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The Role of UAE Health Professionals in Maternal and Child Health Policy

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2015

Abstract

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Post-Graduate Dip, University of West Indies, 2008

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Dissertation Submitted in Partial Fulfillment

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Abstract

Maternal and child health (MCH) mortality is a formidable challenge for health systems around the world according to the World Health Organization. Health professionals and practitioners within the United Arab Emirates were studied to determine the extent they were involved in the policy-making process, and the potential impact that analysis may have on new or revised MCH policies. Research on MCH policy-making and development processes are limited. The Andersen model of healthcare services utilization provides an appropriate framework for this research, enabling the analysis that influences the policy-making process in the area of MCH. Independent variables included nationality, education, work experience, and organizational support, and the dependent variable included policy-making process. The quantitative methodology included the data collection from a sample of 380 health professionals and practitioners. The results of the study revealed statistical correlations where the most significant predictor of policy-making was organizational support, which explained the 42% variation in policy-making. This predictor was followed by nationality and education. The research adds value for decision-makers when considering and evaluating the extent of MCH policy, laws and regulations, current challenges, and strategies. The research findings could positively influence decision makers' action plan in formulating new guidelines, public policies, and strategies for the development of maternal and child health across the UAE region. Future research should aim to include other factors that may have an influence on the policy-making process.

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Dedication

I would like to dedicate this doctoral study in memory of my grandfather, Krishna Raymond Charles, and to my grandmother, Feroza Rahman-Charles, my parents, my brothers, friends worldwide, and extended family, whose love and support helped make this project possible-- you all truly deserve co-ownership of this doctoral degree.

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Chapter 1: Introduction to the Study

Since 2000, increased attention has been given to improving maternal and child health (MCH) as a global priority, according to the World Health Organization (WHO). International organizations, governmental agencies, and federal entities mandated MCH as a priority for immediate intervention (Shiffman, 2010). Maternal and child mortality in contemporary times remains a foremost challenge to the health systems internationally. Countries worldwide have been working towards reducing maternal and child mortality rates consistent with recommendations (Bhutta, 2013) from the WHO, United Nations Population Fund (UNFPA), and United Nations Children's Fund (UNICEF). Moreover, in the year 2000, there was the launch of the Millennium Development Goals (MDGs), particularly Goals 4 and 5. The focus of the MDGs 4 and 5 was to improve child and maternal health (AbouZahr, 2003; Roudi-Fahimi et al., 2012) in order to reduce occurrences of neonatal mortality rates (NMR), maternal mortality rates (MMR), and infant mortality rates (under -5 years; IMR).

Within the Eastern Mediterranean Region (EMR), commonly known as the Middle East, mechanisms have been put in place towards meeting the MDGs 4 and 5. However, progress in attaining the targets (4.4%) for reducing child mortality (MDG 4) and the targets (5.5%) for reducing maternal mortality (MDG 5) is slow, as the current rate of decline of death rates between 1990 and 2010 are at 1.5% and 1.9% respectively (Bhutta, 2013; Darmstadt et al., 2012). Several EMR countries such as Afghanistan, Djibouti, Egypt, Iraq, and a few others are struggling with achieving the targets of

improving child and maternal health within the EMR. These are classified as the priority countries (Bhutta, 2013; WHO-EMR, 2013). Therefore, it is critical to examine the policies, strategies, and the mechanisms the United Arab Emirates (UAE) used for reducing the child and maternal mortality rates over the past few years. The research study was designed to explore and understand the various mechanisms in an effort to reduce the child and maternal mortality rates across the priority countries of the EMR through MCH policy-making. Factors such as access to education, political and economic opportunities, and the delivery of infant and maternal healthcare services affect the performance of meeting the needs of pregnant mothers and children under 5 within the EMR priority countries (Save The Children International, 2013, p. 69; UNICEF, 2012).

As of 2013, six countries of the EMR including Bahrain, Lebanon, Oman, Qatar, UAE, and Saudi Arabia are among the lowest in the world for achieving a reduction in rates for child mortality (WHO-EMR, 2013). The UAE has been documented to be the lowest in the region (WHO-EMR, 2013). On a yearly basis within the EMR countries, over 39,000 women die as a result of pregnancy-related complications during birth, prematurity, and preventable or treatable diseases, including infections (Darmstadt et al., 2012; Lawn et al., 2012), while approximately 923,000 children under the age of 5 die every year (Bhutta, 2013, WHO-EMR, 2013). On the 31st of January 2013, Her Royal Highness Princess Haya Bint Al Hussein, wife of His Excellency Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of UAE and Ruler of Dubai, started a debate with EMR healthcare professionals in regard to the high incidence of

MCH mortality rates, which has the second highest mortality rates worldwide, despite in the financial wealth of the EMR.

The purpose of the correlational study was to investigate the policies and strategy processes used by health professionals for improving MCH policy to reduce child and maternal mortality rates. The study has relevance to positive social change by developing and generating evidence on how maternal and child mortality rates can be further reduced (within the priority countries of the EMR), through input from health professionals and practitioners.

UAE health professionals and practitioners were surveyed to investigate to what extent health professionals were involved in the policy-making process and the possible impact analysis may have from new or revised MCH policies. Across the EMR, Ministries and Departments of Health influence the policy development of reducing mortality rates and achieving the MDGs 4 and 5. Public health leaders, academics, community professionals, health industries, healthcare professionals, and government entities and agencies may use the results of this study to lower the maternal and children mortality rates within the priority countries.

Chapter 1 includes the background of the study, the problem statement, the purpose of the study, the research questions for quantitative correlational studies, the theoretical framework, the nature of the study, the definitions, the assumptions, the scope and delimitations, the limitations, the significance of the study, and a summary.

Background of the Problem

In this section, I discuss MCH in its current state worldwide, then a brief history on MCH, followed by some brief details on the MCH research literature, and end with the current debates and trends in the field of MCH.

Prevalence of Maternal and Child Health

Improving MCH has increasingly become a global mandate, including a call for interventions for reducing the mortality rates of mothers and children. Annually, over 3 million babies die worldwide, primarily due to complications during birth, prematurity, and preventable or treatable diseases, including infections (Darmstadt et al., 2012; Lawn et al., 2012; Save the Children International, 2013, p. 27; UNICEF, 2012). Within developing countries, over 40 million women give birth in the premises of their home without any assistance from health professionals and practitioners (Darmstadt et al., 2012; Lawn et al., 2012; Save the Children International, 2013, p. 27; UNICEF, 2012). Daily, over 800 women die during pregnancy or delivery, and there are 8,000 deaths of newborn babies (Save the Children International, 2013, p. 7).

History of Maternal and Child Health

In the mid-1980s, critical MCH issues were highlighted for conference debates and government forums, including hemorrhage, abortion, infection, eclampsia, obstructed labor, pneumonia, prematurity, birth asphyxia, and diarrhea (WHO-EMR, 2013). Several international conferences and forums created an initial awareness of the challenges.

These conferences and their objectives are discussed in detail within Chapter 2. One outcome of these conferences was the launch in 2000 of MDGs 4 and 5 to improve MCH.

Maternal and Child Health Research

Research in the field of MCH has grown over the past decade (Chapman et al. 2014; Ronsmans et al., 2006). According to the *Eastern Mediterranean Health Journal* editors, within the EMR, MCH has become a topic of interest and debate for health professionals, policy-makers, government entities, and academics (Chapman et al., 2014; Ronsmans et al., 2006; Hutchins, 2001). MCH researchers have primarily focused on health services and care (Chapman et al., 2014). There has been limited research on the role of health professionals in the MCH policy-making and development process (Chapman et al., 2014; COHRED, 2014; Save The Children International, 2013, p. 27; UNICEF, 2012).

Consequently, there has been a gap in understanding the role and importance of MCH professionals in policy development and implementation (Chapman et al., 2014), in addition to the lack of research on the subject (Ervin, 1982; Freudenberg, 1984; Holtrop, Price & Boardley, 2000; Ogden, 1986; O'Rourke, 1989; Steckler & Dawson, 1982). Results from this study help to bridge the gap between health practitioners and applied research in understanding whether and how health professionals play a role in the MCH policy-making process. Across EMR countries, over 39,000 women die because of pregnancy-related complications, while approximately 923,000 children under the age of 5 die every year (Bhutta, 2013, WHO-EMR, 2013). Addressing this problem was critical

within the EMR in addressing the underlying problem of elevating maternal and child mortality rates across the EMR.

