory/ Models	Assess quality by the following	Utility
Donabedian (1966; 1980)	Commentaries	Conceptual framework for examining health services and evaluating quality of health care.	Systems approach. 3 components to evaluate quality as good, fair or bad: Structure, process and outcome. Revisited by Berwick and Fox (2015) to include accountability.	Model has wide acceptance. Embedded in most QoC frameworks.
Maxwell (1984; 1992)	Commentaries	Conceptual framework for health.	Characteristics approach. 6 elements: Access to services, relevance to need (for the entire community), effectiveness (for individual patients), equity (fairness) and social acceptability.	Model has wide acceptance embedded in Bruce (1990) framework.
Institute of Medicine (2001)	Commentaries	Conceptual framework for health.	Characteristics approach. 6 elements: Safe, timely, efficient, effective, equitable, patient-centred.	Widely accepted and is the default definition for QoC.
National Academies of Sciences, Engineering and Medicine (2018)	Consensus Study Report	Updated Institute of Medicine (2001) conceptual framework for health.	Characteristics approach. 6 elements: Safe, **timeliness (including accessibility and affordability)** replaces timely, efficient, effective, equitable, p**erson-centred** replaces patient-centred to reflect contemporary approach. Timeliness broadened to include accessibility and affordability: Reducing unwanted waits, harmful delays; reducing access barriers and financial risk to promoting affordable care.	Widely accepted and is the default definition for QoC.
Øvretveit (1998)	Commentaries	Conceptual framework for health.	Perspectives approach. 3 perspectives: Client quality, professional quality and management quality.	Evaluation of quality improvement programmes.
Parasuraman et al. (1988)	Commentary	SERVQUAL service quality framework.	Service quality approach. 5 components: Reliability, assurance, tangibles, empathy and responsiveness.	Widely accepted to measure patient and customer satisfaction.
Wagner et al. (2001)	Chronic Care System	Conceptual framework for health.	5 core elements: health systems, delivery system design, decision support, clinical information systems, and self-management support. Mainly primary care and chronic illness.	International recognition for identifying the essential elements of a health care system that encourages high-quality care. Used in many countries, e.g. UK, Canada.

2.3.2 Characteristics Approach

Quality of care can be viewed as comprising of different characteristics. These characteristics vary depending on the type of health care being provisioned. Maxwell (1984), Institute of Medicine (2001) and Sutherland and Coyle's (2009) proposed several models with levels of overlap between characteristics.

Maxwell (1984 p.1471) suggested that quality is not linear and proposed six dimensions of health care quality:

1. Access to services
2. Relevance to need (for the entire community)
3. Effectiveness (for individual patients)
4. Equity (fairness)
5. Social acceptability
6. Efficiency and economy

Maxwell (1984) explained that each of these dimensions can be distinctly measured and assessed. Almost a decade later, Maxwell (1992) reviewed the definition of quality and its applicability to current practice within health care; he reiterated that an important aspect of quality is its multi-dimensionality and complexity and how policy is developed and implemented for each distinct dimension. Some of these complexities include recognising that the public consists of individuals so that quality operates at dual levels and addressing variance in performance standards levels to establish potential gaps and opportunities for improvement.

Furthermore, he warned that the quality dimensions should not be viewed abstractly and taken too literally. By adopting this approach, a more balanced style to measuring and assessing health care policy could be assured. Maxwell (1992) and Colton (2000) challenge the carte-blanche transfer of industrial techniques to a service that involves the delivery of human services and highlight that substantial adaptations are necessary through reassessing and re-orienting. Maxwell (1992) commented that "quality is not achieved by inspection at the end of the production line nor can it be imposed from above. It is the result of the shared aspirations and concerted efforts of all those involved, for whom it is a higher priority than any personal interest" (Maxwell

1992, p.176). He proposed that the quality dimensions be complemented with eight actions for a proper implementation such as commitment, action-oriented behaviours, team work, systematic improvement, staff empowerment, use of quality concepts and overall continuous assessment and evaluation (Maxwell 1992).

Critique of Maxwell's Model

Maxwell's (1984) model like Donabedian has been criticised for not having an explicit patient centred focus. Øvretveit (1998) recognises this shortcoming by pointing out that Maxwell (1984) omits concepts, such as customer satisfaction or engagement and instead focuses on the features of quality as a service.

In contrast to Maxwell (1984), the Institute of Medicine (2001) model of quality included a specific focus on patient-centeredness and patient safety that was not explicit in Maxwell's model. Similarly, the IoM formulated a characteristics aspect of quality comprising six key characteristics: Safety, timeliness, effectiveness, efficiency, equity and patient-centeredness, which is commonly referred to by the acronym, STEEEP (Institute of Medicine 2001).

Box 1: Institute of Medicine Six Characteristics of Quality (explained)

Safe - avoiding injuries to patients from the care that is intended to help them.

Effective - providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).

Patient-centred - providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

Timely - reducing waits and sometimes harmful delays for both those who receive and those who give care.

Efficient - avoiding waste, including waste of equipment, supplies, ideas, and energy.

Equitable - providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

The guiding principle of IoM's model of quality was that the committee understood the importance of carefully planned, well-defined and designed systems that fully provide care that served patients' needs, where patients are well-informed, can exercise control and participate as much as possible within the delivery of their care in a respectful value-based manner.

Sutherland and Coyle (2009) elaborate that there are key domains of quality such as effectiveness, access and timeliness, capacity, safety, patient-centeredness and equity. Interestingly, many researchers have universally adapted the meaning of quality in health from the IoM's model of quality explained in 'Crossing the Quality Chasm' (2001), where the multi-dimensional nature of quality is viewed from six characteristics. However, Sutherland and Coyle's (2009) definition of quality in health care appears to be a mix of the IoM's (2001) and Maxwell's (1984) model of quality as the Sutherland and Coyle's definition includes characteristics of access and capacity, which are not explicitly described in the IoM's quality model. Equity has been the only dimension that has been explicitly mentioned in all three models. Equity is particularly important as advocated by the global health policy agenda on universal health care (United Nations 2015).

Critique of IoM's Model

Organisations and researchers have long acknowledged that the characteristic of patient centred need to be broadened (Buttell et al. 2008). For example, in Scotland, the quality strategy is based on IoM's quality framework, but it also includes other aspects that are not explicit within this framework, such as, the six 'C's (caring and compassion, communication, collaboration, clean and safe, continuity of care and clinical excellence).

In August 2018, the National Academies of Sciences, Engineering and Medicine (2018) conducted an extensive and comprehensive review of the Institute of Medicine's (2001) existing model of quality. The National Academies of Sciences, Engineering and Medicine (2018) asserted that there was a global quality chasm and that now, more than ever before, there should be a continued focus and effort to improve the quality of care. They also confirmed that IoM's model of quality was still very relevant and valid in contemporary society. However, they revised two key

characteristics, namely ‘patient centred’ has been reworded as ‘person-centred’ and ‘timeliness’ has been expanded to include ‘access, timeliness and affordability’. These changes reflect current approaches to person-centred care and emphasis on universal health access and equity. This is in closer alignment to SDG 3, ethos of universal health care and equity.

2.3.3 Perspectives Approach

Øvretveit (1998, p. 2) also provides a definition for quality in health services and views quality from an organisational perspective as “fully meeting the needs of those who need the service most, at the lowest cost to organisation, within limits and directives set by higher authorities and purchasers”. The underlying principle of this model is that there are different perspectives of the quality of care. Box 2 shows Øvretveit’s three perspectives of quality of care (client, professional and management)

Box 2: Øvretveit Three Perspectives of Quality of Care

Client quality — what clients and carers want from the service (individuals and populations).

Professional quality — Whether the service meets needs as defined by professional providers and referrers, and whether it correctly carries out techniques and procedures which are believed to be necessary to meet client needs.

Management quality — the most efficient and productive use of resources, within limits and directives set by higher authorities/purchasers.

Cited in Øvretveit (1998, p.4)

Øvretveit (1998) acknowledges that quality health service involves many and possibly conflicting requirements and stakeholders and explains that it has the following components: Client, professional and management quality. This model interrogates the health system to find out what quality of health care means for communities and patients that depend on it (client quality); the health care providers that provide the health service (professional quality) and the managers and administrators that direct the health service (management quality).

This model has a perspectives approach and characteristics of quality that are not explicitly identified, such as safety. Donabedian's quality model has also been criticised as being to linear (Maxwell 1992).

2.4 Quality Management Models used in Health Care

So far, I have discussed models of quality of care from a systems, characteristics and perspectives viewpoint. This part of the discussion for this section will discuss management models that have been frequently used in health care contexts SERVQUAL, Chronic Care model, EFQM, MBQA and ISO 9000. See Table 3. In the book 'The European Way to Excellence', the authors point out that when organisations seek to improve their effectiveness, those efforts ultimately impact on the quality of management and lead to many quality improvement activities (Hardjono et al. 1999). These models of quality have garnered some attention in the quality debates. The importance of these quality improvement actions has led to the creation of several organisations that support quality awards programmes, such as, from 1991 the European Foundation of Quality Management and from 1987 the Malcolm Baldrige National Quality Award in the USA. All the models are used by health care organisations and have areas of congruence and divergence (Hardjono et al. 1999).

2.4.1 SERVQUAL

SERVQUAL is a model developed by Zeithaml et al. in 1990 focuses on measuring service quality around five components: tangibility, reliability, assurance, responsiveness and empathy (Parasuraman et al. 1988). Grönroos (1984) has suggested that service quality comprises two distinct components: the technical aspect, and the functional aspect. That is, what service is provided and how is the service provided and provided the foundation for the development of the SERVQUAL service quality scale. Zeithaml and Bitner (2003, p.85) states that:

> "Service quality is a focused evaluation that reflects the customer's perception specific dimensions of service: reliability, responsiveness, assurance, empathy, tangibles. Satisfaction, on other hand, is more inclusive: it is influenced by perceptions of service quality, product quality, and price as well as situational factors and personal factors".

Service quality has been widely used by service delivery organisations, including health services and is interlinked with customer satisfaction and in the health context it is referred to as patient satisfaction (Choi et al. 2004; Domingos et al. 2017). It assists organisations in transforming their efforts to bridge the gap between perceived and expected service (Zeithaml et al. 1990).

Critique of SERVQUAL

Øvretveit (1998) critiques SERVQUAL model of quality because it focuses on customer satisfaction or meeting needs. For example, it is considered a relatively simple model for qualitatively exploring and assessing customers' service experiences. Other researchers have commented that SERVQUAL model is non-universal and unidimensional as it neglects to address the holistic multifaceted nature of health care quality.

2.4.2 Chronic Care Model (CCM)

The Chronic Care Model (CCM) is an evidenced based conceptual framework that identifies the core elements of a (local) health care system, which encourage high-quality chronic disease care (Wagner et al. 2001). The model describes changes to the health care system that helps mainly primary care practices to improve outcomes among patients with chronic illness (Epping-Jordan and Ludman 2003). The model utilizes six elements. Two of these elements are related to the environment and could be considered ‘internal’: the community and the inherent health care system. The remaining four elements are related to the ‘environment’, in other words, the configuration of the HCO itself: self-management support, delivery system design, decision support and clinical information systems within the health system.

The basis of the CCM model is linked to evidence-based change concepts and a response to the requirement for a quality improvement model that fit the characteristics of chronic care. This tool has been used in many multiple chronic care improvement collaborations (Oprea et al. 2010; Pearson et al. 2005).

Table 3: Quality Management Models/ Award Systems used in Health Care

Organisation (year)	Document/ Study Type	Theory/Models	Assess quality by the following:	Utility
European Foundation of Quality Management (EFQM) 1991	EFQM Award	Quality management and award framework	Quality Management Model. 9 elements: Leadership, policy and strategy, management of people, partnership and resources and processes, key performance results, and people, customer and society results.	UK award and quality management system very similar to MBQA.
Malcolm Baldrige National Quality Award, USA (1987)	MBQA award	Quality management and award framework	Quality management model. 7 elements: Leadership, strategic planning, customer and market focus, measurement, analysis and knowledge management, human resource focus and process management and results.	Global award and quality management system originated from the USA.
TQM (ISO 9000)	ISO 9000 quality management standard	ISO 9000 quality management standard	7 Quality Principles: Customer focus, Leadership, Engagement of people, Process approach, Improvement, Evidence-based decision making, Relationship management.	Non-prescriptive. Use ISO 9001: 2015 standard to audit and certify organisations.

2.4.3 European Foundation of Quality Management (EFQM)

The EFQM is a non-prescriptive framework based on nine criteria or elements; of these five are 'enablers' (what an organisation does) and include: leadership, policy and strategy, management of people, partnership and resources and processes. There are four 'results' (what an organisation achieves and how it does it), namely: key performance results, people, customer and society results. 'Results' are produced by 'enablers' and 'enablers' are improved by using feedback from 'results'. These 'enablers' direct and drive performance (Minkman et al. 2007). EFQM has been used to drive improvements in health care organisations in Europe (Sánchez et al. 2005; Nabitz et al. 2000).

2.4.4 Malcolm Baldrige Quality Award (MBQA)

Similarly, the MBQA model has seven criteria or elements: leadership, strategic planning, customer and market focus, measurement, analysis and knowledge management, human resource focus and process management and results. This model also has a health-specific version and is well utilised by a diverse range of health organisations (Minkman et al. 2007).

2.4.5 ISO 9000:9001

Quality management incorporates not only product and service quality, but also on the means to achieving it (Sousa and Voss 2002). A quality management system is a way of defining how an organisation can meet the requirements of its customers and other stakeholders affected by its work. QM has four main components: quality planning, quality assurance, quality control and quality improvement. Quality planning determines the nature and needs of the customers, and products are developed based on these needs. Processes are then designed to create such products. Oakland (2004) proposes that quality assurance is achieved by prevention, management systems and effective audit and review. The focus is no more on the final product but on the production process with quality control evaluating performance and identifying discrepancies between actual versus goals. Quality control is an umbrella term for techniques and activities used to fulfil requirements for quality with quality control using root cause analysis to eradicate quality control problems (Oakland 2004).

ISO 9001 is a standard that sets out the requirements for a quality management system. Quality management principles are a set of fundamental beliefs, norms, rules and values that are accepted as true and can be used as a basis for performance management. It helps businesses and organisations to be more efficient and improve customer satisfaction. Embedded within ISO 9001 the idea of continual improvement. ISO 9001 is suitable for organisations of all types, sizes and sectors which is one of its key benefits as it is applicable and accessible to all types of enterprises, including health.

ISO 9000, ISO 9001 and related ISO quality management standards are based on seven quality management principles (QMPs), namely: customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management. These principles are not prioritised, and organisations can implement them as they see fit. Each QMP has a statement describing the principle, followed by rationale of why this principle is important for the organisation and highlights key benefits and suggests actions that can be taken.

A new version of the standard, ISO 9001:2015, was launched in 2015 to replace (ISO 9001:2008). It explicitly addresses risk-based thinking by providing an explicit structured approach to address organisational risks and opportunities in a structured manner.

Critique of EFQM, MBQA and CCM

Minkman et al. (2007) suggest that implementing interventions based on the EFQM or MBQA models is inappropriate in health care settings. They were also surprised by the lack of empirical evidence and lack of research conducted in the field given the volume of their implementation within organisations and the length of time these models have been in existence. This is contrasting as more recent research has shown the benefit of their application in health and quality improvement settings. In contrast, the CCM appears to have results that are more favourable, and evidence has been found to support the positive impact it has had on performance. However, most of this evidence has originated from settings that are specific within the US, and therefore, comes with inherent limitations, such as their relevance to other country

settings. They also suggest that better results were achieved when the EFQM model was implemented in non-health care settings.

In summary, literature around quality in health care and medical practice started to emerge in the 1970s and developed further in the 1980s and 1990s on the wave of health care reform. From the 1990s onwards these models and frameworks have been developed to guide implementation, assessment and measurement of quality care based on different conceptual understandings of the subject. These include systems models that place quality care as a product of the structure of health care services and the process of health care delivery characteristic models that list elements and features of care. Perspective models focus on the quality of care as perceived by different constituencies: patients, health care providers and health care managers. Quality management models have also been implemented to improve care and these models (e.g. EFQM, MBQA, ISO 9000:9001) are sometimes referred to as performance models used by organisations to measure and evaluate performance. The QM or award models are non-prescriptive models that show the outcome of the implementation of quality. However, the emergence of literature on quality of care that is specific to maternal and child health has been a fairly recent development.

Maternity Models of Care

The remainder of this section will look at models of quality of care for maternity. Previous discourses earlier in this chapter have identified and defined quality in health care in a generalist setting. The purpose of this section is to specifically identify maternity quality models as espoused by several researchers and that have ultimately informed the development of the QUALITT model, such as Hulton et al. (2000; 2007), Raven et al. (2011), Austin et al (2014) and WHO's vision for maternal and newborn health (Tunçalp et al. 2015). See Table 4 for a summary of the key maternity models. These models will be discussed for the rest of this section.

Hulton et al.'s Model of Care

Hulton et al.'s (2000) research focused initially on a model for delivery in health facilities in rural India. Hulton et al. (2000) identified ten elements that can be used to provides a framework to assess quality in maternal health services. The ten elements are: human and physical resources, referral system, maternity information system, use

of appropriate technologies, internationally recognised good practice and management of emergencies, human and physical resources, cognition, respect, dignity and equity and emotional support.

Two key components are provision of care and experience of care. The former refers to the quality of care given and is related to human, infrastructural, clinical and information systems; the latter highlights the relationship between women and their families, and the health services provided. The underpinning theoretical framework illustrates a range of aspects of quality that are discussed in previous sections and includes appropriateness, suitability and availability of care.

Commentary on Hulton

Hulton et al. (2016) amended the model to include accountability as further research had identified this omission as a gap in the model. Accountability involves the ability to monitor and do something when things go wrong; there is a significant deficit in this respect in MNH (Maternal and Newborn Health). Hulton et al. (2016) argue that there is no structured systematic approach to ensure that there is accountability for when QoC is incomplete, as this aspect of care is not systematically acknowledged. The omission of accountability as an aspect of quality has also been acknowledged by Berwick and Fox's (2015) revisit of Donabedian's (1988) model for quality. Similarly, the National Academies of Sciences, Engineering and Medicine (2018) revisit of the Institute of Medicine (2001) model of quality of care acknowledges that:

> "It is now recognized that corruption takes far too great a toll on health care systems, and therefore that integrity, accountability, and transparency are key in trying to improve health system performance in every dimension" (National Academies of Sciences, Engineering and Medicine 2018, S-4).

Table 4: Maternal Quality Frameworks/ Models/ Approaches

Author (year)	Document/ Study Type	Theory/ Models	Assess quality by the following	Utility
Bruce (1990)	Review	An antenatal framework re: quality of care in family planning program.	Client perspective approach: 6 elements: choice of contraceptive methods, information given to patients, technical competence, interpersonal relationships, continuity and follow-up, and the appropriate constellation of services.	Guided the design and delivery of services in the fields of family planning and reproductive health in modified based on context, scope. Recognised as a formal standard for defining quality in the field of international family planning.
Hulton et al. (2000; 2007)	Book; Case study - mixed methods	Provision and experience of care framework.	10 elements: Six elements are related to the provision of care (human and physical resources, referral system, maternity information system, use of appropriate technologies, internationally recognised good practice, and management of emergencies) and four elements are related to women's experience (human and physical resources, cognition, respect, dignity and equity, and emotional support.	Definition of quality for maternity services adapted by many researchers. Provides foundation for Raven et al. (2011); Austin et al. (2014); Tunçalp et al. (2015); and QUALITT model.
Raven et al. (2011)	Systematic literature review	Discusses elements of quality of care for maternal and neonatal.	No specific framework selected instead advocates a wholistic approach that is a hybrid or synthesis of key components from existing models based on systems, perspectives, dimensions or the elements of quality of care for maternal and newborn health. Reproductive rights must be included.	Approach utilised by Austin et al. (2014); Tunçalp et al. (2015); and QUALITT model.

Author (year)	Document/ Study Type	Theory/ Models	Assess quality by the following	Utility
Austin et al. (2014)	Systematic review	Conceptual framework to improve the quality of maternal and newborn health care.	Multi-dimensional. Donabedian's triad of structure, process and outcome. Embedded with components of other QoC (Maxwell 1984; Dogba and Fournier 2009 and Raven et al. 2011). 3 core components have accompanying subcomponents. Structure (community, district and facility levels). Process component (IoM's model of quality: clinical care (safe and effective); person-centred (patient-centred, equitable) and contextual (timely and efficient). Outcome (reduction in death, disability, disease, discomfort and dissatisfaction).	First output of a series of 5 papers. Conceptual framework used to inform further research. Highlight the evidence of interventions to improve the quality of MNH at the community, district, and facility level. Identify research gaps and recommend steps to improve the quality of MNH in resource-poor settings.
Tunçalp et al. (2015)	Commentary	conceptual framework - WHO vision on quality of care for maternal and newborn health.	Multi-dimensional incorporates several prevailing models of quality and approaches Donabedian (1980), Hulton et al. (2000; 2007), Raven et al. (2011) and IoM (2001). 8 domains of quality of care within the overall health system. 8 domains are: 1. Evidence-based practices; 2. Actionable information systems; 3. Functioning referral systems; 4. Effective communication; 5. Respect and preservation of dignity; 6. Emotional support; 7. Competent, motivated personnel; and 8. Availability of essential physical resources.	Accompanying standards developed to evaluate and measure QoC in MNH.
Blaize-La Caille (2016)	Research study	QUALITT model of quality - conceptual framework of maternal quality for Trinidad and Tobago.	Multi-dimensional incorporates components and approaches from Donabedian (1980), Hulton et al. (2000; 2007), Raven et al. (2011) and IoM (2001) and Tunçalp (2015). Modified with empirical data from study to include 3 additional universal components - Internal and external influences and power, culture and conflict. See Chapter 4.	Model derived as an output of the analysis and used to evaluate data. Can potentially be used in developing countries similar to Trinidad and Tobago.

Raven et al. Approach

Raven et al. (2011) performed an extensive systematic review and synthesis of the literature to define quality and, more specifically, quality in relation to maternal care. In terms of defining what is quality in maternal care, they rely on Hulton et al.'s (2000 p.4) definition which states:

> "that quality of care is the degree to which maternal health services for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights".

Hence quality in the context of maternal services includes two components: the provision of service and the recipients' experience of this care. An important inclusion in this definition is the acknowledgement of reproductive rights of women. Raven et al. (2011) views this as a required dimension in order to make it more relevant to maternal and neonatal health, and therefore, a potential deficit in other models of care. This deficit has also been acknowledged by Hulton et al. (2000), Engender Health (2003) and Pittrof et al. (2002) who separately conclude that quality as a construct is not easily defined, and when quality is defined, it is multi-dimensional, and this has implications for measuring and developing measures to assess what is good or bad quality. This finding is in keeping with the existing review of generic quality literature, in Section 2.2, Building a Definition of Quality in Maternal Health Care, earlier in this chapter.

Raven et al. (2011) also propose that a conceptual framework for the quality of maternal health care should be holistic in its approach and endorses a hybrid or synthesised approach going forward by using key components from existing models based on systems, perspectives and dimensions. This hybrid approach is based on the complexity of interpreting evidence and using it to improve practice and policy and therefore the quality of care. Quality models can be used separately in assessing and improving quality of care in maternity services, as well as health services in general but Raven et al. (2011) propose that a holistic view of quality can be gained from using combined components from different models of quality of care discussed in previous sections.

Raven et al.'s (2011) model seeks to deconstruct prevailing quality models and classify them using a system's thinking approach. Table 5 sets out a summarised view of the different models of quality and their individual components. This uses the structure of a framework adapted from the Liverpool School of Tropical Medicine (1995), 'Health care quality assurance manual', that defines quality of maternal and newborn health care using perspectives, characteristics, dimensions of the system and the elements of quality of care for maternal and newborn health.

Table 5: Topology of Quality

Model	Quality of structure	Quality of process	Quality of outcome
Dimensions of health system e.g. Donabedian (1966; 1980)	● Policy ● Resources ● Organisation ● Management system	● Service delivery	● Outputs ● Health status
Characteristics of quality e.g. Maxwell (1984)	● Accessibility ● Availability ● Affordability ● Relevance to need ● Goodness of amenities ● Equity ● Sustainability	● Appropriateness ● Acceptability ● Technical Competence ● Safety ● Goodness of interpersonal relationship	● Coverage ● Effectiveness ● Efficiency ● Health impact ● User satisfaction
Perspectives of quality e.g. Øvretveit (1998)	Client quality <-> Professional quality <-> Management quality		
Elements of quality e.g. Hulton et al. (2000; 2007)	● Human and physical resources ● Referral system ● Information system	● Use of appropriate technologies ● Internationally recognised good practices ● Management of emergencies	● Experience of care

Model adapted from Health Care Quality Assurance Manual-ISTM (1995) cited in Raven et al. (2011, p.681)

Austin's Model of Care

Similarly, research by Austin et al. (2014) also provides a framework that incorporates the best practice synthesis of research logic of quality. This reflects Donabedian (1988) who proposes quality in terms of three dimensions: structure, process and outcome. These dimensions of quality are interlinked: e.g. good structure promotes good process and good process promotes good outcomes. Embedded within this framework are the perspectives and characteristics of QoC as identified by Maxwell (1984) and Raven et al. (2011) and discussed earlier in Section 2.3, Quality of Care Models. The strength of Austin's model is that this conceptual framework is comprehensive and may be used to assess quality at all levels within the health system and from a contextual perspective. This framework is portrayed in Figure 1:

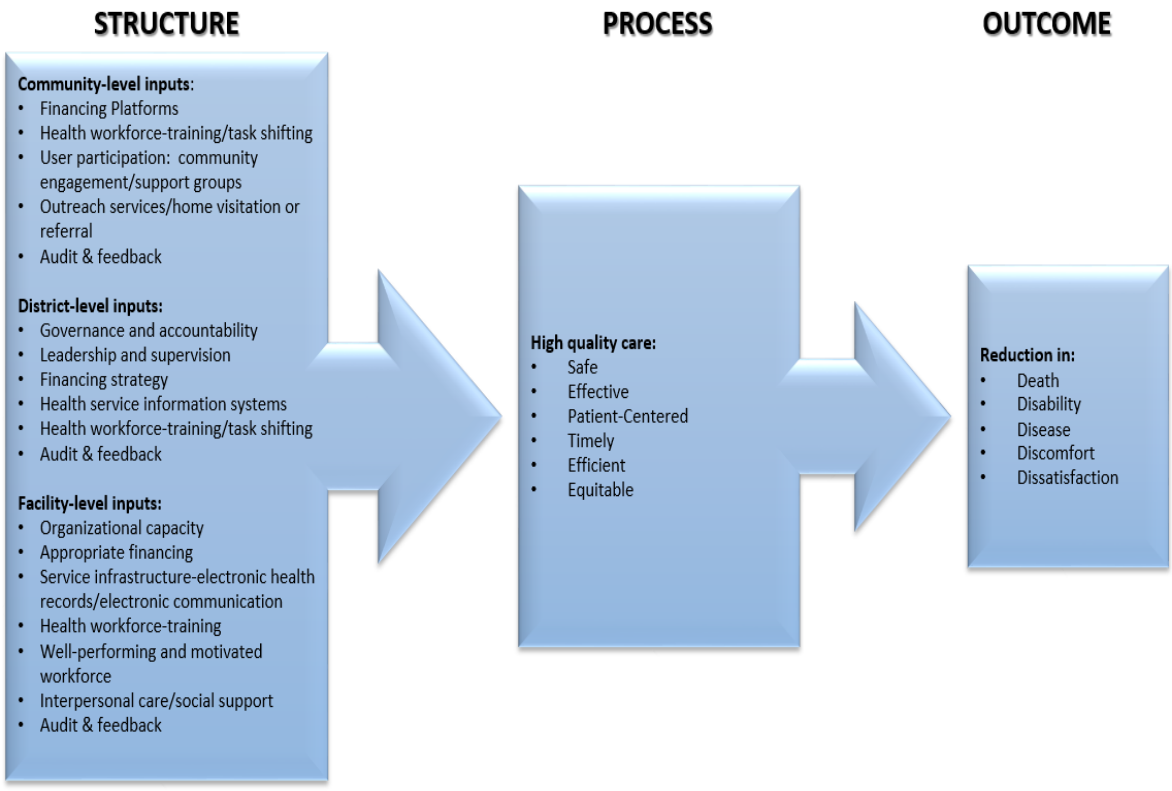

Figure 1: Austin et al.'s (2014, p.4) Conceptual Framework of Quality

Using the Donabedian construct of dimensions of quality, Austin et al.'s (2014) framework comprises three core components (structure, process, outcome) with each having its accompanying subsection.

The structure component examines how care is delivered at the community, district and facility levels, incorporating different aspects at each level and acknowledging that there is a significant overlap at these distinct levels. These factors include: Workforce training and development and Community visits. The key here is to show that the structure of the health system must be sufficiently equipped to deliver quality care to women and by extension their families.

The process component of the model is defined using the Institute of Medicine's (2001) model of quality and has three core categories: clinical care (safe and effective); person-centred (patient-centred, equitable) and contextual (timely and efficient). The IoM's model of quality is very influential and features in many quality frameworks globally including countries, such as the US, Canada, UK and Australia (Powell et al. 2009).

The outcomes component of Austin's et al. (2014) model is associated with clinical outcomes and nonclinical outcomes and is internationally accepted as common practice in many settings (Koblinsky et al. 2016; National Academies of Sciences, Engineering and Medicine 2018). Clinical outcomes relate to common indicators for quality (maternal care in terms of maternal mortality rates/ratios) and non-clinical outcomes relate to indicators in terms of patient satisfaction as expressed by the woman and her family.

WHO framework Quality of Care (QoC) developed by Tunçalp et al. (2015)

The WHO framework Quality of Care (QoC) developed by Tunçalp et al. (2015), builds on the work of previous researchers especially Hulton et al. (2000) and other well-established quality of care models, such as Donabedian (1980) and Institute of Medicine (2001). It is one of the contemporary models that focuses explicitly on QoC for maternal and newborn health. This model is set out in Figure 2 which highlights its alignment with two complementary global action agendas: 'Every newborn: An action plan to end preventable deaths' (World Health Organisation 2014) and 'Strategies toward ending preventable maternal mortality' (World Health Organisation 2015). These are key influential models that contributed to the development of the QUALITT model.

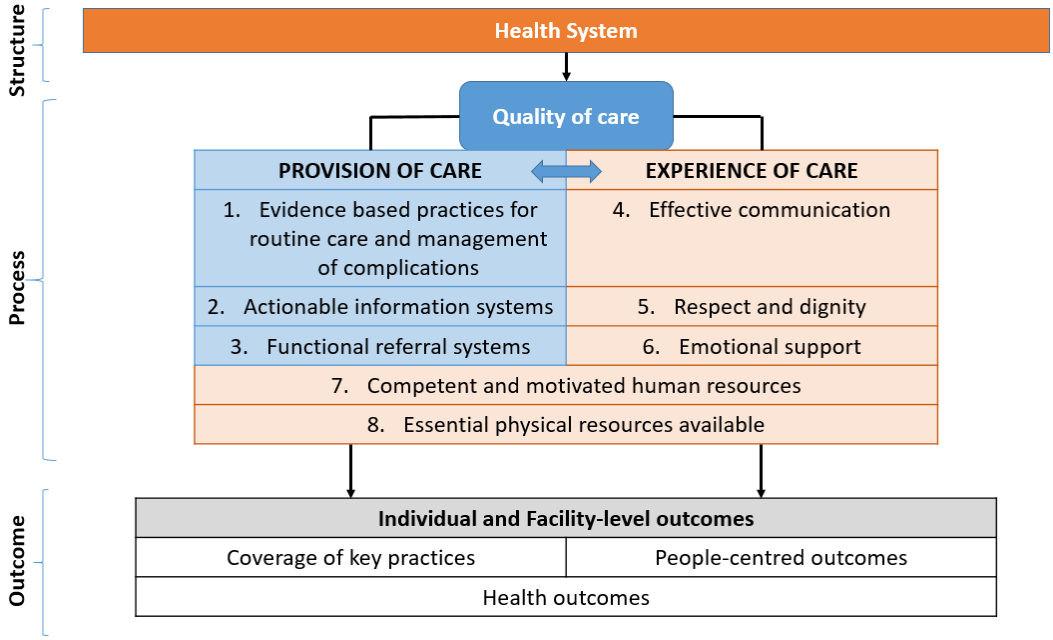

Figure 2: World Health Organisation Vision on Quality of Care for Maternal and Newborn Health (Tunçalp et al. 2015, p.1047)

Clearly apparent in the model is the Donabedian (1980) dimensional construct (structure, process, outcome) that describes the health system, QoC framework and Hulton's et al.'s (2000) research outcomes. Donabedian's quality construct is congruent with the logic and systems approach of QoC in Tunçalp et al. (2015) model. Structure refers to the health system as an overarching component and is designed in alignment with health systems thinking which the World Health Organisation (2009) has progressed as six building blocks: service delivery; health workforce; information; medical products vaccines and technology; financing, and leadership/governance that ensure that there is a comprehensive health system for overall delivery of quality health care.

The process component of the model focusses on QoC and comprises two interlinked core elements: the provision of care and the experience of care. The shared QoC concerns are that there should be the available physical infrastructure, supplies, adequate managerial and human resources to support delivering good QoC. Outcome is the net result of structure and process of QoC and can improve QoC. This increases the likelihood of desired individual and facility-level outcomes: health outcomes, coverage of key practices and people-centred outcomes as identified within the structure and process components within the framework.

The framework contains critical components; however, it is acknowledged that communities and end-users will exercise a level of self-management based on their own needs and preferences in managing their own health. Further, women and the families or communities on the quality of maternity care services influence decisions to seek care and are essential components for creating a demand for and access to quality maternal and new-born services (Bohren et al. 2014). Hence, community engagement is an important aspect to be considered. As mentioned previously, the World Health Organisation Quality of Care (QoC) framework is specifically for maternity services and incorporates various elements of quality as advocated by Austin et al. (2014).

2.5 Measuring and Implementing Quality through Quality Improvement (QI)

The previous section discussed traditional concepts of quality, definitions of quality of care and maternal care and various popular models or framework of quality. Quality management and award models were also discussed. This section discusses the relevance of quality improvement (QI) methods in health and robust process improvement tools, such as Total Quality Management/ Continuous Quality Improvement (TQM/CQI), Business Process Re-engineering (BPR), The Institute for Health care Improvement (IHI) rapid cycle change (also called the Model for Improvement and Lean Thinking/Six Sigma).

2.5.1 Measuring and Implementing Quality

Measuring quality has its challenges. These challenges include: How to collect information to use and how to handle incomplete or inconsistent patient information. These challenges are impeded in their use for evaluation of other techniques, such as direct observation or indirectly observing behaviours and opinions to inform or infer measures of quality that might be considered. Other considerations for assessing quality are as follows: should measurement standards be empirical or normative and at what level should the standard be set. If the standard is either over or under achievable either all will pass, or all fail. Additionally, measurement scales may foster discrimination of varying levels of performance; reliability; bias; validity and to what extent does the effectiveness of care validate the quality of care (Donabedian 1980).

Measuring quality is important for several reasons: It signals what is important, monitors what is happening and allows the appropriate parties to address what is happening (Buttell et al. 2008).

In the 1990s, health care organisations initially experimented with the industrial quality improvement tools of the time, such as continuous quality improvement and TQM with limited success. Most of the improvements were in nonclinical areas, and the tools were largely ineffective in solving clinical safety and quality problems (Goldberg 2000). However, the QI tools are used to define, test, measure, assess and evaluate performance.

Colton (2000, p.9) considers "QI a desirable and legitimate management paradigm" and suggests that the foundation theory that drives QI should be understood as:

> "in regard to QI, we are presented with an approach to inquiry and decision making grounded in management theory … systems theory and methodologies not typically employed in evaluation of health care, such as, statistical process control (SPC) and the use of systems analysis tools such as flowcharts and Pareto diagrams" (Colton 2000, p.10).

Colton (2000) explain that QI consists of the following components:

- Quality as defined by the external and internal customer;
- Systematic evaluation of processes and made of variation within processes;
- Improvement of the process throughout the lifecycle of the service or product rather than at the end of product or service delivery;
- Continuous monitoring of services and changes made to the process by staff delivering the service;
- Use of the indicators to compare services/products to norms;
- Top/down management leadership and commitment from top management.

Linking QI to health care, Colton (2000, p.10) says that: "QI in health care derives from a variety of disciplines with origins in disparate scientific domains", such as the social and biological sciences. These disparate origins result in a health care QI that relies on seeking order, discerning patterns and categorising information. The specific

interrelatedness is difficult to separate, as the concepts are highly interconnected and interrelated. Systematic inquiry in health care related social and biological sciences show the convergence of modes of inquiry for social science and biological/medical science. Therefore, the nature of inquiry or analysis is a decision-making process, which is achieved through application and systematised as a profession and discipline of study.

Chassin and Loeb (2011, p.564) found that health care organisations adopt a new generation of industrial quality methods and apply them to issues of clinical safety and quality. They refer to them collectively as “robust process improvement”. These new approaches, particularly, Six Sigma, Lean management and change management are considered as more robust in their ability to solve difficult safety and quality problems. They provide a systematic approach to dissecting complex safety problems and guiding organisations to deploy highly effective solutions.

Chassin and Loeb (2011) study compliments the research conducted by Powell et al. (2009) who conducted a systematic narrative review of quality improvement models in health care in NHS Scotland, the UK, USA and Europe. The synthesis of the literature on quality in health care views quality from an organisational level within health organisations. In this context, quality is regarded through the lens of quality improvement models. Powell et al. (2009) concludes that several models persist within health organisations in the UK, Europe, USA and Australia, namely: Total Quality Management/ Continuous Quality Improvement (TQM/CQI), Business Process Re-engineering (BPR), The Institute for Health care Improvement (IHI) rapid cycle change also called the Model for Improvement, Lean Thinking/Six Sigma. The following section briefly discusses an amalgamation of these methodologies and tools and techniques for improvement (Powell et al. 2009).

Total Quality Management/Continuous Quality Improvement (TQM/CQI) Total Quality

Total Quality Management (TQM) and Continuous Quality Improvement (CQI) are associated with looking at customer needs and expectations. These approaches are process driven as opposed to task or organisation oriented. TQM philosophy emphasises quality, teamwork, proactive management and process improvement. CQI is one of the mechanisms utilised within a TQM framework. It is focused on

improving existing processes, starting from the current position. The changes are incremental and not drastic. Staff are motivated to be responsible for quality in all areas of their job roles, especially frontline staff. CQI promotes a culture of openness, discourse, and learning; activities are measured and reported in a blame free environment (Locock 2001; 2003).

By extension, Cobb (2004) expands on the concept of quality and indicates that in this current competitive environment quality has a broader dimension with additional attributes, such as cost, performance, service delivery, customer satisfaction, meeting business targets and the like. TQM involves integration of quality into the design of processes to make processes inherently more reliable. The benefits of TQM/CQI include: empowerment of cross-functional teams; clear focus on the needs of internal and external customers; examination of processes as causes of problems; clinician appeal as there is an emphasis on scientific measurement; can be successful in well-defined project areas (NHS Modernisation Agency 2005; Locock 2001; 2003).

TQM/CQI in Health Organisations

In 1995, Joss and Kogan's research within the NHS concentrated on the Total Quality Management (TQM) model of quality as it closely matched the ethos of the current governmental policies. They defined quality within the context of TQM as:

> "an integrated, corporately-led programme of organisational change designed to engender and sustain a culture of continuous improvement based on customer-oriented definitions of quality" (Joss and Kogan, 1995, p.13).

They point out that TQM is normally used with organisational managerial context, whereas CQI is used for clinical settings. Powell et al. (2009) further explain that TQM/CQI was developed by Deming in Japan in the 1950s but became more prominent in health care in the 1990s (Gann and Restuccia 1994; Schiff and Goldfield 1994; Trisolini 2002). Some authors suggest that it is a more generalised approach to improving quality and could be executed using distinct methods by different organisations. A major principle is the importance of measurement whereby data is used to analyse variance in work processes and outputs. A range of tools is used, such as statistical process control (SPC), cause and effect diagrams and the Plan-Do-Study-Act cycle (Roberts 1993; MacArthur et al. 2003). Cursorily, TQM/CQI appears

to be widely used in health care in the western world as evidenced by numerous published papers describing its application in hospitals and in individual departments (Lagrosen 2000; Mosadeghrad 2013; Nwabueze 2011). However, research has been inconclusive about effective implementation.