Current Trends and Debates

Ten priority countries within the EMR are struggling with adoption of the policies and strategies towards improving MCH. These 10 MDG 4 and MDG 5 priority countries within the EMR include Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, South Sudan, Sudan, and Yemen (WHO-EMR, 2013; WHO, 2012). These 10 priority countries contribute to over 90% of maternal deaths in the region (WHO-EMR, 2013). From these maternal deaths, 70% are caused by pregnancy-related complications within the EMR, such as hemorrhage, abortion, infection, eclampsia, and obstructed labor (Bustreo, 2014; WHO-EMR, 2013). Sixty percent of the child mortality rates are due to preventable causes within the EMR, such as pneumonia, prematurity, birth asphyxia, and diarrhea (Bustreo, 2014; WHO-EMR, 2013). The countries of the EMR have adopted a number of strategies for improving MCH as reported in conjunction with the MDG 4 and 5 Countdown Initiative (AbouZahr, 2003; WHO, 2013).

The governments across the EMR were encouraged to implement health systems, policies, and mandates to promote better maternal and childcare. Many of the ministers of public health within the EMR expressed their commitment and dedication towards improving MCH care in relation to health system performance, policies, and strategies, trends of health status, disease surveillance, and routine reporting (Al Hussein, 2013; Requejo et al., 2010). Many of the priority countries within the EMR are experiencing a

shortage of health professionals and practitioners such as doctors, midwives, and nurses, in addition to an unequal distribution of financial investments for training and development in policy-making (Chapman et al., 2014; Bhutta et al., 2010; Hutchins, 2001; Ronsmans et al., 2006). The Countdown Initiatives were developed almost a decade ago, with the purpose of supporting, driving, and monitoring the implementation of the MDGs with a particular focus on improving the MCH. The first Countdown Conference launched its initiatives in London, England in 2005. Implementation of these Countdown Initiatives occurred across the EMR through policies and strategies in favor of improving the MCH. A list and discussion of the 10 Countdown Initiative policies and strategies are illustrated in Chapter 2.

Problem Statement

Chapman et al. (2014) recently identified the global research priorities for decreasing maternal mortality rates. They found the highest ranked research priority (26%) was related to health systems and policy and recommended governments and aid agencies support such an initiative with the purpose of better serving the needs of researchers and policy-makers (Chapman et al. 2014). Nonetheless, there is a problem in achieving these goals. The government sector across the EMR has no set health research agenda, according to the Council on Health Research for Development (2014). Despite the number of policies developed for improving MCH overall, over the period of 2005 to 2012, mortality rates were high within the EMR (Bhutta, 2013; WHO, 2012a; WHO-EMR, 2013). Within the EMR, there are 10 priority countries that have experienced

higher MCH mortality rates than their neighboring countries (Hogan et al., 2010; Save the Children International, 2013). As a result, an increase in mortality rates has become a major concern for across government officials within the EMR.

Further research was necessary to determine the potential factors that may be preventing the achievement of global research priorities, and the development of a research agenda may be needed. Therefore, a quantitative correlational study was useful in determining whether MCH professionals and practitioners have influence on policy. In other words, the research agenda was to investigate whether MCH professionals and practitioners have a strong level of influence in the policy-making process (Smith et al., 2014) to inform policy and program efforts and to reduce these mortality rates across the EMR.

Purpose Statement

The purpose of the quantitative correlational research was to investigate how health professionals and practitioners develop and influence the policy development process for reducing maternal and children mortality rates in the EMR. There was a need to reduce the mortality rates among the maternal and children population through policy development and its implementation and adoption requirements (Chapman et al., 2014; Chervenak et al., 2013; Shennan et al., 2012; Smith et al., 2014). In order to alleviate mortality rates, other researchers have suggested promoting breastfeeding, engaging in neonatal resuscitation, prevention of hypothermia and infection, in other words, showcasing the “kangaroo mother care” (Lakew & Worku, 2014) and providing access to

basic education and training and resources (Conde-Agudelo et al., 2013; Lozano et al., 2011; Schmölzer et al., 2013; Smith et al., 2014). In this study, I incorporated ideas from these researchers, such as inclusion of the level of perceived organizational support towards the MCH professionals and practitioners.

The study population consisted of MCH professionals and practitioners within the UAE. The instrument for the study was a 5-point Likert-type scaled response measure to capture perceptions of health professionals and practitioners regarding their influence in policy-making and development. The goal of the study was to identify levels of influence health professionals and practitioners have on policy development and adoption (AbouZahr, 2003; Bhutta et al., 2010; Chervenak et al., 2013; Smith et al., 2014) for improving and lowering MCH mortality rates.

Research Questions and Hypotheses

The research entailed the following research questions and hypotheses:

RQ1: To what extent, if any, does the nationality of the MCH professional relate to the level of influence in policy-making?

$H_0$1: There is no relationship between the nationality of the MCH professional and level of influence in policy-making.

H_a1: There is a relationship between the nationality of the MCH professional and level of influence in policy-making.

Nationality was an independent variable (IV) and was measured as a nominal variable. This IV was controlled in the study, and there were two possibilities, that is,

native to UAE and non-native to the UAE, according to the UAE National Bureau of Statistics in 2011. This variable was associated with the predisposing factors phase of the Andersen model (Aday & Andersen, 1981; Andersen, 1995).

RQ2: To what extent, if any, does the level of education attained by the MCH professional relate to the level of influence in policy-making?

H_o2: There is no relationship between the level of education attained by the MCH professional and the level of influence in policy-making.

H_a2: There is a positive relationship between the level of education attained by the MCH professional and the level of influence in policy-making.

The level of education was an IV and is measured as a categorical variable, from the highest level of education to the lowest level of education attained. Education IV was not controlled or manipulated. Health professionals' level of education within the EMR is rapidly changing due to society's acceptance of various medical degrees earned and other applied health-related degrees (Frenk et al., 2011; Kronfol, 2012c). In a recent study, education as an IV, was found to have a relationship with the policy-making process (Maibach, Leiserowitz, Roser-Renouf, & Mertz, 2011). This variable was associated with the predisposing factors phase of the Andersen model (Aday & Andersen, 1981; Andersen, 1995). The level of education or the highest degree earned was defined by the UAE National Bureau of Statistics and classified within five categories: Doctorate (Ph.D.) Master, Diploma Post University (Postgraduate Diploma), Bachelor and others

such as Higher Diploma Associate Degree, secondary education, certificates, and professional training (UAE-NBS, 2013).

RQ3: To what extent, if any, does the number of years of work experience of the MCH professional relate to the level of influence in policy-making?

H_o3: There is no relationship between the number of years of work experience of the MCH professional and the level of influence in policy-making.

H_a3: There is a positive relationship between the number of years of work experience of the MCH professional and the level of influence in policy-making.

The years of work experience was another IV and was measured as a continuous variable with a restricted range, that is, 0 to 50 years. In a recent study, years of work experience, an IV, was found to have a relationship with the policy-making process (Maibach et al., 2011; Rotundo & Sackett, 2002). This variable was associated with the predisposing factors phase of the Andersen model (Aday & Andersen, 1981; Andersen, 1995). The years of work experience was not be controlled or manipulated.

RQ4: To what extent, if any, does the level of support from the institution of employment of the MCH professional relate to the level of influence in policy-making?

H_o4: There is no relationship between the level of support from the institution of employment of the MCH professional and the level of influence in policy-making.

H_a4: There is a positive relationship between the level of support from the institution of employment of the MCH professional and the level of influence in policy-making.

The level of support from the institution of employment was another IV and was measured as a categorical variable adapted from the perceived organizational support model established by Eisenberger et al. (1986). Four items were selected from the Survey for Perceived Organizational Support (POS; Eisenberger et al., 1986) where prior studies have provided evidence of reliability and validity of this instrument (Allen & Shanock, 2013; Biswas & Bhatnagar, 2013; Loi, Ao, & Xu, 2014; Shore & Tetrick, 1991; Shore & Wayne, 1993). In a recent study, the level of organizational support, an IV, was found to have a relationship with the policy-making process (Mitwalli, Al Ghamdi, & Moussa, 2014). Four items of the POS survey questions for the study were included as follows:

1. The organization takes pride in my accomplishments.
2. The organization really cares about my well-being.
3. The organization values my contributions to its well-being.
4. The organization strongly considers my goals and values.

Each of the four items had scale anchors from 1 (*strongly disagree*) to 5 *(strongly agree*; Shore & Wayne, 1993). This variable was associated with the enabling factors phase of the Andersen model (Aday & Andersen, 1981; Andersen, 1995).

For all the above four research questions and hypotheses, the dependent variable (DV) was the same, where the level of policy-making influence was on the range of the scale of 1 to 5. This DV was a discrete variable where the respondents entered only values of 1, 2, 3, 4, and 5. The research question and hypotheses were used to determine whether a relationship/association existed between the IV and DV sets.

Theoretical Framework

Within quantitative research studies, theory is established at the beginning of the study before the actual scientific analysis begins (Creswell, 2009). The theoretical framework that grounds this research are the concepts of the Andersen model of healthcare services utilization. This model was developed by Andersen (1968) to examine healthcare settings and processes (Andersen, 1995; Andersen & Newman, 1973), as illustrated in Figure 1.

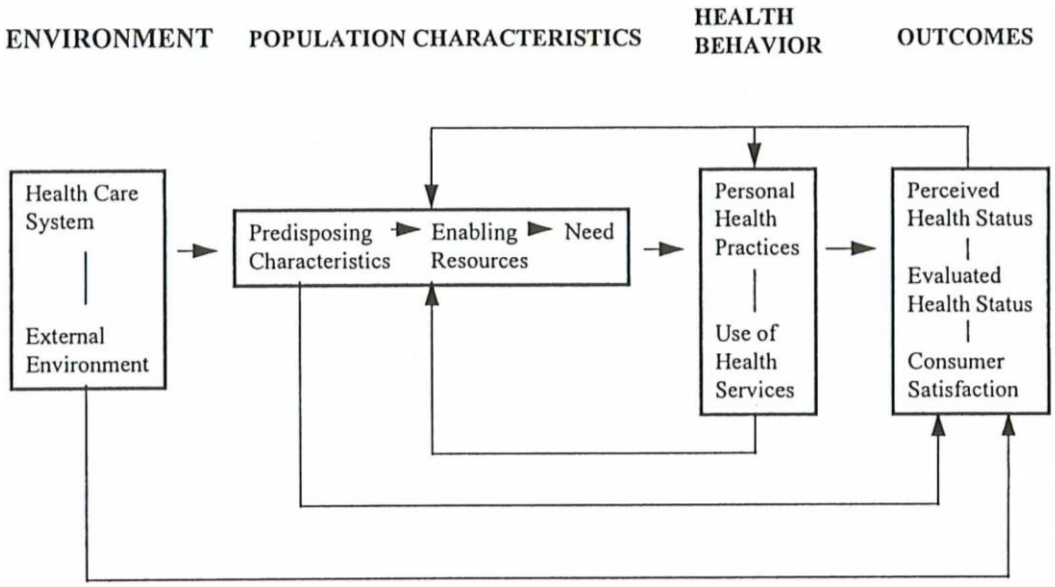


Figure 1. The Andersen model of healthcare services utilization (1995). From "Revisiting the Behavioral Model and access to Medical Care: Does It Matter?" by R. M. Andersen, 1995, *Journal of Health and Social Behavior, 36*, p. 8. Copyright 1995 by the American Sociological Association. Reprinted with permission.

The Andersen model is one of the most frequently used theoretical frameworks in healthcare administration (Brown, Barner, Bohman, & Richards, 2009; Jahangir, Irazola, & Rubinstein, 2012; López-Cevallos & Chi, 2010; Najnin, Bennett, & Luby, 2011;

Young et al., 2006). The model is focused on examining healthcare settings and processes (Andersen, 1968, 1995; Andersen & Newman, 1973). In the field of MCH, this model is widely used by many researchers (Austin et al., 2008; Goldsmith, 2002; Hughes & Wingard, 2008; Lo & Fulda, 2008; Stein et al., 2007). There are limited research studies on the topic of policy-making and development, and its influence on reducing mortality rates. The theoretical framework helped to focus on how to employ the Andersen model in exploring the factors associated with MCH care professionals' and practitioners' involvement in policy-making and development.

There are three components of the Andersen model: predisposing factors, enabling factors, and need factors (Andersen, 1995; Andersen & Newman, 1973). A systematic review of the Andersen model was adopted from a recent research publication by Babitsch, Gohl, and Lengerke (2012) that highlighted research studies on the topic of MCH and policy-making using the Andersen model. Table 7 consists of 10 MCH research studies in the EMR during the period of 2013 to 1986 and 17 MCH research studies occurring worldwide during the period of 2011 to 1999. Among these research studies, the methodology was quantitative research while the theoretical framework was the Andersen model.

In this research study using the Andersen model (Aday & Andersen, 1981; Andersen, 1995; Babitsch et al., 2012; Kim et al., 2006), the predisposing factors such as gender, education, occupation, and nationality enabling factors such as (but not limited to) years of work experiences and level of organizational support and need factors such as

the number of health professionals and practitioners maternal and child care/health involved in the policy-making process was examined. The study addressed a potential linkage between the Andersen model and the MCH policy-making process. This linkage was established through the identification of the population characteristics of the health professionals and practitioners and its social impact on the MCH policy-making process. These predisposing, enabling, and need components are the IVs and DV of the study. The Andersen model alignment in research studies is discussed further in Chapter 2.

Nature of the Study

The purpose of the quantitative correlational study was to examine the MCH policy-making and development process in the UAE. In quantitative research methods, the theory guides the scientific analysis, which is either tested or measured against data (Creswell, 2009; Mason, 2002). A quantitative correlational method was the most appropriate approach to be used for the study to answer what and how much in relation to the scope, purpose, and research questions (Creswell, 2009; Myers, 2008). This method involved a deductive theory that allows for less depth but more breadth of information across a large number of cases (Creswell, 2009; Mason, 2002; Myers, 2008).

In this quantitative research methodology for this study, consideration was given to using an experimental design to establish an intervention that may have an influence on the outcome (Heffner, 2004) of lowering the EMR mortality rates in MCH. However, this type of design would require a comparison group, as it is impossible to determine if the outcome rates and health statuses are any higher than they would have been (Heffner,

2004). Therefore, exclusive of the MCH policy-making and development process, it was also unfeasible to establish if any changes within the group itself had taken place (Heffner, 2004). The comparison groups would have been the private healthcare sector and the public healthcare sector for the study across the UAE.

The IVs within the study included nationality, education, organizational support, and level of work experience, and included the number of years of MCH, health management experience, level of education, level of MCH care involvement, and job position title of the health professionals and practitioners within UAE, as well the type of services used in MCH. The DVs included the five phases of the policy-making process and development, that is, policy preparation, policy formation, policy adoption and legitimization, policy implementation, and policy assessment and evaluation.

The quantitative methodology included the data collection of a sample of the population of health professionals and practitioners involved in the MCH care and management across the UAE. According to reports from the UAE National Bureau of Statistics data for 2011, the total population of the UAE health professionals and practitioners was 34,603 (UAE Statistics, 2013). The population in 2011 was comprised of 2,796 health professionals and practitioners working at health centers affiliated with the UAE Ministry of Health, 5,624 working at hospitals affiliated with the UAE Ministry of Health, 5,580 working at government health establishments, and 20,603 working at private health centers and hospitals. From these 34,603 healthcare professionals and practitioners, there were 7,850 working within the field of MCH and, therefore, this was

the study population. Based on the statistical sample size table (Krejecie & Morgan, 1970; Wilson, 2014) and reference to a sample size calculator (Raosoft Inc., 2004; Wilson, 2014; with a 5% margin of error), confidence level as 95% and study population size as 7,850 and the response distribution as 50%, the minimum sample size for the study was 366 health professionals and practitioners involved in the MCH care across the UAE.