Øvretveit (1998) indicated that hospitals use various methods and systems to assure and improve quality but there was little emphasis or awareness of a disciplined scientific approach to quality improvement, in that any activity could be deemed as a quality project and qualify for resources. Further, reviews of published research conclude that there is limited evidence to support how useful or effective TQM/CQI is and how it compares to other QI methods. One reason for this lack of evidence is the ambiguous nature of TQM/CQI as it has an umbrella effect of grouping improvement or change oriented activities compared to other approaches, such as Lean Thinking or Six Sigma which are clearer and described in the next section.

Blumenthal and Kilo (1998) highlight a similar sentiment in their report of the outcome of their study involving nineteen prominent CQI thinkers and activists in the US in the mid-1990s. They found that many doctors were sceptical of or uninformed about TQM/CQI, with little patient engagement and a lack of involvement by many senior leaders in CQI projects being run by their organisations. A similar experience was noted in European hospitals introducing TQM/CQI, this again confirmed the difficulty in securing doctors' leadership and involvement (Øvretveit 1998). Organisations failed to be results-oriented and employees detached QI activities from their daily work. This was a direct result of how TQM/CQI was being implemented as part of the focus was on diagnostic and administrative support services. Notwithstanding these findings, some studies have shown that TQM/CQI implementations have been successful in specific domains in health.

2.5.2 Business Process Re-engineering

Hammer and Champy (1993) define Business Process Re-engineering (BPR) as a business philosophy that rethinks and redesigns business processes to obtain exceptional and long-lasting improvements in quality, cost, service, outcomes, lead times, flexibility and innovation. Hammer (1990) reinforces that re-engineering tends to be radical in that it questions and challenges the old way of doing things, many

times rejecting them and embracing new ways of doing work that better serves the organisation's goals. This is since for some organisations, the only way to progress is to adopt quick radical changes with high risk results as Hammer (1990, p.105) indicates that: "re-engineering cannot be planned meticulously and accomplished in small and cautious steps. It's an all-or-nothing proposition with an uncertain result."

These techniques tend to use Information Technologies (IT), such as health IT to automate key business processes resulting in BPR being associated with job losses. Instead, re-engineering approaches should be recognised as enabling businesses to significantly improve their efficiency and effectiveness much faster than the incremental improvement which resulted from earlier (TQM) initiatives (Bhaskar 2014). TQM works within the existing processes and attempts to implement continuous but incremental change improvements. On the other hand, BPR aims at radical change, innovations and breakthroughs including displacing the old processes with new ones. Business process reengineering (BPR) is a tool to help organisations to improve quality, customer services, cut operational costs and become leaders in their domain.

Even though an industrial attitude is taken towards business processes, insufficient attention is placed on developing processes that are radically different from the current ones. This lack of technical/scientific focus leads to businesses relying on solutions that have already been tried and tested in the industry and adapt them to suit their business needs as opposed to utilising re-engineered processes. Essentially, success is impacted not by applying techniques external to the organisation but by re-engineering what is already being done in a way that improves the efficacy of the process. Limam and Reijers (2007) conducted a survey of best practice for BPR practitioners and conclude that successful BPR projects involve focusing on the customer, the products or services and the information flows. One of the drawbacks of utilising BPR especially in a health care setting is that it is considered radical and mismatched to the organisational values and culture of well-established health care organisations (Locock 2001; 2003). However, it should be noted that NHS redesign combines elements of process redesign methodologies, and therefore, seeks the best from process re-engineering and tries to minimise the drawbacks to this methodology.

As indicated, there are other approaches or tools and techniques used by organisation to improve quality such as Lean Six Sigma and IHI rapid cycle which are briefly discussed in the following subsections.

2.5.3 Lean/Six Sigma

Lean Thinking is a set of approaches, tools and characteristics aimed at providing what a customer wants, quickly, efficiently and with minimal waste. Six Sigma was developed by Motorola as a quality improvement plan in the late 1970s. Pyzdek and Keller (2010) indicated that the transformation of Motorola in the 1980s from a struggling company to a high-quality, high-profit organisation raised the profile of Six Sigma methodology. It was initially conceived in the manufacturing sector and has been a predominant improvement methodology in private and public sector organisations worldwide. It is a rigorous strategy for improvement based on analysis and measurement. NHS Modernisation Agency (2005) suggests when combined with the Theory of Constraints or Six Sigma, Lean Thinking is even more effective (Young et al. 2004; NHS Modernisation Agency 2005; Torres and Guo 2004). The theory of constraints originated as a simple concept about production lines and bottlenecks and is about concentrating efforts to identify and reduce the impact of a constraint in a system.

This theory supports the rigour of Six Sigma measurement and is a good fit for methodologies like Lean Thinking (Young et al. 2004). These methodologies: Lean Thinking, Theory of Constraints and Six Sigma, have several commonalities, including an emphasis on the concept of production as a complex interaction of individual activities; a recognition that for efficient and effective production, activities must be coordinated and balanced; weak links or bottlenecks must be identified, and appropriate remedial action taken. For success, these approaches require strong leadership, iterative problem solving and promotion of participation by all persons involved in the system. In the health context, if these methodologies are applied effectively, improvements in quality of care, reduced waiting times and a less stressed work place might be achieved (Young et al. 2004). However: “like other quality improvement approaches, Lean Thinking in health care faces the challenge of defining

‘the customer’ when there are multiple internal and external customers, whose interests may conflict” (Powell et al. 2009, p.38).

More recently, Lean principles have been successful in the health care industry. The Institute of Healthcare Improvement (2005) cite two notable examples of its use at Virginia Mason Medical Center and ThedaCare. Both organisations transformed and improved through the application of Lean principles. ThedaCare reported $3.3 million in savings in 2004 due to redeploying staff, reduction in the time spent on paperwork and phone triage times, reduced accounts receivable and a decrease in medication distribution time.

Pyzdek and Keller (2010) explain that two key fundamental objectives of Six Sigma are a virtually error-free process and a large focus on reducing variation. A Six Sigma process, or a process of six deviations from the mean, corresponds to just 3.4 errors per million. Chassin (1998) reports that health care frequently falls short of this standard. In a 1998 report, Chassin reported that hospitalized patients harmed by negligence were at a 4 sigma levels (10,000 per million) and patients inadequately treated for depression were at a 2 sigma levels (580,000 per million). In comparison with health care, airline fatalities were a 2 sigma process (230 per million) and a traditional company operated around 4 sigma, the equivalent of 6200 errors per million. Considering that errors are often tied directly to cost, this error rate has significant financial implications. A study by Liberatore (2013) reviewing 34 studies, including 26 Six Sigma and 2 Lean Six Sigma articles concluded that there was only weak evidence that Six Sigma and Lean improve health care quality and that the reviews to-date provide limited evidence concerning Six Sigma's health care scope and its impact on performance metrics, costs and revenue generation.

Liberatore (2013) found that though Lean/Six Sigma techniques have been applied to several health care organisations, mainly hospitals and across many health care functional areas. The main area was in-patients, such as admission, discharge, medication administration, operating room, cardiac and intensive/critical care. Interestingly, though amenable to Lean/Six Sigma few applications were reported in many in-patient areas, such as orthopaedics, maternity, chemotherapy, pulmonary, internal medicine, paediatrics, neonatal and intensive care units (NICU). However,

these findings provide an insight on the potential of widespread application in health care since some issues addressed in previous studies also are applicable in other areas, including reducing medication, other errors and process, and wait times as observed by Young et al. (2004). A similar QI tool to Six Sigma is the model for improvement or IHI rapid cycle for change which will be discussed next.

2.5.4 IHI Rapid Cycle for Change

The journey toward improvement can be made more efficient and more effective with a systematic approach. It is a structured, dynamic model that applies the scientific method to testing and implementing a change. The rapid cycle change approach endorsed by the US Institute for Health care Improvement (IHI) and commonly referred to as the NHS model for improvement, which comprises three questions and the Plan-Do-Study-Act cycle combined with the best practice in BPR and TQM/CQI and other quality management principles (Locock 2003; Powell et al. 2009). Figure 3 illustrates the elements of the Plan-Do-Study-Act Model for Improvement; the answers to these questions form the basis for improvement. The questions that the model is based on are:

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

Any effort to improve something should result in answers to these questions. The nature of the questions allows for a framework based on a 'trial-and-learning' approach. The terms 'trial' and 'learning' are used to suggest that: 1. A change is going to be tested and 2. A criterion has been identified that will be used to study and learn from the trial. Focusing on the questions accelerates the building of knowledge by emphasizing a framework for learning, the use of data, and the design of effective tests or trials. This approach stresses learning by testing changes on a small scale rather than by studying the problem before any changes are attempted (Langley et al. 1996). The purpose of the study phase is to build learning and new knowledge. This improvement has been shown to be quite effective and applicable is simple to complex

situations and can be used in process or product-oriented situations (Langley et al. 2009).

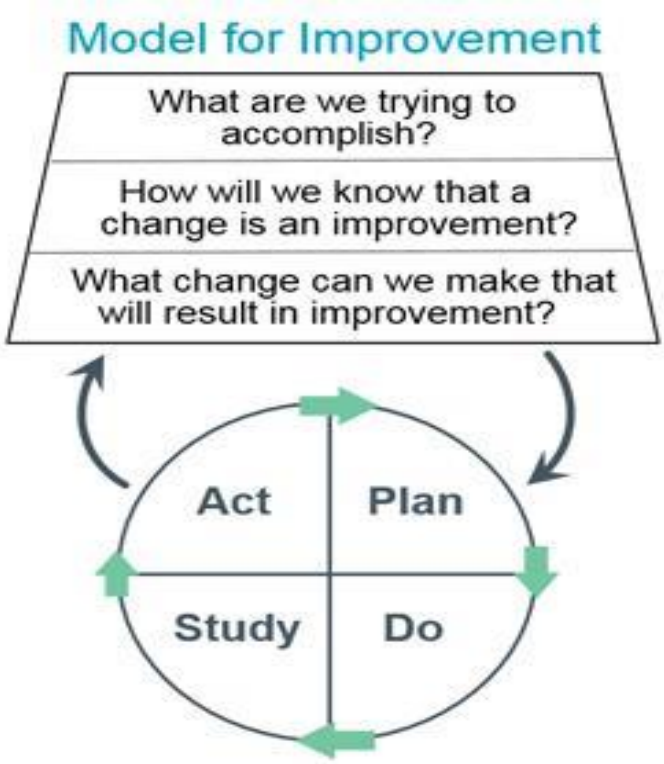

Figure 3: Plan-Do-Study-Act Model for Improvement

The Plan-Do-Study-Act Model for improvement cycle begins with a plan and ends with action based on the learning gained from the Plan, Do and Study phases of the cycle. The three questions can work in both simple and complex environments and the model can also be used in diverse settings (NHS Modernisation Agency 2005).

Powell et al. (2009, p.41) emphasised that the commonly used quality improvement models and their tools are used in varied ways and are normally applied in various permutations and combinations and in no particular order and 'what is more common in health care settings is to draw on combinations or hybrids of the main approaches'. The power of these tools lies in their systematic approach, which involves the following: reliably measuring the magnitude of a problem; identifying the root causes of the problem and measuring the importance of each cause; finding solutions for the most important causes; proving the effectiveness of those solutions; and deploying programs to ensure sustained improvements over time. Robust process improvement

enables health care organisations to avoid crucial failures common in many efforts to improve clinical quality (Chassin and Loeb 2011).

Powell et al. (2009) explain that many of the models are interlinked and interrelated and at times it might be difficult to see differences between them. They indicate that the surveyed literature of quality improvement and organisational change studies suggests that there exists a common set of prerequisites for these models to be successful, regardless of origin or emphasis. These prerequisites as detailed below include the following minimum characteristics for a successful QI initiative must be:

- Aligned and integrated with the strategic objectives of the organisation and its other activities;
- Viewed as an integral part of daily work and as the responsibility of all staff;
- Recognised that quality takes a long time to be firmly established within an organisation;
- Active engagement of health professionals, especially doctors;
- Mutuality of benefits of change by staff and patients;
- Strong leadership and clear vision from key stakeholders clinical, administrative and political leaders at different levels of the health system;
- Sustained and active participation in QI activities by board members and senior managers;
- Comprehensive interventions and sustained action at different levels, that is, individual, team, organisation and the wider health care system;
- Significant investment in training and development, for example, project management, change. management and clinical skills for new roles;
- Champions-change agents to provide skills and knowledge and to maintain momentum;
- Robust and timely data, qualitative or quantitative;
- Resources such as finance, staff cover, training and IT systems;
- Substantial training and support for staff using IT in new ways.

Source: Powell et al. (2009, p.6).

2.6 Quality in Health Synopsis

This section gives an overview of Trinidad and Tobago's national health quality strategy and surmises the discussion on health quality thus far, including latest trends and developments.

2.6.1 Trinidad and Tobago Perspective

The Strategic Plan for the Ministry of Health for fiscal years 2011/2012 – 2015/2016 was developed over the period December 2010 to February 2011. It represents a record of the discourse, ideas and recommendations of managers, staff and other key stakeholders garnered through strategic workshops, interviews and surveys. This study was conducted to achieve the political vision for the development of a world class health system in Trinidad and Tobago. During the period of this study, there has been a change in political administration and the rhetoric/narrative for health care and the nation changed from Vision 2020 Draft National Strategic Plan to world-class health system. The strategic plan has a quality strategy embedded within it. As the Minister of Health states:

> "The Strategic Plan establishes the Ministry as an effective hub ... facilitating the development of a first-class health care system as informed by the global goals for Public Health. Ultimately, the Plan allows the Ministry to continue to develop its role as the leader, policy maker and regulator in order to improve effectiveness in the delivery of health care. Six core values will set the tone within which we shall execute our mandate. These are: Professionalism, Total Quality, People-Centeredness, Evidence-based, Good Governance and Teamwork" (Government of the Republic of Trinidad and Tobago 2006, p.1).

Additionally, at a national level, the vision for health is based on a framework for sustainability and is actualised through the seven pillars for national development which includes societal goals, such as people centred development, good governance and the eradication of poverty and social justice; to economic goals such as diversifying the economy and honing foreign policy. The seven pillars for national development also included wider policies around information and communication technologies and national and personal security. These pillars are designed not only to provide a safe, progressive and peaceful existence for the citizens, but also states that "within this context, the Government deems health - a basic right and essential for the economic development of the country" (Government of the Republic of Trinidad

and Tobago 2011, p.57). All 'actors' of the health system are exhorted “to pursue public health policy initiatives and enhance their interface with clients and transform their organisations into 'centres of excellence’ driven by committed and dedicated individuals” (Government of the Republic of Trinidad and Tobago 2011, p.40). Ultimately, the vision as espoused by the Ministry of Health, Trinidad and Tobago is to be people centred and proactive and geared towards excellence. It aims in general to improve the health status of the country’s citizens.

These core values as articulated by the Minister of Health refer to dimensions of quality and also to total quality as described in previous sections. The Minister also emphasises that quality assurance is one of the enablers for developing the health system. The quality thrust appears to be focused on operational excellence and an excellence philosophy. In defining two of the core values the term ‘excellence’ is used. For example, Total Quality is explained being “committed to excellence in our health care systems and all services.” Also, good governance is described as “[providing] proactive, visionary leadership for the health sector, emphasizing transparency, accountability and operational excellence among all partners” (Government of the Republic of Trinidad and Tobago 2011, p.41).

A SWOT analysis sees globalisation as an opportunity to access expertise, best practice quality management, and accreditation for the health sector. The focus on globalisation also acknowledges the reliance on external influence for expertise and best practice processes. Again, the themes of quality management and accreditation are key points for achieving quality health care. Whilst there is no explicit quality strategy, one of the strategic objectives is to develop and implement a Quality Strategic Plan for the Ministry, to implement an approved Change Management Plan and to include quality and change outcomes in the performance management system. The strategic plan has been developed using management theory and includes tools and frameworks, such as SWOT and stakeholder analysis, business strategy, force field analysis, risk analysis, change management framework, results-based management as adopted across UN organisations. Further investigations, through interviews with key stakeholders, should produce a more explicit understanding of the health care strategy for Trinidad and Tobago.

From a comparative perspective, health care is a global phenomenon and gaining knowledge from other countries can mutually benefit countries and strengthen global empowerment of quality and safety in the health care movement. Generally, countries are interested in what other countries are doing, where successes are happening, and the broad impact of those successes on the society as a whole. Countries also interpret the relevancy of replication by determining, if possible, under what conditions can these results be replicated in different locations (Saks and Allsop 2012). For example, with Scottish devolution in 1999, significant political and governance changes have emerged. The incumbent majority Scottish National Party (SNP) are particularly interested in looking towards countries like Alaska for inspiration to gain knowledge towards enhancing Scotland's general health care system and health of the population (Scottish Government 2012).

Trinidad and Tobago are also interested in transforming their health system to that of the developed world and hence have an interest in learning about health quality from other countries, particularly developed ones. Originally the study aimed to employ a comparative case study, using a combined approach of 'standard most similarities' and 'standard most difference' design as explained by Hantrais (2009), to compare the Scottish and TT systems. The initial review showed broad overarching similarities such as shared British structures, universal health care delivery ethos, ageing population and the ideological and political will to have 'world class' health systems and be 'world leading' in health around health quality dimensions (Government of the Republic of Trinidad and Tobago 2011, NHS Health Quality 2008). Contrasts included differences in governance around social welfare, population size, and level of development, proportionality of public/private health care, governance structures, and decision-making instruments. Although this approach was initially considered it was not a feasibly beneficial approach for the PhD study to do a comprehensive analysis of the quality in maternal health care for Trinidad and Tobago.

2.6.2 Global Perspective

It has been has shown above that there is a heightened focus on the maternity quality of care agenda. Owing to the importance of maternal health quality, there has been a systematic development of a variety of concepts and models. Within the last five years

and post launching of the SDG goals (United Nations 2015), this focus has intensified. There has been a call to action to push the maternal agenda to another level so that there is quality maternity care for every woman (Koblinsky et al. 2016). In fact, Lancet has launched a six-part series focused on improving maternity care, (Graham et al. 2016; Miller et al. 2016; Campbell et al. 2016; Shaw et al. 2016; Kruk et al. 2016; Koblinsky et al. 2016). These six papers are separate dealing variously with maternal health workforce, burden of poor maternal health, respectful worldwide maternal health care, resourcing childbirth care and health system woman centred support, but they are interrelated and point towards the importance of taking a more integrated approach to maternal health care with more engagement of women. This has been evidenced (Sandall et al. 2016). This position reinforces the importance of my contribution to the body of literature and empirical study of quality in maternity services from a developing country perspective.

The development of the models in the literature emerge from a lineage of development of the quality of care models as the evolution of each model can be traced. The growth of literature in the field of maternal health care quality seem to have developed sequentially, providing a continuous updating and learning from the finding /observations of predecessors like Donabedian (1966), Institute of Medicine (2001) for general models of quality of care and Hulton et al. (2000) for maternity specific models of care. Regarding maternity care, the definition of quality of maternity care is founded in Hulton's definition. However, for generic quality of care, most models and definitions support the view of IoM definition of quality of care. I have evaluated the models by describing them and critiquing them as presented in Tables 2, 3 and 4. Notwithstanding, there is no de-facto definition of quality in maternal care, however, there is growing consensus to adopt Hulton's definition and the World Health Organisation's Quality of Care framework.

Furthermore, my review shows there is no generally accepted operational definition of how to measure maternal health quality and this gap is problematic. Interestingly, one promising development is the World Health Organisation's Quality of Care Framework for Maternal and Newborn Health (Tunçalp et al. 2015) which now has accompanying technical standards and guidelines for quality of care (World Health Organisation 2016). This will provide opportunities to engage women and local stakeholders in the

process of defining and measuring quality of care. This should provide future insight to the validity and applicability of the World Health Organisation's model of quality.

The development of the QUALITT model is in keeping with the current pedagogy of quality of care models and again contributes to the suite of existing frameworks in the field. Please see Chapter 4, Bridging the Gap: The QUALITT Model.

It follows clearly from the above that quality of care models are no longer static. Many of the foundation models of quality are nearly 20 years and over. The past two years has seen a revisit and review of these models with ambitious and relevant amendments, changed perspectives and outlook. Indeed, important models have been revisited in recent years including Donabedian (1966) (by Berwick and Fox, 2015), Hulton (2000) (by Hulton et al. 2016), ISO 9001:2008 (now ISO 9001:2015) and Institute of Medicine (2001) (renamed the National Academy of Medicine (NAM) in 2015). Key trends of these amendments focus on accountability in terms of following through with corrective action when quality is not achieved or integrity in practice at all levels of the health system (National Academies of Sciences, Engineering and Medicine 2018). Indeed, it appears that just as quality emerged as the driver for performance improvement during the NPM era of the 1980s and onwards, the post MDGs unfinished business of unmet targets (including each country reducing maternal deaths by 75%) and SDGs goals of inclusivity and equity within the ethos of universal health care access, has triggered much needed retrospection and rebirth.

Accordingly, my research is occurring within the worldwide evolutionary movement but is focused on the needs for maternal health care in Trinidad and Tobago, a developing country. In undertaking this, faced with the diversity of models and the challenges of understanding maternal health care quality in the context of Trinidad and Tobago, it was necessary to reflect, review and develop my more general epistemological and ontological understanding of quality of maternal health care, which is reflected in the approach taken as discussed below.

2.7 The Research Proposal

This section sets out to explain details of how the research questions emerged and explains the scope of the study, purpose of the study, the research questions and the limits and boundaries of the study.

2.7.1 Scope of the Study

As identified previously, antenatal care is considered a vital health care service and is provided for pregnant women worldwide, especially in the Western world. Antenatal care tends to be a schedule of one-to-one visits with a midwife, an obstetrician, or a general practitioner (GP) in a hospital or clinic setting (Catling et al. 2015). As Oakley (1982) explains, this modern-day antenatal care originated from models developed in Europe in the early decades of the past century, as it was felt that antenatal care could possibly reduce the incidence of maternal, foetal and infant death. There have also been shifting patterns, points of contention and power struggles between obstetricians, primary care physicians and midwives, in who delivers or manages antenatal care for low-risk women (Loudon 1992). These shifting patterns have led to a host of models of care being developed for pregnant women with two main strands: the midwifery model, 'physiologic model' (that is, care in accord with the normal functioning of a woman's body)' versus the strict 'medical model' which is an interventionist or pathology-driven model (Sandall et al. 2016).

The classic midwifery model assumes that most pregnancies, labours and births are normal biological processes that result in healthy outcomes for both mothers and babies. It focuses on maximizing the health and wellness of a woman and her baby; identifying and managing medical problems early on; and attending to the emotional, social and spiritual aspects of pregnancy and birth (Sandall et al. 2016). Contrastingly, the strict medical model of care focuses on preventing, diagnosing and treating the complications that can occur during pregnancy, labour and birth. Prevention strategies tend to emphasize the use of testing, coupled with the use of medical or surgical interventions to avert a poor outcome. Medical expertise and interventions are vital for women and babies with complications but routine interventions on women at low risk of problems can lead to problems (Sandall et al. 2016). The midwifery and medical models also give rise to two different ways of organizing maternity care systems.

In most industrialised countries, midwives coordinate the care for most childbearing women and collaborate with obstetricians or other specialists when a woman has medical complications or risk factors. Healthy women often give birth in midwife-led hospital units or birth centres or at home. In the case of Trinidad and Tobago, the public health system follows a mix of the two models with a stronger bias for the medical model. Several studies have shown the benefit for midwife-led continuity of care for women and babies with no identified adverse effects compared with models of medical-led care and shared care. Historical analyses in Sweden, Europe and the USA have shown that the professionalisation of the midwifery profession coincided with significant drops in maternal mortality, while cross-country data show that only countries with systems for skilled professional birth attendance reduced MMR (maternal mortality rates) below 50 per 100,000 live births (Campbell et al. 2016). Further evidence compiled by the Lancet Series on Midwifery demonstrates that a competent and motivated midwifery workforce is associated with progress in quality of care and maternal and newborn survival. However, the intersection of these models is yet to be studied under the Trinidad and Tobago system.

2.7.2 Purpose of Study

The main aim of this study is to investigate the perceived quality deficit, through evidence and practice, utilising an adapted model of quality for maternity care as a conceptual framework to explain the gaps in maternal health care and thereby diagnose its weaknesses. It is anticipated that this study will contribute to the body of knowledge of quality in health care, especially from a non-OECD country perspective. At the International Forum on Quality and Safety in Healthcare (Paris 2012) this issue was highlighted. It was observed by this author that one of the participants lamented that many of the presentations focussed on OECD countries and there was less emphasis on non-OECD countries. Therefore, it was difficult for practical knowledge transfer to occur. The forum organisers noted this shortcoming as a gap that could be a focus of future forums.

Hence, this research will engage in enquiry that aims to highlight issues surrounding improving maternal health care quality as experienced by a developing nation, as well as drawing out lessons or benefits. Thus, this is cross-disciplinary: touching politics,

health care, quality and safety in health care, health policy and management studies. It further aims to make recommendations for further research to improve understanding of the particular experience of the development of quality in health care in Trinidad and Tobago and to provoke a revisiting of the approaches to addressing quality. For example, the consequence of this might address how the needs of expectant mothers can be better met through the integration of health and education in the experiences of women as suggested by Howell and Concato (2004).

To achieve this, a range of documents such as policies, draft policies and management literature that address quality and maternal health care will be examined. In addition, the researcher will be engaged in and analyse conversations with health professionals and survey results of the women who used the relevant health services. Thus, this review will encompass not only what is stated in written documents, but also include the lived experiences and insights that professionals revealed through their reflections on practice, and their interaction with core users. This should provide a comprehensive base to understand how policies and practices have become established.

2.7.3 Research Questions

From the above, the overarching questions of the thesis are: 1. What are the vulnerabilities in quality of the maternal health care system in Trinidad and Tobago? and 2. What can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers? These were broken down into smaller, more tractable questions, each with accompanying aims, as follows:

Q1. How is quality defined, particularly in the context of Trinidad and Tobago maternal health care?

- To operationally define quality from a health care perspective using prevailing literature;
- To evaluate quality maternity models in current use in Trinidad;
- Using qualitative data, analyse health care providers' perspective of quality of how maternity services are provided and delivered in the Trinidad and Tobago context.

Q2. What are the antenatal experiences of health care of women in Trinidad and Tobago?

- Using quantitative data, examine the experiences of women using antenatal health care services in Trinidad and Tobago.

Q3. What can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers?

- To identify the gaps between stated and achieved outcomes;
- To discuss the factors which may contribute to the gap between policy and practice;
- To propose methods in which these challenges can be addressed.

A combination of research into the literature, practices and experiences will be used to explore and analyse these questions.

2.7.4 Limits/Boundaries of the Research

This research reviews policies, systems and approaches that guide analysis of the maternal health care in Trinidad and Tobago. This study is therefore limited to this area and does not attempt to make statements about quality of health care in Trinidad and Tobago in general.

Additionally, the research investigation will require access to documents and policy makers and practitioners in the health care system. This raises two further limitations: firstly, in relation to the accessibility of the documents and secondly the willingness of Key Participants to be interviewed. A major limitation in conducting research in government institutions in Trinidad and Tobago is related to the practice of documentation and policy development. Policies may be formulated but neither ratified nor published as formal documents of ministries. Similarly, other documentation may be partially completed reports, and systematic reporting and cataloguing may be weak. On the other hand, oral reporting remains pervasive. Although documentation normally refers to written material, in Trinidad and Tobago documentation may take the form of institutional memory. Indeed, it is common practice to be referred ‘to speak to someone’ when searching for information. This difference in the ways in which information is captured, stored and retrieved in countries similar to Trinidad and Tobago compared to more developed countries is therefore acknowledged.

Further to this, the size and structure of Trinidad and Tobago, and its health systems, means that there may be issues with anonymity, availability and timing. Participants may therefore be hesitant to be as forthcoming with information if they anticipate that they would be 'recognised' in the research. Consequently, care has been taken to ensure that while general descriptions are given, comments are not attributed to any particular individual or Regional Health Authority. Further, given the political nature of finding solutions to the issue of maternal health care, there may sometimes be expectations by participants that a particular research study is conducted in order to 'fix' problems. It therefore needs to be established that the outcome of the research may not result in 'fixing problems' which may have been identified through the study; and that the report is limited to providing recommendations which could be shared with policy makers and practitioners within the country. Again, it is important to ensure that the motives for the research are transparent to all respondents. Next, Chapter 3 provides details of my research methodology and methods.

Chapter 3. Research Methodology and Methods

3.0 Introduction

This chapter presents and rationalises the research process used to deliver the research findings that form the basis of the knowledge and contribution I make to the field. I begin with a discussion of methodology and methods and move to the researcher positionality, and the choice of research strategy. I outline the research tools used to gather the data for this study, including a questionnaire survey, semi-semi-structured interviews, documents, and observations. Following this, I outline the fieldwork, selection of the sample sites and participants, the data collection process, and approach to data analysis. The chapter ends with a discussion of the ethical issues, limitations of my research methodology and methods, supplementary evidence from the researcher's diary kept throughout the process and final conclusions.

I investigated these main research questions:

> Q1. How is quality defined, particularly in the context of Trinidad and Tobago maternal health care?
>
> Q2. What are the antenatal experiences of health care of women in Trinidad and Tobago?
>
> Q3. What can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers?

3.1 Methodology

According to Hammersley (2006) defining methodology depends on the classification of 'methodology as technique' and 'methodology as philosophy' in social inquiry. 'Methodology as technique' describes research as the involvement of particular methods or procedures; defined by Silverman (2006) as a generic approach to conducting research which includes a range of activities from data collection to analysis methods. However, it is noteworthy that those methods that fall within the category of natural sciences are distinguished from humanistic disciplines. Therefore, while my understanding of methodology was informed by 'methodology as technique', it was mostly influenced by 'methodology as philosophy', which is concerned with the fundamental questions about the goal of knowledge of research, of 'truth' in its varying

definitions and the possibility of 'objectivity'. This distinction is explored through the lens of positionality, in Section 3.2.1, Positionality.

My research utilised a mixed-methods research approach. This is because the nature of my investigation meant that the use of a combined quantitative and qualitative approaches would provide a better understanding of my research question. My aim was not to replace the use of either approach, but rather to extract the strengths and diminish the weaknesses of both to answer my research questions. Additionally, it aligns with my epistemological and ontological views as discussed in the next section 3.2.1. Adopting this approach allowed me to conduct my research within the natural setting (health centres) of the key informants and accommodated different methods of credibility, transferability, dependability and confirmability (Denzin and Lincoln 2008). The use of qualitative methods allowed me to explore the perspectives of the participants and stakeholders to present a more complex and in-depth understanding of their views of the system in practice (Hammersley 2006). Additionally, from a quantitative perspective, the use of structured data collection methods allowed for specific and wide exploratory view of how the system worked in theory.

However, there is no single definition of mixed-method research (Stake 2010; Bryman 2008) - and the lack of a clear definition in the literature will be explored further in the narrative which follows. I would argue that this study adopts more "qualitative dominant" research methodology; this will be outlined in subsequent sections and linked to my positionality and my evolving philosophical approach to the study.

3.2 Research Positionality

This section explains my research positionality and justification for my pragmatic stance.

3.2.1 Positionality

For my standpoint, a mixed methods approach goes beyond 'mixing' the two types of methodologies together. It requires understanding the ontology and epistemology to choose methods most appropriate to gathering the data to answer the research questions and ensuring that there is robust research process. As a lack of robustness can be a criticism of mixed methods approaches (Dornyei 2007). My positionality (how

I approached this research topic) was based on certain fundamental assumptions that were influenced by my life experiences. These experiences not only influenced my epistemological and ontological approaches, but also influenced my subsequent professional choices. Thus, on the one hand, my approach to research positioned me, both paradigmatically and philosophically in "the interpretative, naturalistic, subjective (and) qualitative paradigm" (Opie and Sikes 2004, p.18). On the other hand, cognizant of my positivist leanings, I was also aware of the added value of using data to make generalisations about a sample under question in order to establish the current state of the maternal health care provision in Trinidad and Tobago.

As previously indicated, my academic life straddled both the natural and social sciences – pursuing first a computer science degree and subsequently a Masters of Business Administration. From a natural science perspective, positivism is a research paradigm privileging objectivity in research and is associated with the natural sciences where researchers conduct research in laboratories using inanimate objects. The positivist view is, "an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond" (Bryman, 2008, p.697). Positivism originally emerged as the dominant perspective for conducting research both in the natural and social sciences. This philosophy guided my choice of using a questionnaire to respond to research questions centred on seeking to understand the policies and systems which exist within the quality environment. The descriptive data collected by the questionnaire intends to describe overall patterns in women's experience of maternal health care and to complement the interviews which capture the in depth and multiple realities of the key stakeholders.

However, a counter perspective of doing research in the social sciences is an interpretivist or interpretive paradigm in which, "social reality can only be understood by understanding the subjective meanings of individuals" (Carr and Kemmis 1988, p.86). As a woman of Trinidadian descent, a newspaper headline lamenting the death of a premature baby in TT strongly resonated with my personal experience of my daughter being born prematurely. However, my daughter was born in the UK and survived. It was quite sobering to reflect on the possibility that had I delivered my daughter in my home country there could have been a different outcome. Therefore, I

acknowledge that my ontological assumptions may influence my approach in obtaining and interpreting the information I receive from the informants in my study.

The interpretative research paradigm holds that, “there are no objective observations only observations socially situated in the worlds of - and between - the observer and the observed” (Denzin and Lincoln 2008, p.31). Therefore, I accounted for this via the key Informant interviews and by working within the environment that the mothers or service users inhabit. To some extent, this qualifies my axiological position. Within a qualitative paradigm, axiological assumptions hold that values have a privileged position; and there is a value laden purpose for research, particularly in health care research. For example, Riiskjaer et al. (2012, p.509) state that: “the use of open-ended questions have been shown to elucidate critical comments that cannot be obtained using purely quantitative surveys”.

An interpretivist theory reinforced my view that there was no such thing as value-neutral research as positivists assert. In line with a constructivist-interpretive paradigm, I take the epistemological position that the construction of knowledge takes place by those who are engaged in the phenomenon and not by an ‘objective’ external figure (Bryman 2008). In tandem with my interpretive position, I value the ontological view that social reality is constructed out of multiple realities and there is no single objective reality (Bryman 2008). Given the underlying starting points addressed above, I was able to situate my worldview within a pragmatic paradigm.

3.2.2 Pragmatism

There is a diverse range of philosophical orientation in social and health sciences research (Teddlie and Tashakkori 2009). The decision as to which paradigm was best suited for my study was determined by my research questions. As such, I adopted a pragmatic worldview or philosophy to capture the details necessary to answer the research questions. A pragmatic worldview focuses on the research problem instead of the methods and uses pluralistic approaches to derive knowledge about the problem, so it is not restricted to a singular system of philosophy (Creswell 2014, p.11). Consequently, to capture both the definition of quality – and the lived reality of the women, I employed a mixed methods approach (Creswell 2014; Tashakkori and Teddlie 2010). Supporting this approach, Tashakkori and Teddlie (2007, p7-8) explain

the practicality of pragmatism by defining pragmatism as a deconstructive paradigm that debunks concepts such as “truth” and “reality” and focuses instead on “what works” as the truth regarding the research questions under investigation. Pragmatism rejects the either/or choices commonly linked to contentious issues of paradigms. It advocates the use of mixed methods and acknowledges the value the researcher plays in interpreting results. Therefore, the researcher has flexibility in choosing methods, techniques and procedures of research that best meet the needs and purposes of the study.

Liamputtong (2010) also supports this view of pragmatism and suggests that: “pragmatists argue that reality does not exist only as natural and physical realities but also as psychological and social realities which include subjective experience and thought, language and culture” (Liamputtong 2010, p.13). Additionally, Greene et al. (2008, p.275) consolidate this by explaining that pragmatism supports an alternative inclusive philosophical framework whereby multiple assumptions and diverse methods can comfortably reside as differences in philosophical traditions that are de-emphasised and thereby not considered either particularly beneficial or problematic in mixed methods work. This pragmatic stance is also influenced by the epistemological assumptions that individuals learn from experience which shapes their knowledge. Therefore, knowledge is experiential, personal and subjective rather than the world being seen as an absolute unit; instead the view behind the lens is changeable (Bryman 2008).

Consequently, as this study aims to explore the perspectives of health quality by health care professionals/key experts and women (service users), I value the ontological view that social reality is constructed out of multiple realities and there is no single objective reality (Bryman, 2008). This is consistent with methodological pluralism, which has at its core a pragmatic philosophy that knowledge can be generated from diverse theories and sources through different research methods (Creswell 2014). Therefore, when examining a multi-disciplinary phenomenon, such as health and quality, methodological pluralism supports the depth and level of inter-relationships between elements and its concepts. Curry and Nunez-Smith (2014, p.11) state: “Pragmatism seeks to use whatever research methods are best suited to address a particular

question, given the nature of what is being studied; as such, this orientation is practical and applied in nature".

Jugulo and Pansiri (2011) emphasise that a great strength of mixed methods is this advocate the use of both inductive and deductive research logic. The inductive-deductive cycle enables researchers to equally undertake theory generation and hypothesis testing in a single study without compromising one for the other. There is an ongoing phase of the inductive-deductive research cycle during this study as the inductive-deductive research cycle operates as a continuum with a pragmatic approach and research can begin at different entrance points; for example, some may originate from theories or conceptual frameworks, while others from observations or facts. Hence, it is referred to as a cycle. Further, by matching deductive-inductive dichotomies, researchers can provide better inferences when studying the phenomenon of interest.

For my research, I operated along this continuum as I used an inductive approach to develop a conceptual framework based on current research literature. For example, Teddlie and Tashakkori (2009, p.89) indicate that "in practice instead of starting from theory many researchers build a conceptual framework on the basis of current literature, mini-theories, and intuition." This process is highly inductive. I also employed an abductive approach, as described by Teddlie and Tashakkori (2007), to modify the initial conceptual framework that proved to be inadequate upon completion of the initial data collection and analysis. Therefore, operating along an inductive-deductive continuum an enhanced conceptual model was developed. See Chapter 4, Section 4.4 for further details about the enhanced conceptual model.

In summary, pragmatism places value on answering the research questions; the research focus is objective driven rather than method driven. Therefore, the focus on both quantitative and qualitative methods are placed secondary. Liamputtong (2010) states that this provides balance to capitalise on various strengths that would offset potential weaknesses. In this section, I have tried to clarify the philosophical underpinnings of my approach to undertaking this study and to accomplish methodological rigor by justifying the use of mixed methods research.

3.3 Beyond Pragmatism: Choice of Mixed Methods Typology

As identified previously, a mixed methods approach responds to the multifaceted nature of the research questions. It allows an exploration of the variety of perspectives of health care providers to present a complex, in-depth understanding of their views and answer questions on women's experience of antenatal care. There are numerous definitions of mixed methods approaches to research. Mixed methods (MM) is defined as the: “collecting, analysing and interpreting of qualitative and quantitative data in a single study… or the integrating/mixing of qualitative and quantitative data findings and/or interpretation” (Hanson et al. 2005, p. 8). Tashakkori and Teddlie (2003, p.711) describe MM as: “a type of research design in which QUAL and QUAN approaches are used in types of questions, research methods, data collection and analysis procedures and/or inferences”. Later, Tashakkori and Teddlie (2007, p.4) define MM as: “research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry”. Whilst, Liamputtong (2010) state that mixed methods involve combining the breadth and depth trade-offs of quantitative (breadth) and qualitative (depth) research. Further, Creswell (2014) broaden the definition to be a method that emphasises the research problem and uses all approaches to understand it. For the purpose of this study, I adopt Johnson et al.’s (2007) composite definition of MM. They base their definition on a systematic synthesis of 19 previously published definitions of mixed methods by leaders in the field:

> “the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g.., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purposes of breadth and depth of understanding and corroboration” (Johnson et al. 2007, p.123).