A database was developed identifying MCH professionals and practitioners in the UAE. The database development complied with similar steps as exhibited by Chan et al. (2011) included establishing a set of standardized data set elements. The MCH professionals' information was gathered into one repository. This database was not made public to anyone except me. A survey instrument was designed along the constructs of allowing many of the participants to provide answers to the questions with a result of producing a large number of variables. The participants were surveyed voluntarily. The data information collected from the surveys in the form of the IV and DV sets were then analyzed using statistical approaches of correlations such as multivariate analysis and multiple regressions from the SPSS program or Predictive Analytics SoftWare Statistics. Additionally, the findings were triangulated by using different groups and settings when collecting the data, such as the location, healthcare hospitals or institution, or clinics versus the home of the participants (Holloway, 2009).

Definitions of Terms

Level of education: The level of education or the highest degree earned is defined by the UAE National Bureau of Statistics and classified in five categories: Doctorate (Ph.D.) Master, Diploma Post University (Postgraduate Diploma), Bachelor and others such as Higher Diploma Associate Degree, secondary education, certificates, and professional training (UAE-NBS, 2013).

Maternal and child health (MCH): A field that focuses on the growth and development stage of an individual, particularly mothers and children through a continuum of care (Dallo et al., 2014; WHO, 2014). The medical services associated with MCH include prenatal and postnatal care, family planning, and pediatric care.

MCH care professionals and practitioners: Those persons who qualified through MCH education, training, licensure, or certifications to provide, engage, and deliver proper healthcare in a systematic manner to any patient who may require such services (Dubai Health Authority, 2013; Scott, 2007). For the research study, these persons may include doctors, nurses, social workers, midwives, psychologists, dietitians, nutritionists, counselors, and medical students and trainees (Buckman, 1992, p. 6).

Nationality: The traditional term of nationality was understood as the status of belonging to a particular country. In the UAE, nationality was defined as nationals versus non-nationals (UAE-NBS, 2013). The terms such as nationals, native, and locals are known as Emiratis in the UAE (UAE-NBS, 2013).

Organizational support: For the purposes of the study, organizational support can be described as a level to which the participant's organization or healthcare institution allows staff to attain or seek professional development through training, executive education, seminars, workshops, certifications in policy-making, and development (Mitwalli, Al Ghamdi, & Moussa, 2014).

Policy adoption: The third stage of the public policy-making process where the policy is enacted or brought into force (WHO 2005), for instance, by the Emirate in the UAE.

Policy evaluation: The final stage of the public policy-making process includes monitoring, analysis, critique, and assessment of existing policies in terms of the appraisal of the content, implementation, and effects (WHO, 2005).

Policy formation: The second stage of the public policy-making process in which policies are created or revised (WHO, 2005).

Policy implementation: The fourth stage of the public policy-making process that includes the actions and mechanisms whereby policies are brought into practice, that is, the written document is turned into reality (WHO, 2005).

Policy preparation: This is the first stage of the public policy-making process in which policy problems and issues are defined and the policy agenda set (WHO 2005). This stage is commonly known as the problem identification and agenda setting stage.

Public policies: Public policies are normally used when dealing with those policies for which governments are primarily responsible (WHO 2005).

Work experience: The level of work experience can be referred to as the number of years working with a healthcare institution, hospital, clinic, or any health-related organization involving the delivery of MCH in some aspect or general MCH practice and classified into number of years, such as 0 to 5 years, 6 to 10 years, and 11+years (Brownson et al., 2009; Robinson, Denney-Wilson, Laws, & Harris, 2013).

Assumptions

The following assumptions were necessary to conduct the research:

1. Participants answered anonymously: It was assumed that the participants provided truthful answers in the survey. The survey was confidential in nature, which helped with the participants answering the survey questions honestly. The survey instrument did not require any information that would identify the participant, such as name, employee number, or medical license identification number.
2. MCH work environment: It was assumed that the nature of the work environment in the MCH field was the same for all health professionals and practitioners across the UAE. This is due to the strict medical licensing procedures required including renewals and regular quality assurance checks on the medical practice (implemented by the local medical review boards and the Joint Commission International Accreditation).
3. Participants understood the survey objectives: It was assumed that the participants would understand the purpose and benefits of the survey in

addressing the research problem. The survey instrument was pilot tested including information about the survey's objectives, benefits, and any potential risks. Typically, pilot testing helps the researcher to better develop questions and survey instruments that have become increasingly routine to pretest the survey instrument (Collins, 2003).

4. Participants had the knowledge to answer the questions intelligently: It was assumed that MCH professionals had the knowledge to answer the questions intelligently. This was based on the fact that the entry level to the field of MCH is at least a minimum diploma degree and a few years of relevant work experience. Additionally, the usual process of recruitment in the UAE involves in-depth background checks and screening of potential hires (DHA, 2013).
5. MCH Research priority: It was assumed that MCH research is a high priority both presently and in the future, given the current health research agendas mandated within the UAE Strategic Plan 2015-2020 (Al Hussein, 2013). It was assumed that the MCH mortality rates continued to be a topic of interest in improving health systems within the government (Chapman et al. 2014; Ronsmans et al., 2006) from a policy development standpoint. In addition, it was assumed that health professionals and practitioners were involved in the policy-making and development process for reducing child and maternal mortality rates at the healthcare institutions across the UAE.

Scope and Delimitations

According to the UAE National Bureau of Statistics data for 2011, there were approximately 34,600 health professionals and practitioners in the general population across the UAE. The research scope included health professionals and practitioners who were involved in the delivery of services and/or operations of MCH, maternal care, pregnancy, obstetrics, pediatrics, prenatal care, neonatology, and any other associated maternal-related and child-related care. The study population was 7,850 MCH health professionals and practitioners working in the UAE, including the MCH general physicians, family practitioners, midwives, doctors, nurses, and medical assistants. Excluded from the study were health professionals and practitioners who were not directly related to the MCH arena such as optometrists, dentists, surgeons, oncologists, pharmacists, and any other medically specialized personnel. The following are the delimitations for the study:

1. The choice of the research problem within the MCH: There are many issues to be addressed; given the current priority on MCH policy-making within the UAE Strategic Plan 2015-2020, the research problem was identified in addition to the research questions and hypothesis.
2. Study population: I chose not to survey a sample of the entire healthcare professional population but instead a subset of the population who only focuses on MCH care. The reason for choosing this subgroup was to focus on the role of healthcare professionals involved in MCH care.

3. Theoretical framework review: I have not reviewed all the theoretical frameworks pertaining to the healthcare industry but reviewed only those that were relevant to leadership dimensions including policy-making processes. Though some researchers have the utilization of a model such as CenteringPregnancy as one solution in addressing the delivery of complete prenatal care as in a group of pregnant mothers, I did not review this model in Chapter 2 because the focus of the model is only on a specific element of MCH care, that is, prenatal care (Tanner-Smith, Steinka-Fry, & Lipsey, 2013).

Limitations

The first limitation was that the health professionals and practitioners had perceptions that their current leadership skills and competencies are being assessed and evaluated; therefore, they expressed more textbook theories than actual reality. Efforts were made to acquire the participants' involvement via online surveys, taking into account the ethical implications of the online survey research methodology. The advantages of the survey method as the measurement instrument were in terms of validity and reliability and included being inexpensive, valid for well-constructed and substantiated survey, superior to measuring attitudes and obtaining insights, and useful for exploration in addition for hypothesis testing research (Christensen et al., 2011; Creswell, 2009). The participants filling out the surveys might not recall information and might lack self-awareness (Christensen et al., 2011) of the direct involvement in the MCH policy-making and development process.

The theoretical limitation of the correlational survey method was the interpretability of results (Tabachnick & Fidell, 2007), where the procedures focusing on maximum correlation efforts may not necessarily provide the best interpretation of the sets of variables correlated. The second limitation was that correlational research method assesses a relationship or demonstrates the prediction of the behavior of one variable from the behavior of another variable but not necessarily directionality (Simon & Goes, 2013). According to Dür (2008), the measuring of influence on policy can be very challenging. The first main concern would be the diversity of channels of influence on policy used by healthcare professionals and practitioners. The second difficulty is the healthcare professionals and practitioners can influence several stages of the policy-making process (Dür, 2008; Jesus, 2010). Another theoretical limitation of the correlational survey method was the sensitivity and generality of the findings (Simon & Goes, 2013; Tabachnick & Fidell, 2007), where the solution were dependent on the correlations among the variables in the respective IV and DV sets and the correlations among variables between the IV and DV sets.

Significance of the Study

The purpose of the study was to reach health professionals and practitioners in the UAE involved in the MCH arena that have not been surveyed in past research studies. Through this study, I determined whether MCH professionals have influence on policy in the UAE in alignment with the Andersen model as the theoretical framework. There was an in-depth examination on how the UAE was able to adopt the policies and strategies

from the Countdown Initiative in association with the MDG, in favor of improving the MCH and care (Bhutta et al., 2010; Requejo et al., 2010) maybe through influence on policy (Ervin, 1982; Freudenberg, 1984; Holtrop et al., 2000; Ogden, 1986; O'Rourke, 1989; Steckler & Dawson, 1982). Due to the rising MCH mortality rates in the EMR, it was important to understand why certain policies and strategies are not being fully adopted in some countries such as those listed as priority countries, while full adoption of policies are evident by the other 13 countries. Public health leaders, academics, community professionals, health industries, healthcare professionals, and government entities and agencies could potentially refer to the research findings of the study and apply the recommendations and influence the MCH policy-making and development process and other areas of healthcare services.

The results of the study are added to the scholarly literature research in the field of MCH policies and act as an opening of new areas of future research within the UAE and other EMR countries. The UAE has been known for many of the greatest achievements worldwide. Therefore, within the health arena of the UAE, the study findings are able to contribute to the public healthcare policy-making literature. The potential social change was derived from developing evidence on how MCH healthcare professionals influence the policy-making process. The question for EMR government leaders and decision-makers is to understand why the UAE has been successful in lowering mortality rates and how can the EMR learn from the UAE. In fact, I was able to identify what works for one community or country may/ may not necessarily work in

another community or country within the EMR. The recommendations from the study could inform policy-makers across the EMR to improve the policy-making processes for the MCH arena, and this could be applied to other policy areas.

Summary

Maternal and child mortality in contemporary times remain a significant challenge to the health systems internationally. Within the EMR, mechanisms have been put in place towards meeting the MDGs 4 and 5. However, progress in attaining the targets (4.4%) for reducing child mortality (MDG 4) and 5.5% for reducing maternal mortality (MDG 5) is slow, as the current rate of decline of death rates between 1990 and 2010 are at 1.5% and 1.9% respectively.

According to the WHO, the UAE has among the world's lowest MCH mortality rates and achieved the targets of MDGs 4 and 5. One of the best practices in achieving and maintaining the lowered mortality rates is the development and implementation of MCH policies and strategies. The purpose of the quantitative, correlational study was to investigate the policies and strategy processes that are used by health professionals for improving MCH to reduce the child and maternal mortality rates. The study has relevance to social change by developing and generating evidence on how maternal and child mortality rates can be further reduced within the priority countries of the EMR. This can be achieved through the help of health professionals and practitioners. UAE health professionals and practitioners were studied to investigate to what extent health professionals are involved in the policy-making process and the possible impact the

analysis new or revised MCH policies may have. Public health leaders, academics, community professionals, health industries, healthcare professionals, and government entities and agencies could use the results of the study to lower the mortality rates in maternal and children health within the priority countries, through improving the policy-making processes.

The IVs within the study included the level of work experience, nationality, education, and organizational support for health professionals and practitioners within UAE. The DV included the combination of the five phases of the policy-making process and development, that is, preparation, formation, adoption and legitimization, implementation, and assessment and evaluation. The quantitative methodology included the data collection of a sample size of 380 health professionals and practitioners involved in the MCH care and management across the UAE.

In Chapter 1, I outlined the background, the problem statement, purpose of the study, research questions for quantitative studies, theoretical framework, nature of the study, definitions, assumptions, scope, and delimitations, limitations, and significance.

Chapter 2 provides a more comprehensive review of the literature surrounding the theoretical foundation, frameworks, the literature search strategy, and a review of literature on the key variables and concepts and notations. In Chapter 3, I describe the research design, the population, sampling method, ethical concerns, data collection process, analysis, and measurement.

Chapter 2: Literature Review

Introduction

Within the EMR, mechanisms were put in place for achieving the MDGs 4 and 5. Within the EMR, there are 10 priority countries that have higher MCH mortality rates than their neighboring countries (Hogan et al., 2010; Save the Children International, 2013). However, progress in attaining the targets (4.4%) for reducing child mortality (MDG 4) and the targets (5.5%) for reducing maternal mortality (MDG 5) is slow, as the current rate of decline of death rates between 1990 and 2010 are at 1.5% and 1.9% respectively. According to the WHO, the UAE is among the world's lowest MCH mortality rates and is achieving the targets of MDGs 4 and 5. One of the best practices in achieving and maintaining the lowered mortality rates is the development and implementation of MCH policies and strategies.

The purpose of this study was to explore how the UAE has been able to lower the MCH mortality rates over the past decade and investigate whether these mechanisms could be used in developing policies and strategies (Smith et al., 2014) to reduce the mortality rates (Chapman et al., 2014). I have identified the level of policy development involvement and adoption that is required by health professionals and practitioners (Bhutta et al., 2010; Chervenak et al., 2013; Smith et al., 2014) in addition to lower mortality rates.

I begin this chapter with information on the historical perspectives of the MCH within the EMR, including the continuum of care, the policy-making process with its role

of health professionals, and present and future implications and associated health theories. I conclude this chapter with a summary of studies documenting MCH health professionals and policy-making process.

Literature Search Strategy

The literature review process indicated a lack of research in demographic characteristics in correlation with the policy-making process in the health domain. For this review, I identified the relevant literature by searching the multidisciplinary databases including the Academic Search Complete, ProQuest Central, and Science Direct. Online searches using Google Scholar were conducted in addition to reviewing specific peer-reviewed journals on the subject matter. Some examples of peer-reviewed journals are as follows:

- *Maternal and Child Journal,*
- *Eastern Mediterranean Health Journal,*
- *Health Policy and Planning,*
- *Journal of Midwifery & Women's Health*, and
- *BMC Public Health.*

Information reviewed from 341 peer-reviewed publications included six conference publications, 33 government reports and articles, 42 books, and 14 other reports (private) were the foundations for the current research. Table 1 provides an illustration the summary of research publications reviewed and referenced sources in parentheses.

Table 1

Summary Chart of Research (Referenced Sources in Parentheses)

Area of research	Book	Conference	Government reports	Journal	Other reports (Private)
Andersen model	1 (1)	1 (1)	1 (1)	49 (36)	
Child health	1 (1)		1 (1)	18 (12)	
Child mortality	1 (1)		1 (1)	3 (2)	
Health leadership	24 (16)	2 (1)		69 (44)	7 (2)
Health policy (Involvement)	3 (3)	1 (1)	8 (5)	53 (39)	
Health professionals	2 (2)		1 (1)	17 (16)	
Healthcare	2 (2)		4 (1)	28 (17)	
Likert scale surveys	3 (3)			5 (5)	3 (2)
Maternal health	1 (1)			21 (14)	
Maternal mortality	1 (0)		1 (1)	9 (9)	3 (2)
Maternal and child health (MCH)	1 (1)	2 (2)	3 (3)	42 (20)	
Middle East health policy	2 (2)		6 (4)	15 (13)	1 (1)
Millennium development goals			2 (2)	12 (5)	
UAE health policy			5 (5)		
Total	42(33)	6 (5)	33 (25)	341 (233)	14 (7)

Key word searches included the following terms, used singly or in combination: *maternal mortality, child mortality, maternal health, child health, policy-making, policy influence, healthcare, Andersen model, UAE health policy/policies, Millennium Development Goal 4- improve child health, Millennium Development Goal 5- improve maternal health, health professionals including health workers and health employees, Maternal and Child Health (MCH), Middle East health policy,* and *health leadership.*

General Healthcare Services--Continuum of Care

Introduction

In practice, general healthcare services exemplify a comprehensive system that follows the birth to death care. This comprehensive system is the continuum of care (Barton, 2010; Kerber et al., 2007). This is a model that involves an incorporated system of healthcare services that guides and monitors patients over time spanning an array of health services (Kerber et al., 2007). The continuum of care of health services includes prenatal care, health promotion, primary disease prevention, diagnosis of disease, treatment of acute disease, secondary disease prevention, tertiary disease prevention, treatment of chronic illness or disease, rehabilitative care, long-term care, and palliative care (Jeffs et al., 2013; Marchildon, 2013; Wang & Hong, 2013). The continuum of care focuses upon providing care to address the diagnosis, treatment and prevention of diseases and illnesses.