This definition shows the interplay of qualitative and quantitative methods in a single research study (Curry and Nunez-Smith 2014). The overall ethos of MM is to utilise the most suitable methodological tool that are required to answer the research questions under review. Linking this to my research study, qualitative methods were used to answer questions one and two around provision of antenatal services and defining quality; qualitative data was collected and analysed at the organisational and

health system level, as it facilitated collection of a wealth of detailed data about a finite number of persons and cases. Quantitative methods were used to answer specific questions about the experience of antenatal care at the patient level and this method was found to be well suited for this aspect of the study. The rationale for this approach is that the collection of quantitative data and its subsequent analysis provide an understanding of the research question on women's experience of antenatal care. Whilst the qualitative data and its analysis is focussed on the other research questions about provision of health care and contextualises the experience of antenatal care. In fact, Curry and Nunez-Smith (2014) highlight that many contemporary phenomena in health are difficult to analyse and measure utilising traditionally quantitative approaches because health includes complex and dynamic social processes, such as beliefs, values and motivations. These complex and dynamic social processes impact health behaviours and the micro and macro factors, such as the social, political, economic and organisational contexts. From a practical perspective, Creswell (2014) indicates that this approach can lead to a shorter data collection time.

Several authors have debated the legitimacy of MM as a distinct research paradigm. Bryman (2008) explains the argument against mixed methods is that quantitative and qualitative research are conceived as mutually exclusive paradigms with unique epistemological assumptions, values and methods. Therefore, combining quantitative research and qualitative research are incompatible. This viewpoint has led writers to argue that MM is not feasible or desirable. However, there are numerous examples that negate this view point as the literature has evidenced research that combines qualitative and quantitative. Hence, the idea that research methods have fixed epistemological and ontological implications is difficult to sustain (Bryman 2008). However, Curry and Nunez-Smith (2014, p.8) clarify that when: “the study phenomenon of interest is multifaceted and includes dimensions that are both qualitative and quantitative in nature that a mixed methods approach is acceptable”.

Despite having different ontologies, epistemologies and research strategies, qualitative and quantitative approaches can be viewed more as a continuum than a dichotomy with mixed methods sitting in the nexus of their intersection (Curry and Nunez-Smith 2014). The focus is on the complementarity of the methods where quantitative and qualitative components are integrated, connected, merged or

embedded at different levels of the study. The outcome of a study as a whole is greater than the sum of the parts of the study and this is why I chose a MM research methodology.

My decision about how to integrate the qualitative and quantitative strands of my research, was informed by Creswell and Clark's (2007) four key decisions, namely the level of interaction between the strands; the relative priority of the strands; the timing of the strands; and the procedures for integration or mixing the strands. Additionally, Creswell and Clark's (2007) schema of mixed method typologies influenced my research methodology. These typologies are typically used to classify research designs, to ease understanding of the process employed in mixed methods projects, particularly within health sciences research projects (Guest et al. 2006). In brief, there are three types of basic designs within the typology: exploratory sequential, explanatory sequential and concurrent/convergent designs. The exploratory design begins with a qualitative data collection and analysis phase, which builds to the subsequent quantitative phase and informs the follow-up qualitative phase. The concurrent/convergent design involves quantitative and qualitative data collection and analysis at similar times, followed by an integrated analysis (Fetters et al. 2013). Fetters et al. (2013) indicate that integration, or mixing of quantitative and qualitative design, can dramatically enhance the value of mixed methods research at the design, method, analysis and reporting phases of the research process. Therefore, the concurrent/convergent design chosen used interviews in order to acquire depth and a questionnaire in order to provide breadth.

The concurrent design is further subdivided into three subcategories, namely: concurrent triangulation, concurrent nested and concurrent transformative designs. In each of these sub-categories, quantitative and qualitative data can be collected at the same stage, although priority may be given to one form of data over the other. The purpose of concurrent triangulation designs is to use both qualitative and quantitative data to accurately define relationships among variables of interest. Alternatively, in concurrent nested designs, both qualitative and quantitative data are collected during the same stage, although one form of data is given more weight over the other (Creswell et al. 2003). Concurrent transformative designs are theoretically driven to initiate social change or advocacy, and these designs may be used to provide support

for various social change and advocacy perspectives. Given the exploratory nature of this study, I am guided by concurrent triangulation with a stronger emphasis on the qualitative strand. Johnson et al. (2007, p.126) define this as 'qualitative dominant' and state that:

> "Qualitative dominant mixed methods research is the type of mixed research in which one relies on a qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit most research projects."

The priority and timing of the strands was not significant because I was able to conduct qualitative and quantitative methods in parallel without any interaction between them during the data collection stage. Saint Arnault and Fetters (2011) acknowledge that simpler mixed method typologies will normally involve qualitative and quantitative data collection in parallel with the two forms of data analysed separately and the findings merged later.

Integration is a strong theme underpinning mixed methods research. As Creswell (2014) suggests integration is key to producing a "well-validated and substantiated" body of research. Fetters et al. (2013) explain that integrating quantitative and qualitative approaches can occur through in at least four ways; explaining quantitative results with a qualitative approach, building from qualitative results to a quantitative component (e.g. instrument), merging quantitative and qualitative results, or embedding one approach within another. For my research study, the qualitative and quantitative results were merged after the statistical analysis of the numerical data and qualitative analysis of the textual data (Guetterman et al. 2015).

Another form of integration can be exhibited in the analysis section through interpretation and reporting. Guetterman et al. (2015) summarise that data integration at this level can be done primarily in two ways; firstly, by narrative, that is, writing about the data in a discussion wherein the separate results of quantitative and qualitative analysis are discussed, and secondly by presenting the data in the form of a table or figure, a graphical display that simultaneously shows the quantitative and quantitative results. In other words, this can "integrate the data by bringing the data together through a visual means to draw out new insights beyond the information gained from the separate quantitative and qualitative results" (Fetters et al. 2013,

p.2143). For my research, I integrated the narrative through ‘weaving’ and ‘contiguous’ approaches that involved writing both qualitative and quantitative findings together on a theme-by-theme or concept-by-concept basis.

It requires significant effort and expertise to conduct research using mixed methods and interpret the results in a way that ameliorates any discrepancies when comparing results (Creswell and Clark 2007; Fetters et al. 2013; Curry and Nunez-Smith 2014). A contiguous approach to integration involves the presentation of findings within a single report, but the qualitative and quantitative findings are reported in different sections. In my research, I wanted to ensure that there was a balance between reporting the richness of the qualitative findings; while showing the overarching patterns emerging from quantitative aspects and addressing convergence and divergence in the findings. Consequently, a predominantly contiguous approach to integration was utilised. This is combined with a weaving approach whereby both the qualitative and quantitative findings are discussed together on a theme-by-theme or concept-by-concept basis See Appendix XIV for chart of research design. In my design, qualitative and quantitative data was collected and analysed separately and used to address the different components within the system. This was the design that was employed in my study because this allowed for a diversity of views, that is, provider/receiver of antenatal care and researcher/participant views. Creswell and Clark (2007) indicate that a triangulated model is typically used in primary health care research where data is gathered at the same time because this provides a more comprehensive account of the research topic (Bryman 2006). Thus, the findings from each level can be consolidated into one overall interpretation based on the conceptual quality framework.

3.4 Operationalising the Research Question

This section contextualises the way the research was conducted. It identifies the part of the health system under study and provides insight into the organisations surveyed and a brief overview of the research instruments used to collect data. The particular Regional Health Authority (RHA) was selected because it covers two out of the four major municipalities in Trinidad and Tobago and is representative of its diverse population: One municipality has experienced the highest population growth rate over

a ten-year period from 2000 – 2010, whilst the second municipality has the third highest population density after the city of Port of Spain and San Fernando (see Appendix for details of these two main towns). The RHA also hosts the only women's hospital on the island.

As mentioned previously, the methodological design drew upon a concurrent mixed methods methodology. The QUAL component is the main part of the study. The QUAL component includes two parts. The first was a literature review involving health quality and quality improvement of prevailing quality in health care models; and the analysis of secondary data, for example, policy documents, strategic plans, organisational charts and internal reports, such as client feedback report system, national and international websites. The QUAL component contributed to the development of the conceptual framework which was developed for quality and addresses objectives relating to the characteristics of quality, the prevailing quality models and challenges in TT (see Section 3.6.1, Qualitative Component: Provision of Care). Part 2 of the QUAL component involved a qualitative study of the provision of care. Semi-structured interviews were conducted with key experts/decision makers in non-governmental agencies and with research participants (clinical and non-clinical) staff holding positions at different levels in the health care organisations that is the Ministry of Health, Trinidad and Tobago and the chosen RHA. This sought to answer the questions about how maternity services are provided/delivered in Trinidad and Tobago including prevailing challenging or constraints to implement quality.

The quantitative component involved administering an antenatal survey questionnaire (n=72) with new and/or expectant mothers utilising a subset of a questionnaire designed by the Care Quality Commission. This questionnaire has been used to survey women in England since 2000 and women in Scotland from 2013. This study reviewed the women's experiences of the antenatal stage of care during pregnancy where care during pregnancy begins with the confirmation of pregnancy and continues up to the onset of labour. The questionnaire is split into five Sections: the start of care, antenatal check-ups, tests and scans, care during the pregnancy and antenatal classes (see Appendix IX for survey questions). This sought to answer the question, what is the experience of health care/antenatal care of women in Trinidad and Tobago.

3.5 Methods

Research is driven by research questions and research methods are the data gathering techniques that are carefully selected to meet the particular needs and purpose of any research study. In the section that follows I discuss and justify the methods that I used in this study.

3.5.1 Interview as a Research Method

The advantage of using interviews are best exploited when used in an enquiry of a complex phenomenon (Denscombe 2007). Interviews are most suitable when one has a particular interest in exploring opinions, feelings, emotions and the experiences of individuals. In the context of this study, the justification for using interviews as a research method was to obtain more in-depth responses from the participants in order to have deeper understandings of their experiences of providing antenatal care. Cohen et al. (2007) refer to interview as: “a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard” (p.349). Denscombe (2007) notes several advantages often associated with conducting interviews, including ease in terms of logistics, access to an easily controlled environment and transcribing as a doable task. On the other hand: “listening to one person at a time effectively restricts the number of voices that can be heard” (Denscombe 2007, p.177).

When exploring interviews, unstructured’ and ‘semi-structured interviews’, are the two main terms used in qualitative research (Bryman, 2008, p. 436). I conducted semi-structured interviews using a: “list of issues to be addressed and questions to be answered” (Denscombe 2003, p. 167) because it allowed my key informants the freedom to express their views in their own term and was easy to arrange, and control. I was flexible in the process and often veered away from the questions I prepared (Bryman, 2008) based on responses from the participants. I opted to use one-on-one semi-structured interviews that allowed me to meet my key informants at times convenient to them.

Semi-structured interviews were the main research method that I used to gather data in order to construct and propose knowledge around perspectives and experiences of maternal health care quality. My study privileges the views of key informants and

interviews were critical to achieving in depth experience of the lived reality of key stakeholders (Kaiser 2004; Sikes, 2004) with a strong oral tradition having an impact on the quality and fluency of the interview. Interviews were also appropriate to the cultural context the health sector in Trinidad and Tobago, as health care officials and clients are often eager to share their views on health reform and practical issues in informal settings.

3.5.2 Questionnaire as a Research Method

Questionnaires are the most popular method of data collection in social and health research when designed and administered solely for the purpose of collecting data for a research study (Parahoo 2006, p.282). It is a quantitative approach as it is predetermined (constructed in advance), standardised (the same questions in the same order are asked of all the respondents) and structured (respondents are mainly required to choose from the list of responses offered by the researcher). My questionnaire was descriptive as it provided data on the phenomenon under investigation. There are other approaches to the analysis of data. For instance, correlational that provide data to support or reject a hypothesis or experimental. I sought to explore women's experience of antenatal care and carried out descriptive statistics on the data to provide an understanding of women's experience of antenatal care. The data can also facilitate formation of concepts and hypotheses thus helping production of knowledge inductively.

The data collected from questionnaires can be used to describe group patterns rather than an indepth analysis of individual views. Self-complete questionnaires can be easily distributed to groups of people in an efficient way (Githrie 2010). I distributed my questionnaire to groups of women at the antenatal clinics. The survey questionnaire was based on a validated maternity care questionnaire developed by the Care Quality Commission (CQC) and used in the English maternity services survey in 2010 (Care Quality Commission and Picker Institute Europe 2011). This questionnaire was subsequently modified and has been successfully used in Scotland in 2013 and 2015.

3.6 Preparing for Field Work

In this section, I explain the fieldwork in which I engaged prior to the collection of the data. I do this in view of the perspective that, “painstaking, detailed descriptions and explanations of the design and conduct of studies are required not only for our own use but for future generations of qualitative researchers” (Janesic 2003, p.60). It will deal with the interview schedule, piloting, sampling, sample sites, and participants.

3.6.1 Qualitative Component: Provision of Care

The QUAL component of this study explored health quality management in maternity services in Trinidad and Tobago. A qualitative approach can yield an in-depth exploration of complex meanings, opinions or social practices (Silverman 2006; Creswell 2014; Bryman 2004). This phase of the research involved interviewing key experts/agencies (See Appendix X for interview schedule) and those involved in delivering health services at the RHA and the Ministry of Health. This component of the study seeks to explore health quality in detail and to investigate quality deficit using evidence from interviews. This will include examination of how health quality is experienced within the health system, what quality means to health professionals at different levels in the health system (spanning between clinical and non-clinical boundaries) and to explore joint working relationships with other agencies or bodies. It also aims to apply the conceptual framework of quality to help explain gaps in maternal health care.

This exploration seeks to answer the research question: How is quality defined, particularly in the context of Trinidad and Tobago maternal health care and what can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers?

3.6.2 Quantitative Component: Experience of Care

The quantitative component of the study involved administering a fifty-question antenatal maternity survey to eligible women to examine their experience of care. For this study, expectant women who were at least 36 weeks pregnant and new mothers, defined as, women with a child less than 15 months old, were selected. This cross section of women was chosen because they would have been through each stage in

the antenatal cycle. In keeping with Kolb's (2014) cycle of experiential learning having gone through the two steps of concrete experience and reflective observation, and therefore, be able to reflect on their antenatal experience. Survey respondents were recruited at antenatal clinics across the health centres and district health facilities within the selected RHA. I also approached organisations in contact with expectant mothers or women with young children, such as parent and baby groups, breastfeeding groups, GP practices and I was able to enlist the support of one private childcare organisation. Overall, the survey was conducted between December 2012 and February 2013 and seventy-two eligible women attending RHA health centres and private childcare organisation agreed to participate.

Method

The aim of the questionnaire was to examine the antenatal experience of expectant mothers; these experiences are considered to be aligned with patient satisfaction. Creswell and Clark (2007) argue patient satisfaction is a useful outcome measure of health care quality and has implications for organisations and provision of services. The quantitative component was exploratory in nature and sought to explore attributes of the antenatal care, such as the start of care, antenatal check-ups, tests and scans, care during the pregnancy, antenatal classes and an overall rating of antenatal care. Parahoo (2006) recommends that a survey design is well suited to identifying broad population trends; hence, I adopted a survey questionnaire to capture the antenatal experiences of women. I felt this was the most appropriate method of gathering data to respond to the question: What are the antenatal experiences of health care of women in Trinidad and Tobago?

The questionnaire was validated and had been widely used, tried and tested since 2007. I made slight changes to the wording of some questions to suit the Trinidad and Tobago context, See section 3.9.1 on piloting. The questionnaire had construct validity as measures around patient satisfaction were reflected and linked to the qualitative component; how providers perceive patient satisfaction and how women rated their service provision (Lee and Yom 2007; Litwin 1995). Content validity was evident because the questionnaire captured all stages of the antenatal care cycle for women and internal validity was considered because the questionnaire investigates women's

experiences in antenatal care (De Vaus 2002). In terms of external validity, there is a potential for generalisations to be made within the specific RHA. However, I would exert caution about generalising results to the other RHAs in TT (Bryman 2008).

Traditionally, quantitative methods allow researchers to keep a distance between themselves and the researched (Bowling 2014). However, because of the busy nature of the antenatal clinics, the senior nurses in charge of the clinics requested that I visit the clinics in order to dispense the questionnaires. I travelled to the clinics in Trinidad and Tobago and explained the details and focus of my research, distributed the questionnaires to the women who agreed to participate and waited for them to return them. As previously discussed, this raises several ethical issues, which are addressed in Section 3.11. However, by self-administering the questionnaires in person rather than posting it from the UK proved to be fruitful in many ways. This meant I was able to approach the target respondents, and this led to a very high response rate and a low level of incomplete questionnaires. Another advantage of being present at the clinics was that I was able to observe the women, the environment and overall atmosphere of the clinics, which enhanced the quantitative process. I was also able to immerse myself in the process and context of the study through taking field notes and photograph of the physical settings delivering antenatal care of the women (Padgett 2012; Greenhalgh et al. 2005).

3.7 Participant Recruitment: Qualitative Component

For the qualitative component of my study, I used a snowball sampling technique, combined with purposive sampling method that: “allows the researcher to select those participants who will provide the richest information, those who manifest the characteristics of most interest to the researcher” (Best and Khan 2006, p. 19). I applied a snowball sampling because I wanted to interview target participants that were not easily accessible (Naderifar, Goli, and Ghaljaie 2017). Therefore, I relied upon some of my participants providing me with further contacts. This non-probability sampling procedure was designed to yield a rich set of data on a small population rather than a wide set of generalisable data on a larger sample (Berg 2009).

I prepared a list of names of twenty potential interviewees with characteristics of interest in terms of clinical and nonclinical positions and professional experience in

health care quality and maternity services. I chose a sample size that: “was enough to be selected economically-in terms of availability and expense in both time and money” (Best and Khan 2006, p.19). I then contacted each of them by email and telephone. After interviewing the first two research participants, they suggested other potential participants. Parahoo (2006) explains that this type of sampling involves making a judgement or relying on the judgement of others to select a sample. I interviewed fourteen participants in total; ten were clinical and non-clinical staff within the specific RHAs and the Ministry of Health. The remaining four participants were recruited from NGOs and industry. Upon initiating contact, potential research participants were provided with the research information sheet (Appendix VIII), the interview schedule (Appendix X) and consent form (Appendix V). They were asked to carefully read through these documents, raise any questions and if they were still interested in participating, a mutually agreed time was arranged. The interviews were conducted in person for between 60-90 minutes; except for one interview which lasted 360 minutes.

During this research, the selection of the target population was based on rational as well as pragmatic concerns. The following describes the sample and rationale for the eventual sample size. The population sampled were key experts/agencies and health professionals comprising clinical and non-clinical staff. The intent was to capture the main sources of potential variation in health service providers ideas about quality and factors, such as clinical specialty, profession and job role within the Ministry of health and the RHAs (front line patient care vs managerial roles). Additionally, participants were selected based on their experience and knowledge of either maternal care or quality. As such, the samples main aim is to theoretically represent the study population by maximising the scope or range of variation in the subject of study (Patton 2002).

Table 6 shows the selection of my fourteen research participants. I utilised a relatively small sample since qualitative sampling hinges not so much on generalisability, or on representativeness, but on notions of ‘saturation’: the point at which no new insights are likely to be obtained (Somekh and Lewin 2009). Furthermore, several researchers agree that there is no set number of participants that should be interviewed in qualitative research. Seidman (2012) advised that researchers should focus on two criteria relating to the size of the sample: The first one is sufficiency which can be felt

by the interviewer him/herself and the second is saturation, whereby the interviewer begins to hear the same information he/she has already obtained from previous interviewees and no new information is obtained. These two criteria are more accurate than pre-determining a number of participants to be interviewed. Similarly, according to Guest et al. (2006, p. 59) the size of the sample: "relies on the concept of saturation". After interviewing twelve of the fourteen participants, a redundancy of concepts and/or themes were emerging and at that point I felt that saturation was occurring. I interviewed a further two more participants and after this no more interviews were conducted (Kuzel 1992). Therefore, in this study, sample size was not so much a criterion for judging the rigour of a sampling strategy but a means of judging the extent to which issues of saturation had been reached (Bryman 2008).

Table 6: Descriptive Summary of Interview Participants

Pseudonym	Gender	Job Role	Area of speciality	Organisation
RR1	F	Managerial - non clinical	Education background	Ministry of Health
RR2	F	Managerial-clinical	Senior nurse midwife	Regional Health Authority
RR3	F	Managerial-clinical	Senior nurse midwife	Regional Health Authority
RR4	F	Managerial-clinical senior	Senior nurse midwife	Non-Governmental Organisation (NGO)
RR5	F	Technical - non clinical	Social Science background	Regional Health Authority
RR6	M	Managerial - Senior	Clinical background	Ministry of Health
RR7	F	Managerial - non clinical	Social Sciences background	Regional Health Authority
RR8	F	Managerial-clinical senior	Clinical	Non-Governmental Organisation (NGO)
RR9	F	Managerial - non clinical	Clinical	Ministry of Health
RR10	F	Senior nurse midwife	Clinical	Regional Health Authority
RR11	M	Managerial - Senior	Clinical	Ministry of Health
RR12	F	Managerial - Senior Consultant	Clinical	Consultant (MoH and RHA expert)
RR13	F	Managerial- Senior	Social Science background	Educational
RR14	F	Senior nurse midwife	Clinical	Regional Health Authority

Purposive sampling was preferred to random sampling because good witness accounts of health service providers views and perceptions about quality in health care was required in this study. In Chapter 5, Analysis and Discussion: Emergent Themes, I discuss the analysis and discussion of the key informants and the roles they played in my study.

3.8 Participant Recruitment: Quantitative Component

Subsequent to a favourable ethics approval from the Ministry of Health, Trinidad and Tobago, convenience and purposive sampling was used to recruit expectant mothers to participate in the survey. Saunders et al. (2007) explain that purposive sampling is required when the primary data can only be obtained from a very specific group of respondents. For the quantitative component of my study, women who were at least 36 weeks pregnant or mothers with children under a year were selected. It was convenient in that only women that were at least 36 weeks pregnant, who were present at the clinic on that day and willing to take part in the survey were selected. The majority of women were recruited at the antenatal clinics; however, a small number of women meeting the criteria were recruited by word of mouth.

Researchers argue that the larger the sample size the more confidence there is in generalising the results. For this research, this was not a key driver as the survey was exploratory to understand the antenatal experience of a cohort of pregnant women. The size of the sample population in the RHA was estimated to be 6,000 (number of live births) per year (CSO 2011). However, it was difficult to estimate the potential sample size, in terms of how many women would meet the sampling criteria. This was due to the time dependent nature of the study as the women had to be at third trimester of her pregnancy or had a baby within the last ten months and utilising the public health service. However, given the constraints of time, resources, antenatal clinic visits, limited number of participants who qualified to be interviewed, the actual number of respondents could not have been anticipated in advance and a deliberate sample size of one hundred women was set as a target sample. Overall, the number of qualifying women that I had access to over the survey period was estimated at three hundred. This figure was an estimate based on the number of clinics per week. The approach was to recruit as many suitable research participants as possible within the RHA via

the repeat clinics' visits and word of mouth. This approach allowed me to successfully recruit seventy-two participants. I was aware that seven women who were eligible declined to participate.

As explained previously, I sought permission from the PHC managers for access to the women at the antenatal clinics. The health managers then spoke with the senior nurses in charge of the antenatal clinics. This was successful, and the researcher was able to get the right person the first time, an important tenet of quality philosophy. This saved time and by extension resources.

This specific RHA serves the health needs of approximately 351,137 persons (CSO 2011) of Trinidad and Tobago via several Hospitals and Health Facilities/Centres. It has two main geographical clusters, AHF and CHF. The AHF cluster has twelve health centres and the researcher visited the ones that provided antenatal care, had a high number of births and potential to recruit mothers. Therefore, for the RHA clusters, the researcher visited the main health facility and four other smaller health centres. The CHF cluster has five health centres; in the first instance, the main centre and two smaller health centres were visited. These were quite small, so the CHF was revisited on three occasions to get as many expectant mums over 36 weeks.

Once a qualifying woman volunteered, she was given a paper version of the questionnaire with a corresponding information sheet that explained anonymity and confidentiality. To minimise any issues with influence by the researcher's presence, I ensured that I reiterated the voluntary nature of participation, the ability to withdraw at any time, and the fact that the decision whether or not to participate would have no impact on the availability of care. I further advised them that the survey was also available online, as an alternative to completing the paper form. The questionnaire also included a sheet that explained potentially unfamiliar terms on the questionnaire. However, the researcher was also present at the antenatal clinics and this enabled the women to ask any questions or gain further clarification. The researcher deliberately maintained a neutral position and created a warm and friendly rapport with the mothers (Lavrakas 2008). While this may raise ethical issues, these were successfully addressed and detailed in Section 3.11, The Ethical Issues.

3.9 The Data Collection Procedure

3.9.1 Piloting

Undertaking a small-scale pilot of a study eliminates possible problems before the main research phase begins. The key purpose of my pilot was to trial the interview questions - and to get a sense of the efficacy of using an online questionnaire for the quantitative data collection. The survey questionnaire was based on a subset of a maternity questionnaire taken from a predesigned survey of a long-established database affiliated with the Care Quality Commission (Care Quality Commission, Picker Institute Europe 2011). Questions pertaining to antenatal care were modified and used to ensure its relevance to the Trinidad and Tobago context. The survey questionnaire was piloted by four individuals who were not included in the final sample. Their role was to provide feedback and it was on this basis that I modified and further developed the final survey questions (Guthrie 2010). The modifications were mainly around language and terminology. For example, the inclusion of the term 'nurse/midwife' was used instead of 'midwife', as culturally, women in Trinidad and Tobago use the word 'nurse' for all types of nursing categories and the term 'midwife' is only used to describe who delivers the baby. Another example was changing the term 'pregnancy book' to a more general term 'books, leaflets or information sheets' as women are not given a pregnancy book in Trinidad and Tobago. Fundamentally, some questions had slight language modifications; however, the overall questionnaire maintained its pre-validated features to ensure continued rigour (authenticity, credibility and strength) and for comparability purposes (Litwin 1995).

3.9.2 Data Collection: Semi-structured Interviews

Data was collected using face-to-face semi-structured interviews with key participants. The interviews were digitally recorded and transcribed verbatim and this was complemented by interview notes and organisational documents (See Appendix XI for a transcript sample). Gilbert (2001) recommends that if a sample size is less than twenty then, transcription should be verbatim. The verbatim transcription was guided by the modified transcription convention guidelines by Bailey (2008) and utilised Tilley (2003) recommendation to leave out unnecessary word fillers that clutter the transcript, such as 'erms', 'uhs' and 'ohs'. This was carried out for all the interviews except for

two interviews where the participants did not want to be recorded and interview notes were taken instead. NVivo, a software package designed for qualitative data analysis was utilised in the organisation, selection and re-configuring of the transcript fragments (Bazeley 2007). NVivo is particularly suited for straightforward question schedules as utilised in my study.

3.9.3 Data Collection: Survey Questionnaire

The survey questionnaire available as a paper version with the option to complete online. The self-administered paper version offered several advantages in terms of allowing for a cost-effective production and distribution; higher degree of perceived anonymity and allowing respondents to complete the questionnaire at their own pace (Dillon and Parsons 2008). In addition to the advantages, other factors, such as the availability of technology, that is, computer and internet access onsite, and the technological skillset of the women attending antenatal clinics was considered. Since assumptions could not be made about the technology skillset of the women, distributing a self-administered paper version of the survey questionnaire was the most appropriate for all qualifying expectant mothers who attended the antenatal clinics. The paper version allowed for multiple distribution and completion at a comfortable pace by the women. The majority of the qualifying women (n=69) used this format.

An electronic version for the questionnaire was created using Bristol Online Survey tool (2016) and was available to any qualifying woman to complete using the website address: http://www.survey.bris.ac.uk/stirling/pregnancy_care. This version was utilised by a few participants (n=3) who had access to technology and who were not at the antenatal clinics when the paper versions was distributed. Although Evans and Mathur (2005) indicate that for over three decades, technological advances have fostered and facilitated the use of online surveys, for this study, it was not used as the first point of data collection. However, the Bristol Online Survey tool was very effective for the data entry and data analysis phase of this quantitative study. This will be discussed in more detail in the data analysis and discussion chapter. Overall, research participants were very cooperative, and the senior nurses facilitated a stable and pressure free environment for the mothers to participate in the study.

3.10 Approach to Data Analysis

The overall goals of data analysis is to ensure validity, credibility and replication. Credibility and integrity rely upon proven validity, such as the rigor of measurements applied; reliability concerning accuracy and consistency; and replicability by adhering to a lucid sampling strategy (Bryman 2008; Mason 2002).

3.10.1 Qualitative Data Analysis

This section discusses how the data was analysed for the qualitative research. By design, good quality research depends on a consistent and audited research process by defining clear procedures, protocols and following sampling and analytical strategies. Bryman and Burgess (1994) and Robson (2011) explain that the five stages involved in thematic coding that address the key objectives of qualitative analysis are: familiarisation, identifying a thematic framework, indexing, charting, mapping and interpretation. This provided the guiding framework for data analysis. Additionally, both a deductive and inductive approach was implemented to integrate the thematic and quantitative data.

One of the challenges of conducting qualitative research lies in the analysis of the data. This study utilised systems analysis, data collection and qualitative skills. For example, the understanding of the antenatal care process involved the utilisation of the researcher's systems analysis skills. The process maps were designed using process analysis, interviews and observations. Provost and Murray (2011) identify process mapping as a way to develop a picture of a process for communication and standardisation and it is commonly used as a tool for improvement. Process mapping was used as a tool to analyse the antenatal and audit process that were discussed. Secondary research was carried out using document analysis of pertinent regulatory Acts (see Regional Health Authority Act 1994; Accreditation Council of Trinidad and Tobago Act 2004) and internal protocols used in the Trinidad and Tobago health system. Furthermore, using a framework analysis approach (Gale et al. 2013) I 'familiarised' myself with the data through immersion in the raw data by pragmatically listening to recordings, reading transcripts, studying notes and supporting documents to list key ideas and recurrent themes relevant to the conceptual framework. The data

was managed and analysed using NVivo 10 (QSR International 2010). See Figure 4, Screen shot of NVivo showing a subset of codes and a word cloud.

Using NVivo, and consistent with a thematic and framework analytic approach (Robson 2011) transcripts were initially read in full and analysed using open coding techniques whereby each meaningful segment of text was assigned an initial code (Bryman 2006). The thematic framework was used to identify all the key issues, concepts and themes by which the data was identified, constructed and then derived. This was carried out by drawing on a priori issues and questions derived from the aims and objectives of the study as well as issues raised by the participants themselves, and views or experiences that recurred in the data. A detailed index of the data, which labels the data into manageable chunks for subsequent retrieval and exploration, was then exported from NVivo into a Microsoft Excel workbook for integration and interpretation as part of merging all data for analysis. See Appendix XIII for an example of the process of qualitative data analysis.

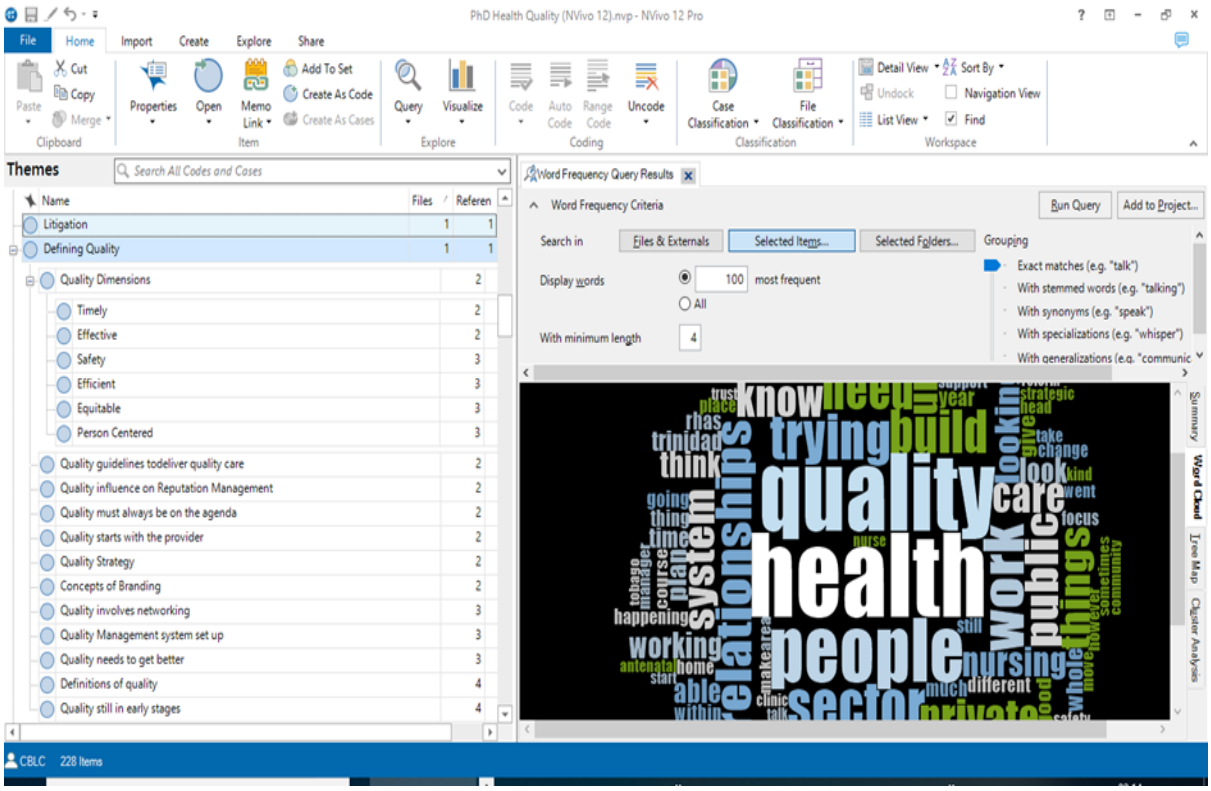

Figure 4: Screen Shot of NVivo Displaying a Subset of Codes and Word Cloud

The data was then charted by rearranging the information according to the appropriate part of the thematic framework to which they related, forming charts through synthesis and abstraction. See Appendix XIII. for detailed chart example. For example, each key subject area or theme with entries from several respondents was linked to distilled summaries of views and experiences. Next, conforming to the original research objectives and including new emergent themes, the process of mapping and interpretation was used on the charts to define concepts, map the range and nature of phenomena, create typologies and find associations between themes with a view to providing explanations for the findings. Woods et al. (2012) evaluated five health foundation improvement models using a form of 'best fit' synthesis, where a pre-existing framework was used for initial coding and then updated in response to the emerging analysis. My initial coding followed a similar process where initially, I utilise the IoM's model of quality with linkages to frequently used quality improvement methods. As the analysis emerged, the QUALITT model was modified in tandem with continuous literature review. (See Chapter 4, Bridging the gap: The QUALITT model). The analysis and discussion chapter provide further details.

3.10.2 Questionnaire Analysis

The responses from the paper version of the survey questionnaire were transferred to the online version of the questionnaire using the Bristol Online Survey (BOS) tool. The online version of the questionnaire was utilised as a data collection instrument and used as a data entry capture form. It replicated the exact questions used in the paper version of the questionnaire. I input the responses from each questionnaire via keyboard entry. This tool has several features. Once a questionnaire is created on the BOS tool, it automatically creates a structure that allows for various forms of descriptive and cross tabulation analysis. The data was also exported from BOS to SPSS statistical software for statistical analysis. At this stage, data cleansing was done, and the data was coded and recoded for questions where categories were collapsed (de Vaus 2002) (See Appendix XII). Descriptive univariate analysis and correlation analysis was utilised to observe trends amongst the respondents to assess women's experiences of antenatal care.

Given the research constraints and this being PhD research, the results are based on a small sample of participants in a specific RHA in Trinidad and Tobago; the figures included are estimates for the 'true' figures that would have been found if the researcher surveyed every eligible mother in this particular RHA who used the public health system. In the analysis and discussion chapters, the results are presented by stages of the antenatal care journey and key themes relevant to conceptual framework of quality. Some themes included four different stages of antenatal care: access, communication, information and involvement, and continuity of care. Some aspects of the analysis include distinction between results for AHF and CHF, because of the different arrangements for maternity care operating within the RHA. However, because of the small numbers involved, these comparisons cannot be generalised as there were no statistically significant bivariate correlations. Data was presented in frequency tables with a focus on percentages.

3.11 The Ethical Issues

3.11.1 Ethics

Ethical approval was obtained from the University of Stirling Management School Ethics Committee and The Ethics Committee of the Ministry of Health, Trinidad and Tobago. Research ethics is specifically interested in the analysis of ethical issues that are raised when people are involved as participants in research. With any study involving working directly with human participants, there are potential risks. These may include possible emotional distress experienced by research participants or the researcher, researcher effect and issues surrounding research participant anonymity. Therefore, ethical considerations, such as the likelihood of harm to participants, informed consent, invasion of privacy and deception should be anticipated and ameliorated in order to engage in successful research (Bryman 2008; Bowling 2014).

The nature of this study involved utilising other people's time, exploring participants personal lives, including potentially sensitive and confidential issues, and then representing and interpreting their views in the research findings. This placed a huge responsibility on me, as the researcher, to be as informed as possible about the subject domains before embarking upon fieldwork (Miles and Huberman 1994). The following section discusses the way in which ethical issues were addressed including

procedures for consent, anonymity, consent for recording and use of data and potential challenges, such as researcher effect, time, emotional distress and access.

3.11.2 Procedures for Consent, Anonymity, Recording and use of Data

Research participants took part voluntarily and willingly in this study without feeling coerced or forced (Ntseane 2009). This was in part due to the opt-out approach applied whereby participants were aware that they could withdraw at any stage or that they can bypass or omit any question or topic of discussion. This ensured that participants had access to free choice, to choose to remain anonymous or not, to give consent to be recorded and for the transcribed interviews to be subsequently used. The ways in which consent, anonymity, recording and use of data was obtained can be found in the Appendices (Appendix IV, Appendix V and Appendix VI). In order to adhere to ethical principles, the following procedures were followed:

Consent

Research participants were asked prior to being interviewed to review the information sheet and schedule of possible questions. They were then asked to confirm consent to participate by reading, signing and dating the consent form. This was also carried out verbally prior to starting to record the interview. The signed printed consent form was kept on record as part of the research agreement. (See Appendix IV)

Anonymity

Given the relatively small size of Trinidad and Tobago and the consequential narrow degree of separation, anonymity was of some concern. Anonymity considered maintaining the non-disclosure of research participants' identities intentionally or non-intentionally (Roulston et al. 2003; Padgett 2012). It examined how potential identification of participants by others could occur and how this may be addressed or minimised. It also addressed the ways in which findings will be referred to and presented in the final report. For the qualitative component, key experts/agencies and health care organisation staff, anonymity was maintained by using general titles for example, a senior HR manager instead of recognised job titles (Guthrie 2010).

This may not necessarily protect their anonymity, as it might be easy to identify who was responsible for a specific service or project and therefore attribute the disclosed comments or views leading to unveiling participants' identities. To minimise this further, the researcher used codes to refer to interview participants and did not refer to the specific Health authority by name. These two issues were covered in the consent form (consent, anonymity and recording) and use of data (Kaiser 2009). By contrast, for the quantitative component, the antenatal questionnaires provided a better system for anonymity as the questionnaire was numbered and no personal data, such as name or address, were required. No personal information was found on any of the completed questionnaires, so this process was straightforward.

Furthermore, interview participants were able to indicate their personal preference for anonymity. They were invited to waive anonymity, as they might want the opportunity to voice opinions concerning aspects of quality issues affecting maternity services in Trinidad and Tobago. However, if they preferred anonymity, their contributions were appropriately labelled, in the PhD report for example, such as an individual working in the field of policy. Again, personal comments, accounts or perspectives may inadvertently betray identities to others. This was flagged as a possible issue to participants who were concerned about anonymity. However, most of the participants spoke freely and openly and when they had reservations about what was being said they asked for it not to be included in the transcript, which was duly noted and complied. Two of the participants were concerned about a few comments they made and these were understood to be 'ethically important moments' (Guillemin and Gillam, 2004). Guillemin and Gillam define 'ethically important moments' as those occurrences, which are often seemingly routine, but cause researchers to make decisions that have ethical implications. Therefore, given that these comments were about issues not germane to the research, in other words, not concerned directly with quality, these comments were subsequently omitted from the transcripts.

Recording and use of Data

The recording of data is important for qualitative interviews and discussions to ensure the integrity of the information and to maintain healthy rapport with the respondent. Consent was gained from each potential research participant before the sessions

commenced and they were subsequently asked to confirm verbally their consent to take part and for the session to be recorded using a voice recorder. Two of the fourteen participants interviewed asked not to be recorded and for these two participants interview notes were taken instead. Participants were asked to read and sign the consent form as the use of data was explicitly laid out in the consent form (See Appendix V).