Continuum of Care–Stage 1

Prenatal care is the first stage of the continuum of care. This type of care involves care for both the mother (the pregnant woman) and unborn baby before the birth, with an effort to improve the overall birth outcomes and reduce the mortality rates (Conde-Agudelo et al., 2013; Lozano et al., 2011; Moonesar & Vel, 2012; Schmölzer et al., 2013; Smith et al., 2014). The general findings of the study recommended improving the availability and access to such care through enhanced policies and national budgets.

Continuum of Care–Stage 2

The second stage of the continuum of care is a health promotion aspect. This stage focuses on promoting good health habits, awareness, and practices in order to preserve and improve the health status (Conde-Agudelo et al., 2013; Lozano et al., 2011; Moonesar & Vel, 2012; Schmölzer et al., 2013; Smith et al., 2014). The general findings of the study recommended improving the health promotion efforts and awareness activities through the enhancement of policies and strategies.

Continuum of Care–Stage 3

The third stage is the primary disease prevention where the care is guided to prevent disease causing agents from developing into an ailment (Donnelly et al., 2013) with steps such as genetic testing, counseling, and even health screenings.

Continuum of Care–Stages 4 and 5

The next step of the continuum is the diagnosis of disease where health professionals and practitioners (usually medical doctors, nurse practitioners, and dentists)

diagnose and mitigate the presence of disease and initiate treatment for acute disease, which is the next stage of the continuum of care (Barton, 2010; Kerber et al., 2007).

Continuum of Care–Stage 6

The sixth stage of the continuum of secondary disease prevention is considered to be early detection and treatment towards the curing or controlling the cause of a disease, or both (Barton, 2010).

Continuum of Care–Stage 7

The seventh step is the tertiary disease prevention, which is when the disease is at a state where disability and dependence tend to occur (Jinks et al., 2011). The treatment of chronic disease or illness is the care of long-term diseases such as diabetes, hypertension, metabolic syndrome, and many others.

Continuum of Care–Stage 8

Rehabilitative care is the eighth step of the continuum of care, which is the care delivered in institutional settings expanded to persons living with mental and/or physical disorders (Killaspy et al., 2011) followed by the long-term care (LTC). LTC is influenced by the life expectancy of a country. For instance, in UAE, the average life expectancy at birth is 76 years, for both sexes; whilst the average life expectancy at age 60 is 19 years, for both sexes (WHOSIS, 2014). The life expectancy statistics for the EMR are illustrated in Table 4.

Continuum of Care–Stage 9

LTC is the ninth step within the continuum of care, whereby such care is often classified by providers as either institutional such as subacute care, nursing care, and assisted-living care and housing services, or noninstitutional caregivers such as adult day care, home care, hospice care (Pratt, 2010; Rawlins et al., 2008), and finally palliative care (Barton, 2010, p. 306).

Continuum of Care–Stage 10

The final step within the continuum of care is palliative care. This is the end-of-life care provided to minimize the pain and suffering when no more supplementary surgical or medical therapies are available to treat a patient's condition (De Lima & Radbruch, 2014; Hanks et al., 2011; Van der Steen et al., 2014). The findings of these studies recommended improving the availability and access to such care through enhanced policies and national budgets.

In summary, for this research study, the primary focus was on Stages 1 and 2 of the 10-stage continuum of care, that is, MCH care aspect. Researchers have indicated the need for improving the availability and access to such care through enhanced policies and national budgets, in addition to improving the health promotion efforts and awareness activities through the enhancement of policies and strategies.

Historical Overview of Maternal and Child Health in EMR

MCH aims to highlight the determinants and associated factors, measures, strategies, and operations to promote the good health, safety, and the necessary

development of children and mothers (Kotch, 2013). MCH policy development has been a prominent driver, worldwide, in contemporary times in order to be in accordance with the MDG 4 and 5.

19th Century

Researchers identified that the EMR healthcare services and systems were first developed and began in Cairo, Egypt at the times of the French Army rule of the Napoleonic Wars in 1798 (Jabbour et al., 2012; Kronfol, 2012a; Worldology, 2009). In the latter part of the 19th century, there were religious missionaries who developed the medical universities and schools within Cairo, Istanbul, Levant, Bahrain, and Oman in early part of the 20th century (Bourmaud, 2008; Jabbour et al., 2012; Kronfol, 2012a). In 1865, there was an outbreak of the epidemic cholera that took place during the pilgrimage of Mecca, Kingdom of Saudi Arabia (KSA). As a result, there was the commencement of quarantine measures associated with the international health legislation passed and enforced in the early 20th century in Iraq and other EMR countries (Jabbour et al., 2012). During this period, the countries mentioned within this section embraced public health as an initiative to improve the health status of the citizens. However, as a way forward for improving the public health section practices, they moved towards the adoption of international measures that occurred within the 20th century.

20th Century

Between the period of 1900 and the 1950s, there was the establishment of more healthcare facilities, usually small hospitals across the EMR countries. Table 2 illustrates

the number of healthcare institutions for the pre-1950s. Small hospitals were typically 20 to 30 beds. They were privately owned by physicians who received their medical trainings and education in Europe, Syria, Lebanon, Egypt, or Iraq (Jabbour et al., 2012; Kronfol, 2012a). Simultaneously, the history of international influence on health within the EMR occurred right after the Second World War while the establishment of the United Nations also occurred (Kronfol, 2012a). The main purpose was to keep the peace and conflict resolutions between nations across the world. Then, in 1948, the WHO was created to promote and protect the health of the people across the nations worldwide. One of the top-most priorities of the WHO in 1948 focused on the MCH policies and remains the primary focus in contemporary times (Jabbour et al., 2012). UNICEF was also created in the same year in order to rescue the abandoned and orphaned children after the war (Jabbour et al., 2012; Kronfol, 2012a). The UNICEF mandate was to provide a comprehensive range of MCH services such as immunizations, child and maternal guidance clinics, and trainings for healthcare professionals and practitioners (UNICEF, 1989, p. 21).

In the 1950s, after the Second World War, most of the EMR countries had gained their respective independence and continued to use the healthcare facilities established during the colonial era. By that time, the governments or ministries across the EMR intervened in the healthcare sector. These governments improved and provided the services geared more of a charitable nature than seeing it as a human right to healthcare (Kronfol, 2012a). These governments and ministries were expected to be fully involved

in the policy-making and make periodic assessment of MCH needs in order to implement the MCH developmental plans adopted from the UNICEF and in favor of WHO (UNICEF, 1989, p. 34).

UNICEF's first involvement that was favored by the WHO, within the EMR, was geared towards the improvement of the existing MCH clinics (over 1,500), as illustrated in Table 2. Their involvement was focused on medical centers and training of the health professionals and practitioners (UNICEF, 1989, p. 22). Table 2 provides an illustration of the number of MCH institutions that received UNICEF medical equipment and supplies across the EMR for the period of 1959 to 1985. One of EMR main challenges within this era was the cultural and traditional conservatism barrier in terms of the role of women working in the public service, therefore impacting the nursing and midwifery practices (Kronfol, 2012b; UNICEF, 1989, p. 23).

Another challenge that was apparent in the EMR pertained to the lack of education opportunities for women. Such a problem made it difficult to recruit for MCH employment (Kronfol, 2012b; UNICEF, 1989, p. 23). Researchers and reporters were concerned about such challenges and predicted that proactive directions and development to occur in overcoming such challenges in the 21st century. The countries illustrated in Table 3, as 1 within the WHO-EMR group classifications commonly known as the Gulf Cooperation Countries, includes Bahrain, Kuwait, Oman, Qatar, KSA, and UAE.