Steps were also taken to store data securely using servers at the University of Stirling and these were accessed solely by the principal investigator. Electronic files were uploaded to the University's secure server and the responses to the paper surveys were secured in a locked filing cabinet within a secure room at the University. Further, data collection during this study adhered to the UK Data Protection Act (1998) and the Republic of Trinidad and Tobago Act No. 13 that relates to the processing of personal data (See Appendix VII). This was clearly stated in the research instruments, for example, the interview survey questionnaire and antenatal maternity schedules. The UK (1998) Data Protection Act has six main principles, which are similarly stated in Part I of the (2011) Republic of Trinidad and Tobago Act No. 13. This includes general privacy principles which are applicable to all persons who handle, store or process personal information belonging to another person. The next section identifies the challenges faced and outlines some of the steps taken to mitigate any negative impact on the research.

3.12 Challenges

Conducting research is a non-linear process and, as such, there were several challenges that affected the research journey. Most of these challenges were anticipated and steps had been taken to mitigate their effects. A researcher's biography is an integral element interwoven throughout any study, potentially harbouring many challenges (Burgess 1995; Hamersley 1992). The researcher conducted advanced preparation on the topic of study and was able to be au courant with the topics discussed. This ensured that assumptions or judgements concerning, for instance, personalities or ways in which the organisation operated did not prejudge her exploratory endeavours (Ritchie et al. 2003).

Trinidad and Tobago is a small country and the possibility of knowing someone directly is high. However, this did not arise during the course of the study as all the participants were indirectly connected to the researcher. Further, the researcher's physical presence at the antenatal clinics could potentially have had an impact on the way the expectant mothers filled out the forms. However, this method of distributing the questionnaires was unavoidable as the nurses in charge of the antenatal clinics had requested that the researcher attended the clinics and distributed the questionnaires to the women. To mitigate any effects, it was emphasised by the researcher that all the responses were anonymous, and answers were untraceable to the women that were surveyed and that their participation would not affect their care. This was also explained in the information sheet provided to the women (See Appendix VIII).

Time was another significant challenge as there was a delay in receiving ethics approval from the Ministry of Health, Trinidad and Tobago and the logistics of visiting multiple antenatal clinics. The delay in receiving the ethics approval in Trinidad and Tobago was overcome as the researcher was able to interview key experts/agencies who were out with the Health boards where ethics approval from Stirling University was sufficient, (see Appendix II). The ethics documents were submitted in September 2012 and after a process of two iterations and review of the revisions and resubmissions, ethics approval was granted by the Ministry of health, Trinidad and Tobago in late November 2012 (see Appendix III).

There was a logistical challenge with two of the major antenatal clinics operating on the same day of the week and at different geographical locations. However, this was overcome by repeat visits to these sites and combining interviews with health professionals who were located on site. This enabled the researcher to stay on track during this data collection stage. Initial communication to arrange and coordinate interviews with interview participants was made via telephone/email. This mode was considered an optimum, cost effective and convenient mode of communication given the logistics of time and availability of participants to confirm interview times in tandem with antenatal clinics.

For many of the women attending maternity services this a life changing experience and the researcher was mindful of this when accessing this group. Therefore, in order

to avoid possible emotional distress, the researcher used appropriate language and was mindful of the women's body language. Furthermore, for the semi-structured interviews, good listening skills were crucial, and the researcher was continuously alert to an interviewee's frame of mind. A research information sheet was sent to all potential research participants which clearly stated the contact details of the researchers' supervisors in case respondents had queries or concerns. See (Appendix VIII). Each research participant was made aware in the consent form that confidentiality would always be maintained.

Following gaining ethical approval from the Ministry of Health, Trinidad and Tobago, health managers at the RHA were recruited and interviewed using a snowballing technique. Subsequently, permission was sought from these health managers to gain access to survey the expectant mothers. The health managers then referred the researcher to the senior nurses in charge of the antenatal clinics who advised of the date and times to attend the clinics. At most of the antenatal clinics, the senior nurse in charge introduced the researcher as an 'international researcher doing valuable and important research' to the group of expectant mothers and allow the researcher to give a short talk about the research, its importance and how the mothers could participate. This could have potentially led to issues of undue influence; the women may have felt obliged to take part in the study or view their non-compliance as a threat to their quality of care. However, this was overcome as the researcher assured the women that their participation was voluntary and for those who opted to participate, they were given an information sheet with more details about the study.

As strongly recommended by Bell (2005), piloting was used for the antenatal survey to gain feedback on content, layout, language and clarity of concepts. This did not raise ethical issues; however, issues of compatibility were highlighted, and this is discussed in the following section. Another issue relating to access was the ability to read and understand the questionnaire. Trinidad and Tobago has an adult literacy rate of 98.8% (Pan American Health Organisation 2012). Therefore, it was assumed that there would be no issues around women being able to read and understand the printed surveys. However, the to ensure full access the questionnaire was made available in alternative formats for participants, such as large print, audio, sign language or Braille as recommended by Lowes and Hulatt (2005). Therefore, an integral part of the

research design included planning to identify sources where these could be obtained although no participants requested the questionnaire in an alternative format. However, where participants had difficulty answering questions, support was provided via rephrasing or clarification using neutral, simpler language.

3.13 Limitations

Creswell et al. (2003) identified several strengths and advantages to the triangulation design; it is intuitive, flexible and efficient design, in which both types of data are collected during one phase of the research at roughly the same time. Each type of data can be collected and analysed separately and independently, using the techniques traditionally associated with each data type. Although this design is popular, Creswell (2014) identified some challenges in using the triangulation design, as it requires effort and expertise, particularly because of the concurrent data collection and the importance of each data type. For this study I undertook training in both quantitative and qualitative research to improve my level of expertise. It is a challenge to converge (integrate) two sets of very different data and their results in a meaningful way. In terms of this research study, it is multi-level and each method was used to answer different questions that would lead to an overall interpretation. This multilevel approach framed against a conceptual framework of quality reduced the level of complexity in integrating the two sets of data.

Despite the survey questionnaire being piloted and reworded there were minor challenges. For example, some of the women completing the survey complained that there were too many questions. However, they did provide responses to all of the questions. However, antenatal classes are not openly offered to expectant mothers in Trinidad and Tobago due to resource constraints, and therefore, many of the women were not able to answer the questions related to this. For instance, question 38 asked: 'Did you attend any antenatal classes?' and 40% responded, 'No, I was not offered any classes'. This meant that 40% of the women were unable to proceed with answering questions 39 to 43.

Dolowitz and Marsh (2000) and Saks and Allsop (2007) advise that when countries have different governance structures, value systems and resources, direct transfer is difficult. Transferring an instrument from one country to another was not as straightforward as anticipated and some difficulties were encountered even though the researcher deliberately avoided carte-blanche transference of the instrument by customising it to a Trinidad and Tobago context, piloting and revising. However, the complexities of project/policy transfer were inevitable as I encountered a similar situation when I attempted to find a suitable quality model for the analysis of my data.

Despite my best efforts, I was unable to interview a practicing obstetrician in public practice. This occurred despite having sent emails, telephone calls, and attempting face-to-face contact. On one occasion an obstetrician was approached to take part in my research study; however, they refused to be interviewed and demanded more documentation. Furthermore, attempts were made to interview the 'health quality guru' of Trinidad and Tobago. However, due to their ill health and constrained availability this did not happen. This setback was overcome as many of the research participants were multi-skilled. Many (57%) of the respondents had worked for over twenty years in the clinical domain before moving to management; hence a diverse perspective was still attained.

3.14 Conclusion

This study's concurrent/mixed method approach reflected the practical nature of the type of information desired involving quantitative and qualitative techniques in order to shed light on a specific angle of a social phenomenon. The empirical approach allowed for a multi-layer and cross disciplinary analysis, merging managerial models and health models. This multi-layered analysis highlighted the role of different structures, governance and stakeholders power relations from a local, national and international landscape. Consequently, perspectives and experiences were sought from persons at different levels within the health systems, such as policy makers, health leaders, health professionals and patients and from non-governmental agencies and organisations that are interrelated with the research topic.

Hence, a pivotal concept for this study was the meaning and interpretation of health quality. It critically assessed the ways in which quality was interpreted and

implemented in Trinidad and Tobago. For instance, what are the characteristics of quality in Trinidad and Tobago and various stakeholders included in the quality improvement dynamics. This exploration revealed potential tensions that took place in relationships and expectations of patients and health providers in receiving and delivering quality health care. It also raised questions, such as how good or poor quality can be detected, and whose responsibility it is for ‘world class’ health care as an aspiration of the Trinidad and Tobago government. The result is the production of quality guidelines that will bridge the gap between the expectations of the health care model and the reality of experience of mothers and Health Care providers in Trinidad and Tobago.

Chapter 4. Bridging the Gap: The QUALITT Model

4.0 Introduction

As highlighted in Chapter 1, expectant mothers and clinicians in TT are faced with a problem of higher than normal MMR rates compared to similar counterparts like Barbados. Additionally, this statistic remains significantly higher than those of other developed countries like the UK; despite the TT government's claim of a robust, quality driven health care system (Government of the Republic of Trinidad and Tobago 2006). This thesis proposes that analysing the TT health system using a framework of quality would potentially expose weaknesses in the system and offer the possibility to produce enhanced levels of quality.

A review of the literature in Chapter 2 identified a range of accepted models and this provided a starting point for my analysis of the emerging data. During the research process, it quickly became clear existing models were inadequate for interpreting the TT context. Instead, the way forward involved the development of a 'hybrid' conceptual framework of quality to enable a more relevant, practical and comprehensive interrogation of TT maternal health care. This follows Stake (2010) who advocates the use of an instrument of inspection as, not only critical to the detailed understanding of the system, but also relevant to the analysis and discussion of the findings. Thus, in providing a refocused lens to view quality in TT, the overarching (and ambitious) aim of the conceptual framework was to bridge the gap between the expectations of the health care model and the reality of the experiences of mothers and health care providers in Trinidad and Tobago. Therefore, the purpose of this chapter is to provide a full description of the QUALITT model. It begins by first discussing the rationale for using a conceptual framework or model, showing the QUALITT model's relationship to previous approaches and linking this to how this current study has contributed to its development. The chapter then describes the implementation of this model and

concludes by outlining its potential efficacy as a conceptual framework that is relevant and responsive to contexts like those of TT.

4.1 Rationale for use of Conceptual Frameworks or Models

In order to seek international agreement on a set of indicators relating to quality of health care, the OECD's Health Care Quality Indicator project (HCQI) determined that the optimum way to define 'quality of health care' was through a conceptual framework (Arah et al. 2006). The conceptual basis for health care performance frameworks can be traced back to health determinants models. These frameworks provide: "a conceptual device to provide structure to a set of ideas, values or conceptual entities, and which usually contains two or more domains or groupings of items" (Klassen et al. 2010, p.46). It is common place within health to utilise a conceptual framework to understand the phenomenon being assessed or reviewed in order to manage, prioritise and ensure coherence of the range of indicators in use (Arah et al. 2006). A conceptual framework is defined by Jabareen (2009) as: "a network, or 'a plane' of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena. The concepts that constitute a conceptual framework support one another, articulate their respective phenomena, and establish a framework-specific philosophy".

Klassen et al. (2010) conducted a review of quality frameworks used for health, education and social care and concluded that the frameworks varied in complexity; ranging from simple frameworks designed to measure a few categories of quality to complex models in which characteristics of health system performance (e.g. safety, effectiveness, efficiency) were placed within a broader context that included measures of health status, non-medical determinants of health, community and health system characteristics. As discussed in Chapter 2, the nature of maternal health quality is complex and multiple models of quality of maternal care exist. Therefore, the development of a conceptual model of maternal care to address the multi-facetted

issues of maternal health care quality in TT is required. The following section describes how the proposed QUALITT model was developed.

4.2 Developing a Conceptual Framework: A Maternity Model of Quality for Trinidad and Tobago

I initially proposed a combination of the IoM's model of quality and Powell et al.'s (2009), the most frequently used models for improvement in health care, as a combined analytical framework to assess the notion of quality within a Trinidad and Tobago context. Figure 5 outlines the first version of my conceptual framework. Chapter 2 gives a full description of all the components of the IoM's model of quality and other frequently used methods for health care quality improvement. The following commonly used methods for improvements in health care all contributed to the first

version of my framework, namely: TQM/CQI, Business Process Reengineering (BPR), IHI and rapid cycle change, Lean Thinking and Six Sigma.

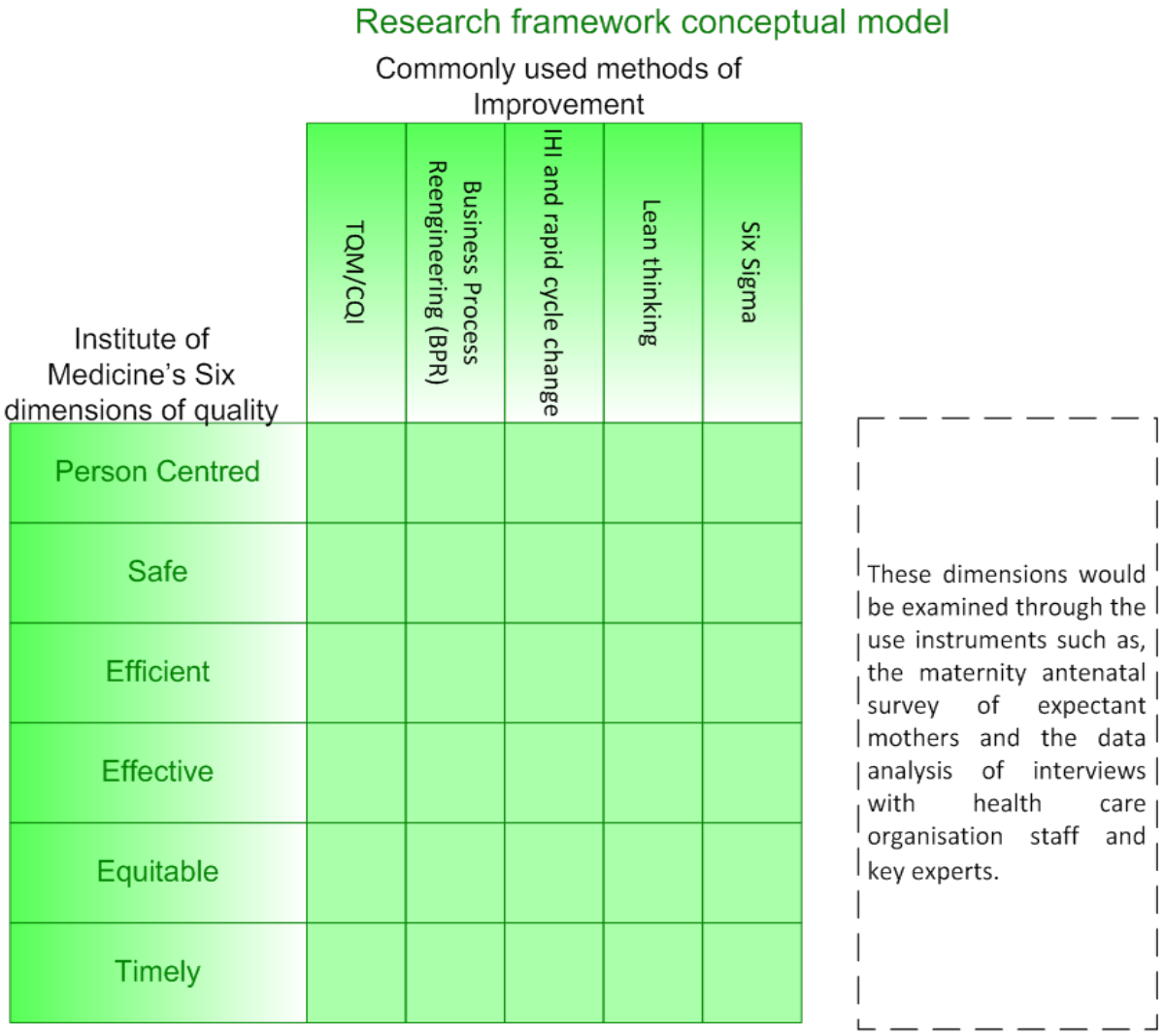

Figure 5: Conceptual Framework Version 1 - Institute of Medicine's Six Dimensions of Quality

As discussed previously there is no unique 'gold standard' model of quality in use; thus, a combined model was initially considered as a suitable conceptual framework to assess the quality of health care in maternal services. Klassen et al.'s (2010) research study revealed that most frameworks were developed by borrowing from

existing frameworks or approaches to quality improvement, e.g. The Institute of Medicine (2001) model of quality is frequently applied (Austin et al. 2014).

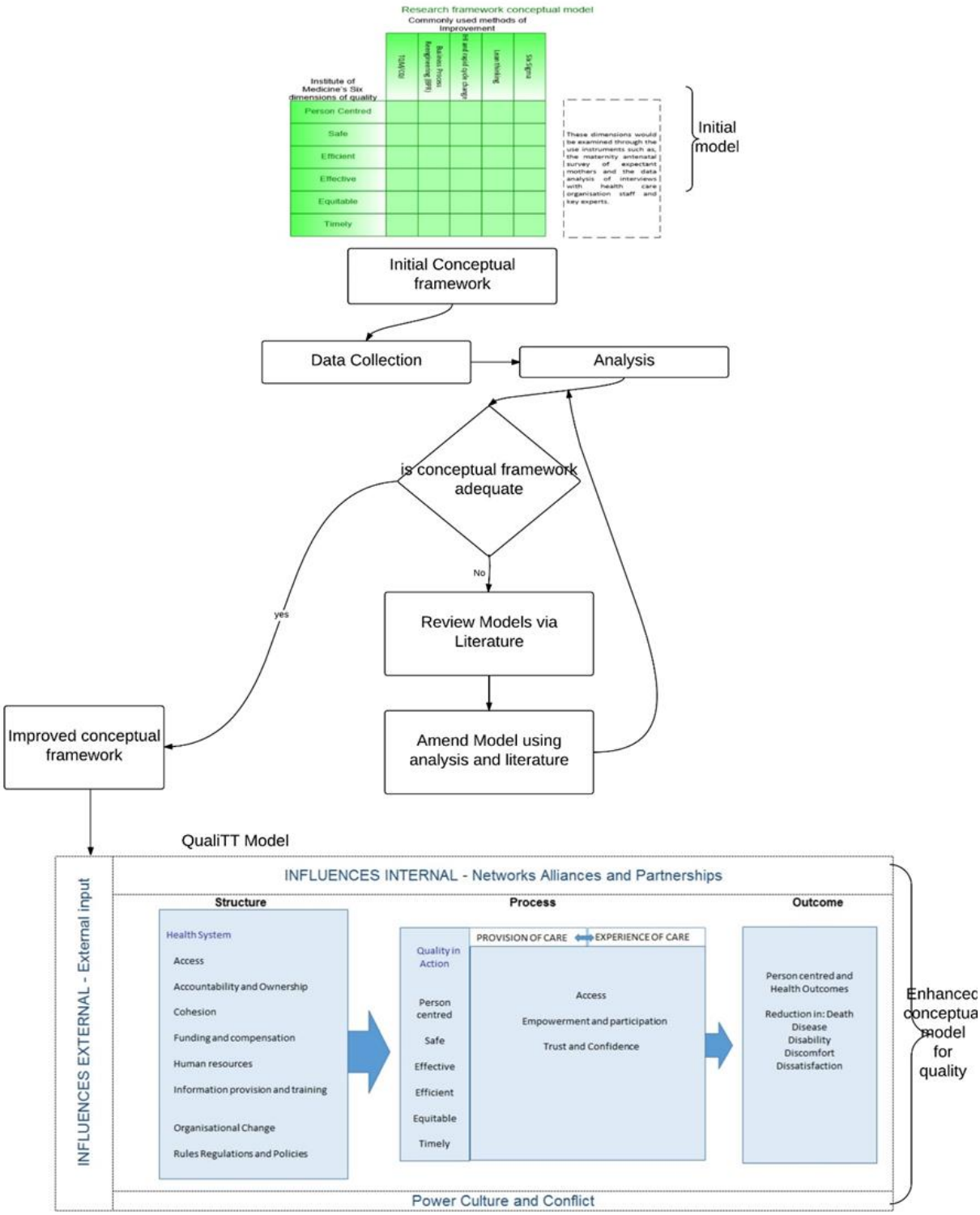

Figure 6: Building the Enhanced Conceptual Model for Quality - QUALITT Model

Figure 6 provides a graphical view of the continuous development process of the enhanced conceptual model for quality leading to the development of the QUALITT model. Starting from the top of the diagram, it shows the progression from the initial conceptual framework through to an evaluation and synthesis of alternative maternity models and finally and QUALITT model. The flowchart displays the continuous development to building the model.

Utilising the pragmatic research strategy as detailed in Chapter 3, during the data collection and early analysis stage it became evident that though existing models were useful, they did not easily transfer to a Trinidad context or were locally applicable in a practical way to analyse TT health system. Therefore, it was necessary to synthesise a selection of the models of quality, such as, IoM model of quality and maternity models of quality as espoused by Hulton, Raven and Tunçalp to create an intelligible, practical, valid and reliable quality model. The QUALITT model is an attempt to do this. The following sections describe the process through which the eventual model was derived with Figure 6 showing the continuous development process for the development of the model.

Previous discourses in Chapter 2, Review of Literature, identified and defined maternity models and quality in health care in a generalist setting. However, the purpose of this section is to specifically identify components or features of the discussed models, e.g. Hulton et al. (2000; 2007), Raven et al. (2011), Austin et al. (2014) and the World Health Organisation's vision for maternal and newborn health (Tunçalp et al. 2015) that have informed the development of the QUALITT model. See Table 7 for a summary.

The strength of Raven et al.'s (2011) approach is that it is adapted from a framework developed for quality of health care in clinical settings. This framework can be used to assess the characteristics and/or dimensions of quality of care at different points within the health system, and at the same time from the different perspectives of service users, service providers and managers. For example, the components can be used to guide the development of standards or criteria for care, to assess and improve the quality of care, to explore the perceptions and experiences of care amongst service providers and users and to inform the development of topic guides and questionnaires.

This model can be used as a basis for developing quality improvement strategies and activities and incorporating quality into existing programmes. Improving the quality of care for women and newborn babies is critically important. A potential limitation of the model is the applicability to monitor and evaluate large scale implementation projects to develop adequate indicators to assess quality of care. However, Raven et al.'s model and its overarching philosophy of a 'holistic approach' and synthesising critical components of the topology of quality informed the development of the QUALITT.

Table 7: Summary of Strengths and Weakness of Models used to Develop QUALITT

Model	Weaknesses	Strengths	Contribution to QUALITT model
Hulton	Needed to be contextualised to TT setting.	Simple, easy to interpret Tested in a few countries.	Provision of care with the experience of care.
Raven	N/A it is an overall approach.	Provides a menu of models of quality to choose any combination in a holistic way.	Overarching approach.
Austin	Needed to be contextualised to TT setting.	Simple, easy to interpret.	Layout- use of Donabedian triad: Structure, process, outcome (SPO) with IoM model of quality.
World Health Organisation	Very detailed.	Vision for model is well researched drawing on sturdy empirical work.	Provision of care with the experience of care.

The universal adoption of IoM's model of quality was beneficial; and hence, why it was originally utilised as a conceptual framework for analysing my data. However, this found to not be sufficient as it lacked other elements of quality, such as person-centeredness, provision and experience of care as explicitly expressed by Hulton et al. (2000) that suited the environment.

The contribution of Austin's et al. (2014) model to the development of the QUALITT model is the incorporation of universally recognised and well used dimensions of quality in a health system, as advocated by Donabedian's three dimensions: structure, process and outcomes, were included as the core component of the QUALITT model. The models offered by Hulton et al. (2000; 2007), Raven et al. (2011), Austin et al. (2014) also informed and contributed to the development of the QUALITT model. The final model considered was the World Health Organisation's vision for maternal and newborn health developed by Tunçalp et al. (2015). The primary contribution of Tunçalp et al.'s (2015) World Health Organisation vision is conceptualising the

interplay between provision of care and experience of care. Thus, quality can only be achieved not simply when the service is of high quality, but also when prospective clients have the necessary social and cultural capital to access that care. This contributed to the overall framework of the QUALITT model.

In summary, several models of quality were reviewed and elements of well-established dimensions of the health system, characteristics of quality, perspectives of quality and elements of quality were retained as valid constructs for the QUALITTT conceptual framework. The common elements were: Donabedian's dimension of health system (structure, process, outcome), IoM characteristics of quality (STEEP) and Tunçalp et al. (2015) overall philosophy of linking provision of care with the experience of care. Further, the conceptual framework was augmented with components specific to the context. The development of the QUALITT involved continuous improvements of the QUALITT model that was derived from the qualitative data from this study.

The next section describes how the proposed QUALITT model was developed to offer a holistic model applicable to the TT environment.

4.3 Description of the Model

As described earlier in this chapter, the two key contributing models to the QUALITT model were frameworks developed by Austin et al. (2014) and Tunçalp et al. (2015). Hulton et al. (2000) and Raven et al. (2011) also contributed by providing supporting evidence. These two models are themselves adaptations of prevailing models of quality, such as the Donabedian model of quality, the IoMs dimensions of quality STEEEP acronym, Hulton's work on QoC, linking provision and experience of care, and Raven's topology of quality (Donabedian 1966, Institute of Medicine 2001, Hulton et al. 2000; 2007, Raven et al. 2011). The models were more comprehensive than the original framework proposed and captured a greater sense of the phenomenon under review.

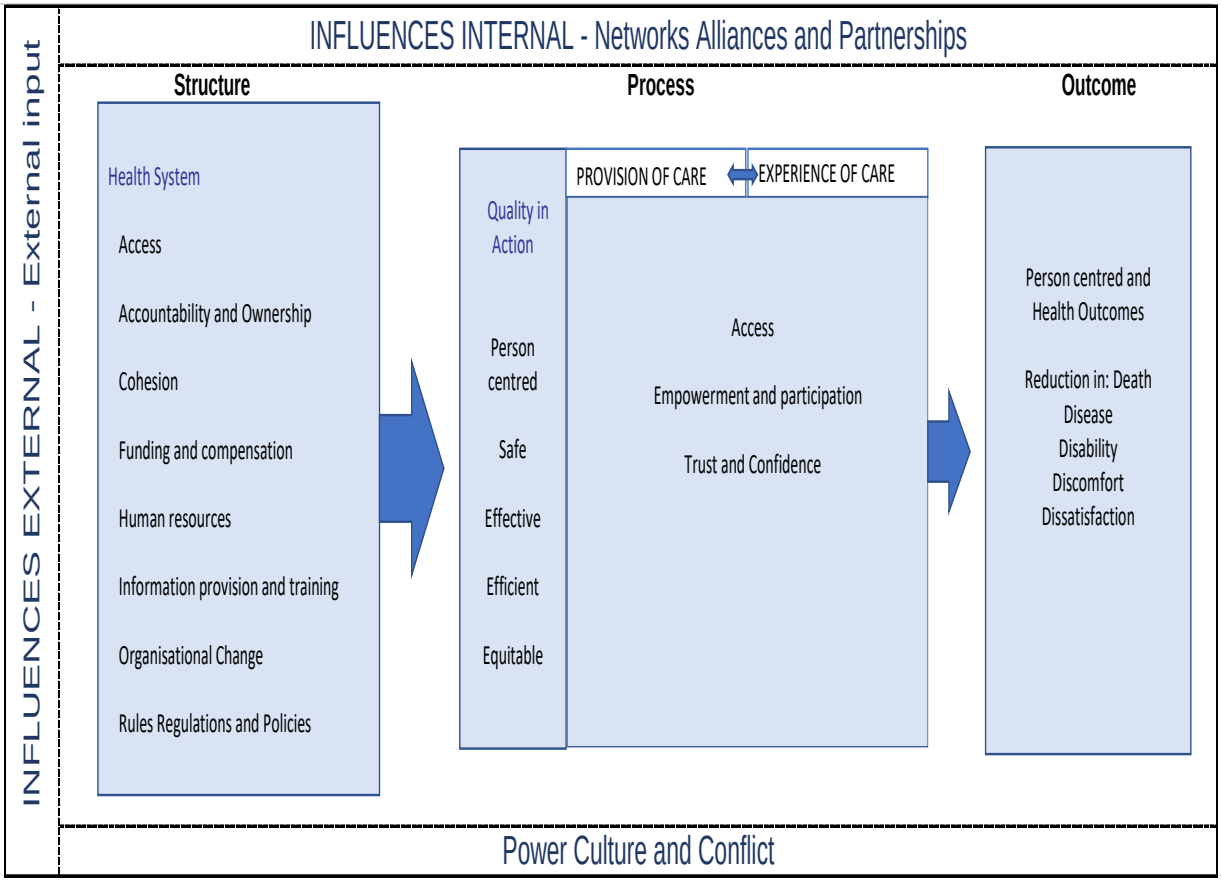

Figure 7: Conceptual Framework - QUALITT Model

4.3.1 The QUALITT Model

The framework for analysis of this study developed as the QUALITT model of quality for Trinidad and Tobago. The QUALITT framework was structured into six key domains or thematic components, namely structure, process, outcome, influencing External Input (EI), internal input in the form of Networks Alliances and Partnerships (NAP), and Power/Culture and Conflict (PCC). The first three domains - structure, process and outcome were adapted from existing models and simplified to suit a Trinidad context. As Donabedian (1966) explains, structure, process and outcome are interconnected; one feeds into the other and leads to the overall success of the health system. These three entities are the key aspects of an effective health system. Further, this construct was present in most of the contemporary models for quality. Whereas the latter three domains: EI, NAP and PCC were derived from the data collection and

analysis process (see Chapter 5 and 6, the analysis and discussion chapters). These domains contributed to the missing elements of the QUALITT model of quality.

4.3.2 Structure in the QUALITT Model

In the QUALITT framework, the 'structure' domain refers to the health system with a focus on antenatal care in a Trinidad and Tobago context. It assumes the Donabedian system's thinking principle and utilises the overarching World Health Organisation (2009) health system strengthening. Health system refers to the structure in place that allows quality to be implemented. It can be at the macro, meso and micro levels as health care does not exist in a vacuum (Nelson et al. 2008). For example, there are supporting structures including the political, infrastructural and economical aspects. The subthemes/domains within the 'structure' domain break down into the following: access, accountability and ownership, cohesion, funding and compensation, human resources, information provision and training, institutional logic, organisational change and rules regulations and policies. Access relates to the physical and organisational infrastructures and the potential barriers and facilitators to access maternal health services. Accountability and ownership relate to organisational responsibility and culture. Cohesion assesses how activities and processes are coordinated and how effectively or efficiently they are organised. Funding and compensation relate to how services are financed and compensation of the workforce. Human resources assess the level and skills of staff to provide maternity services. Information provision and training evaluates the presence of evidence-based learning, support and training. The latter three: institutional logic, organisational change and rules, regulations and policies relate to different actions, processes and policies that occur in reforming health care.

4.3.3 Process in the QUALITT Model

The 'process' domain of the QUALITT model of quality refers to the methods and practices through which maternity care is delivered in terms of provision of care and experience of care. It considers the relevant characteristics of the IoM model of quality that is embedded within the 'process' domain and interconnects with to subthemes, such as the barriers and facilitators for accessing health services; empowerment and participation; organisational change; approaches to quality; quality in action and trust

and confidence, access to health services assesses how women receive maternity services, for example, birthing options, antenatal clinics, classes in terms of geographic location and hours of availability. Empowerment and participation relate to women's rights and advocacy. Organisational change is related to how maternity services were affected because of health sector reform and change management within the health organisation. Approaches to quality are linked to how quality was implemented from a management perspective. Quality in action evaluates the elements, dimensions, characteristics or perspectives of quality implemented within the health system. Finally, trust and confidence gauge the level of confidence that users/receivers of care have in the knowledge, skills and abilities of providers of care.

4.3.4 Outcome in the QUALITT Model

The outcome domain of the QUALITT model is defined as the results of the 'structure' and 'process' domains and areas of convergence or divergence with prevailing results. The sub themes, achieving quality and trust and confidence, further define this theme.

4.3.5 External and Internal Influences: Power, Culture and Conflict in the QUALITT Model

EI, NAP and PCC are incorporated into the QUALITT model as they play a universal role in quality in the Trinidad and Tobago context. These universal themes were pervasive throughout the course of the study, and therefore, it became clear from the research and evidence presented in the study that they were key components of the QUALITT model. In a sense, these three domains were viewed as an inclusive overarching structure or universal domains within which the QUALITT model is situated; they are interwoven within and between the other domains of the QUALITT model. This is important because they are the influencing factors, which provide a framework for understanding how the health care system is structured, provided and experienced by the major stakeholders within the health system. This was one of the gaps identified within the framework of the current models of quality; however, the enhancements to the QUALITT model allows for quality in this context to be viewed in a more holistic manner.

Internal influence refers to the Networks, Alliances and Partnerships (NAP) that are formed by necessity for the progress and sustenance of the health system. Therefore,

it reflects the relationship between different stakeholders, parties and agents including Caribbean partners and is discussed in more detail in Chapter 5.

In considering the context of 'external influence' (EI), some relationships appear to be similar to networks and partnerships. However, upon closer examination, they are primarily driven by outside interests, and therefore, the broad universal theme of 'external Influence' relates to the external inputs from outside agencies. For example, this may relate to a strong level of colonial influence as discussed in Chapters 1 and 5 or the influence of the World Health Organisation, PAHO and other international organisations that provide inputs to make up for any technological, financial and/or knowledge deficits as described in Chapter 5. Power, Culture and Conflict (PCC) refers to the constant interaction of the actors (e.g. patients, health providers, policy makers) within the health system and the tensions that occur as they interact.

4.3.6 Inclusion of Empirical Research

More detailed analysis revealed that neither model individually represented the data that was being elicited from participants. For example, one of the key strengths of the World Health Organisation's model is the level of detail. However, due to its prescriptive nature this level of detail may also have affected its sustainability. Thus, under the broad headings of structure, process and outcome from the Tunçalp et al. (2015) model, and within the context of the preliminary data derived from the interviews, an amended model of quality was developed utilising key aspects from both models. For example, under the structure heading, Austin's et al.'s (2014) model was quite comprehensive and too wide a scope for an analysis of antenatal care. Thus, this feature of Austin et al.'s model was refined to highlight those aspects of the model that resonated with both the lived experience of the key stakeholders, and the congruent elements in the World Health Organisation's model. This development process was also followed to enhance the process and outcome elements of the QUALITT model. I utilised a synthesised version of these models as a framework to

analyse my qualitative data to assess the idea of quality in a Trinidad and Tobago context. This involved using the conceptual framework as a lens to view the data.

4.4 Conclusion

In conclusion, the QUALITT model was developed to close a gap in quality models relevant to countries, such as Trinidad and Tobago. Its origins are from common elements of well-established quality models and initial analysis of data. The empirical study contributed to the QUALITT model development by highlighting pervasive essentials that were relevant and sensitive to TT and similar contexts, such as culture and local and regional partnerships.

The QUALITT model was tested as it was utilised as analytical device during data analysis stage of my research process; as a framework for understanding quality in maternal care in TT. It proved to be an effective tool of analysis as it guided the methodology of the research and captured the voice of the health care providers and the voice of the women. The QUALITT model was a direct output of the analysis. The purpose of the study was to understand and interpret a phenomenon of maternity care. Implementation of the model during other parts of the research process can be considered for future research. The model has been tested in one RHA and can potentially be tested in other remaining RHAs in Trinidad and Tobago. This can lead to further research and development of the model. The main outcome of testing the model is to yield a list of recommendations and advice which can potentially impact policy and practice. This will result in opportunities for future research and development.

The following chapters discuss the results utilising the QUALITT model of quality as an analytical device and attempts to answer the research questions put forward in Chapter 2, Section 2.7.

Chapter 5. Analysis and Discussion: Emergent Themes

5.0 Introduction

The focus of the following chapters, 5 and 6, aim is to answer the research questions identified in Chapter 2, Section 2.7.

There are several approaches to presenting the discussion of the research findings. They can be listed in graphical or text format and discussed in a new chapter or at the end of the findings chapter (Brown et al. 2004). Alternatively, a discussion may follow on from each finding, iteratively until all the findings are discussed (Parahoo 2006, p.282). Based on my research design and style of analysis, I have adopted Fetters et al. (2013) style of reporting by narrative. Narrative reporting can be done in two ways: A 'weaving' or a 'contiguous' approach. A contiguous approach is writing about the data in a single report and with separate reporting of quantitative and qualitative analysis. For my research, I used a combination of the two techniques where I followed a contiguous approach by presenting my qualitative and quantitative findings in a single report and discussed separately to address research questions one and two. However, this is then combined with a weaving approach whereby both qualitative and quantitative findings are discussed together on a theme-by-theme or concept-by-concept basis to answer research question three. The findings from each level were then consolidated into one overall interpretation based on the conceptual quality framework.

As explained in the previous chapter, the purpose of the study was to explore how quality was viewed within the construct of the conceptual framework model for quality in maternal health in Trinidad and Tobago. Thus, in the following discussion, the results are presented using the QUALITT model of quality as an analytical framework (see Figure 6, Chapter 4, Section 4.2 for an explanation of its origins and contents).

The first part of the discussion in this chapter gives a brief profile of the key participants and the represented agencies, and defines quality in practice from a Trinidad and Tobago context, looking at the meaning of quality from the perspectives of the key participants, next the dimensions or characteristics of quality derived from the data analysis will be linked to the characteristics of quality as defined in the academic

literature identifying areas of convergence and divergence. This will be followed by a short reflection of its meaning and relevance to the research questions on what maternal health quality in Trinidad and Tobago is. The next main section discusses the emergent universal themes of external and internal influences and power, conflict and culture. External and internal influences will be discussed, followed by power, conflict and culture and a short reflection on the meaning and relevance to the research questions to identify vulnerabilities and gaps. The second part of the discussion and findings in Chapter 6 explores the broad themes structure, process, and outcome identified utilising the model as a conceptual framework and where applicable, shows the interplay of internal and external influences and power, conflict and culture (PCC) as they criss-cross these broader themes.

5.1 Profile of Key Participants

Fourteen key participants were interviewed for this study. The choice of participants assumed they were familiar with issues relating to quality and maternal health, especially in addressing antenatal and women's health and wellness issues (Hudelson et al. 2008). The researcher deliberately sought information from those persons in the Ministry of Health, the Regional Health Authorities (RHAs) and associated organisations that are directly involved in women's health and/or quality. The names of all participants have been changed to protect their identities from being disclosed. The interview participants consisted of twelve females and two males between the ages of thirty–five and sixty-two (see Table 6, Chapter 3, Section 3.7) for brief overview of interview participants' positions and job role within their organisations. Detailed description of each participant's key responsibilities and background information and associated organisations can be found in Appendix XV.

The main aim of describing key participants is to justify the selection and involvement of these participants. They are experienced and informed subject matter experts for the research inquiry. Three key organisations or agencies were involved in providing meaningful and informed participants in the context of the research inquiry.

5.2 Definition of Quality a Trinidad and Tobago Perspective

Chapter 2, Section 2.2.3 through to 2.2.5 gave definitions and meaning of quality from academic literature. This section seeks to define quality as informed by key participants and examination of documents and policies. I will examine the origins of health quality in Trinidad and Tobago, definitions of quality as iterated by the key participants and link the dimensions or characteristics of quality derived from the data analysis to the QUALITT model.

The origins of quality in health care in Trinidad and Tobago stem from a personal/local level and national/international level. On the professional or local level, the profile of quality was raised by a MoH professional who implemented a quality management project in health that garnered international interest resulting in funding. The funding was used to develop quality systems in health and the quality agenda spread from professional local level to national level (RR13). On a national/international level, the World Health Organisation (2006) and several other working papers and technical documents on NPM and by extension health sector reform, pinpoint the origins of quality in health in Trinidad and Tobago directly to health sector reform (Bissessar 2003;). Quality was a key component of the reform as explained in chapters one and two. As one of the key informants RR12 reflected on this by saying that: *"*the quality agenda is part of the health sector reform because the quality agenda is the vehicle that is being used as one of the strategies for the reform"*.*

Certainly, there were multiple initiatives to introducing quality within health in Trinidad and Tobago, it is not clear though if these initiatives were occurring simultaneously or concurrently. RR12 further gave a historical insight into the development of the quality agenda being decided by the Ministry of Health who worked together with PAHO on setting the guidelines and corresponding training in preparation of staff for the quality agenda: "PAHO works a lot with us on the quality agenda so that all the … PAHO coordinated them."

It is interesting to note that from the beginning of the quality journey there has been 'external influence' as explained in detail in Section 5.3, Universal Themes. Additionally, a variety of perspectives were expressed by all the informants about the meaning of quality. There were two distinct response types: 1. Implicit views and 2.

Explicit views. Not surprising, some informants who worked directly in quality were able to use the jargon associated with quality and spoke explicitly about quality. The second response type was from operational informants; their viewpoints indirectly identified quality and their understanding of it was that quality is tacit and is embedded in how they do things. For example, one informant RR6 when asked about awareness of the quality strategy said he was unaware of the quality strategy and quality techniques used, however, he was able to reflect upon what quality was by the way that things were done. Therefore, the researcher derived the attributes of quality by analysing the language used by informants as they responded to questions asked.

The degree of perfection and standards is linked to the definition of quality from an industrial quality viewpoint as discussed in the academic literature as identified in Chapter 2, Review of Literature. This traditional viewpoint of quality was expressed by interviewees and are shown in Table 8. Quality as defined by key participants was about perfection, standards, buzzword, right thing at the right time, right person for the right job, attitudes, health provider driven and or image enhancing.

Table 8: Attributes of Quality a Trinidad Perspective

Common Definitions of quality	Key Participant(s)
"… it's a degree of perfection…"	RR3, RR7
"… it's an optimum standard…"	RR4, RR12
"... quality is still a buzzword…"	RR12
"… do things right the first time…"	RR4, RR12
"… the right person in the right job…"	RR7,
"… would imply our attitudes…"	RR11
"… starts with the health provider…"	RR1, RR6
"… can enhance the image of the organisation…"	RR12, RR7

Quality is a way of following standards, policies and guidelines. RR3 explained that quality:

> "must be guided by proper and accurate procedures for carrying out work in any unit".

Similarly, RR7 indicates that:

> "to maintain the highest quality standard at all times to ensure that the best output or the end result is the best".

In interviewing quality professionals in the MoH and the RHAs, they were quite explicit about what quality meant to them. One of them, RR4 stated that:

> "it's an optimum standard people would hope to achieve to do something once, so you don't have to do it again. I think once people recognise that if you do something right then I don't have to do it again and that is saving my time...saving money ...and the patient".

This quote extends standards to doing thing right the first time, leading to saving money and time. This connects standards to cost, time and patient safety as explained by Buttell et al. (2008) and Spath (2009). This is a broader view of quality.

Following on from this, many participants with clinical backgrounds viewed quality as built into everything that they do as part of their clinical professionalism. The assumption is that clinical guidelines follow best practice and are aligned to achieving quality even though it is not said explicitly that this is quality. RR12 alluded to this notion of:

> "... the professional … knows that quality is nothing new … quality with regards to standards. They have standards of practice that they must maintain within their particular profession".

The views expressed by these participants is similar to the view of health care providers (e.g. Hudleson et al. 2007) where many of the health providers defined quality from the perspective of standards.

In another case, one of the HR professionals RR7 viewed quality from a human resource standpoint, emphasising that quality is about:

> "recruitment of the right person in the right job …, the cream of the crop that we have, and that we can deliver the best of service".

The preceding captures the attributes of quality relating to person centeredness right person in the right job and cream of the crop. Delivering quality health care, timely manner, maintain high standards to get the best output.

RR11 viewed quality with a wide lens covering staff attitudes and behaviours to clinical excellence as he stated that:

> "quality would imply some of our attitudes ... what is our attitude towards both patients and work...also the knowledge and standards whether it is going to be best practice in terms of proper care ... then the quality would be the standard of care whether we apply technology, methodology ... making proper diagnosis … proper supervision of junior doctors evaluated by the senior and then the treatment part of it. then we follow up care of the patient".

Insightfully, RR6 reflects that in discussing what quality means:

> "… that it is easy to see when quality is not there, but it is harder to achieve good quality standards".

A few respondents identified quality as influencing reputation and creating or strengthening the brand of the public health service which historically suffered from having a poor reputation prior to health sector reform initiatives in the 1990s (Singh et al. 1996; Mustapha and Singh 1999). However, one important outcome of quality was that key informants saw quality to improve the brand and or reputation of the public health service. This influence on reputation management and concepts of branding was directly linked to the focus on quality. As RR12 stated proudly that: "quality can enhance the image of the organisation even when the organisation does something wrong because you need to show a caring face".

This positively impacted the public and public perception began to change and utilisation of the service increased. RR12 observed that: "quality is something that supposed to work like a thread in your organisation". This meant that it should be working through each aspect of the health system and holding it together. This is consistent with Powell et al.'s (2009) minimum characteristics for a successful quality improvement. This analogy also compliments the observation that informants reflected on networking and interdependency as a key component for success as quality cannot exist in isolation. Each person within the system must do their part for positive outcomes. As one on the informants said:

> "what quality did was cause practitioners to focus and to recognize the importance of the team …the nutritionist, ... the chiropodist, the nurse, the …, the doctor, the lab, the pharmacy and all of them had to work together as a team" (RR12).

The result of this team working proved to be very positive and encouraging to staff members. Other instances of networking were highlighted as well and shows the linkage with 'internal influences' as pervasive within the health system in Trinidad.

There is a national focus on quality as evidenced by the national annual quality awards. However, during the period of investigation some of the participants mentioned that the quality awards were suspended because of adverse health outcomes that were highly publicised in the media. RR1 provided an alternate reason for its suspension as RR1 said that it could be based more on a change in strategy in the approach to the process as opposed to a response to the negative reactions of the public owing to adverse outcomes. The award service was subsequently reinstated in 2013.

Overall, all the participants acknowledged that quality is still in early stages and it is new. RR11 explained that when referring to the newness of quality in the health system he said that: "I think that we had nothing like that before and now that we have, at least some awareness amongst most of the workers in the hospital that there is a quality unit and quality control". Similarly, RR12 explained that: "quality is still a buzzword". There is an awareness of standards and staff are now getting adjusted to understanding it.

Despite quality being new and in a growth stage all participants also agreed that quality needs to get better and highlighted instances where quality deficiencies occurred in various ways through staffing and skills mix, policies and implementation. RR3 stated hesitantly: "We do quality. It's not so effective", whilst RR6 acknowledged that for a quality division with corresponding structures in place admits that there is room for improvement. RR5 paralleled with this view indicating that there is room for improvement, but it is a long-term process.

There is no official commonly accepted definition of quality as identified in the Chapter 2. Quality is multi-faceted and as summarised in the literature, is described in numerous ways that on a system perspective, a dimensional aspect or is just about a way of doing things right which is in congruence with the literature. Whilst the efficacy of the use of quality to drive health sector reform is debatable, it has been observed as a way of reform in other countries such as USA, UK, Australia (Powell et al. 2009;

Kennedy 2010). Therefore, it is a useful lens through which health sector reform can be viewed. I have discussed the attributes of quality as defined by the key participants. The next sections analyse the data through the lens of the QUALITT model.

5.2.1 Dimensions of Quality

The dimensions of quality represent the intersection of quality in a broad sense and the needs of health care organisations. Care is focussed around a woman's need and socioeconomic status in terms of values, culture choice and preferences of the woman and her family should be treated kindly, respectfully and with dignity and cultural sensitivity (Carter et al. 2010). Each pregnancy is unique for each woman and she has differing views on child bearing to achieve the best option. Care must be tailored to meet individual needs of the woman and family to promote positive maternity care experiences.

High quality relationships must be fostered and promoted between the woman, family and the care team in a mutually respectful and trustworthy manner. Health care organisations (HCO) must ensure that caregivers and the HCO environment use positive language to facilitate trust, confidence and enhance outcomes of care.

Aspects of the IoM dimension of quality which form part of the model of quality were identified as being in practice. Participants were able to demonstrate evidence of person centeredness, safety, equity, efficiency, effectiveness and timeliness within the service. They also demonstrated cases where these dimensions failed. For example, person-centred care was evidenced by including the family of the pregnant woman as RR3 said that they endeavour to get the fathers involved so that he can provide support for the woman and have an understanding of her situation. RR3 stated that:

> "When we go into the house to do a visit, we would rather the husband is there because he has to share the load, he has to share the burden, he has... and also we encourage Lamaze classes, so if he comes he would understand that this lady, look she's not on her own".

Safety is another area that was illustrated in the coding. This includes care and care processes are structured in an appropriate, reliable and well manner to minimise the risk of harm to mother and baby with the pre-knowledge of their health status and balancing risks to benefit both. RR3 discussed doing home safety checks as part of

her overall house visit to ensure that the home environment was safe for the woman and her newborn. Antenatal clinics and how mothers are monitored, even the DHV home visits are conducted to ensure mother and baby are in a safe environment.

Effective care is linked to the notion of safety. In this way care is delivered to mothers and babies avoiding 'overuse' or under usage and misuse of care using sound principles of evidence-informed decisions based on individual mother's situation (Berwick 2017). Care should also follow the principles of a coordinated and structured approach to prevent and avoid duplication of tests, omissions, fragmentation and error. Further, efficiency is another aspect evident in this coding. RR2, RR3 and RR4 cited cases where there was a lack of foetal monitoring tools, ultrasound services and over medicalisation of pregnancy. Inefficiencies of this nature cause the maternity care system to not deliver the best possible health outcomes and benefits. The most appropriate and conservative use of resources and technology does not occur as resources are either scarce or underutilised (Carter et al. 2010). This in turn feeds into effectiveness as overuse and misuse of treatments or medical interventions are avoided therefore conserving resources and preventing iatrogenic complications. Further, efficient maternity care takes advantage of unrealised benefits from effective underutilised measures.

Equity is another dimension of quality. All women and families have access to receive similar high quality, high value care (Koblinsky et al. 2016). Variation should be based on the woman's need and preferences and not based on other non-medical factors. Equitable maternity system should show evidence of ways to address differences in baseline health status of women related to class, race, ethnicity and language. This is required for optimal maternity care outcomes and experiences for every woman and her children delivered to. There were cases of equity as RR3 indicated that: "we cater for everybody, the whole population, but there is the private and there is the public".

There was also evidence of inequity when RR3 and RR6 mentioned that due to lack of ultrasound services close to clinic women have to pay privately for their ultrasound. This touches on equity as a woman who is unable to pay for one can potentially not get a scan prior to onset of labour. This has several implications linked to efficiency and safety. The example of water birthing highlighted a more significant aspect of

equity and access that RR8 discussed in terms of access to birthing options. She indicated that:

> "they would come here to give birth here because this is really the only birth centre in the region … St. Lucia who came here to give birth with us … nowhere else in the Caribbean does water birth. We're the only place in the Caribbean that does water birth" (RR8).

This quote also raises issues of access and its lack of universality. Although the opportunity for this service exists, access is limited for other Caribbean women; or perhaps those in Tobago. For example, because this would incur further health, financial and cultural costs. All of which would have an impact on not only experience of health care, but it suggests that quality health care [options] seems to be a merit good rather than a democratic right.

Timeliness is another dimension of quality where it reflects that care should be delivered when needed. This means that care during pregnancy should properly support the mother/child in terms of a clear estimation of onset of labour, antenatal checks and scans and other non-medical interventions like nutrition and exercise guidance (Hulton 2000). Also ensuring that women's birth plans are discussed well in advance of the onset of labour therefore in case of emergency or for later stages of pregnancy they are informed (Brown et al. 2004). At the antenatal clinics in Trinidad at the particular RHA all women have their own pregnancy notes that they keep with them and bring to the clinic. See Figure 12 antenatal day clinic process maps for details. At every clinic visit, I observed group information sessions that advise women of how to take care of themselves during pregnancy. Catling et al. (2015) research the merits of group based antenatal clinic session which was common practice at the antenatal clinics in Trinidad.

5.2.2 Reflections on Defining Quality in Practice

In answering the research question one, what are the characteristics of quality in the Trinidad and Tobago context; and what quality maternity models are in use in the Trinidad and Tobago context, quality is defined as a way of doing things congruent with prevailing definitions of quality from the quality gurus. This is encouraging as the key informants have demonstrated an understanding of quality, and therefore, allows for first level implementation. However, for specific services like maternal services its

concepts are quite general. A few of the participants were able to identify the 'flavour' of quality being used in TT. Naturally, the quality practitioner were unsurprisingly able to name the methodology of TQM practice. However, operational people were able to identify attributes of TQM without naming it. The overall quality models in use are the ISO 9000 standards and the TQM/CQI philosophy with the Malcolm Baldrige system driving the national quality awards programme. The generalness of the quality model presents potential opportunities for future work and refinements to improve quality in maternal health care

5.3 Universal Themes

This section shows the evolution of this universal or dominant theme as derived from the analysis of the qualitative data. It seeks to discuss the challenges of being a small developing nation as discussed in Chapters 1 and 2. It also discusses the internal networks, alliances and partnerships, the interdependencies and multisectoral synergy. This will be followed by a discussion of the external influence and a reflection on the relevance and/or importance to the research questions.

5.3.1 Internal: Networking, Alliances and Partnerships (NAPs)

To overcome limitations because of being part of a small geographical and economic system such as Trinidad and Tobago, it is often necessary to form relationships between different stakeholders, parties and agents both regionally and internationally. This further allows for knowledge and skills that were not within the TT health system to be gained. These external and internal forces such as the collaboration of best practice patient care were referred to by the key informants as having a significant impact on practice (Ham and Dickinson 2008). For example, while participant RR12 was speaking about health sector reform and improving health service, she also mentioned:

> "When they went into patient-centred care it was an initiative not only of Trinidad, but of the nursing in the Caribbean. Jamaica and Trinidad in particular came up with a document called CARIBQUAL, Caribbean Quality document which looked at the patient care and nursing care of patients" (RR12).

This shows an example of where Caribbean countries collaborated to produce guidelines for the improvement of patient care in nursing. Another informant, RR4,

illustrates the importance of 'unity' as an opportunity to standardise care and access to funding:

> "We formed a Caribbean region midwives' association … again we realise that within the Caribbean … we are trying now to get the Caribbean together because they also recognise the interacting funding agents that funding usually they give funding in blocks – Latin America and the Caribbean all the funding is going to Latin America and the Caribbean not getting because the market not individually... we are looking for that unity now so we can have that regional body and so far it's really strength in numbers because since we have started we find that the international agencies are taking us a lot more seriously" (RR4).

This description illustrates the need for a collective body within the Caribbean to gain the attention of funding agencies. This was further illustrated by a further four key informants, who spoke about the value of linkages in the Caribbean region to access help, including access to premium health facilities and water birthing facilities in the region at the time of this study. Key informant RR7 reflected that one of the main health facilities has more services than both general hospitals on the island and is a premier hospital of choice in the region:

> "Eric Williams now has more services than even Port of Spain General or San Fernando General because there is one of the premier hospital in the region not internationally but regionally" (RR7).

Another critical aspect of 'internal' influence is the necessity of high levels of interdependency, interdisciplinary involvement, inter-organisational work and multi-sector synergy as the success of one depends on the action of another, for example, the HR planning unit interacting with the HR division training unit and other entities within and co-related to the health system. RR1 explained that being a small unit necessitated her unit building trust and confidence with other units and said:

> "So, I think that has been the approach in building the relationship and the trust, having a plan, demonstrating that we understand what is happening in the sector and … we are there to provide the support and the advice and we are willing to work with whoever to implement. So, we are very hands on … We're a small unit. ... we need to work with others, we alone can't do it so as I said we work with the health sector advisor ... the chief nursing officer ... health policy and research division ... the region, we've built relationships with the HR department at the RHAs and so on so that you can't just be viewing it on isolation" (RR1).

The quote highlights all the elements of working together, building relationships and providing advisory services but understanding the limitations of size and capitalising on internetworking with other professions across the health system at the local, national and regional level. The level of interdependency promotes relationship building and trust within the network and strengthens the alliance and/or partnership (Pecci et al. 2012).

In this case it is improving the relationship between human resources in general and the other interrelated organisations such as the Ministry of Health, the RHA, other related ministries and the Caribbean region. The success of this human resource relationship is critical as human resource challenges have been cited by all key informants as a severe resource constraint in delivering quality.

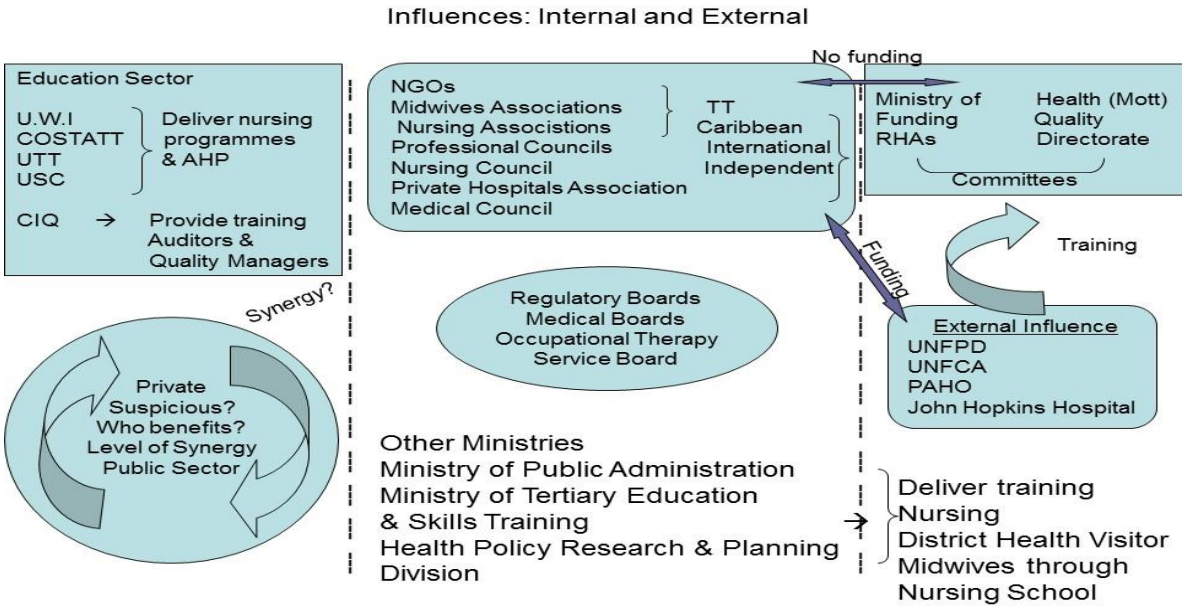

Figure 8: Dynamics and Synergies of External and Internal Influences

Figure 8 shows the different organisations, sectors and relationships and their interactions and potential points of contention and beneficial interactions. Interdependency enhances the level of teamwork and emphasises the importance of each member within a team, which previously would have proven difficult. Interdisciplinary involvement plays a key role in engaging different stakeholders in decision making. RR12 succinctly narrates the dynamics of interdependency by saying that:

> "We may have a different set of skills, but we are dependent …the quality journey … emphasise to members of the health team their interdependence and their importance because sometimes people at the lower level do not see their importance because they are away from the patients" (RR12).

This quote highlights the role of interdependency in implementing quality in a health system. Powell et al. (2009) emphasis the important of quality crossing all levels of an organisation that wants to continuously improve. Inter-organisational work between different ministries, international or regional bodies was utilised to promote relationship building as well as reinforce and make educational training programs more robust. However, when referring to the private sector, areas of incongruence emerged whereby work with the private health sector showed approximately 70% participation at private hospital. See Figure 8 for context. The staffing arrangement study conducted by the Health Sector and multidisciplinary committee with the respondent RR2 remarking that the:

> "Private sector is still a little kind of suspicious of public sector getting into their business but it's in an effort to really understand what is happening" (RR2).

This 70% participation might be attributed to the level of comfort between private and public sector possibly explains the lower than expected level of participation. It also highlights an opportunity for improvement with public and private sector working relationships (Arrieta 2011). This has started by including the president of the Private Hospital Association on the health sector and multidisciplinary committee with the aim to build their relationship and develop trust.

Further, many of the key informants commented not only on the importance of these relationships but on the importance of having synergy when networking across multiple sectors and having a certain amount of coordination and focussed action. However, one of the issues highlighted was lack of coordination. In addition, synergy was mentioned with regards to looking at the mutual benefits of the relationships. A positive example of synergy was illustrated by RR1 who referred to multi-sectorial working as relationship building and building trust so that the RHAs and Ministry that depend on them to provide staff are confident that they are able to understand their needs and fulfil their HR requirements:

> "we also try to work with them, build that relationship with them so that when we are looking at strategies to develop health care professionals of course they need to be on board with the approach and now they are fully responsible for health training, so we have to work with them…we have been able to gain trust in the ability, … We've worked hard at building trust and making connections with them and helping them in whatever way we can whether it is helping them to source persons, staff, through our connections with the education institutions" (RR1).

5.3.2 External: External Input

External influences demonstrate the impact of the relationship with bodies, such as WHO, PAHO, UNDP, IoM and Harvard mediated through the USA that affect the delivery of health services. These influences have both strengths (technical expertise, funding opportunities, collaborative, best practice standards and guidelines) and weaknesses (e.g. reduces flexibility or encroach upon autonomy, free thinking and creativity). The TT health system was originally designed and adapted based upon the British design of health care. This has come about as a consequence of the British colonial influence being a former British colony. Therefore, Trinidad and Tobago as a former British Colony has maintained the colonial organisational constructs. However, health sector reforms are attempting to transform the TT health sector. Public and private sector have not converged like in the UK; however, the creation of a hybrid through the RHA was one of the ways to introduce a managerial focus in health care and to possibly work as a bridge between public and private sector.

5.3.3 Benefits

A key benefit of the external influence was access to funding, training and technical guidance for development including HR recruitment. In terms of funding, external agencies are lifelines for many of the Non-governmental organisations who receive little or no funding from the government. RR8 lamented that:

> "Unfortunately, all of our funding is overseas, international. We've got - well, not all but we've got the majority. The primary, the first set of funding we got was through an organisation ... So, they gave us the first set of funding that we got to purchase the building and then they gave us funding to renovate and to buy equipment, as we do water births. So, we got funding for all of that and now they continue to fund us for the pro bono clients and for doula training" (RR8).

This quotation shows the level of funding that goes to both organisations NGO1 and NGO2 and the vital role it plays in their sustainability:

> "We do different things with them in fact because we are NGO we don't even get a subvention from government. Nothing. We fund our thing for our self. So we have to collaborate now with the international agency that provides funding. We work closely with UNDP and being as the only midwives' organisation we get funding from them – we get funding from UNDP to do specific programs so we would find out the needs from our members, do a proposal, send it in and if we get the fund and so we get programs done. We did last year too, programs for the Caribbean, the region. Midwives of the region. We did the healthy baby program. Through funding with the international funding agents. True Ministry of Health did help us in bringing in the models and thing that we needed exempted from vat and charges, so they did help" (RR4).

External influence using PAHO, WHO, International Confederation of Midwives and John Hopkins hospital has assisted in training and technical guidance for development, including HR recruitment. It goes deeper than a top down approach where policies or rules and regulations are imposed on the group but rather there is collaboration and sharing of ideas as well as international exposure. RR12 explained that technical guidance was needed to assist the MoHTT in changing its strategic plan to a perceived needs-based model when dealing with patients. RR12 explained further as health sector reform became a national priority that TT government sought assistance from PAHO to develop the quality agenda between TT and PAHO resulting in appropriate training and support to assist in the implementation of a quality agenda:

> "Ministry of Health strategic plan was based on what we called the perceived needs model because ... one of the things is ministry in Trinidad works a lot with PAHO and PAHO works a lot with us on the quality agenda so that all the training and what not PAHO and us… in terms of getting the right consultants to come in and to do the training and what not" (RR12).

RR1 reflected that PAHO and WHO provide leadership on human resources for health leading to international cooperation to recruit outwith TT and even the Caribbean:

> "PAHO and WHO really of course put a focus on the human resources for health and one of their major recommendations was that there be dedicated focus on looking at and planning for human resources for health ... partnering with other countries, well some of it has already been in place like the recruiting of persons from Cuba and the Philippines and to some extent from within the Caribbean and so on and that is mainly done through our international cooperation then" (RR1).

The other beneficial aspects of international input were the ability to train and qualify to apply for quality initiatives like the 'Clean Care, Safe Care' and 'Healthy Baby' programme:

> "The other thing is within the whole concept of quality and along with PAHO, Trinidad and Tobago has signed up to be clean care safe care ... and Trinidad and Tobago had signed up to it… did a pilot and they continue with it as a result of that there have been a whole different approach to hand washing" (RR12).

The shows the positive impact that external influences can have on internal operations within a health system. Further, RR4 also mentioned that through funding they were able to take part in the 'Health Baby' programme which highlights the correlation between funding and access to international programs:

> "We did the healthy baby program through funding with the international funding agents. True Ministry of Health did help us in bringing in the models and thing that we needed exempted from vat and charges so they did help" (RR4).

The 'Clean Care, Safe Care' and 'Healthy Baby programmes were launched in 2005 and 1991 respectively. The latter programme was a WHO and UNICEF initiative introduced to promote and support breastfeeding. The former programme took a more direct approach and targeted the reduction of health care associated infections. Both ventures have a direct effect on quality and positively affect the Safe component of the IoMs STEEEP model. This in turn is beneficial to improving the health of mothers, babies and the general population. Other key informants focussed on opportunities for training and the benefits gained from external inputs. For example, RR3 described John Hopkins as a world class training hospital that provided training in the latest best practice guidelines on a variety of clinical topics:

> "'We work in collaboration with the Ministry of Health and world class organisation such as John Hopkins Hospital in United States" (RR3).

RR4 spoke of her organisation's experience and the opportunity to participate in the international space by participating in midwifery conferences across the globe in places like Glasgow, South Africa and Prague. She viewed attendance at conferences as an excellent opportunity for growth, development and learning:

> "We belong to the international confederation of midwives so belonging there again when there are conferences or anything we are privy to different activities, so we can send our members – ok there's a call for abstracts so you do your research send in your thing to present. So, we are presented at Glasgow in 2008, the … myself and three others we went and we presented then we went to South Africa last triennial the conference there and then we are looking forward now to Prague 2014 we're going to Prague" (RR4).

During the study, the researcher observed that many of the nursing staff, including some of the key informants, had been trained in the UK and many of them still used the UK as a performance or benchmarking standard. For instance, RR3 whilst speaking about her training and work experience mentioned that:

> "My background is registered nurse, I was trained in England, coming back to Trinidad after five years staying in England…and I know of good standards where I can compare Trinidad and Tobago with England, being trained over there...I believe that given our health system which is parallel to the UK, the women are satisfied on an average". (RR3)

This reflects the beneficial aspect of being in a former British colony and the associated legacy. Nevertheless, areas of discordance were identified with adopting elements of the British health system. For example, there were occasions where external inputs were not as beneficial as they appeared to be. Key informants mentioned repeatedly having to modify UK examples to suit a TT scenario. Despite TT historical inheritance of a British health system, Mills et al. (2002), RR12 highlighted that health care in TT was still organised on a legacy system whilst the British system had evolved and developed, RR12 remarked that:

> "One of the problems with the whole is that we were operating under the British system the British had married public and private … Trinidad had not been able to do that or even brave enough to attempt to do it" (RR12).

However, while the British health system had evolved and managed to merge public and private health and shift from professionalism to market structure, the TT had not been able to have the leadership to do so. Instead, based on facts explored under the section on Power, Culture and Conflict, TT had to resort to a hybrid mix, where RHA's were created with CEOs who would have had a more managerial or market-based focus.

5.3.4 Power, Conflict and Culture (PCC)

Power, conflict and culture were identified as three key interrelated and overarching elements that affect the TT experience of quality in health care. In general, this theme is unique to the context as it is shaped by the colonial history and background of actors in the health system. Therefore, Power and the interrelated elements of culture and conflict are universal themes identified as the missing link between the traditional model of quality and the model unique to the context of the study. This theme helps in understanding what the vulnerabilities are in TT maternal health systems and provides a partial answer to research question three.

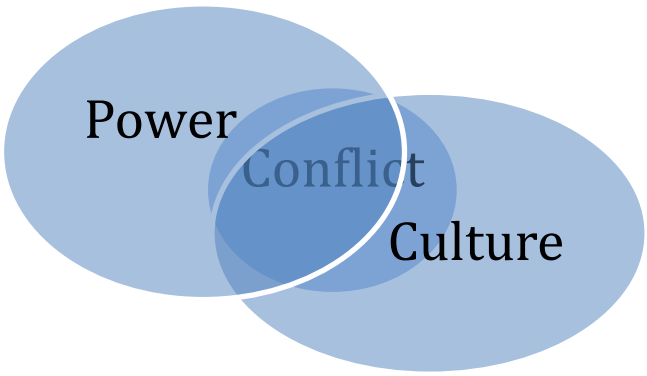

Figure 9: Interrelation of Power, Conflict and Culture

Power

Power featured as a strong theme in this context and manifested itself in several ways. As it manifested itself in status difference, political influence and clinical reach, power impacted on the way that decisions are made by providers and service users. Clinical reach refers to the ability to control and use resources. In the Trinidad context, there was a general view that doctors have more power in making decisions, which impacted on the women's care. For example, at least 50% of the key informants lamented lack of access to home births however if a woman wants to have a home birth the obstetrician has to 'sign off' for the midwife to perform the service. Therefore, it is neither the decision of the mother nor the midwives. Beyond the idea of reach and resources, this practice illustrates a strong patriarchal approach to delivering care. Again, this may be a residue of a colonial system. Another example is shown where,

the respondents illustrate that the obstetrician even has control over the behaviours of the midwives. RR8 when speaking about homebirth options in the public sector states that:

> "somehow a process had come into play, where the doctor had to approve it and so, they were having a lot of trouble getting there because the doctors were not approving it because they don't generally support home births" (RR8).

This seems to be more prevalent amongst the younger doctors as RR2 complained that:

> "what is happening in the system is that we have some young doctors that have very little experience ... They are not willing to sign off on home births of course ... they have to meet certain criteria. It reaches to the stage where the principal of the nursing school said she would sign off on it as long as they are eligible" (RR2).

In this case, the system is designed to empower the doctor in the health system which is supported by evidence in the literature (Scott 2000). However, the example may also point to the role and impact of experience on shifting this power dynamic. In the example above, the junior doctors seem to be more cautious in signing off on home births however, the principal of the nursing school seems to have a better understanding of this. Thus, guidance/mentoring could have an impact on health care. While the quotes highlight areas of conflict discussed, perhaps the most pervasive example highlighting this aspect of professional dominance is reflected by RR12 who stated that:

> "The head of hospitals was a threesome he had the nursing, nursing administration, ... and medicine and for some reason medicine was seen as the head of the hospital when in truth and in fact it was administration because admin was accountable for the funds and … so within the whole system of health sector reform an attempt was made and they have not been successful at that to have one head of the hospital however what they were able to do is have one head of the RHA so … a CEO for each RHA and then it was broken up into different things" (RR12).

This highlights the conflict between professionalism and managerialism. It also reflects the two other areas within the power aspect of the PCC dynamics. First, the status difference within the medical profession as the obstetrician has the final say over the nursing personnel. Secondly, it highlights the tension between the midwifery model (a more holistic approach) and the medical model (a very clinical approach). As a

consequence of this interaction with the power dynamic, nurses feel disempowered and women feel constrained by perceived status difference either based on economics, education levels or social status. Perhaps in response to the notion of power in general and patriarchal power in particular, attempts are being made by other organisations to empower women and midwifes as RR4, a senior member of a midwife's association remarked that:

> "We try to show them [the women] that we are quite normal we just having a baby and we women have done that for centuries without a doctor. So is a whole you know – trying to get people to understand and to get the culture that they would ask questions. So they could ask – [the] doctor why they have to come in for induction (induced labour) – why?" (RR4).

However, these factors continue to influence choice as the ability to exercise choice involves power as one of the key participants said:

> "We have a two-tiered Health Service: private and public, now people who have choice will make the choice and people who have no choice … go with the public. And people who don't have knowledge of what is happening in private sector like the queries (adverse outcomes) coming out of the private hospitals" (RR6).

This quotation further reinforces the social status of citizens and, as explained before, is based on the cultural perception that free health care is not good. Women who can afford private health care are more likely to exercise that choice to do so unless the woman has been advised by her doctor, an older childbearing family member, or this is a second pregnancy and she had previously experienced a good level of care from the public health care system. RR1 who also shared the views of other respondents noted that culturally the strand is quite clear-cut; women go either public or private. There is hardly any mixing of services: "I am really and truly because I think if people going privately, they going privately" (RR1).

The pertinent point is that economic power influences choice and those who are not economically strong have no other choice but to access public health system. This leads on to the aspect of clinical power which was a recurrent theme throughout this research and there was a strong linkage to some of the other subthemes explored. For example, conflict and power were interrelated but also existed in their own right. In the case of conflict, the one that has more power tends to have the advantage and

will be able to make decisions and act upon them as evidenced by the respondents commenting on the ability to offer qualifying women the opportunity to have home births. This is evidenced by the dominance of professionalism over managerialism and the conflicts that occurred during the health sector reform journey.

Clinical power also manifested and was shown to have an impact upon women's decision making because they perceived doctors to have more power than midwives and this resulted in woman being more likely to follow, without question, the instructions of her doctor. Here the cultural aspect of empowerment of our doctors is shown. Competing Agendas/Logics in the form of political differences and ideals are also presented as points of contention and conflict, for instance the current administration/political party having the say and the ability to influence outcomes. At the time of the study the incumbent Minster of Health made a statement of 'One CXC [an ordinary level subject] and a passion', as a response to addressing staff shortages. The reasoning behind it is not clear but potentially it would give access to employment for more of his party supporters or political support base. This highlights the potential influence that politics can have on decision making in the health sector. This is one aspect of politics that affects the power construct as supported by the literature.

Conflict

Conflict is interrelated with power and can manifest itself in many different ways. The following areas of conflict were identified: professional conflict, political conflict, generational conflict. Professional conflict relates to status differences whereby certain categories of health professionals did not appear to recognise the value of other health professionals. It is also related to the way pregnancy is viewed, either from the medical or nursing model, in comparison to the midwifery model. One of the members' stated medical/nursing model treats pregnancy as an illness whereas the midwifery model focusses on care and wellness of the woman who is having a normal pregnancy.

Conflict was also reflected when viewing the public/private sector relationship as shown in the difference between the public sector and the private sector, the level of trust and confidence that exists between the two parties especially in terms of who benefits from the relationship and where the value for money is; is it mutual or is it a one-way process. RR1 spoke about this by saying that:

> "We still need to do some more work with private sectors … not just we talk very much about public private partnership but so far I think those are worth more to the advantage of the private sector and it's really they look at it more from a financial aspect we need for them now to look at it from a systems improvement aspect and how we can really have public private partnership that benefits the citizens of Trinidad and Tobago. Not private hospitals or whatever, probably … we keep that in mind that you're a profit-making body but ultimately the care system that benefits the citizens and right now I don't think it's working to the citizens' advantage neither to the public sector advantage" (RR1).

For example, doctors did not respect the nurses or young medical staff and displayed arrogance in the workplace:

> "There must be professional respect for the profession of nursing and midwifery" (RR2).

> "There is the underlying issue of young professional attitudes. Young doctors are arrogant and think that they are too educated to do certain tasks or behave in a polite manner to other staff" (RR6).

> "For some reason professionals always feel that they way above everybody … one of the challenges that they have in the health sector – to get people to work as teams and to get these doctors to get off of their pedestals and come down to earth you know" (RR12).

Another example of this is the constant tension of who is in charge; the administrators or the clinicians. This is reflected in the dominance of medical professionalism over managerial professionalism that is still evident in the TT health system. Phillips (1996) observed the professional dominance of doctors in her research study. This was also viewed as status difference where a non-clinical or clinical person or a person of lower academic status (could be social economic or social demographic) may not challenge or question a clinician. Within the health profession, some staff may consider themselves to be at a low status and they appear to have long-term grievances that have not been resolved. RR3 lamented that:

> "Nurses/midwives are at the bottom of the compensation ladder and it's a historic injustice that needs to be addressed" (RR3).

Another aspect of professional conflict as RR12 indicated is that due to the stress of the job clinical indifference can occur where clinicians become immune to individual patient needs. The day to day pressures of the job has a numbing effect and normalises distressing situations. This affects overall experience of patients and

negatively impacts patient satisfaction. Similarly, RR2 reflected on how the caring appears to have gone out of nursing and there is a perception of nurses doing a job for money related to clinical indifference:

> "We have the aging population of midwives running all the institutions, the maternity unit here we have the aging population running the units although we are supposed to be a teaching hospital. In the community, I have nurses as much in their 70s I'm running ... this is what it is, over 70 I'm running the clinics and I cannot send them home because they are needed, they must ... I need my midwives" (RR3).

Evidence of political Influence manifested itself in positive and negative ways. There was positive reflection as RR1 said the:

> "Ministry has a strategic plan; they had a business plan and with the change in the government administration a strategic plan was developed based of course on the government's priorities … what's working for that is that I believe we do have the political will for improvement" (RR1).

This quotation reflects on the willingness to facilitate change despite having a change in political administration. There is still continuity of focus on health sector reform. RR3 alluded to prioritisation of funding and remarked that funds are allocated according to the hierarchy of the needs determined by others in the ministry. This clearly shows the level of powerlessness that some health staff experience and is supported by one of the senior members of the Ministry of Health who indicated that quality is just one component of heath care and other aspects may take priority over it:

> "The ministry has a duty towards so many aspects in health and health quality is one aspect so they would have now to divide the cake or share the cake based on their ability to prioritise" (RR11).

One of the key informants said that some of the nursing staff felt that they had no power to influence outcomes and were frustrated by factors out with their control which affected the outcome of a situation. There have been expressions of perceived powerlessness linked to notions of power to influence outcomes. For example, nurses expressed being frustrated by the system, as some of the changes necessary for improvement were out with their line of control:

> "One of the challenges that arose from that in Trinidad in particular was that there were a lot of issues affecting patient centred care that was not under the control of the nurse and because of that and the other people not understanding what this thing is all about that you found that we were not achieving what we call quality care regardless how dedicated, how committed and even when the tools were used, the nurses were getting frustrated because they said, the tools showing up what they knew already" (RR12).

Generational Conflict was discussed by many of the key informants whereby they viewed age as a point of contention. Here examples were made that related to decisions and attitudes about breastfeeding by young mothers compared to their mothers; young mothers were viewed as being immature and RR3 felt that young mothers treated their babies as toys:

> "Nowadays the mothers are young. Pretty young-ish and they don't want to know about breastfeeding … The baby's a toy to them, the baby is not like a human baby, a baby is a little toy. In my opinion, we have not made a dent into breastfeeding in Trinidad and Tobago … Although we came from a background where they ... [It was the default]: ... come on, the mothers you have to breastfeed because things were not as cheap, so you know you are sure that your baby will be getting everything" (RR3).

This reflects the rise in affluence in society and the changing in value systems. In previous generations the buying of formula milk would have been expensive, and therefore, women had to breastfeed. Today, formula milk is more affordable and, in addition, some mothers may choose not to breastfeed for a myriad of reasons including economic, personal and family pressures. Family pressure was identified by participant RR3 as being a reason why a mother may not breastfeed exclusively:

> "If we do a child health clinic it will reflect on the child health clinic and you're preaching breastfeeding from antenatal day one, postnatal, but there is a grandmother, there is the auntie, the uncle, the child crying in the night, the child crying, they would be there not supporting breastfeeding and say to the mother 'give your child a bottle" (RR3).

Generational conflict was identified within the health system as all of the respondents complained about the attitudes of young doctors. They were seen as being more arrogant compared to older or more senior doctors.

Culture

As TT is a plural/multicultural society, the decisions made are strongly linked to cultural identity. TT is also strongly faith based and connected to religion and the associated value constructs. Culturally, individuals experience the health system from their philosophical view point, which is entrenched in a patriarchal context where the man is deemed as in charge. Thus, the male doctors are seen as 'all knowing' and maintain a dominant role (UN Women 2012; Momsen 2012). Many key informants reflected upon the linkage in helping women to challenge or question doctors. There are also oldwives tales amongst women in terms of normal day-to-day activities that the health care professionals dispel through group talks or one-to-one meetings with mums. This was observed during the researcher's visits to several antenatal clinics over a four-month period. At the start of each clinic session, a nurse/midwife would give a group talk to dispel pregnancy myths and to promote proper antenatal health.