Table 2

Number of Maternal and Child Health Institutions That Received Medical Equipment and Supplies From UNICEF Throughout the EMR for the Period 1959-1985

MCH type	Through 1959	1960-1969	1970-1979	1980-1985	Total through 1985
Child health					
District and referral hospitals	66	210	667	631	1,574
Urban health centers and institutions	136	431	2,013	2,123	4,703
Rural health centers	836	2,133	4,232	6,613	13,814
Subcenters, village MCH centers	110	2,497	4,081	15,883	22,571
Child welfare centers	---	373	1,754	1,325	3,452
Total child health	1,148	5,644	12,747	26,575	46,114
Maternal health					
Women's institutions such as community centers, units	---	267	1,110	441	1,818
Training institutions	---	258	242	21	521
Total maternal tealth	---	525	1,352	462	2,339

Note. There are nine MCH types of healthcare. Adapted from "Monograph XII - UNICEF in the Middle East and North Africa: A Historical Perspective, p. 21-25," by United Nations Children's Fund. Retrieved from http://www.unicef.org/about/history/files/CF-HST-MON-1989-001-middle-east-north-africamono-XII.pdf. Copyright 1987 by the United Nations Children's Fund.

The GCC joined forces with UNICEF, in 1972, toward the developing and improvement of MCH services in its' countries. The UNICEF central head office was in Abu Dhabi, UAE, from 1972 to 1987, where this office was then transferred to Riyadh, KSA (UNICEF, 1989, p. 52). In 1979, EMR and international universities and organization s organized a regional conference on the 'Arab Child Health'. The

conference was held in Kuwait in December 1979 with sponsors as the UNICEF, International Children's Centre (ICC) and WHO (UNICEF, 1989, p. 51).

At the beginning of 1985, two events highlighted the pregnancy risk factors for women in developing countries (Rosenfield & Maine, 1985). In 1985, the *World Conference to Review and Appraise the Achievements of the United Nations Decade for Women* highlighted the pregnancy risk factors for women in developing countries. Developing countries neither failed nor developed in terms of having lower per capita income and lower human development index (HDI), as a measure of three basic dimensions of human development: healthy and long life, knowledge and good quality of living (Malik, 2013; UNDP, 2013).

This event resulted in the identification of MCH programs within developing countries (Rosenfield & Maine, 1985). The outcome of these developments led to the determination of having MCH programs within the developing countries (Rosenfield & Maine, 1985). In February 1987, there was an international conference geared towards reducing maternal mortality, sponsored by the World Bank, WHO and UNFPA (Boulet et al., 2006; Hogan et al., 2010). The objective of this global initiative, Safe Motherhood, was to raise the awareness on the increasing number of maternal deaths due to pregnancy-related complications (AbouZahr, 2003; Starr, 2006). Following these major international events, in 1994 the "United Nations sponsored the International Conference Population and Development" with the primary aim of strengthening the global commitment to reproductive health strategies (Boulet et al., 2006; Obaid, 2009). In 2000,

the precedence was set for improving the child and maternal health through the launch of the MDG 4 and MDG 5.

Summary

In the 19th century, the EMR countries and cities such as Cairo, Istanbul, Levant, Bahrain, Kingdom of Saudi Arabia and Oman all embraced public health as an initiative to improve the health status of the citizens. However, research studies have shown that as the improvement of public health policy and practices were evident as they moved towards the adoption of international measures that occurred during the 20th century. In the first half of the 20th century, there was the growth of healthcare establishments across the EMR. By this time, one of the top-most priorities of the WHO in 1948 focused on the MCH policies (Kronfol, 2012a; UNICEF, 1989, p. 21) and remained the primary focus in contemporary times (Jabbour et al., 2012).

One of EMR main challenges during the 20th century era was the cultural and traditional conservatism barrier with regards to the role of women working in the public service; therefore, impacting the nursing and midwifery practises and policy-making processes (Kronfol, 2012b; UNICEF, 1989, p. 23). Moreover, lately policy recommendations have been on a topic of debate in the EMR where has been evidence of very little adoption of the policy recommendations through MDGs 4 and 5 goals.

Maternal and Child Health at Present Time

On a yearly basis, within developing countries across the world, over 40 million women provide birth in the premises of their home without any assistance from health

professionals and practitioners (Bustreo, 2014; Save The Children International, 2013, p. 27; UNICEF, 2012). Daily, over 800 women die during pregnancy term or delivery at childbirth. There are over 8,000 deaths of newborn babies during the period of the first month (Save The Children International, 2013, p. 7). Furthermore, annually, over 3 million infants die, because of frequent complications during birth, such as prematurity and other, preventable or treatable diseases, including infections (Darmstadt et al., 2012; Lawn et al., 2012). However, within the EMR countries over 39,000 women die yearly as a result of pregnancy-related complications during birth, prematurity and notwithstanding preventable or treatable diseases, including infections (Bustreo, 2014; Darmstadt et al., 2012; Lawn et al., 2012; Fatmi, Gulzar, & Kazi, 2005). While, on the other hand, approximately 923,000 children under the age of five die every year (Bhutta, 2013, WHO-EMR, 2013).

Currently, within the EMR, there have been mechanisms implemented towards meeting the MDGs 4 and 5. Even though these mechanisms were implemented, the progress of attaining the target (4.4%) for reducing child mortality (MDG 4) and the targets (5.5%) for reducing maternal mortality (MDG 5) are rather slow, since the current rate of decline is at 1.5% and 1.9% respectively (Bhutta, 2013; Darmstadt et al., 2012). As mentioned in Chapter 1, there were the Countdown Initiatives that were mandated for implementation across the EMR with policies and strategies in favor of improving the MCH. A list of the 10 Countdown Initiative policies and strategies are illustrated as follows:

1. Maternity protection in accordance with International Labor Organization (ILO) Convention 183.
2. Notification of maternal deaths.
3. Midwifery personnel authorized to deliver basic emergency obstetric and newborn care.
4. International code of marketing of Breast-milk Substitutes 2011.
5. Post-natal home-visits in the first week of life.
6. Community-based health workers authorized to identify and manage pneumonia.
7. Promotion of low osmolality ORS and zinc for management of diarrhea.
8. Rota virus vaccine policy.
9. Pneumococcal vaccine policy.
10. Cost implementation plan(s) for maternal, newborn and child health developed.

Therefore, the lowering of the MCH mortality rates across the EMR is an important priority. Table 3 provides a list of the twenty-three countries within the EMR and the percentage of MCH policies and strategies adopted that were mandated by WHO. Some of these mechanisms and strategies were developed and adopted across 13 of the EMR countries as of 2012. The remaining ten countries have not developed nor adopted these Countdown Initiative policy and strategy and; hence, are referred to as the ‘priority countries’.

Table 3 provides an illustration of the WHO-EMR group classifications, where group 1 consists of those countries within the EMR whose socioeconomic development has progressed over the past decades. Group 2 are those countries within the EMR who are mainly large middle-income countries, while group 3 are faced with challenges and major constraints for improvement health through policy development and adoption and lack of resources (Bhutta, 2013; WHO-EMR, 2013; WHO, 2012). The adoption of MCH policies and strategies was discussed later in this chapter.

Among these policies and strategies, 13 EMR countries developed and adopted as of 2012, while the remaining ten (10) countries have not developed nor adopted fully these Countdown Initiative policies and strategies and hence are referred to as the MDG 4 and MDG 5 'priority countries', Table 3. These priority countries comprise of three countries from group 2 and all seven countries from group 3 according to the WHO as illustrated in Table 3. According to the WHO and researchers, within the EMR, there are ten priority countries that are struggling with implementation of measures and mechanisms towards adopting the policies and strategies towards improving maternal and child health.

These ten MDG 4 & MDG 5 priority countries within the EMR include Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, South Sudan, Sudan and Yemen (WHO-EMR, 2013; WHO, 2012). These ten priority countries contribute to over 90% of maternal deaths in the region (WHO-EMR, 2013). From these maternal deaths,

70% are caused by pregnancy-related complications within the EMR, such as hemorrhage, abortion, infection, eclampsia and obstructed labor (WHO-EMR, 2013).