The perception of free care as being of poorer quality was expressed:

> "So that is the perception so the health care is free it is no good to the hospitals free and they deliver but they would prefer to go to a private nursing home because somehow they perceive it have better care. I mean it's a perception that is cultural because it has been with us how long and it has just continued. So, we try to educate our mother that once you are normal – there's no problem – a midwife can deliver you. 88.8% of the deliveries done in the public institutions are done by midwives but they are outside they wouldn't know that unless they interact with the midwife department if they had a baby before or their aunt or their mother otherwise they come in and ok they heard some any horror stories about those public institutions you ehn going there at all you prefer to pay and go to a private one so we try to show them that with a pregnancy you not sick, you just happen to be pregnant and I'm the expert when it comes to that. So come to me, if I have a problem, I send you to the doctor – so save that money so it's I think we try to change the whole culture socialise them into another alternative. So that it's an option" (RR4).

This is complementary to what RR6 noted about the perception that public care was not good. However, if mothers were to examine and do research, they might come to the realisation that it is a suitable option. There were also social expectations around how people should spend their resources such as time and money. For example, middle class citizens were viewed to have more disposal income, private car ownership and pursue a particular lifestyle. RR8 alluded to this by highlighting the value system of mothers:

> “Can you afford formula? So, the thing about breastfeeding, you can buy formula, so I can buy formula and it’s funny because the people who can most afford the formula exclusively breastfeed. They don’t have to prove anything to anybody. So, that’s why you know, come back to what I say about education, we talk a lot about the benefit to you and the baby you’re breastfeeding and getting that information, that, you know, we think is really lacking to some people. That’s why I said, during your pregnancy, we talk, talk, talk” (RR8).

Cultural, conflict, competing myths, competition for what's acceptable, rights, rituals and practices staff respect and honour, refers to issues of aged midwives who are working above retirement age, or the nursing profession not being paid their dues. The issue of women working above their retirement age is a matter of respect and honour of the contribution these women have made to the health service. The notion that it is inappropriate and unfair to keep them working after retirement age might more be a cultural effect as opposed to what is acceptable or deemed appropriate:

> “So, although a very, very experienced there is a cut off age for you to go home and we must honour that and right now I have a lot of people who are 65, I'm not even talking about 60 to 65, 65” (RR3).

> “Time and training and then concerning the old habits sometime take little time. Concerning not having the kind of protocol in all the areas so now we trying to bring in operating procedures and protocol into all areas and all levels so it takes a little time for our health workers to understand there is procedures and protocols to be followed which is a bit of a cultural change that would be brought about but we are getting there. And there is a lot of cooperation from most of the heads of the departments and consultants that are on the wards. Trying to implement something with the doctors to bring about that kind of habit. It is still a lot of work to be done and they continue to do it. It is tedious and needs perseverance and I’m sure we will reach at least to some extent” (RR10).

> “The importance for keeping antenatal clinic appointments and so in fact in our culture in Trinidad so you know in our culture that people feel like they could go when it is convenient ... so we try to show them the importance of keeping the antenatal appointments so we could monitor the growth to the baby” (RR10).

This shows the interaction between power and culture:

> “As the midwife if we encounter or foresee a problem or recognise a risk we refer you to an obstetrician. Because we have the culture in Trinidad that we have to go to a doctor and they go to a GP who can’t help them when they pregnant so we try to educate our clients but I think it is one of the main things in Trinidad it is to get women empowered and aware. They need to know. This is what we try to do so we let them know that they have choices so not because the doctor say you have to come and have a section that is so – you have to know why he say I need to come and have a section” (RR4).

There is a strong culture of caring and nurturing, especially for mothers and babies. On many occasions very endearing language was used by health care professionals (HCP) when talking about their interactions with mothers: “Mothers are special” (RR3); “… this precious baby” (RR12). These expressions were also used when describing how care is provided for the mothers. This trend resonated with many of the HCP especially the ones who were directly involved in the provision of care. This is based on cultural heritage as many Trinidadians have an African and East Indian heritage and their love for life as noted in the Happiness index rated Trinidad and Tobago as the happiest country in the Caribbean (ranked 28 out of 136 countries in experienced well-being) (Happy Index 2014). Many of the key informants spoke about the love of midwifery and caring for women and their babies. The use of language by RR3 shows this sentiment; she referred to mothers being special, and the efforts made to ensure that they receive the best care possible, despite resource constraints:

> “Antenatal mothers are very, very special people and we try to treat them special … So that is one of the gaps, a big gap because antenatal mums need to be monitored, you know, we understand … But we at least try to visit the mother which can be so hard, once in her pregnancy, because we need to see her environment, we need to see where you're coming home with this baby, we need to see where you are living in order to advise you on the safety because it’s very important ... because we are there for you and you have to work with us including your family” (RR3).

This extended to staff as well as patients. RR1 described how they designed programmes to assess health care professional needs and what could be done to make their environment better. The belief is that if the staff are looked after then this would help to reduce customer service complaints:

> “In order to design the program, we really wanted to get from the people themselves – the health professionals, what their needs are. Because we always look at and it is really something to address – we always look at it from the client side, but no one has really been looking at it from the staff side who has to deliver the service and why in spite of all this training and all this whatever you still having issues with customer service. Some of it we know – lack of resources, shortages of staff, but really what are some of the other factors that are influencing it that we are not aware of” (RR1).

This following is incident showcase a positive outcome that started after an adverse outcome. This involved a case of a mother who had an adverse outcome of a neonatal death during her first pregnancy. Following a thorough investigation, review and

recommendations; the mother became pregnant again and decided to have her second child delivered in the same public institution. The following account by RR12, who was intimately involved in the case, highlights a few of the culturally specific idiosyncrasies, religious belief, person centeredness, caring, love for babies and empathy. It also shows strong evidence of accountability in this case as advocated by Hulton et al. (2016):

> "We contacted the neonatologist she's coming in on such and such a date and this is when she is having her section and she came in ... God was on our side and she went in and she had the baby, and everything went alright the neonatologist went in the theatre to receive the baby because he said this is a precious baby we can't let her go through that again. And she had the baby and she was so pleased. She called us and say she had the baby and she was pleased" (RR12).

Culture can also shape lifestyle choices, especially in terms of nutrition and diet. All the HCP spoke about this as the country and the region has a high incidence of chronic non-communicable diseases that are directly linked to nutrition (CSO 2011). RR3 and RR1 also mention the consumption of popular foods and the growing trend towards consuming high carb, high fat foods which might be economically cheaper, but not better.

Several HCP, including RR4, also spoke about cultural myths about pregnancy that they educate women about. This theme featured throughout the course of this study. I observed antenatal clinic sessions whereby the midwife in charge of the clinic offered advice relating to appearance, treating minor discomforts and general coping skills to carry on their usual day-to-day activities. RR4 also confirms the depth of information and advice by saying that:

> "We teach about the minor discomforts of pregnancy … perception of illness minor discomforts and they so sick they can't go to work and then can't go to work next thing you know they lose their job so this is what we teach them – minor discomfort – perfectly normal" (RR4).

RR4 also spoke about the taboo of sexuality in early pregnancy where it is felt that the man will injure the unborn child and they counteract this through education via videos and shows reassuring the woman of safety and also of maintaining a good marital relationship. RR4 also focus on the word of mouth sharing of experiences so that

women can educate their female relatives. Alrubaiee and Alkaa'ida (2011) discuss issues of patient satisfaction and the effect on families.

5.3.5 Reflection on the Theme: Power, Culture and Conflict

Upon reflection of this universal theme, the researcher initially viewed this as values, mores and norm. Considering whether this category is concerned with values and norms or is it concerned with culture, of which values, mores and norms are an element of culture. There was tension in naming this category as values, mores and norms; however, these are each a feature or a version of expectation. There is a hierarchy where there is power and there is expectation (these two things are aligned together). As Habermas (1984) explains in his Theory of Communicative Action; there is a distinction between values and norms whereas a norm is an expectation of behaviour, a value is not a norm, and it is a candidate for a norm. So, if a norm is violated, there will be a sanction but if a value is violated there is not necessarily a sanction. It can be argued that these could be combined as culture, power and conflict because they are very closely related. Also, to exercise power – culture has consequences and influences and culture and power are very closely linked because they can only have these consequences if there is the power to enact them. Thus, consideration was taken to look at Power as a multidimensional construct. So instead of Values, Mores and Norms, the theme was called Power, Culture and Conflict.

Grint (2010) defines power as the ability to get people to do something that they would not ordinarily do on their own. He utilises Etzioni's (1964) typology of compliance which distinguishes between three kinds of power or compliance: Coercive or physical which is the hard form of power and is related to institutions like prisons or armies; Calculative power related to institutions such as companies; and Normative power which is related to organisations or institutions based on shared values, such as professional societies and clubs. Power has different manifestations, including norms, which are at the softer end and norms are also a constituent of culture, so power and culture are clearly related. Grint (2010) further explains that this typology of compliance is a good fit for the typology of problems in this case. The problem is how to address the quality deficit in the TT health sector. The view is that critical problems are often associated with coercive compliance; tame problems are associated with calculative compliance and

wicked problems are associated with normative compliance. Therefore, people cannot be forced to address a wicked problem because the nature of the problem demands that followers have to want help.

Chapter 6. Analysis and Discussion II

6.0 Introduction

Chapter 4, Bridging the Gap: The QUALITT Model, explored the development of the enhanced model for quality referred to as the QUALITT model. Chapter 5, Analysis and Discussion: Emergent Themes, discussed the emergent universal themes from participant interviews, namely 'external' and 'internal' influences and 'power, conflict and culture'. This is the overarching structure in which the model is framed and defines the meaning of quality within a Trinidad and Tobago context. These themes are interwoven throughout the study; particularly within the broader subject themes of structure, process, and outcome. As Donabedian (1966) explains, structure, process and outcome (SPO) are interconnected and each contribute to the overall success of the health system. These three entities (SPO) are useful for defining quality in practice in the context of the respondents and this is summarised in Table 9. This chapter will also focus on answering the research questions on delivery of maternal care and identifies the prevailing challenges/constraints facing policy implementation.

Following on from this, the third section addresses the research questions related to the 'process' element of the model of quality framework. This includes the methods and practices through which maternity care is delivered in terms of provision of care and experience of care. This section takes into consideration the relevant aspects of the IoM model of quality that is embedded within the framework and refers to subthemes, such as access to health services (barriers and facilitators); empowerment and participation; organisational change; approaches to quality; quality in action and trust and confidence. The chapter concludes with a discussion on outcome whereby outcome is defined as the results of the structure and process and areas of convergence or divergence with prevailing results. It seeks to answer the research questions concerned with the prevailing challenges/constraints facing quality implementation and suggests ways in which these challenges can be addressed and the efficacy of prevailing models of care in a Trinidad and Tobago context.

Table 9: Defining Quality in Practice - Structure, Process and Outcome

Major Themes	Definition of Quality in Practice
Structure	The system in place that allows quality to be implemented. It can be at the macro, meso and micro levels as health care does not exist in a vacuum. For example, there are supporting structures including the political, infrastructural and economical aspects. This is adopted from the model and comprises several sub themes. The sub themes associated with structure includes human resources, access to health services, health system strength, cohesion, organisational change and rules, regulations and policies.
Process	The process through which maternity care is delivered in terms of provision and experience of care taking into consideration relevant aspects of the STEEEP model of quality that is embedded within it. The sub themes associated with this part of the model are access to health services, empowerment and participation, organisational change, quality: approaches and context.
Outcome	This shows the results of the process and areas of convergence or divergence with prevailing results. The sub themes are achieving quality, trust and confidence further define this theme.

6.1 Structure: Access to Health Services: Barriers and Facilitators

Structure refers to the systems in place that allow quality to be implemented and acts as a framework, which is either an enabler or obstacle to all subsystems and systems at the macro, meso and micro levels of health care (Nelson et al. 2008). These levels refer to supporting structures that includes the political, infrastructural and economical aspects of any health care system.

A useful comparison for understanding 'structure' is to draw an analogy between the health care system as the skeleton of the body with structure being its lifeblood. Nelson et al. (2008, p.233) employ a similar analogy to describe the nature of systems and states that:

> "It is the nature of systems to contain systems and to be embedded within systems. The living cell is a system and together with other cells it forms organs, and organs form the human body, and humans form families, and families form communities – all systems".

Nelson et al. (2008) explains further that a health care system can be viewed as a set of concentric circles with smaller systems embedded into larger ones and with the individual patient at the centre of the health care system (the innermost circle). Berwick and Luo (2010) express the importance of having a systems approach for health care reform and overall improvement in health care.

6.1.1 Health System

Diverse definitions of the term 'health system' exist and experts agree that this term is highly contested. However, in a comprehensive review of the concept of the health system, Hsiao and Li (2003, p.5) proposes a cumulative definition of the term which includes the notion that: "a health system is defined by those principal causal components that can explain the system's outcomes. These components can be utilized as policy instruments to alter the outcomes. It also encapsulates the World Health Organisation's (WHO's) description of the boundary of the health system as all activities whose primary purpose is to promote, restore, or maintain health". Inherent in the former definition is the notion that the causal components - in this case - structure and process influence the system's outcomes. Thus, this study, uses a broad definition of a health system which includes a holistic and systemic focus.

Another aspect of conceptualising the notion of a health system is the need to ensure its viability and sustainability - what is referred to in the literature as the strength or weaknesses of the system. A useful framework proposed by the World Health Organisation suggest that there are six 'building blocks' for the purposes of defining desirable system attributes, for prioritising and identifying gaps in support. The 6 pillars include:

1. Service delivery: Good health system (effective, safe, quality care, minimum waste of resources);
2. Health workforce (responsive, fair and efficient in sufficient numbers);
3. Information (ensuring the generation, dissemination and use of reliable and timely information on health determinants, health system performance and health status);
4. Medical products (equitable access to essential medical products … of assured quality safety, efficacy and cost-effectiveness with scientifically sound and cost-effective use);

5. Financing (that ensures people get needed services, with protection from financial catastrophe or impoverishment and incentivises providers and user's efficiency;

6. Leadership and governance (for effective oversight, coalition building, regulation, attention to system-design and accountability).

The World Health Organisation (2000, p.7) view these six pillars as a systemic entity. However, many of the QUALITT components overlap with these 'pillars', although some of the pillars are more prominent in the context of this discussion. The components of the building block are an eclectic model of health systems strengthening. Whilst the health system strengthening model may consist of essential elements of health care, there is no consensus as to their meaning (World Health Organisation 2006). Hence, the researcher utilises the components of the QUALITT model and combines this with the voices of key informants and the results of the maternity survey and uses the pillars as the lens for the discussion. A full assessment of the TT health system using the six building blocks for health strengthening should be the focus of future research activity.

The first pillar service delivery is closely aligned to the quality dimensions of safe, effective, equitable (those who need it rather than who has the ability to pay) and efficient (not wasting resources) features of the QUALITT model. The themes discussed within this pillar are access to health services and, to a lesser extent, organisational change. Service delivery is also relevant in the process component of the QUALITT model and this will be discussed in the section on process.

6.1.2 Dynamics of Public Private Health Access

As explained in Chapters 1 and 2, the TT health ethos is universal access and consequently free health care is a democratic right for all nationals. RR2 indicated:

> "So we must remember do not turn away any patient, we see each patient even though they may eventually go private, it might be the weekend, it could be an accident and emergency case ... we advise them and the staff there are educated enough not to turn away any patients, which is important".

Although citizens have free access to care, if they have private health insurance, they may not use public health care as part of their care pathway because it is seen as a

second option for those who can afford private health care. Alternatively, citizens from more deprived backgrounds have no choice but to use public health service exclusively. Overall, primary health care centres are located strategically, and women and their families can easily access these facilities for antenatal care. Most informants agree that there would always be that interplay between public and private health care access. This view is substantiated by the results of the maternity survey; 57% of women had visited their private GP before joining the antenatal clinic when they had first thought they could be pregnant. This high percentage also reflects that sentiments of the midwives related NGO informants who mentioned that culturally women preferred their first contact point for health care to be their GP.

Furthermore, informants promoted public primary care and secondary care institutions as the preferred provider compared to private health care since they considered it to be safer because there was usually a higher level of expertise and greater accountability. RR6 remarked that:

> "There is a perception that private health care is premium compared to public health care when at times the quality at the public health facility is actually better than the private as there is more scrutiny, regulation and accountability in public" (RR6).

This statement has serious implications for the provision of health care as a whole as the private sector care contributes to the provision and delivery of service in the health system. Additionally, private sector care is regulated by the Ministry of Health, so this statement implies that there are gaps in the regulation process. RR1 raised a further concern about the private sector:

> "We keep that in mind that you're [meaning private sector care] a profit-making body but ultimately the care system that benefits the citizens and right now I don't think it's working to the citizens' advantage neither to the public sector advantage" (RR1).

Here RR1 is reflecting that the private sector is operating from a profit maximising mode beneficial to them but not beneficial to the health system and the patients. See Section 6.1.7 on cohesion for more details about the public and private sector.

6.1.3 Facilities or Equipment Improvement

Overall, the facilities visited appeared to be of a good standard. Although, it should be noted that this is a subjective opinion because the researcher is not a facilities expert. However, one interview with a key informant took place in a building used to train nurses and this was in a dilapidated state with parts of the ceiling hanging down and overall the building was visually unappealing. The researcher reflected in her notes that nurses were being trained in poor conditions. In fact, RR4 mentioned that:

> "The conditions that health workers have to operate in is appalling" (RR4).

Further, while visiting another antenatal clinic, the senior nurse indicated that over 3 years ago the building had been earmarked for demolition and rebuild but, to date, no work had started. In the interim, they had redecorated the building and brightened up their working environment. Although this was a good gesture is not an ideal situation as the RHA body is responsible for facility improvement.

In terms of equipment required the two main clusters (AHF and CHF) indicated that they needed specific equipment in their provision of antenatal care that was lacking. One example was the insufficient numbers of foetal dopplers (this is a monitoring device used to listen to foetal heartbeat). This led to competition for the device and, at times, had caused unnecessary conflict and delays in monitoring pregnant women. At another main centre, that had high volumes of women and clinic visits, there was no ultrasound services situated within the antenatal clinic. RR3 indicates:

> "Most of our health institutions in Trinidad, especially health centres, are old and obsolete, so I mean, we don't have, like for instance where I work I do not have an ultrasound unit, don't even have a machine although a few people were trained in the field" (RR3).

Women who can afford to pay for an ultrasound will go to the private labs and those who cannot pay must wait for an appointment, which may or may not take place before the birth of the child. This touches on two aspects of quality in terms of safety, equity and efficiency. Safety is compromised as there is a delay in getting a scan which is important for monitoring the health of the pregnant woman and unborn child. Equity is affected as the ability to get a routine scan has now become a merit based on socioeconomic condition. This is a case of where quality can be compromised; there

are delays for a woman being scanned and efficiency is affected as this delay implies that the system is constrained from delivering a service.

Choice in birthing options was affected by several factors, including facilities, equipment and policy. This is connected to access as it relates to provision of service delivery. Some facilities, by design, cannot physically accommodate the presence of a birth partner. RR2 noted in her requirements for improvement that: “we would like to have a first stage birthing room”. Women are also required to go their closest primary health facility based on their address and this normally determines where they deliver their baby. This is related to policy and practice and presents an opportunity for review.

Service delivery of emergency care was mentioned repeatedly by informants. Five out of the twelve informants spoke about the challenges involved in providing acceptable levels of care. Most respondents mentioned emergency care as needing attention and also referred to improvement projects in those areas. They were also able to demonstrate the use of the client feedback system in helping to reduce the long waiting time for patients. The way in which antenatal care is designed in TT pregnant women may present at Accident and Emergency (A&E) outwith antenatal clinics due to A&E’s longer opening hours. However, if waiting times are too long, this affected patient satisfaction and could potentially affect safety.

6.1.4 Human Resources

If ‘structure’ acts as a skeleton, then HR functions as the lifeblood of this system. In any system, there is a need for a workforce and a key element to a successful health system is a skilled workforce. The literature has identified HR as a critical resource, which globally has been identified as one of the key problems currently facing health care. The country cooperation strategy on Trinidad and Tobago reported that deficiencies within the health care workforce was a major concern:

> “…major challenges are present in the current health system, which does not have a health workforce that corresponds in quantity, competencies, and quality to the current and projected health needs of the population, due to inadequate strategic human resource planning” (World Health Organisation 2006, p.10).

Further, HR challenges affects different countries in different ways, for example, in the UK there is a shortage of nurses, while in the Trinidad there is a shortage of midwives. In addition to staff shortages, there are two other critical elements which impact on quality from a structural perspective, namely push and pull factors and a training/career path; these will be discussed in turn.

Throughout the study resource constraints in the form of understaffing, midwife shortage, aging midwifery staff and 'brain drain' were articulated by most of the key informants. In particular, Both RR2 and RR3 spoke repeatedly about the shortages in nursing staff and, in particular, midwives as RR2 emphasised that:

> "We are in dire dire need of staff, particularly midwives" (RR2).

RR3 echoed similar thoughts:

> "We need to have staff increased in midwives; we are grossly, plus, plus, plus understaffed as far as midwives are concerned" (RR3).

In her case the understaffing was compounded by aging midwifery staff as she compassionately said:

> "We have the aging population of midwives ... the maternity unit here we have the aging population running the units ... In the community, I have nurses as much in their 70s ... I'm running the clinics and I cannot send them home because they are needed, ... I need my midwives" (RR3).

This staffing shortages were also supported by RR1 and RR7, where RR1 acknowledged that:

> "One of our critical things is that we are short on are midwives and registered nurse midwives" (RR1).

Other human resource concerns were the 'push and pull factors': 'pull factors' are what can be done to attract and retain local and international staff and 'push factors' examine the reasons for staff moving away from the public health care system. The 'pull factors' encompass making the TT health sector market attractive to other countries, which has been successful with the recruitment of doctors and nurses from Cuba, Philippines. While acknowledging that human resources shortages in health are a worldwide phenomenon RR1 indicated that:

> "Depending on how wealthy you are sometimes you can afford to pull people out of other countries ... We can't necessarily compete with the US or England or Saudi Arabia in terms of compensation" (RR1).

The 'pull factors' that makes the TT health sector attractive to other countries helps to offset the effects of the 'push factor', whereby TT health workers move to other countries with more attractive compensation packages. Another issue related to compensation is that nurses are pegged to public service wages and this is less competitive than private sector wages and the wages in developed countries:

> "They are not satisfied with the award given to them so the award is a big issue they always feel that they should not be ... hinged to the public service the civil service compensation plan ... so the registered nurses feel that they are under paid" (RR7).

Further, RR1 explained that with regard to:

> "Pharmacists - while there is not necessarily a national shortage there is an issue in the public sector in being able to hold on because in the private sector ... the compensation is almost double in private sector and its less work" (RR1).

The movement of staff from public sector to the private sector as mentioned in the case of pharmacists was as a result of better compensation packages in the private sector. Similarly, the movement of staff from the public to private sector has been identified by researchers in health workforce in developing countries as a challenge facing the public health sector (Hongoro and Normand 2006).

Health workforce management need continued attention and focus as services need more personnel, in particular midwives. Training needs to be changed so that there are more midwives in the system. RR2 bemoaned that:

> "In primary care there is double training to be a midwife, as women have to train as a registered nurse before training to be a midwifery. If the certified midwife programme is used there will be more midwives in the system, shorter training times. It is critical" (RR2).

Historically, there used to be a faster training track to become a midwife (certified midwife programme). A change in training policy and practice is required to reduce the time it takes to train to become a midwife. Further RR7 has indicated that even though nurses are being trained the demand for nurses still outstrips supply because of

inherent constraints of class size capacity, limited number of nurse training schools and lecturers within the health system. RR7 said:

> "There are limited training capacity in Trinidad and Tobago and the capacity will include the 1) the demographics and 2) the institutional capacity in terms of the building and the accommodation so to speak and then the human resource capacity in terms of the teaching. The lecturers those are very limited these are the reason why we have limited training capacity" (RR7).

Following on from this, informants indicated that apart from dissatisfaction with salaries there should be career paths within nursing and midwifery. RR7 and RR2 indicated that nurses can do post graduate courses; however, upon completion they are often returned to their substantive pre-training job roles. While multi-skilled staff add value to the health system. Therefore, it is important that highly trained staff are compensated monetary or otherwise for their development efforts. In response to the diverse range of human resources challenges a Human Resource Planning Unit was formed in 2009 to address some of the challenges as senior HR manager, RR1 indicated:

> "Our unit is responsible really to looking at the health sector needs of human resources to health and that's not just in the public sector, but in the private as well and we strategising on how we can meet those needs whether it be through education and training, partnering with other countries" (RR1).

This unit is responsible for recruitment policies, training and retention. Informants have also advised that there needs to be a rethink of training policies and planning to meet the HR health needs. At the senior level in the Ministry of Health, a senior manager, RR11, held the viewpoint that a realistic approach must be taken given potential constraints and that people should work with what they have hoping for a good outcome. RR11:

> "Trying to see how best we could improve the staff there is a way, but we have to look at the resources aspects of it … we should not be all the time pessimistic about not having enough staff. The best thing is to do what we could do with the given situation. The best at what we can do but always aspire and look for better staff and one day probably get the right kind of staffing balance" (RR11).

This viewpoint was an exception to the opinions of the other informants. The variance in viewpoints reflects what Hongoro and Normand (2006, p.1309) summarised as: "the causes of health HR problems in developing countries are complex and attempts to

address them must reflect this complexity". Organisational change is fundamental to addressing some HR issues in health and the introduction of TQM should follow with change management and address the human issues in change. The next section details this aspect of change management as quality and its associated programmes are implemented in the health system.

6.1.5 Accountability and Ownership

Accountability and ownership are aspects of responsible governance and leadership. The Ministry of Health has the adverse events policy administered throughout the RHAs that is used to manage cases where patients have experienced negative health outcomes. RR12 whilst describing her experience of implementing the adverse events programme across the RHAs said:

> "We will tell them what is an adverse event and how to recognise missed-events and to create a culture which is kinda difficult because it has to come from the top; a culture in quality, quality has a no blame culture, we don't blame anybody for anything. … But we operate from the premise that 80% of problems come as a result of the system. And 20% is the people" (RR12).

This quotation carries several ideas and value systems associated with implementing quality within an organisation (Berwick and Luo 2010). The first stage is training and education; the next stage is to integrate the adverse events philosophy as part of everyday work. RR12 reflected that implementing quality is difficult if there is no buy-in from the top alluding to a top-down management approach. A key feature of quality is to operate in a blame-free culture, and utilise a systems approach, for example, RR12 indicated that within a system 80% of the problems are systemic and 20% are based on individual action. RR6 also emphasised that:

> "But once, we are blaming and we are excusing, we ain't going nowhere, because if you blame me, I find another reason" (RR6).

This points to the futility of operating in a blame versus gain environment. Informants also spoke about leadership, especially from upper management leaders. RR5 viewed lack of support from upper management as a challenge by explaining that:

> "It would mean that all level to seek to get all the key stakeholders on board then it would be less of a challenge on the whole. Once that is accomplished quality would move forward ... mainly we are talking about departmental heads

> and upper management those would include those in the field come right down. ... to get buy-in to senior management to quality in order for it to filter down throughout whole organisation and right now that's a challenge. That is one of our main challenges [emphasis in voice]" (RR5).

Many researchers advocate that quality must have leaders and management involved (e.g. Joss and Kogan 1995; Minkman and Huijsman 2007).

6.1.6 Rules Regulations and Policies

Responding to the contemporary nature of the study, many of the senior midwives recommended that amendments be made to Nursing and Midwives Act as it had some archaic regulations, especially referring to the midwife as 'she' with the implication being that only women can train as midwives. This Act has since been amended to be called the Nursing Personnel Act 2014 and in August 2018 Trinidad recruited its first male midwife. This is a progressive step for governance. It shows the impact that lobbying and pressure groups, such as nursing and midwives' associations can have on the health system. Other legislation that govern how the health system work is the Private Hospital's Act and the Patient's Charter, rights and obligation.

6.1.7 Cohesion: How Organised or Disorganised Activities are

Cohesion is connected to co-ordination; it is the organisation of actions and processes. Cohesion is a bigger term than co-ordination and includes identity, culture and purpose. Some researchers combine cohesion with collaboration and communication. Shoebridge (2015, p.1) says that: "health care environments require operational staff to work in accord with care providers, but this teamwork sometimes can be difficult to achieve". They suggest that to have successful cohesion health organisations need to establish partnerships, build two-way dialogue, establish allies, act and learn from cases studies. In this way they can understand how disjointed activity can stick together, co-ordinate, if possible, and have a shared purpose. However, cohesion is fundamental and throughout the study the non-clinical informants who were heavily involved in planning mentioned the lack of cohesion in the health system. RR4 stated that:

> "Governmental/Political governance is lacking in terms of the direction for health lobbying at International levels. Implementation of conventions that were agreed to, like baby friendly hospitals, cancer radiation standards have not

> filtered down or complied to. Lack of cohesion in activities within health. Other groups are doing it, however, health seems not to get everything together" (RR4).

This is also reflected in coordinating research activities within the system RR1 in preparation for the ten-year manpower plan to address HR issues for the entire sector observed that:

> "To really get information in terms of what is happening with the HRH, what is outdated. Because while information exists it's not really pulled together in any cohesive manner" (RR1).

There were also issues of cohesion when considering public and private sector interactions and as discussed in previous sections. However, cohesion was viewed in terms of addressing variances in care expertise, availability of facilities or resources for special cases. However, even though they are regulated, at times, communication is not forthcoming. RR1 complained that:

> "We still need to do some more work with private sectors … look at it from a systems improvement aspect and how we can really have public private partnership that benefits the citizens of Trinidad and Tobago. … We pay off large sums of money to private sector to deliver care and we need to know what are the basket of services we want to offer in public and what the private sector can focus on and where we want to work together because there are some things private sector can work on … like maybe plastic surgery for aesthetic reasons as against if we want to use plastic surgery for burn victims or accident victim reconstruction" (RR1).

While the private sector might be in a position to offer specialised services, such as cosmetic surgery, questions surround who is benefitting the most from that relationship.

6.1.8 Information Provision and Training: The Gaps

Many of the informants reflected on an evidenced based support research culture in health education and, in particular, career guidance around health roles. This is a mix of a change in training as well as teaching potential health care professionals about the broad range of professions within health care, outside of being a doctor or a nurse. RR1 spoke about going to schools and sharing information about careers in health:

> "And really sensitise students that … it's more than nursing and just nurses and doctors in the sector and we try to emphasise a lot the allied health

professionals because that's an area where has not really had that great focus placed on them and they're part of the team" (RR1).

Sharing a similar sentiment, RR7 also reflected on her involvement in school career days where she introduced to different job roles in health. However, she opined: "the authorities give preference to medical staff and the nursing staff in terms of doing any career development planning." RR7 is highlighting the point that there is a bias towards certain job roles compared to others and it has been happening at a systemic level.

6.1.9 Reflection on Structure

The above section sought to address and answer two of the research questions: 'How are maternity services provided/delivered?' and 'What are the prevailing challenges/constraints facing quality implementation?' The results show that services are delivered through the primary health care with movement between the private and public sector, which is also common in other health systems (Kennedy 2010). There are more questions than answers about synergy and regulation of the private health system and what it delivers for the public health service. Key highlights are whether private sector is delivering value for money or not. Human resource constraints are also affecting the health system in various ways; the 'push and pull factors' need to be analysed with a comprehensive strategy for human resource retention and attraction as heath system structures are operating at a deficit, especially in terms of the numbers of midwives. The example of private pharmacy services poaching staff with higher wages and less work is a challenge. However, some of these issues highlight some of the challenges that emerge in the delivery of the health system. Utilising the 'six pillars' provided a beneficial platform for synthesising the findings within the prescribed model as each pillar is relevant for a maternity setting with medicine being the least represented by the model.

6.2 Process

This section answers the question on the experience of women's health care in TT: 'How are maternity services provided/delivered?' and 'What are the challenges/constraints?' This is defined as the methods and practices through which maternity care is delivered in terms of provision of care and experience of care taking into consideration relevant aspects of the IoM model of quality that is embedded in it.

It is also part of the QUALITT model. The sub themes associated with the theme, process, includes the barriers and facilitators to accessing health services; empowerment and participation; organisational change; approaches to quality; quality in action and trust and confidence. This section identifies the mechanisms of the system, describing not only the antenatal process, but also approaches to quality, which advance operationalising quality in the health service. The previous chapter defined quality as an experience of the actors in the health system. Next, this section will show the actualisation of quality as it is implemented and executed within the health system.

6.2.1. Quality: Approaches and Context (in Action)

Quality was developed in the TT context because of both formal and informal sector practice. As such, the approach to quality is coloured by many different aspects from a 'formal' top-down approach to grassroots, holistic, and bottom up approaches. Top-down is defined as an autocratic style where the Ministry of Health develops policies, systems and guidelines and filters this approach through the management structure of the ministry. Whereas, these approaches seem to be occurring at the same time and overlap each other, the top-down approach came as part of the drive for new Public Sector management and by extension Health Sector reform where the incumbent government consulted with international agencies and used: "quality as a vehicle to drive health system reform" (RR12). The grassroots approach is based on how health providers are trained, as most respondents indicated that everything that they were taught and practiced was based on standards; hence quality is recognised implicitly at the grassroots level. Anecdotally, RR13 reflected that the impetus of quality started with one individual doing a quality project and being recognised internationally for it as the impetus for quality in the health sector. This was substantiated by the fact that each respondent referred to this individual as the: "quality guru of health care in TT" (RR13). Disappointingly because of the high demand for her services and her being unwell I was unable to interview her.

Many of the respondents reflected on having a holistic approach when viewing quality and that it should cut across all areas of the health system, including all stakeholders.

In terms of having quality guidelines to deliver quality care where the quality departments advise other areas to make changes to deliver quality care. This also includes quality training for all staff and sensitising staff clinical and non-clinical about quality.

Quality in Action

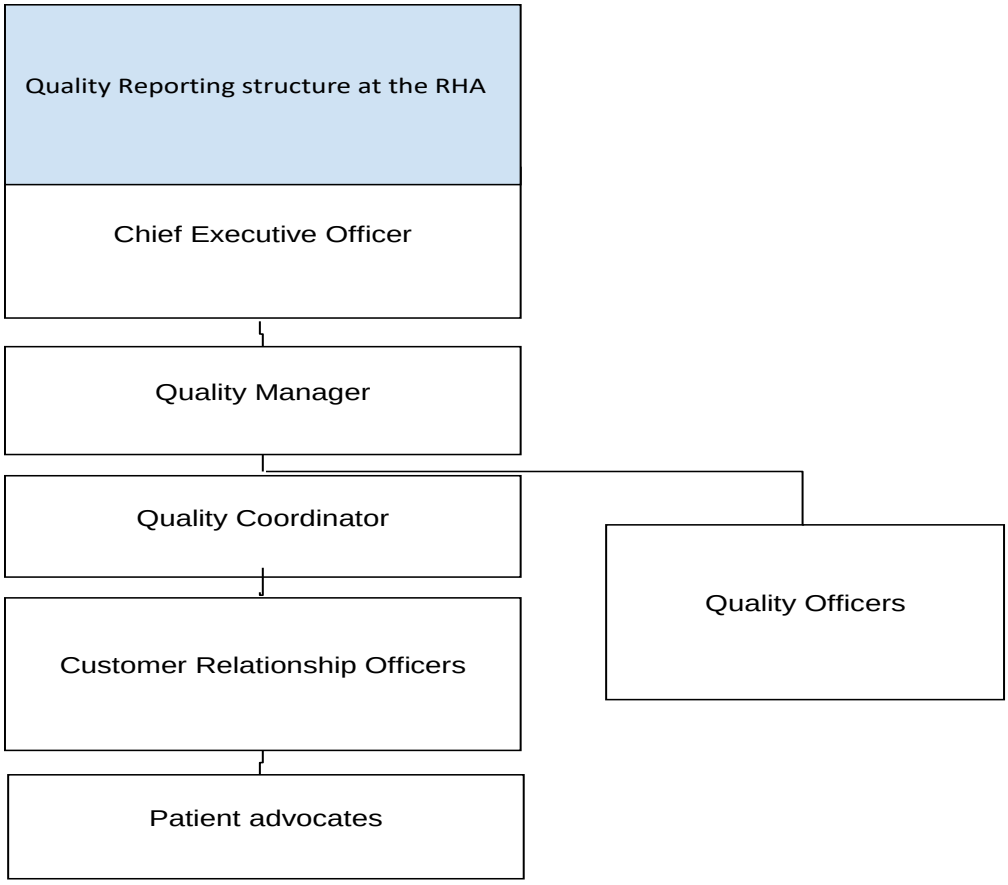

Figure 10: Quality Reporting Structure for Regional Health Authority

Quality in TT has been implemented by setting up Quality Management systems and quality departments throughout the RHAs. The main ethos comes from the Quality 2000 document, which set the quality agenda for TT. The quality agenda has been designed and implemented using ISO: 9000 and Total Quality Management (TQM) philosophy and is a whole systems approach. The quality departments in each RHA comprise a supporting staffing structure supported by many multi-disciplinary teams as shown in the Figure 11. The agencies involved are (Ministry of Health, Quality Directorate and Regional Health Authorities) details of these agencies can be found in Appendix XV.

As shown, these are the main processes that take place within the health system to implement quality in Trinidad and Tobago. There are key activities directly relating to quality including quality training, audits, quality award program, the client feedback system and the adverse events policy. These last two activities are directly related to patient feedback and experience.

Figure 11: Quality in Action (High, Medium, Low)

Although viewed as discrete elements in Figure 11, it is difficult to separate the different entities of quality in action because the relationship between them is both symbiotic and concurrent or hierarchal. The thicker and darker arrow show that quality training has a higher level of integration in the health system as evidenced by the knowledge of the key participants. Accreditation, audits and adverse event policies have medium levels of integration as audit are in operation. However, accreditation is still in its infancy stages but remains on the quality agenda. The quality award program, client feedback systems and patients charter rights and obligations seem to have the lowest level of integration and hence these relationships are represented by thinner lighter shaded arrows. The client feedback reports received were out of date and updates to these publications were still under production at the time of the study. The award program was halted during the period 2011-2012. It has since been re-instated in 2013. The patient's charter of rights and obligations is also low as historically,

Trinidad and Tobago and similar former colonial constructs tend to have lower levels of civic engagement (Bissessar 2003).

There are a number of different activities and roles in quality in action. There is, for example, an award Programme where staff from the RHAs submit projects. The audit team at the Ministry of Health validate the submissions to ensure they are viable projects, and once approved, it is submitted as an award nominee. This not only enhances the continuing professional development of the individuals involved, but it also lends itself to developing indigenous bottom up research that serves to recognise staff which is important for staff motivation and morale. Further, the director of quality or quality managers is another role to foster this type of development. Their key functions involve taking part in audits, training and developing staff and promoting quality in the organisation. From another perspective, there is also the role of Client Advocate/Client Relationship Officer who works directly with patients/clients in the clinical setting and assists patients.

Multi-disciplinary teams are also formed to conduct audits. RR9 explains the process: of how an audit works involving the health system auditor, the standards officer, the quality systems auditor and their interaction with different services within primary or secondary, public and private hospitals across different areas. An audit is generally triggered when there is a recognition of no policies or procedures in an area. The outcome is normally a Standardised Operating Procedure (SOP), in the case of obstetric and midwifery care. The triggers can be a number of highly publicised adverse outcomes. The final SOP is signed off at a very high level, the Minister, the Secretary and the CMO and issued to all midwifery and obstetric public and private health care service facilities.

In general, quality training is another activity, which is key to enhancing quality. Staff are trained to be quality managers and auditors in TQM and CQI measures by the Caribbean Institute of Quality. They work closely with the Ministry of Health to facilitate quality initiatives. RR13 estimated that:

> “in terms of the number of personnel trained fifty to three hundred from the health sector” (RR13).

These auditors enforce the National Quality Strategy and use quality ambitions as a reference point to enhance and develop organisational quality implementation; QI examples include service Improvement, for example, decreasing waiting times in A&E, and patients' rights education program.

The general description above illustrates the external and internal features with regards to quality in action. The internal elements include the audits mentioned above, the quality training and the quality award. These are termed internal because they reflect issues that are central to the health system model.

6.2.2 Provision and Delivery of Care

Access to Health Services: Barriers and Facilitators

While the quality of the provision of care in facilities is fundamental to ensuring effective care, women's actual experience of care is a significant, but often neglected aspect of quality of care that contributes to maternity outcomes. Negative experiences can result in deterring women from using the services and spreading negative feedback to other women and the wider community (Hulton et al. 2007).

Many research studies have focused on aspects of the provision of care ranging from shortages of human resources, inadequate skill mix, poor management, weak referral systems and lack of essential supplies and medicines and ineffective management information systems (World Health Organisation 2005). However, less attention has been paid to the experience of care.

As previously described, TT provides free primary health care services including antenatal care. As TT has a mix of public and private health care, Mothers can access both services given adequate financial resources. An example of this was confirmed in the antenatal survey for mothers that showed over 50% of woman named a GP or family doctor as the first health professional they saw when they thought they were pregnant. In Trinidad ninety percent of women are attended by a skilled attendant, this is an aggregate figure and does not include private/public breakdown. With regard to the public health service in a survey of 72 women, at least 66% had joined a clinic by the time they were 14 weeks pregnant.

Women generally join the clinic and are given their own set of maternity notes, which they are free to carry to and from the clinics. Brown et al. (2004) provide a positive analysis of the benefits of women having their own notes. This means that in the case of an emergency, the expectant mothers can see their own notes and share it with another health care provider. This satisfies the person-centred and safe dynamic of the IoM's dimensions of quality. Clinics are provided at Health Facilities or Health Centres that are geographically distributed across the country. In this example, this particular RHA has (two Health facilities and 15 health centres). The AHF has 12 health centres and I visited the ones that with the high number of births and potential to recruit mothers. In AHF, I visited the main HC, and four others. At the CHF, I visited the main centre and two others; however, these were quite small, so I revisited the CHC on three occasions to get as many expectant mothers over 36 weeks.

Person-Centred Care with Culture Effects

The following summarises observations of visiting the antenatal clinics over a period of four months. It highlights features of the model related to person-centeredness in terms of the design and layout of many of the clinics. The design of the AHF clinic was very bright, cool and had information charts about maternal and infant care, such as breastfeeding, safe exercises to do when pregnant and how to prevent infections during pregnancy. There was also a library with books and leaflets and a television with DVD player. This setting appeared suitable for women as the researcher observed that the women were pleasant, friendly and relaxed overall. This worked to the researcher's advantage as it was very easy to approach them and they were very receptive to hearing about my research and participating in the survey.

The cultural and external influences were quite evident during these visits in terms of language, religion and social behaviour. The use of language became apparent when some of the terms used on the questionnaire required clarification. For example, women preferred using the term nurse instead of midwife. The perception was that the midwife is the one that delivers your baby in hospital, whereas the nurse attends to you in the antenatal clinic. Religion featured as well during the visits and the nurse in charge asked one of the women to volunteer to say a 'word of prayer' prior to the start

of the clinic session. This was well received by the mothers in the clinic as there were several volunteers to choose from and no one protested.

Visiting the Antenatal Clinics

The women are given block clinic appointments (although many came first thing in the morning) regardless of their appointment time. Some women also presented with no appointments. Women come into the clinic with their pregnancy notes and signed in at the reception desk. They were given a number and seated in a waiting area displaying various charts with health tips, breastfeeding and overall care during pregnancy. Figure 12 shows a typical clinic day visit for expectant women.

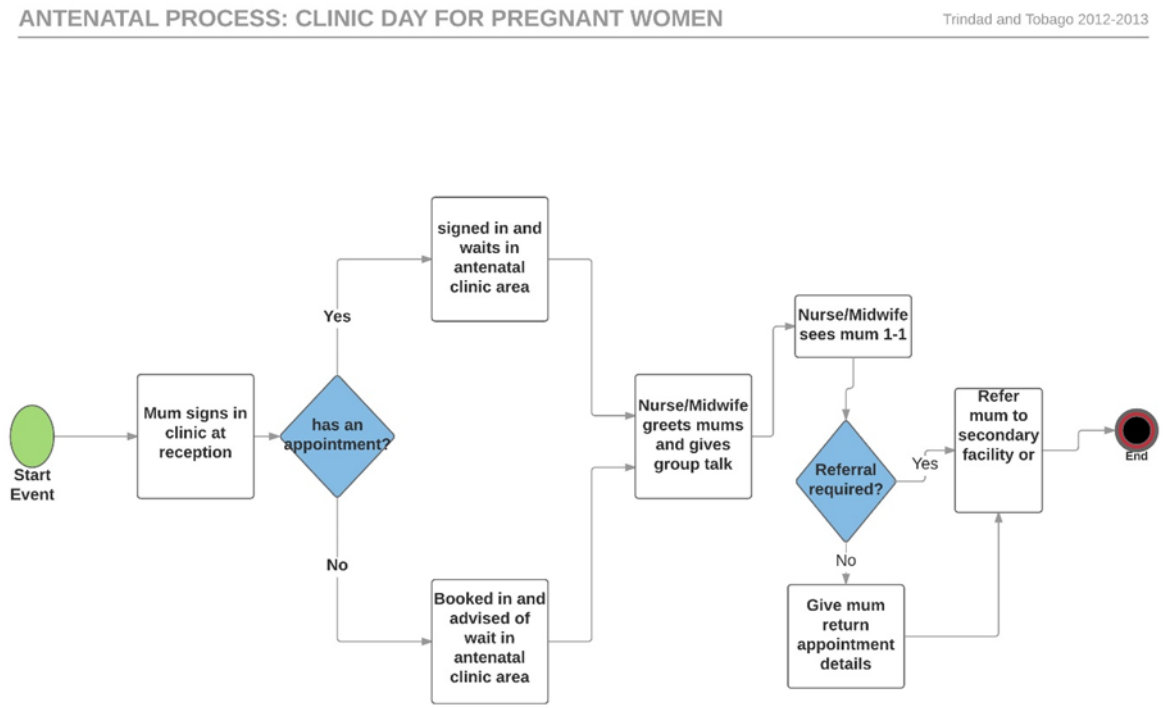

Figure 12: Antenatal Clinic Day Process

At the start of the morning, there is a room of expectant mothers. The DHV in charge will normally greet the women and give a group talk; topics ranged from remembering to take your vitamins, nutritional tips, self-care and grooming and even treating minor discomforts such as nausea, tiredness and maintaining marital and family relations.

6.2.3 Experience of Care

Analysis of the Antenatal survey

Eighty-eight percent of the women were under thirty-five years with the average age being twenty-eight years. The average age for AHF and CHF were 29.7 and 25.9 years respectively. More than half the women 56% had at least one child before this pregnancy with forty-four percent were first time mothers. Of the RHA sampled by main antenatal clinic, sixty-five percent were from AHF and thirty-five percent were from the CHF cluster.

Questionnaires were administered directly to the participants during multiple visits to multiple clinics in the selected RHA. Overall, 72 questionnaires were completed. The survey highlights women's opinions at different stages of their antenatal care. The majority of women's experiences of care were positive. However, the survey also brings to light areas where care could be improved, such as access to antenatal classes or factors relating to lack of choice and a level of passivity linked to individual and societal attitudes, expectations and traditions as well as service issues and resources.

6.2.4 Summary of Key Results

Sixty four percent of women rated the care that they received while they were pregnant as 'excellent' or 'very good' and 28% rated it as good with the rest rating it as fair or poor. See Figure 13.

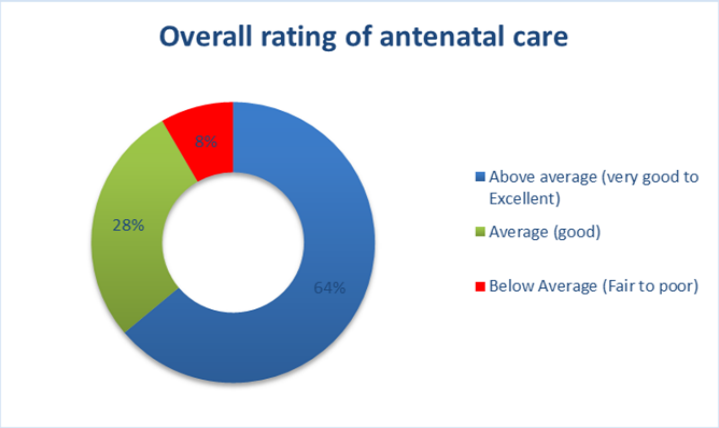

Figure 13: Overall Rating of Care Received During Pregnancy

Most women (70%) reported that they had their first antenatal assessment visit (antenatal booking) by 12 weeks of pregnancy. Sixty five percent saw a family doctor or GP with only thirty five percent seeing a midwife/nurse when they first thought that they were pregnant. This is consistent with the TT context as the health system is two tiered; private and public. Women traditionally go to a private GP before joining the public antenatal clinic.

Only (17%) said that they were given a telephone contact number for their midwife/ midwifery team. This is because services are designed differently to a UK context; women would normally be able to visit the antenatal clinics on a specific date. If they have any other concerns or issues, they would either visit a private doctor or present at one of the primary care health centres.

Only 57% said that they received enough information to help them decide where to have their baby. 98.6% of women said that they were always spoken to in ways that they could understand, with 95.7% reporting that they were treated with respect and dignity. Eighty-seven percent said that they were given information or explanations as needed and 89% said that they always had time to ask questions. Ninety one percent said they were treated with kindness and understanding and 81% felt they were involved enough in their decisions about their care. Only 16.7% attended antenatal classes with 40% saying they were not offered and 26% not being able to attend for a variety of reasons.

6.2.5 The Start of Care in Pregnancy

The majority of women (88%) saw either a doctor or a nurse/midwife when they first found out they were pregnant. The remaining (12%) percent of women saw another health professional. Evidence-based policy targets in the UK encouraged women to go straight to a midwife to speed the booking process, and also that women should be 'booked' which means have a full assessment and be given a set of notes, by 12 completed weeks of pregnancy. Thirty one percent of women saw a health professional before they were seven full weeks pregnant, with 28% women saying they were more than twelve weeks pregnant when they first saw a health professional. Over a third of the women who responded (36%) had their 'booking' appointment (when a woman officially joins the antenatal clinic is assessed and given her

pregnancy notes) before nine weeks of pregnancy, as recommended by best practice (NICE 2008), compared with UK (53%) in 2010.

6.2.6 Choice

Sixty-four percent of women reported that they were given a choice at the start of their pregnancy about where they could have their baby. When the data was separated between the two main health facilities seventy-four percent of the mothers from AHF felt they had a choice compared to forty-eight percent of the mother from the CHF. This is less than their UK counterparts where eighty-three percent feel they have a choice of where to have their baby. In TT women can opt for home births; however, it happens less frequently for many reasons linked to internal and external societal factors as mentioned in power, conflict and culture (PCC). TT has areas with very high levels of crime called crime hotspots, which would be unsafe for health practitioners to go to certain areas to attend to home births. Further, based on the size of the population and close proximity to health facilities, the issue of choice is awkward as mothers attend clinics that are in their geographical catchment area and there is normally a specific hospital that they would be assigned to deliver their babies. Mothers are not given a choice in the public health system. In fact, the researcher noted in her field notes that upon completion of the questionnaires some mothers remarked that 'the questions had them thinking, as they had never considered issues of choice'. Further, when this issue of choice was raised during the interview with one of the senior members from the Ministry of Health, RR11, stated: "choice is not a priority as the mothers should go to the hospital and health facilities closest to their homes".

Forty seven percent of women reported that they were given a choice about where to have their antenatal check-ups. Information for choice of the women of where to have their baby, less than half (41%) felt they 'definitely' received enough information from the doctor or midwife to help them decide. However, 30% reported that they did not get enough information to help them to decide. Over half of women (58%) said they were given additional information to support their pregnancy. For example, leaflets and information sheets that provided information designed to help people to make choices about their health.

6.2.6 Antenatal Checks-ups

All women reported that they attended check-ups, this is understood as the majority of women surveyed were attending a clinic. Twenty percent of women reported having 1 to 6 check-ups. When asked who they saw for their antenatal check-ups (women were invited to tick more than one response category), the majority said that they saw a midwife (69%), over a fifth (26%) saw a GP and just over a third (40%) saw a hospital doctor. This supports the literature as NICE Guidelines state that:

> "Antenatal care should be provided by a small group of health care professionals with whom the woman feels comfortable. There should be continuity of care throughout the antenatal period" (NICE 2008, p.6).

Over half (53%) of women who responded to the survey said that they had seen the same midwife 'most' or 'every' time for their antenatal check-ups. However, the majority of women (83%) were not given the name and telephone number of a midwife they could contact during their pregnancy if they were worried. This is a systemic issue, as the way antenatal services are designed it does not support one to one contact especially outwith working hours of 8:00am to 4:00pm. If a mother is worried, she may have to attend A&E or visit a private General Practitioner where a cost is involved. This lack of contact telephone number creates an opportunity for improvement. Another issue is the cultural effect as the survey is an adaptation of the UK based survey where the majority of UK women over (85%) had indicated that they had a name and contact number to call when they felt that they needed support. This could possibly be linked to the design of the service and the availability and allocation resources to support after clinic support for women.

6.2.7 Tests and Scans

A 'dating scan', as recommended by NICE (2008), should take place between eight and fourteen weeks of pregnancy and 93% of women who took part in the survey said that they had one. Ninety percent of the women (90%) had at least one screening test (a blood test and/or nuchal scan). The proportion of women who had both a nuchal scan and blood test was 18%. More than half the women (62%) had a scan at around twenty weeks, which was usually to check for foetal abnormalities. Women were asked if the reason for each scan had been clearly explained to them. Clear reasons had

'definitely' been given to nearly sixty percent (59%) with nearly a third (32%) indicating that the reasons were not clear enough for them.

6.2.8 Antenatal Classes

Less than twenty percent (16.7%) attended antenatal classes during their pregnancy with forty percent of them saying that they were never offered any classes. There was a big disparity between the district health facilities as over twenty percent (23%) of women at the AHF attended antenatal classes compared to only 4% at the CHF. Of all women who responded to the survey, 26% said that they did not attend any classes for other reasons.

6.2.9 Overall Antenatal Care

When asked to think about their antenatal care: The proportion of women who felt that they were 'always' involved enough in decisions about their care was fifty-eight percent. Improvements could be made in the proportion of women who are offered choices about the birth of their baby; such as the choice of having a baby at home, as well as the proportion of women who are given information about their care during their pregnancy. Continuity of care could also be improved, in terms of women seeing the same midwives or staff member, as there has been no improvement. Apart from socioeconomic issues and logistics, there were no apparent barriers to women having access to antenatal clinics. Barriers to the service were affected by structural aspects of the framework in terms of matters relating to choose of birthing option, lack of equipment and physical layout of the antenatal buildings. These have already been discussed in the previous section.

6.3 Outcome and Challenges

This shows the results of process and areas of convergence or divergence with prevailing results. There is much emphasis on outcomes, and these were most easily understood as death, disability, disease, discomfort and dissatisfaction. This study focused on antenatal care mainly so outcome can mean, for example, the mother's confidence in the system that care has been delivered to them. The long-term outcomes are for a favourable pregnancy. So, the outcomes in terms of achieving quality are broad.

Trust, confidence and choice are linked. This is the ability of one party to trust the other based on confidence of their knowledge skills and ability. I linked choice to it as well as trust builds confidence to choose or make a decision.

6.3.1 Empowerment and Participation

This element of antenatal process examined how women and health care professionals viewed their roles in access and providing antenatal services. It explores issues like advocacy, empowerment and participation.

The key aspect of the antenatal process was the lack of formal antenatal classes (Lamaze or Yoga) to prepare women for delivery and birth. Over 80% of the women indicated that they did not attend any formal antenatal classes for a variety of reason 40% said they were never offered classes; 26% stated that they did not attend for a specific reason such as informed too late, no time off from work, partner unable to accompany them. Whilst 8% indicated that, they did not need to attend classes. Notwithstanding, as observed by the researcher and explained by the Health care professionals, mothers are given group talks and then individual counselling which in a way would meet certain educational needs but not all. In the area of antenatal classes, there were incongruence between what the health care professionals said was provisioned and what the women reported in survey. A senior manager RR11 indicated that primary care services, including antenatal care, was stable enough and that there were other areas to work at.

Empowerment

Two of the NGOs explained ways in which they used education to empower women and help them to challenge or question things and to make more informed decisions. As indicated previously due to status differences women did not always feel empowered to challenge anything. As indicated by one of the informants from the NGOS, it was important they saw their role as educating women to make informed decisions.

Participation

Closely related to empowerment is patient rights or expectations (seen as receivers). This was highlighted as an issue RR6 stated on at least two occasions that due to lack

of awareness of standards that patients just accept what is given to them. He said that:

> "Once a service appears to be good a patient would just accept it" (RR6).

This shows the level of engagement and participation of patients and is linked to empowerment as well as being passive receivers of a service. The other disempowering activity that sometimes takes place is the disdainful way in which some health professionals at antenatal clinics spoke to women that may cause some women to be reticent about sharing their questions or experiences for fear of rebuke. This is supported by Hulton et al. (2000; 2007) who saw this as a feature of her research in rural India. In TT, the researcher did not witness this type of behaviour during her visits to the clinics; however, three women upon completion of their antenatal survey discretely proffered complaints that they were treated in a rude manner by health personnel at the antenatal clinics and hoped that the outcome of the research will help in eliminating those types of behaviours.

6.4 Final Reflections

The above discourse sought to answer research questions:

> Q2. What are the antenatal experiences of health care of women in Trinidad and Tobago?
>
> Q3. What can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers?

There have been identified gaps in several areas: human resources, quality improvement ethos throughout the entire health system, accreditation and treatment of pregnancy as a normal state of being.

Human resources need to be better, and to achieve this service requires more midwives and a change to the how midwives are trained. Historically, there used to be a faster training track to become a midwife (certified midwife). Under current training processes a midwife must first train as a registered nurse before becoming a midwife.

Quality is being implemented; however, TT still has a long way to go. We are not there yet, and we need to raise the bar. Quality is at the ministry and the RHAs and the quality directorate does a lot of work and have a passion for seeing things done properly. There should be a self-evaluating tool to support quality at all levels. The use of technology should make it easier, but it is not at the level as it should be.

Quality should be approached in a holistic manner. We need to get to the genesis of the issue and start from working in the schools, support parents and then go to the national level so that there can be a change in behaviours. It is easy to see when quality is not there, but it is harder to achieve good quality standards. Quality is compromised when management in procurement decides to purchase the cheapest product that does not do a proper job, or when staff are not properly trained or placed in the wrong roles. Education of staff and members of the public about patient rights is important this can be done through the use of media, radio, television and easily available materials like DVDs.

Accreditation is important and is part of the quality journey. It is being implemented from the cradle to the grave and is a long process. It would ensure that all services meet a particular standard and would improve trust in services and institutions. There is still a long way to go in this.

The best person to care for a normal pregnancy is a midwife. The women were offered a very good services and were satisfied. This was not validated by a formal feedback system but by word of mouth mums would return with their children to say thank you.

In conclusion, ‘structure’ within the Trinidad and Tobago maternal health via the lens of the QUALITT model. The results show that services are delivered through the primary health care with some movement of patients between private and public. This at times can be beneficial to patients in terms of access, and timeliness. Private care is easily affordable by wealthy persons or citizens covered by health insurance. However, for the woman who have to rely on public care only, when the system does not deliver in terms of access to classes, access to lab and ultrasound services, then there are ramifications such as safety and equity. Public health care providers benefit from the service that private sector can potentially deliver. However, there are more questions than answers about synergy and regulation of the private health system and

what it delivers for the public health service. Key highlights are whether private sector is delivering value for money or not.

Human capital aspect of structure is a concern as there are resource constraints affecting the health system in various ways. The ‘push and pull factors’ needs to be analysed with a comprehensive strategy for human resource retention and attraction as heath system structures are operating at a deficit, especially in terms of the level of midwives. The public health has a challenge in attracting and retaining staff from private sector and lucrative health systems in other developed countries, such as the United States of America, United Kingdom, Saudi Arabia and Canada.

Utilising the ‘six pillars’ provided a beneficial platform for synthesising the findings with the prescribed model and each pillar was relevant for maternity setting with medicine being the least represented by the model.

Chapter 7. Conclusion

"Ultimately the secret of quality is love. You have to love your patient, you have to love your profession, you have to love your God. If you have love, you can then work backward to monitor and improve the system"

Avedis Donabedian (cited in Mullan 2001, p.41).

7.0 Introduction

This project was conceived at a time when, in its quest to maintain and develop its profile as a developed nation, Trinidad and Tobago had sought to cultivate the different organisations and institutions in the country via its strategic direction document - Vision 2020. It was a response to one key identified area of development - health - as a means of improving outcomes for all levels of society by alleviating: "significant deficiencies of high infant and maternal mortality" (Government of the Republic of Trinidad and Tobago 2006, p.49). It is within this context that the study found its purpose to use a quality framework to analyse the Trinidad and Tobago (TT) health system to identify areas of weaknesses within the system and to then propose an 'indigenous' approach to bridge the gap between the expectations of the existing health care model and the reality of experience of mothers and health care providers in Trinidad and Tobago. From above, the overarching questions of the thesis are what the vulnerabilities in quality of maternal health care system in Trinidad and Tobago are and what can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers.

To answer these questions, I identified three main questions:

Q1. How is quality defined, particularly in the context of Trinidad and Tobago maternal health care?

Q2. What are the antenatal experiences of health care of women in Trinidad and Tobago?

Q3. What can be done to help bridge the gap between the expectations of the health care model and the reality of experience of mothers and health care providers?

This chapter presents the empirical findings of the thesis with respect to the research questions above. In so doing, it will not only provide evidence and synthesis of the main arguments of this body of work, but also identify the ways in which the study in its entirety addresses the research purpose. Subsequently, the theoretical contribution will be presented in terms of the implications of the answers to these questions for how they impinge on existing theories in the theoretical implications section. The practical contribution is expressed in terms of the policy implications of the study and suggests ways in which this work could influence the debate within this discourse. This will then be further developed in the succeeding section – recommendations for future research where the brief overview of suggested future actions and areas of study will be discussed. The penultimate section then offers the limitations of the study and ends with an overall final statement about the significance of the subject under discussion and its possible contribution to the body of knowledge in this field.

7.1 Empirical Findings

The main empirical findings are chapter specific and were summarised within the respective chapters; however, this section synthesises the findings of the research questions. The research questions were distilled into three broad categories. The first category ‘quality’ addresses the first two research questions. The second category, ‘efficacy’, reflects on the effectiveness of the system from the perspective of the prevailing models used and subsequently from the women’s experiences of care. The third category relates to the challenges faced in the implementation of these challenges and the possible techniques, which could be used to address these challenges.

7.2 Quality

The study found that quality in health care is a dynamic and contestable concept as evidenced by the numerous models produced and the still evolving international consensus view of quality (as exemplified by the World Health Organisation 2016). There are many existing models of quality, and within the past decade models have evolved from a relatively traditional generic and static design to a contemporary approach that is fluid and dynamic. This nature has resulted in many specific models or approaches to health quality for maternal and infant health for which the ultimate

goal of the research is to improve the health outcomes for maternal and infant health. Despite this increase in research of health care quality models, the researcher wrestled with selecting a suitable model to suit the Trinidad and Tobago context. This resulted in the development of the QUALITT model of quality, which is a synthesis of select components of two existing models of quality coupled with researcher derived components of internal and external influences and power, culture and conflict. These additional components were found to be critical in assessing quality in maternal care in Trinidad and Tobago. It provided the needed context for the research study. The development of this QUALITT model is in itself a contribution to knowledge. Future research should focus on testing the model in other RHAs and similar country contexts. Therefore, I am applying for research grants from Trinidad and Tobago and the UK with academics' colleagues from the University of Stirling to evaluate and test the model in other RHAs in Trinidad and Tobago and elsewhere internationally.

At the start of the study, it was assumed that a developing small country with considerable resources should provide a better health service for its citizens including pregnant women. Since similar countries like Barbados have lower levels of maternal mortality with less wealth, then it is reasonable to assume that Trinidad and Tobago should be just as good or even better. During the course of the study however, the scale of complexity of the health system emerged (e.g. from the perspectives of the service providers) and it raised many more questions than answers.

In determining the characteristics of quality from a Trinidad and Tobago context, the characteristics were found to be reflective of the formal definitions of quality from the literature with subtle tones arising from the universal themes relating to external influence, internal influence and power, culture and conflict. This confirmed what many researchers and publications have re-iterated: that the concept or construct of quality is enigmatic. It can be subjective or objective, measurable or incalculable and the contrasting language used is limitless as evidenced by the participants' interviews. Hence, a definition of quality built from the participants' understanding was developed.

Indeed, the display of passion and commitment by the key informants (in their interviews) demonstrated that the will of the decision makers in the health system matches the vision of the policies and political rhetoric of Vision 2020 aimed at moving

Trinidad to developed nation status with ‘world-class health care’. There certainly is a clear understanding of quality amongst the key informants who have been formally trained in quality, whilst the tacit knowledge of quality lies within the key informants with mainly clinical backgrounds. But many key informants viewed quality as following a set of standards or guidelines and the notion of quality is strongly grounded in a TQM philosophy. Another interesting aspect of quality that emerged from the informants was the influence of the concepts of branding and reputation management where they viewed quality as a way to improve the image of the public health system.

7.3 Efficacy: Theoretical Implications

The Women

The key area requiring attention is the ability of women to: easily access antenatal classes; easily contact a nurse/midwife after hours and have more choice about their birth plans or options. The majority of the women rated the care that they received while they were pregnant as ‘excellent’, ‘very good’ or good. Over ninety-five percent of women said that they were always spoken to in ways that they could understand, and they were treated with respect and dignity. However, scores were lower in areas of choice and having enough information to make decisions. This suggests that there is an opportunity for improvement this will enhance the patient-centred, safe and timely components is comprehensive access to antenatal classes, clear choice of birthing options and after-hours support for women who may want additional support during their pregnancy. Women can use the client feedback system in the spirit of the patient charter of rights and obligation about their experience of care. There is a level of accountability in the health system as patients have an avenue for complaining through the client feedback system and in the unfortunate circumstance if there is a negative outcome either maternal morbidity, mortality or infant mortality then the is an adverse events protocol that will be used as a preventative tool for the future.

The Professionals

Doctors

The key issue to be addressed is team work within multi-disciplinary teams. Many informants mentioned the mismatch in achieving goals, for example, allowing a woman to have a water birth. There should also be training to sensitise young doctors

especially about a midwifery-based focus when treating pregnant women. As mentioned before access to a doctor as a research informant was difficult possibly based on a serious of factors beyond control or it could be a matter of status difference with the doctor assuming the superior posturing.

Nurses

The nurse and midwives are passionate about women's health, pregnant women and infants. This group of informants are inspirational. Many work in conditions with several resource constraints, yet they remain focussed on the women and their well-being. Human resources in health is complex and is a big challenge, some progress has been made to address the shortages, and however, it is an ongoing concern.

NGOs

NGOS play an important role in the health system and provide education, training and advocacy to its members and the public. There is a strong equality ethos as they want women to be able to access their services regardless of social determinants of health. Governmental financial support is encouraged where possible.

Hospital Administration

The MoH plays a leadership role in directing setting up quality councils and overall setting up of quality management systems throughout the health system. This has proved to be effective as there is strong evidence of quality in action in the health system as explained previously.

The RHA is in a position to execute the quality initiatives even though informants admit that quality is new, young and needs to get better, it is important to note that everyone needs to get involved and there must be support from upper management and management in the RHA.

In this study, the main theoretical implication exists in terms of the proposal of an adapted model of quality, the QUALITT model. This section provides the contribution and or implications of these syntheses with respect to the research questions and how they may impinge on existing theories or understanding. The findings show that the QUALITT model is relevant in a plural/multicultural society and was able to provide a context and explanation for the system under review. This model could hopefully

provide explanation for similar type settings. The research undertaken has shown a different perspective on a traditional model. As explained before most of the components of the models were based on other well-respected models.

The model has also contributed in raising attention to universal themes highlighted: power, culture and conflict context. It also highlights the necessity of countries like Trinidad and Tobago who rely on external inputs from international agencies. However, while this approach is beneficial in the short term, consideration must be made for longer term and future development of the health system.

7.4 Policy Implications

The development of the model highlights the importance of always contextualising tools and methods for optimum benefit. This is important as it took several iterations and research to arrive at a suitable framework to analyse the Trinidad and Tobago quality in maternity care. The research attempts to explore a complex system through the use of a quality framework. It has been effective in that areas for improvement have been identified as a result of synthesising and analysing the data. My study focuses on conceptual models for quality and presents a flavour of a model and provides a useful starting point for other potential research of that nature. It is contestable like other prevailing models of quality.

7.5 Recommendations for Future Research

The maternal questionnaire was designed for a descriptive understanding of women's' experiences. It will be insightful to expand the sample size for representativeness and to perform inferential analysis to uncover significant relationships. Extending my model to include the full pregnancy cycle. My model focussed on antenatal care; however, it will be interesting to see it extended to labour and childbirth.

This study has taken a broad approach and treated the republic of Trinidad and Tobago as a single entity. However, as identified in Chapter 1, the two countries have distinct histories and it may be necessary to ensure that the uniqueness of the countries' context is captured by and reflected in any quality framework.

7.6 Final Reflection

In my view, the motivation most consistent with the nature of health care is the one suggested by Donabedian in the quote at the start of this chapter, it is love (Mullan 2001). There are other motivations - for instance to survive, to comply, to make money. But what is the point of improving? In maternal health care in Trinidad and Tobago it was compassion - love - that was the motivation that inspired the work that I did. It is an extremely hard and demanding task to start and complete a PhD. At the start of my journey a professor from the Social Science department gave a lecture and said that doing a PhD deconstructs and reconstructs your life. At that point I was puzzled by his statement. Today I can completely understand what he meant by that statement. My PhD journey was fraught but included many highlights, such as meeting Don Berwick and taking a selfie with him, having the opportunity to travel and network with many other PhD students, academics, and practitioners in the field. I also faced difficulties, such as I experienced serious life challenges including poor health, loss and grief of a loved one and personal difficulties. Despite these challenges I was always encouraged by everyone, my family, my friends, my doctors, my supervisors, my spiritual family to pursue my goal and to finish this PhD journey. When I doubted myself and felt that I had no more 'steam' to go on, there was always a loved one propping me up, supporting me with childcare, positive words and reminding me of my authentic self. An intelligent, loving caring mother of one, surrogate mother to many. The question could be asked why maternal health in Trinidad and Tobago, a small island with only 1.3M people? The answer is why not? Each mother and child is important. The death of one mother is a loss to many people. It ends a line. As Donabedian (1988) says if we have love as a premise for quality, then the motivation for improvement will be a positive movement (Mullan 2001). The motivation for reducing the gaps in health globally has been supported by 193 countries in their support of the sustainable development goals. If these goals are to be attained by 2030, a love mind set will augur well to countries including Trinidad and Tobago improving the lives of women and children through improving the quality of maternal and newborn care.

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APPENDICES

Appendix I: Defining Quality: A Summary

The following table summarises the key contributions to the development of quality and some of the major players of the quality management movement, who are thought to have made the most significant and lasting contributions to this body of knowledge (Beckford 2010; Diamond et al. n.d.; Bergman and Klefsjo 2010)

Name	Year	Contributions to quality
Walter Shewhart	1939	Father of statistical quality control, Plan-Do-Check-Act cycle and run chart.
International Organisation of Standardisation (ISO)	1987	ISO 9000 series provides a framework for quality management and assurance. ISO 8402: definition of TQM
Armand V Feigenbaum	1967	Concept of Total quality control as a system; four steps to quality, operating quality costs
Kaoru Ishikawa	1985	Companywide quality, seven tools of quality control, fishbone diagram, quality circles
Joseph Juran	1988	Quality planning, control and improvement, quality road map, ten steps to quality improvement
John Oakland	1993	Ten points for senior management, Evaluate-Plan-Do-Check-Amend(EPDCA) cycle, TQM model and quality function deployment
Philip Crosby	1979	Zero defects concept, 14 step quality programme; the 'quality vaccine'
W Edward Deming	2000	14 points of management incorporating statistical process control and quality methods, the seven-point plan
Genichi Taguchi	1992	Taguchi methods use of statistical techniques to identify problematic variations, prototyping method, eight steps of parameter design and quadratic loss function
Taiichi Ohno	1978	Just-in-time Toyota Production system, adapted by many worldwide organisations as 'Lean Production', focus on elimination of waste
Shigeo Shingo	1987	Poka-Yoke (zero defects) which emphasise effective control systems. Mistake-proofing by refining and redesigning processes

Appendix II: Ethics Approval: UK

UNIVERSITY OF STIRLING

Stirling Management School

Management Education Centre
University of Stirling
Stirling FK9 4LA
Scotland UK

T: + 44 (0) 1786 467380
F: + 44 (0) 1786 464745
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http://www.management.stir.ac.uk

Ms Charmaine Blaize-La Caille
Management Education Centre
Stirling Management School
University of Stirling
Stirling
FK9 4LA

11 October 2012

Dear Ms Blaize-La Caille

Applications for ethics approval

I am writing to inform you that the Stirling Management School Ethics Committee has now approved the following application for ethics approval:

Application no 1 (2012/13) "Labours of Quality: a comparative case study of Quality in Healthcare Management in Scotland and Trinidad & Tobago".

Yours sincerely

Sharon Martin

Sharon Martin
Ethics Committee Secretary

Appendix III: Ethics Approval: TT

MINISTRY OF HEALTH Government of the Republic of Trinidad and Tobago

OFFICE OF THE CHIEF MEDICAL OFFICER
627-0014 ext. 1616/1600 D: (868)-625-0066 F: (868)-623-3755
e-mail: cmo@health.gov.tt

November 29, 2012

Ms. Charmaine Blaize-La Caille
#5 Sandalwood Avenue
Boy's Lane
D'Abadie
Arima

Dear Ms. Blaize-La Caille

Re: Submission of Project Proposal for Approval by the Ethics Committee Ministry of Health

The Ethics Committee of the Ministry of Health, Trinidad & Tobago has reviewed your revised proposal for the research study entitled ***'Labours of Quality: a comparative case study of Quality in Healthcare Management in Scotland and Trinidad and Tobago'*** to be conducted by principal investigator Ms. Charmaine Blaize La-Caille in collaboration with the University of Sterling.

I am pleased to inform you that our concerns have been addressed and approval is hereby granted for the conduct of the study. The approval is valid until November 28, 2013 after which you may apply for a continuation.

However, the following should be noted:

- You must submit the revised protocol with adequate details regarding the validation of the methodology and the revised supporting documents.

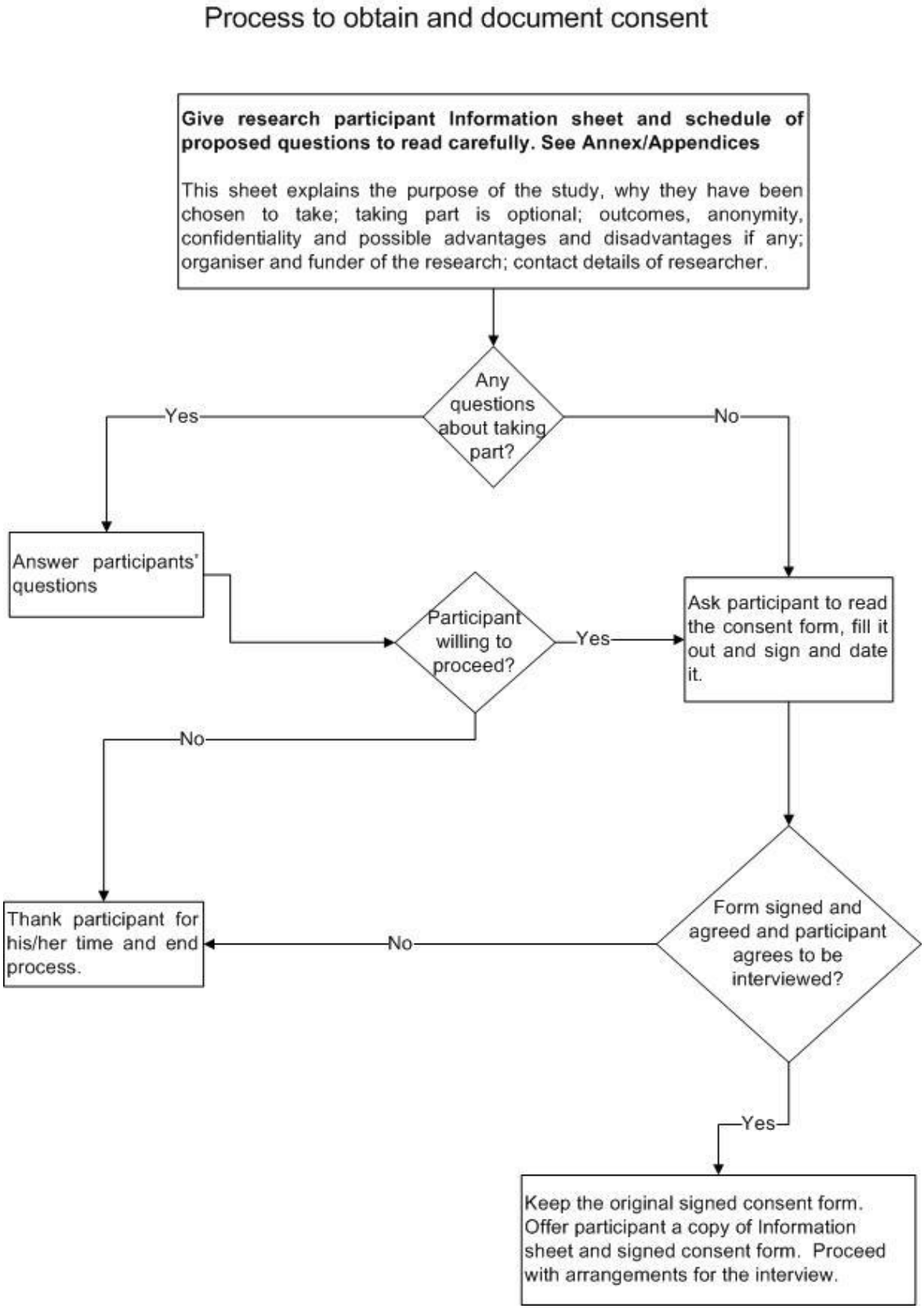
Consequently, you are requested to submit an annual progress report or a report at the end of the project, whichever comes first. You are also responsible for immediately informing the Committee of any changes to your research protocol, or of any previous unforeseen risks to the research participants or any unanticipated or serious adverse events.

Best wishes in the conduct of your research.

Regards

Dr. Akenath Misir
Chief Medical Officer (Ag.)

Appendix IV: Flowchart for Obtaining Consent



Appendix V: Consent Form

Research Participant code:

CONSENT FORM

Title of Project: **"Labours of Quality: a comparative case study of Quality in Healthcare Management in Scotland and Trinidad & Tobago"**.

Name of Researcher: **Charmaine- Blaize-La Caille**

Please initial box

1. I confirm that I have read and understand the information sheet dated **[DATE]** (version **[VERSION NUMBER]**) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. ☐
3. I agree to take part in the above study. ☐
4. I agree that my data gathered in this study may be stored (after it has been anonymised) in the University of Stirling's secure data centre. ☐

Please tick box

	Yes	**No**
I agree to the interview discussion being audio recorded	☐	☐
I agree to the use of anonymised quotes in publications	☐	☐

Name of Participant	*Date*	*Signature*
Name of Researcher	*Date*	*Signature*

Contact details for Principal Supervisor

Appendix VI: Invitation Letter for Potential Health Care Organisation Research Participants

Dear --- (potential research participant)

Thank you for your interest in my PhD research looking at health quality maternity services in Scotland and Trinidad and Tobago.

I would like to invite you to participate in face-to-face semi-structured interview which will last approximately 60 minutes. Please be aware that you can withdraw at any time, omit answering any question and participation is optional. Your responses shall remain confidential and anonymous.

Please see the attached Information sheet and consent form for further information concerning consent, anonymity, recording and the use of the research data.

Thank you very much for your time.

Yours sincerely

Charmaine- Blaize-La Caille

Appendix VII: Data Protection Act (UK and Trinidad and Tobago)

UK Data Protection Act 1998 principles

Data:

- *must be obtained for a specified and lawful purpose*
- *shall not be processed in any manner incompatible with that purpose*
- *shall be adequate, relevant and not excessive for those purposes*
- *shall be kept up to date*
- *shall be kept for no longer than is necessary for that purpose*
- *must be processed in accordance with the data subject's rights*
- *must be kept safe from unauthorised access, accidental loss or destruction*
- *shall not be transferred to a country outside the European Economic Area unless that country has equivalent levels of protection for personal data.*

Republic of Trinidad and Tobago Act No. 13 of 2011 relating to the processing of personal data Part I, pages 7 – 9

6. The following principles are the General Privacy Principles which are applicable to all persons who handle, store or process personal information belonging to another person:

(a) an organization shall be responsible for the personal information under its control;

(b) the purpose for which personal information is collected shall be identified by the organization before or at the time of collection;

(c) knowledge and consent of the individual are required for the collection, use or disclosure of personal information;

(d) collection of personal information shall be legally undertaken and be limited to what is necessary in accordance with the purpose identified by the organization;

(e) personal information shall only be retained for as long as is necessary for the purpose collected and shall not be disclosed for purposes other than the purpose of collection without the prior consent of the individual;

(f) personal information shall be accurate, complete and up-to-date as is necessary for the purpose of collection;

(g) personal information is to be protected by such appropriate safeguards having regard to the sensitivity of the information;

(h) sensitive personal information is protected from processing except where otherwise provided for by written law;

(i) organizations are to make available to individuals documents regarding their policies and practices related to the management of personal information except where otherwise provided by written law;

(j) organizations shall, except where otherwise provided by written law, disclose at the request of the individual, all documents relating to the existence, use and disclosure of personal information, such that the individual can challenge the accuracy and completeness of the information;

(k) the individual has the ability to challenge the organization's compliance with the above principles and receive timely and appropriate engagement from the organization; and

(l) personal information which is requested to be disclosed outside of Trinidad and Tobago shall be regulated and comparable safeguards to those under this Act shall exist in the jurisdiction receiving the personal information.

Appendix VIII: Research Information Sheet

Information Sheet – Key Experts and Health Care organisations

28 December 2012

Dear xxx

PhD Research Study Title: "**Labours of Quality: a comparative case study of Quality in Healthcare Management in Scotland and Trinidad & Tobago"**.

My name is Charmaine and I'm a 2nd year PhD student at the University of Stirling, Scotland. I have a keen interest in quality improvement as it relates to issues around health, in particular maternal health. Thus, my goal is to carry out research which is relevant to policy and practice of how health care quality is managed in the area of antenatal care, that is, care during pregnancy. I trust that it will be of interest to a wide-ranging and diverse audience, providing valuable insights, deepening our understanding of health issues and actively stimulate future debates and dialogue around issues surrounding research on antenatal maternity services.

What is the purpose of the study?

My study is a comparative exploration into health quality management in maternity services in Trinidad and Tobago and Scotland. This study is looking at the first phase of maternity care which is care during pregnancy where care during pregnancy begins with the confirmation of pregnancy and continues up to the onset of labour.

It has three parts: interviews with key experts /decision makers or organisations of those directly and indirectly involved with managing quality, quality assurance or quality improvement in healthcare in both countries; an antenatal survey of expectant mothers; and having in-depth semi-structured interviews within Health care organisations with research participants (clinical and non-clinical) staff holding positions at different levels in the Health Care Organisation that relate directly to the provision of maternity services.

Why have I been chosen?

You are being invited to take part in this study as you are involved in either quality management or health quality management in maternity services in Trinidad and Tobago or Scotland.

Do I have to take part?

No. Taking part in this study is voluntary. If you choose not to take part it will not affect the care you receive from your health care provider in any way. If you do not want to take part in the survey, or to answer some of the questions, you do not need to give a reason.

What would I have to do?

If you decide to take part, you would be invited to participate in a face-to-face or telephone semi-structured interview which will last approximately 60 minutes and would be audio recorded. Please be aware that you can withdraw at any time, omit answering any question and participation is optional. Your responses shall remain confidential.

Who is organising the study?

The study is being carried out by a post graduate research student, Charmaine Blaize-La Caille from the University of Stirling. The results will be presented in a form that does not allow any individual's answers to be identified. The researcher will produce an academic report in the form of a PhD Thesis and also an executive summary report which may include the anonymised quotes. This will be made available after September 2013 from the University of Stirling's library.

How will my taking part in this study be kept confidential?

All personal details would be removed from the interview notes sheet and a unique code would be used to identify individual research participants or interviewees. Your responses will be used for data analysis and as anonymised quotes in publications.

Your personal data are held in accordance with the UK Data Protection Act 1998, the UK NHS Confidentiality Code of Practice and the Republic of Trinidad and Tobago Act No. 13 that relates to the processing of personal data. Data collected during this study will be destroyed within six months of completion of the academic report. Please see the attached Consent form sheet.

Contact for further information

If you would like more information about the study, or if you would like to complete the interview over the telephone [or with the help of an interpreter], please call Charmaine

Blaize-La Caille at 1 868 488 4161 or send email to cb61@stir.ac.uk, or you can contact either of my supervisors.

Ms Gillian Mould Room 3A23 University of Stirling FK9 4LA Direct Tel: 01786 467316 E-Mail: G.i.mould@stir.ac.uk	Professor John Bowers Room 3A41 University of Stirling FK9 4LA Direct Tel: 01786 467377 Email: J.a.bowers@stir.ac.uk

Start of Survey

Start of care in pregnancy

1. Who was the first health professional you saw when you thought you were pregnant? (Please choose one only)

- ☐ GP / family doctor
- ☐ Midwife/Nurse
- ☐ Other (please specify): _____

2. Roughly how many weeks pregnant were you when you first saw this health professional about your pregnancy care?

- ☐ Before I was 7 full weeks pregnant
- ☐ When I was 7 to 12 weeks pregnant
- ☐ When I was more than 12 weeks pregnant
- ☐ Don't know / Can't remember

•

3. Were you able to see this person as soon as you wanted?

- ☐ Yes
- ☐ No

•

4. Roughly how many weeks pregnant were you when you had your first official check-up or 'booking' appointment?

- ☐ Before I was 8 full weeks pregnant
- ☐ When I was 8 to 9 weeks pregnant
- ☐ When I was 10 to 11 weeks pregnant
- ☐ When I was 12 to 14 weeks pregnant
- ☐ When I more than 14 weeks pregnant
- ☐ Don't know / Can't remember

•

5. At the start of your pregnancy did you have a choice about **where** you could have your baby?

- ☐ Yes
- ☐ No
- ☐ No, but this was not possible for medical reasons
- ☐ Don't know / Can't remember

•

6. Did you get enough information from a nurse/midwife or doctor to help you decide where to have your baby?

- ☐ Yes, definitely
- ☐ Yes, to some extent
- ☐ No, but I would have liked some information
- ☐ No, but I did not need this information
- ☐ Don't know / Can't remember

•

7. Were you given any additional information to support your pregnancy such as books, leaflets, or information sheets? See Notes.

- Yes
- No

No, I already had information

- Don't know / Can't remember

Antenatal check-ups

8. Roughly how many antenatal check-ups did you have in total?

- None
- 1 to 6
- 7 to 9
- 10 to 14
- 15 or more
- Don't know / Can't remember

9. How did you feel about the number of antenatal check-ups you had?

- I would have liked more check-ups
- I had the right number of check-ups
- I would have liked fewer check-ups
- Don't know / Can't remember

10. During your pregnancy were you given a choice about where your antenatal check-ups would take place?

- Yes
- No
- Don't know / Can't remember

11. Which of the following health professionals did you see for your antenatal check-ups? (select all that apply)

- Midwife/Nurse
- GP (family doctor)
- Hospital doctor
- Other (please specify):_____

12. Were you given a choice about whether your antenatal check-ups would be carried out by a midwife/nurse or shared between a midwife/nurse and a doctor?

- Yes
- No
- Don't know / Can't remember

13. If you saw a midwife/nurse for your antenatal check-ups, did you see the same one every time?

- Yes, every time
- Yes, most of the time
- No
- I only saw a midwife/nurse once
- I did not see a midwife/nurse
- Don't know / Can't remember

14. If you saw a hospital doctor for your antenatal check-ups, did you see the same one every time?

- Yes, every time
- Yes, most of the time
- No
- I only saw a hospital doctor once
- I did not see a hospital doctor
- Don't know / Can't remember

15. During your antenatal check-ups, were you given enough time to ask questions or discuss your pregnancy?

- Yes, definitely
- Yes, to some extent
- No
- I did not need to discuss anything
- Don't know / Can't remember

Tests and Scans

16. Did you have a 'dating scan', or an ultrasound to determine your estimated due date. This normally takes place between 8-14 weeks of pregnancy. see Notes for more details.

- Yes
- No
- Don't know / Can't remember

17. Was the reason for this scan clearly explained to you?

- Yes, definitely
- Yes, to some extent
- No
- Don't know / Can't remember

18. Do you feel you had a choice about having this scan?

- Yes
- No
- No, but I did not mind
- Don't know / Can't remember

19. Did you have any screening tests (e.g. a blood test or special ultrasound such as a nuchal scan, see Notes) to check whether your baby might any chromosomal conditions, e.g. Down's syndrome ?

- Yes, a blood test only
- Yes, a nuchal scan only
- Yes, a nuchal scan and a blood test
- No, I didn't want a screening test
- No, I wasn't offered any screening test
- Don't know / Can't remember

20. Do you feel you had a choice about whether to have a screening test?

- Yes
- No

- Don't know / Can't remember

21. Were the reasons for having a screening test clearly explained to you?
    - Yes, definitely
    - Yes, to some extent
    - No
    - Don't know / Can't remember

22. Did you have a scan at around 20 weeks of pregnancy? This may have been called a '20 week' scan, or an 'anomaly' scan or a 'mid-trimester' scan.
    - Yes
    - No
    - Don't know / Can't remember

23. Was the reason for this scan clearly explained to you?
    - Yes, definitely
    - Yes, to some extent
    - No
    - Don't know / Can't remember

24. Do you feel you had a choice about having this scan?
    - Yes
    - No
    - No, but I did not mind
    - Don't know / Can't remember

25. Roughly how many ultrasound scans did you have in total during this pregnancy?
    - None
    - One
    - Two to Three
    - Four or more
    - Don't know / Can't remember

During your pregnancy

26. While you were pregnant, but before you went into labour, did you stay in hospital overnight because of a problem related to your pregnancy?
    - Yes
    - No

27. During your pregnancy did you have the name and telephone number of a midwife/nurse you could contact if you were worried?
    - Yes
    - No
    - Don't know / Can't remember

28. If you contacted a midwife/nurse, were you given the help you needed?
    - Yes, always
    - Yes, sometimes

- No
- I did not contact a midwife/nurse

29. When you contacted a midwife/nurse, did you get a response as soon as you needed it?
    - Yes, always
    - Yes, sometimes
    - No
    - I did not contact a midwife/nurse
    - Don't know / Can't remember

30. Did a midwife/nurse explain to you what was written in your maternity notes (records)?
    - Yes, definitely
    - Yes, to some extent
    - No
    - Don't know / Can't remember

31. Did a midwife/nurse encourage you to make a birth plan (describing the kind of birth you wanted?)
    - Yes, definitely
    - Yes, to some extent
    - No
    - No, but this wasn't possible for medical reasons (e.g. a planned caesarean section)
    - Don't know / Can't remember

Overall thoughts on your care during your pregnancy

32. Thinking about your antenatal care, were you given the information or explanations you needed?
    - Yes, always
    - Yes, sometimes
    - No
    - Don't know / Can't remember

33. Thinking about your antenatal care, were you spoken to in a way you could understand?
    - Yes, always
    - Yes, sometimes
    - No
    - Don't know / Can't remember

34. Thinking about your antenatal care, were you treated with respect and dignity?
    - Yes, always
    - Yes, sometimes
    - No
    - Don't know / Can't remember

35. Thinking about your antenatal care, were you treated with kindness and understanding?
    - Yes, always
    - Yes, sometimes
    - No
    - Don't know / Can't remember

36. Thinking about your antenatal care, were you involved enough in decisions about your care?
    - ☐ Yes, always
    - ☐ Yes, sometimes
    - ☐ No
    - ☐ I did not want / need to be involved
    - ☐ Don't know / Can't remember

37. Overall, how would you rate the care received during your pregnancy?
    - ☐ Excellent
    - ☐ Very good
    - ☐ Good
    - ☐ Fair
    - ☐ Poor

Antenatal Classes (For example, Lamaze, antenatal yoga etc)

38. During your pregnancy, did you attend any antenatal classes provided by the National Health Service in your country?
    - Yes
    - No, I was not offered any classes
    - No, they were all booked up
    - No, I attended private antenatal classes
    - No, I did not need to attend the classes
    - No, I did not attend for some other reason

If you did not attend classes go to question 44,otherwise proceed to question 39

39. Were the classes at a convenient time of day?
    - Yes, definitely
    - Yes, to some extent
    - No

40. Were the classes at a convenient place?
    - Yes, definitely
    - Yes, to some extent
    - No

41. Was your partner or someone of your choice allowed to attend the classes?
    - Yes
    - No

42. Were there enough classes?
    - Yes, definitely
    - Yes, to some extent
    - No

43. Did the classes cover the topics you wanted?

- Yes, definitely
- Yes, to some extent
- No

About you

44. Have you had a previous pregnancy?
    - Yes
    - No

45. How many babies have you given birth to before this pregnancy?
    - None
    - 1-2
    - 3 or more

46. In what year were you born? _____ (YYYY).

47. To which of these ethnic groups would you say you belong? (Optional)

• East Indian/Indo-Trinidadian • African (Black)/Afro-Trinidadian • Mixed • Chinese	• Syrian • Portuguese • Any other Caribbean background • Any other ethnic group

End of Survey

Thank you for taking the time to complete my questionnaire. Your contribution is very much appreciated. A copy of the formal report will be available from the University of Stirling's library.

Please don't hesitate to contact me with any queries at all between now and its submission).

Yours appreciatively

Charmaine Blaize-La Caille
Email: cb61@stir.ac.uk
Work Phone: xxxxxx

Appendix X: Interview Schedule

Questions for key experts/HCP?

1. What is your job role and what field do you work in?
2. Can you tell me your understanding of your country's health quality strategy?

a. In what ways do you feel it is being implemented in practice?

3. What models of quality are being utilised to drive the quality strategy and how effective are they?
4. What tools or methods for improvement are commonly used, please describe how they are being used within health care and specifically for maternity services, if possible?
5. What have been some of the outcomes of these improvement methods?
6. Are there any quality award schemes/programmes or intentions and how does it work?
7. Is accreditation relevant to the healthcare quality agenda, please discuss?
8. What would impede the implementation/execution of the health quality strategy?
9. What would accelerate the implementation/execution of the health quality strategy?

Question specifically for clinical research participants

1. In your opinion is the number of visits to an antenatal clinic necessary and what is the optimum number of visits?

2. How relevant is the interval between visits and length of time spent with each woman?

3. What kind of information do you provide during antenatal visits?

4. What types of things would you reassure women about?

5. Who is the best provider to deliver antenatal care of a normal healthy pregnant woman?

6. Do you think the women who attended this Health care organisation were satisfied with the care they got?

7. How would you rate the level of care provided by your maternity services unit?

Appendix XI: Sample Transcript Exported from NVivo

ID: RR1

TIMESPAN

0:00.0 - 0:20.4

We would just get started one time. We have done our little introductions. And you have agreed to take part in the study as well. So just to get like a rough idea of what your job role is etc..

2

0:20.4 - 2:29.0

Well I'm the manager of human resource planning and development. What does that mean? Our unit is responsible really to looking at the health sector needs of human resources to health and that's not just in the public sector, but in the private as well and we strategizing on how we can meet those needs whether it be through education and training, partnering with other countries, well some of it has already been in place like the recruiting of persons from Cuba and the Philippines and to some extent from within the Caribbean and so on and that is mainly done through our international cooperation then. But our unit really takes a hard look at human resources, what is happening, what is the trend, what we have, what is available to the sector as a whole and how do we mitigate some of the challenges that we are faced with as you know one of the biggest issues worldwide is the shortage of human resources for health and depending on how wealthy you are sometimes you can afford to pull people out of other countries, more developing countries into yours. But we are looking into what we can do to retain our people as well. So it's not just about supply but retention, our recruitment strategy, our compensation strategy. We can't necessarily compete with the US or England or Saudi Arabia in terms of compensation but we can look at what factors are pushing our people out of the country, out of the public sector and into private and what we can do now to hold on to those people. So that in a nutshell is what we do. The title of the unit says what it does: plans for human resources and looks at the development whether it be through training and development or various other strategies to retain people that we have in the system.

3

2:30.9 - 2:35.2

You mentioned like working with private sector. How is that relationship?

4

2:35.2 - 8:08.9

Well we're now building that relationship. We have a committee called a health sector and multidisciplinary committee on human resources – a long title – and on that committee is the president for the private hospitals association [NAME, redacted], and through that mechanism we have tried to really start building the relationship. The unit also conducted a study in the staffing arrangement at private hospitals. Out of the 12 or 14 or so private hospitals in the country 9 of them participated in the survey. Private sector is still a little kind of suspicious of public sector getting into their business but it's in an effort to really understand what is happening.

Appendix XII: Sample Categorised Data Exported from SPSS

How many babies have you given birth to before this pregnancy?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	none	32	44.4	44.4	44.4
	1-2	30	41.7	41.7	86.1
	3 or more	10	13.9	13.9	100.0
	Total	72	100.0	100.0	

Age Range created from (Year of birth)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20	2	2.8	2.8	2.8
	20-24	21	29.2	29.2	31.9
	25-29	23	31.9	31.9	63.9
	30-34	14	19.4	19.4	83.3
	35-39	2	2.8	2.8	86.1
	40 and over	6	8.3	8.3	94.4
	No response	4	5.6	5.6	100.0
	Total	72	100.0	100.0	

To which of these ethnic groups would you say you belong?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	East Indian/Indo-Trinidadian	15	20.8	21.4	21.4
	African (Black)/Afro-Trinidadian	27	37.5	38.6	60.0
	Mixed	26	36.1	37.1	97.1
	Chinese	1	1.4	1.4	98.6
	Any other Caribbean background	1	1.4	1.4	100.0
	Total	70	97.2	100.0	
Missing	System	2	2.8		
Total		72	100.0		

Thinking about your antenatal care, were you given the information or explanations you needed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, always	39	54.2	54.2	54.2
	Yes, sometimes	23	31.9	31.9	86.1
	No	9	12.5	12.5	98.6
	Do not know / Cannot remember	1	1.4	1.4	100.0
	Total	72	100.0	100.0	

Thinking about your antenatal care, were you spoken to in a way you could understand?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, always	51	70.8	70.8	70.8
	Yes, sometimes	20	27.8	27.8	98.6
	No	1	1.4	1.4	100.0
	Total	72	100.0	100.0	

Thinking about your antenatal care, were you treated with respect and dignity?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, always	54	75.0	75.0	75.0
	Yes, sometimes	13	18.1	18.1	93.1
	No	3	4.2	4.2	97.2
	Do not know / Cannot remember	2	2.8	2.8	100.0
	Total	72	100.0	100.0	

Thinking about your antenatal care, were you treated with kindness and understanding?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, always	53	73.6	73.6	73.6
	Yes, sometimes	12	16.7	16.7	90.3
	No	6	8.3	8.3	98.6

Do not know / Cannot remember	1	1.4	1.4	100.0
Total	72	100.0	100.0	

Appendix XIII: Detailed Chart Example of Coding

Name: RR1 notes Summarised Key Points: exported from NVIVO	**Name:** RR2 notes Summarised Key points :exported from NVIVO
HR Retention Institutional Change Health care reform HR Planning Hands on involvement Accreditation Critical need to maximise HR potential Change management Award and Recognition Human issues in change IT systems Public vs Private health care Multisector and synergy Politics	Health promotion Economics Archaic regulation Technology challenges Midwife shortage Rethink of training policies Tensions between young doctors and nurses Professional respect choice in birthing options policies for recruitment, training and retention Career path for nursing and midwifery Reward and Recognition Caring gone out of nursing Politic logic and conflict (1 o level and a passion) Evidenced based support research culture Public and Private sector variances Communication Pregnancy myths Health education

Analytic codes derived from open coding

Code	Description	Meaning
S	Spontaneous	
D	Descriptive	
C	Challenges	
CT	Change in Training	
LS	Low Status	the way in which clinical groups are viewed by each other and their patients views
Qs	Quality Dimension Safety	Safe hands, Trust , reliability and confidence
Qt	Quality Dimension Timely	
Qeffc	Quality Dimension Efficient	
Qeqt	Quality Dimension Equitable	
Qeffv	Quality Dimension Effective	
Qp	Quality Dimension Person Centred	
Qg	Quality Dimension General	
CA	Competing Agendas	eg Political differences
CP	Clinical Power	ability to control use of resources
CC	Cultural Conflict	Competing myths, competition for what's acceptable, rights, rituals and practices
PD	Perceptual Difference	
BD	Brain Drain	
CM	Change Management	
SD	Status Difference	perceived differences within and outwith clinic
PD	Passiveness	

Axial coding linking analytical codes to themes/categories by interviewee

Pseudonym	Key Points	Analytical code
RR3	Aging midwifery staff	S,C,CT,LS,QS
RR6	Aligning policies	CA
RR2	archaic regulation	CA
RR6	Award system suspended based on adverse events and maternal deaths	CA
RR6	Blaim and excuse culture is detrimantal (Blaim vs gain)	CA
RR2	Career path for nursing and midwifery	CT,CA
RR2	Caring gone out of nursing	CA,Qp
RR6	Choice and trust	Qs,CA
RR2	choice in birthing options	Qs,CA,LS,CP

Data abstraction

Coding Phase 1 (first level coding)

Code name (descriptive and analytical)	Description	Broad themes
Choice in birthing options		Access to Health Services (barriers and
Aging midwifery staff		HR
Health Sector Strategies	Includes issues of mission, ambition, value, planning	HS strategies for success
Evidenced based support research culture		Information provision and training (the gaps)
Institutional Logic		Institutional Logic
Caribbean regional links	linkages within the Caribbean region	Network Alliances and Partnerships
Change Management		Organisational Change
Case example	This is to select stories from interviewees	Other
Archaic	Use this for mention of old or obsolete rules, regulations and facilities (buildings or equipment)	Rules Regulations and Policies
Caring gone out of nursing		Values Mores and Norms
1 Job role and profession	1. What is your job role and what field do you work in?	

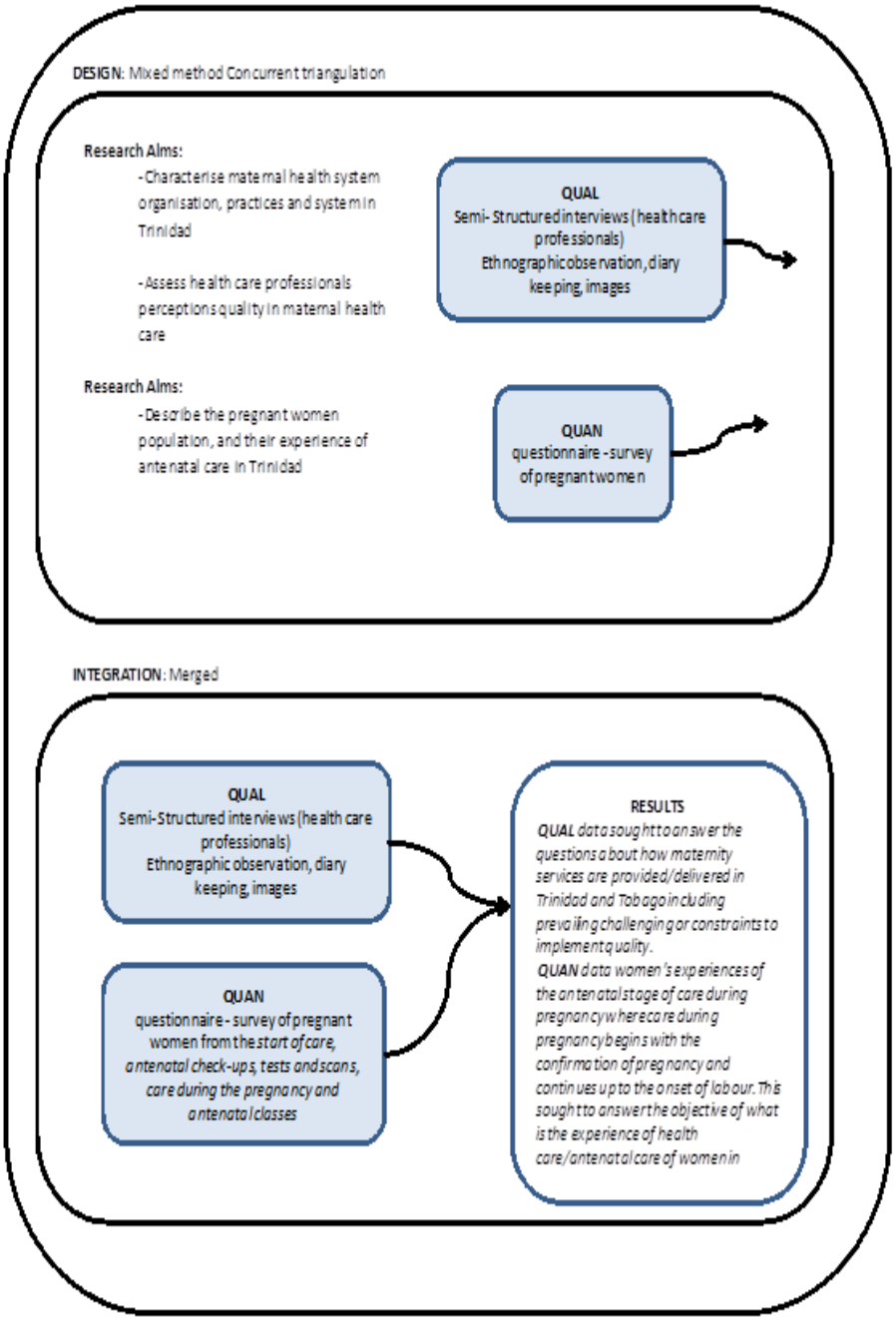
Coding Phase 2/3 (second level coding and recoding mapping themes to framework/model)

Code name	Description	Broad themes	Core Discussion Themes (mapping themes to the model)
Impact of gaps and obstacle to QI	This is the effects of lack of resources or facilities	Achieving Quality (barriers and facilitators)	Definition of quality in practice
Choice in birthing options		Access to Health Services (barriers and facilitators)	Other Aspects
Caribbean regional links	linkages within the Caribbean region	Network Alliances and Partnerships	Other Aspects
Concepts of Branding	Creating a brand and reputation management	Attributes of Quality	Outcome
Advocacy		Empowerment and participation	Process
Archaic	Use this for mention of old or obsolete rules, regulations and facilities (buildings or equipment)	Rules Regulations and Policies	Process
Distortion	linked to variance in care and distortion between service in private care as opposed to public care	Cohesion (how organised or disorganised activities are)	Structure
Aging midwifery staff		HR	Structure

Coding summary (thematic codes aligned with the model)

Definition of quality in practice	Structure	Process	Outcome	Other Aspects
Attributes of Quality	Access to Health Services (barriers and facilitators)	Access to Health Services	Achieving Quality (barriers and facilitators)	Network Alliances and Partnerships
Definitions in practice	Accountability and Ownership	Approaches to quality	Trust and Confidence	Outside-In (External input)
PSEEET	Cohesion (how organised or disorganised activities are)	Empowerment and participation		Values Mores and Norms- (Culture,Power and Conflict)
	Funding and compensation models	Organisational Change		
	Health system strength	Quality in Action		
	HR	Trust and Confidence		
	HS strategies for success	Provision of care		
	Information provision and training (the	Experience of care		
	Institutional Logic			
	Organisational Change			
	Rules Regulations and Policies			

Appendix XIV: Mixed Method Concurrent Triangulation



Appendix XV: Detailed Profile of Key Participant and Organisations Related to the Study

- RR1 is a senior HR manager with a strong social science/education background and has over 20 years of experience working in various educational organisations. RR1 embraces the challenges associated with their role and enjoys working in health and human resources.
- RR2 has 40 years' experience in nursing. For the past seven years, RR2 has worked as a primary care nurse manager having previously worked as a registered nurse (RN) and midwife district health visitor (DHV). RR2 has a broad portfolio in one of the two health facilities that have the largest antenatal clinic in this RHA. Their job role includes disease prevention, health education and promotion. Health education is provided in primary schools and more recently at clinics. Health education is less likely to be provided via secondary schools where information is disseminated via PTA groups or when there are national emergencies e.g. H1N1. In addition, public health surveillance is a key area of responsibility with daily monitoring and reporting to key international organisations such as the WHO. RR2 also provides women, children's, VCT services and primary health care, including accident and emergency.
- RR3 has worked as a primary care nurse manager for the past five years with responsibility for the management and leadership of health centre community programmes and the management of accident and emergency. As a primary care nurse manager, RR3 promotes the highest standard of care in the management of human, fiscal and material resources to support community programmes, all public patients and long-term care for patients in the community as well as accident and emergency services. The primary care nurse manager also co-ordinates all itinerant primary care and community programmes which involves collaboration and liaison with existing RHA programmes and the primary healthcare team. RR3 is a registered nurse who trained in England, and later qualified in midwifery and counselling at the University of the West Indies. In addition, RR3 trained as a theatre nurse and a DHV. Although RR3 loves midwifery and the care of women and their families, they do not feel that they are compensated enough for it as this was mentioned several times in the interview. RR3 operates within the constraints (understaffing, lack of equipment, poor compensation) of the health system, however, RR3 love and passion for the job minimises these discomforts.

- RR4 is an executive member of the Midwives association and is a principal of the school of nursing. They are currently a senior midwife and previously worked as a nurse and DHV. They are a strong advocate of the midwifery model of care.
- RR5 is a quality monitor improvement officer, who stated '[their] function is to conduct audits to ensure compliance as it relates to the quality delivery in health care and health care practitioners and health care providers'. Another function is to ascertain quality improvement training at facilities. For example, they would set up sessions to educate or sensitise staff on systems, policies and requirements within healthcare and to ensure compliance with the standards and protocols. They also assist different departmental heads, identify strategies for the implementation of quality standards; investigate incidents or irregularities of practice in healthcare; conduct clinical work process and review the efficiency and effectiveness of the clinical working process. RR5 has a social science background, is a trained quality manager and has Occupational Safety and Health (OSH) certification.
- RR6 has over 30 years' experience in various nursing roles including community nursing, a district health visiting program, STD program and within the surveillance unit. Since 2009, RR6 has held a senior managerial position in the Ministry of Health. RR6 operates at two levels below the Minister of Health. The job involves consulting, facilitating and collaborating with senior nurses in the RHAs and all the nurses in the RHAs to gather information for assessments and to facilitate all that they need as well as providing an advisory role to the Ministry of Health. RR6 also works with professional and registration bodies to gather data to facilitate procedures and make recommendations to the ministry.
- RR7 has worked in human resources in health care for over 30 years and currently is a senior Human Resource Officer. Their role involves managing human resource issues to enhance healthcare in the RHA hospital. They have responsibility for recruitment, staff retention, training and development in the RHA. RR7 has a social science background and recently completed a Master's degree.
- RR8 is one of the founders and executive director of a non-profit organisation providing antenatal care and postnatal care in Trinidad and Tobago. RR8 is also an independent senior midwife and holds a very senior position in the International Confederation of Midwives, ICM. The ICM represents over 400, 000 midwives and is the only body that represents midwives globally. The ICM has its headquarters in The

Hague, Netherlands, Europe, with 127 Member Associations in 111 countries across every continent. Recently, RR8 received a prestigious national award, in recognition for their services. (Mamatoto.net 2016)

- RR9 is an experienced health professional with over 30 years' experience in different operational roles including intensive care nursing, midwifery, general nursing and dialysis. In 2008, they made the switch to an administration role. RR9 described the motivation for their career change to develop an understanding of quality and shift from practice to policy, broaden skillset and contribute at a different level in health.

RR9 is a trained quality practitioner in quality management and auditing, conducts quality audits throughout the Ministry of Health, and holds multiple roles in the Quality Directorate, a division of the Ministry of Health including Acting Head of the Directorate with responsibility for the operational side of nursing and the unit. This participant has held multiple roles and is often faced with the challenge of 'spreading themselves too thinly' because there are not enough HR resources to do the volume of work required. RR9 is quite knowledgeable and is fully aware of the quality models and standards.

- RR10 is a District Health Visitor at one of the district's health facilities and manages several clinics including antenatal clinics. RR10 monitors, assesses and counsels antenatal clients throughout from the first to the third trimester of pregnancy.
- RR11 has a clinical background and is currently a Medical Director and head of one of the divisions within the Ministry of Health. This role involves providing and coordinating leadership of national and local health programmes as well as integrating and consolidating all policies and practices in primary health care. This process involves conceptualising and designing programmes, writing proposals, conducting feasibility studies and implementation. Thereafter, RR11 oversees the monitoring and evaluation as well as ensuring there is ongoing technical support available.
- RR12 has over 30 years of clinical, quality and management experience. They have worked as a Regional Nursing Manager, Quality Manager and Quality Trainer. Their clinical roles have included general nursing, psychiatric nursing and midwifery.
- RR13 is an Executive on the Board of the Institute of Quality and is QMS/EMS Lead Auditor; ASQ, Certified Manager of Quality/Organizational Excellence, Member of the American Society for Quality (ASQ); Proctor for the ASQ Certified Professional Examinations; Consultant and Project Manager to many large organizations in Trinidad and the Wider Caribbean. RR13 has worked with several international bodies

including British Standard Institution (BSI), the world's first accredited registrar, American Quality Assessors, SGS International Inc., QMI, Loyola University and the American Society for Quality (ASQ) Divisions, USA.

- RR14 is a nurse/midwife who trained in the UK. RR14 specialises in working with women who have high-risk pregnancies, including Blood Borne Viruses, in one of the clinics in the RHA.

In summary, the aim of this description is to justify the selection and involvement of theses participants. They are experienced and informed subject matter experts for the research inquiry. The following sections provides an overview of the organisations involved.

The following brief description of the Ministries of Health and non-governmental organisations were obtained through their websites and interviews.

Ministry of Health and its Authorities

The Ministry of Health (MoH) is described as the national authority that has responsibility for the entire health system of TT. The MoH has a central role in protecting the population's health and ensuring all health-related goods and services conform to standards of safety. The ministry's core values include client-centeredness, responsiveness to consumer needs and preferences and decision making based on sound research (Government of the Republic of Trinidad and Tobago 2011). The MoH has the responsibility of ensuring that health facilities are efficiently run by the RHAs. To achieve this, they have developed policies, goals and targets for the RHAs in relation to the assessment of health needs. Priorities of the MoH are listed as reducing the prevalence of communicable diseases, including HIV/AIDS and addressing chronic diseases and mental health.

Regional Health Authorities (RHAs)

In 1994, the health services in Trinidad and Tobago were decentralised to create five RHAs (Regional Health Authority Act 1994). RHAs were made autonomous bodies to own and operate health facilities in specific geographical areas on behalf of the MoH.

The vision, mission and core values of the RHA represented in this study is are as follows:

Table 10: Mission and Core Values of the RHA

Vision	To improve the quality of life of our clients through the promotion of wellness and efficient collaborative health services management focused on the needs of the population
Mission	to provide quality, safe and cost-effective health services to the communities we serve through motivated staff and partnerships with relevant stakeholders
Core Values	Cooperation/partnership, commitment to excellence, integrity/honesty and respect for human dignity

Source: North Central Regional Health Authority (2016)

The RHA is responsible for the management and operation of the following Health Facilities: two Hospitals, two Health Facilities, one Extended Care Facility, twelve Health Centres and one Outreach Centre. The two Hospitals are tertiary or teaching health institutions. The Health Centres offer twenty-five plus types of services including maternal and child health services. Examples of maternal and child health services offered are: Antenatal Clinic, Cervical Screening, Child Welfare Clinic, Family Planning, Pap Smear, Paediatric Clinic, Postnatal Clinic and Prenatal Clinic.

Health Sector Human Resource Planning & Development (HRPD)

The HRPD was established in early 2010 and was responsible for investigating the human resource needs for both the public and private health sectors. The MoH state that their 'strategic plan for 2012-2016 identifies human resource planning and development as a core strategic priority in responding to the national priorities for health' (Government of the Republic of Trinidad and Tobago 2011). The unit is responsible for the human resource strategy to meet those needs through education and training and collaborating with other countries and identifying trends as well as strategies for staff retention, recruitment and compensation.

The Quality Directorate Unit (QDU)

The QDU is one of several directorates within the Ministry of Health and was established in 1995 to facilitate the delivery of quality management methodology as

part of health sector reform (Government of the Republic of Trinidad and Tobago 2011).

NGO1

NGO1 is the brainchild of a group of independent midwives that came together because they shared concerns about the prenatal, perinatal and postnatal care experienced by women in Trinidad and Tobago. They lend support to each other in their own efforts to give families individualised care and opportunities for natural childbirth. They were keen for women and their families to experience pregnancy as a dignified and wonderful event.

The centre has an excellent multi-media library, and conference facilities, and as has also established a freestanding active birth centre and provides free workshops to the public. They also offer support groups for women that have experienced a miscarriage or the loss of a baby, called 'Baby Included Only in Our Hearts'. They also run a Postnatal Support Group. Some services are free and others are at a cost although they operate a means-tested three-tier system of charging clients from free (full discount), partial discount and full price. As RR9 said passionately: 'One of our basic philosophies is that, anybody who wants to access any of our services or our care should be able to do it regardless of their financial need'. They are funded by international bodies and private donors including J.B Fernandes Trust Fund 1, The National Lotteries Control Board, United Way, Match International, Australian High Commission Trinidad & Tobago, Pereira & Company, UK Women's Club, The Embassy of Japan in Trinidad & Tobago and volunteers, supporters and friends.

NGO1 MISSION

NGO1 is committed to establishing a community-based, accessible, equitable and innovative childbirth centre. They offer family centred, individualised care to healthy women and their families (as defined by each woman). Care is tailored to each woman's cultural needs and personal choices and this is achieved by offering comprehensive counselling education and support during pregnancy, birth and the postpartum period in a freestanding birth centre. The members of the Board believe

health is a right and that birth is a natural process. NGO1 are committed to the following values for the childbearing woman:

- Respect
- Empowerment
- Self-determined, informed choices

Their mission is to make natural childbirth a safe experience and available to every woman.

NGO2

NGO2 was established in 1995 under the auspices of the Trinidad and Tobago Registered Nurses Association and strives to promote and advance the art and the science of midwifery by redefining the role of the midwife to enhance the professional status and image of its members. It is a self-funded non-governmental organisation (NGO), and aims to be the premier organisation for midwives and a key source of current and evidence-based information. NGO2 has a membership base of approximately 160 members, and includes those in public practice, private practice and independent practitioners. Its core functions are to educate members, raise the profile of midwifery in the Caribbean to an International level and to promote midwifery as an independent profession.

This can be achieved through access to international seminars and scholarship/research opportunities with overseas sister organisations such as The International Confederation of Midwives (ICM), American College of Nurse Midwives (ACNM), and the Royal College of Midwives (RCM). They state: 'Through the linkages we make throughout the region and the world, we are striving to raise the calibre of midwifery'. Another key aspect of the midwifery profession is the community role: educating the public on the importance of continuous proactive health care, community lectures and counselling of adolescents. Some of the community education lectures and seminars held by NGO2 include pre-conception care, Antenatal care, intranatal care, Family planning, Infant care and nutrition and Baby massage. Education, Regulation and Association are the watchwords of NGO2 this ensures competency and currency of knowledge for their members.

Caribbean Institute of Quality (CIQ)

The Caribbean Institute for Quality Ltd. (CIQ) was established in 1999, provides training and development in the Caribbean and Latin America and ensures individual professional enhancement for business excellence and international recognition. CIQ is affiliated with and has partnership with major international institutions including the American Society for Quality (ASQ), CSD Division, Loyola University, New Orleans (USA) and American Quality and Environmental Group. It provides a range of internationally recognised quality training programmes and consultancy support services through these partnerships. Their core functions include growth and development in the Caribbean and Latin America with an emphasis upon quality, reliability, expertise and capability and pre-preparation diagnostic work for implementation of quality management systems. They utilise multiple quality approaches and interrelated change management processes.