On the other hand, 60% of the child mortality rates are due to preventable causes within the EMR, such as pneumonia, prematurity, birth asphyxia and diarrhea (WHO-EMR, 2013). The countries of the EMR have adopted a number of mandates and strategies for improving maternal and child health for the MDG 4 & 5 Countdown Initiative (WHO-EMR, 2013, WHO, 2013).

With reference to Table 3, the UAE fully adopted the ten MCH mandated policies and strategies, in addition to achieving the MDG 4 & 5 goals targets by ranking among the lowest in the EMR for under-5 mortality rates according to the United Nations Interagency Group on Child Mortality Estimation 2012 report (WHO-EMR, 2013, WHO, 2013). Many governmental leaders and healthcare professionals were eager to learn more on whether the MCH professionals in the UAE influenced policy resulting in an overall health outcome of lowering the mortality rates (Al Hussein, 2013). There were debates on how the UAE may help the MDG 4 & 5 priority countries improve the policy-making processes, thus result in improved adoption of MCH policies and strategies.

Table 3

Percentage of Adopted Policies and Strategies Across the EMR, as of 2012, and Classification

#	Eastern Mediterranean Region (EMR) Countries	Percentage of Policies and Strategies Adopted	WHO-EMR Group Classification
1	Bahrain	100%	1
2	Iran, Islamic Republic of	100%	2
3	Jordan	100%	2
4	Kuwait	100%	1
5	Lebanon	100%	2
6	Libya	100%	2
7	Occupied Palestinian territory	100%	2
8	Oman	100%	1
9	Qatar	100%	1
10	Kingdom of Saudi Arabia	100%	1
11	Syrian Arab Republic	100%	2
12	Tunisia	100%	2
13	United Arab Emirates	100%	1
14	Afghanistan	50%	3
15	Morocco	50%	2
16	Pakistan	50%	3
17	Yemen	50%	3
18	Sudan	40%	3
19	Djibouti	30%	3
20	Egypt	30%	2
21	Iraq	20%	2
22	Somalia	0%	3
23	South Sudan	0%	3

Note. There are three groups of classification within the EMR. Classified from "Saving the Lives of Mothers & Children: Rising to the Challenge in the Eastern Mediterranean Region," by World Health Organization- Eastern Mediterranean Region, 2013. Retrieved from http://www.emro.who.int/about-who/mothers-and-children/background-documents.html

In summary, over 39,000 women die yearly across the EMR as a result of pregnancy-related complications during birth, prematurity and notwithstanding preventable or treatable diseases, including infections (Bustreo, 2014; Darmstadt et al., 2012; Lawn et al., 2012; Fatmi, Gulzar & Kazi, 2005). The countries of the EMR have been working towards the attainment of the MDG 4 & MDG 5 Goals through the development and adoption of MCH policies and strategies. According to the WHO in 2012, there are ten countries within the EMR, struggling with the development and adoption of the ten mandated MCH policies and strategies.

Many governmental leaders across the EMR are debating the continual rise in maternal and child mortality rates may be due to the lack of MCH policy development and adoption (Al Hussein, 2013). Table 3 shows the twenty-three countries within the EMR and the percentage of MCH policy and strategy adopted. According to the WHO, there are ten MDG 4 & MDG 5 priority countries within the EMR include Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, South Sudan, Sudan and Yemen (WHO-EMR, 2013; WHO, 2012). Many governmental leaders and healthcare professionals were eager to learn more on whether the MCH professionals influenced in the UAE policy resulting in an overall health outcome of lowering the mortality rates.

Maternal and Child Mortality Rates

The terms maternal mortality rates (MMR) and infant mortality rates (IMR) are referenced to the death rates of the particular groups of mothers and children respectively. According to the WHO, maternal mortality can be referred to as the death of a woman

while being pregnant or within 42 days of delivery or end of pregnancy, regardless of the cause of the death (Gupta et al., 2014; Mahaini et al., 2005; Montgomery et al., 2014; WHO, 2012c). Within the EMR, the overall maternal mortality rate decreased by 53% between 1990 and 2010 (Bhutta, 2013; WHO, 2012a). Six countries within the EMR have achieved already the MDG 4 and 5 targets for reducing the mortality rates, including Oman, UAE, Qatar, Lebanon, Bahrain and KSA (Bhutta, 2013; WHO, 2012a; WHO-EMR, 2013).

Earlier in chapter 2, the eighth stage of the continuum of care, long-term care (LTC) was said to be influenced by the life expectancy of a country. Life expectancy provides valuable data and forecast on the health status at a given population level (Katz et al., 1983; Salomon et al., 2013). The life expectancy at birth within the EMR increased from 61 to 68 years for both sexes, through 1990 to 2011 (WHOSIS, 2014) as illustrated in Table 4. The EMR has the 2nd highest increase as compared with the other regions worldwide within Table 4. Life expectancy has been identified by researchers (Kaplan & Bush, 1982; Katz et al., 1983; Oeppen & Vaupel, 2002; Olshansky et al., 2005; Salomon et al., 2013) to be vital and purposeful in the planning and development of public policies including health-related policies.

Table 4

Comparison of Life Expectancy at Birth for Both Sexes by WHO Region Classification

Year Region	1990 (years)	2011 (years)	Difference (years)
African Region	50	56	6
Region of the Americas	71	76	5
South-East Asia Region	59	67	8
European Region	72	76	4
Eastern Mediterranean Region	61	68	7
Western Pacific Region	70	76	6
Global Mean	64	70	6

Note. There are six regions classified by the World Health Organization. Adapted from "World Health Statistics 2013" by World Health Organization. Retrieved from http://www.who.int/gho/publications/world_health_statistics/EN_WHS2013_Full.pdf

The life expectancy at age 60, within the EMR, increased in 2011 over 1900 (WHOSIS, 2014), as illustrated in Table 5. The EMR had the lowest increase in years for both sexes of life expectancy as compared with the other regions worldwide. Lower life expectancy has policy implications and there is a need for urgent action for enhancing life expectancy (Mondal & Shitan, 2014) by whatever means possible. For the purposes of the study, stages 1 and 2 of the continuum of care has been the primary focus.

Table 5

Comparison of Life Expectancy at Age 60 for Both Sexes by WHO Region Classification

Region	1990 (years)	2011 (years)	Difference (years)
African Region	15	16	1
Region of the Americas	20	22	2
South-East Asia Region	15	17	2
European Region	19	21	2
Eastern Mediterranean Region	17	18	1
Western Pacific Region	18	21	3
Global	18	20	2

Note. There are six regions classified by the World Health Organization. Classified from "World Health Statistics 2013" by World Health Organization. Retrieved from http://www.who.int/gho/publications/world_health_statistics/EN_WHS2013_Full.pdf

In the EMR, one-fifth of the population consists of women of child-bearing age, and one-eighths of the population consists of children less than five years old (Bhutta, 2013). MMR across the EMR ranges from 7 per 100,000 live births in Qatar to 2,054 per 100,000 live births in South Sudan (Bhutta, 2013; WHO, 2012a; WHO-EMR, 2013). In 2012, the IMR, that is the probability of dying between birth and age 1 per 1,000 live births, indicated a range of 6 to 91 across the EMR, while the number of infant deaths in thousands ranges from 0 to 378 across the EMR (WHO, 2012a; WHO-EMR, 2013). The progress of both MCH mortality rates across the EMR remains uneven and has great disparity in the ranges. For instance, some of the EMR countries' under five years, the mortality rates are among the lowest in the world ranging between 7 and 10 per 1000 live births (Bhutta, 2013; Fathalla, 2014; WHO-EMR, 2013). While some other EMR

countries are among the highest and consist of 82% of under-five deaths (Bhutta, 2013; Fathalla, 2014; WHO-EMR, 2013). The MCH mortality rates within the EMR should be lowered; despite few EMR countries are among the lowest in comparison to the world.

In many countries around the world, the priority of reducing mortality rates has become increasingly a part of the national health research agenda (Reveiz et al., 2013; Viergever et al., 2010). Martínez-Martínez and the co-authors (2012) found that research funding decreased by 37% in Mexico in relation to health policies, systems and services and also had a 36% reduction in research funding related to determinants of health and its cultural, social and economic. In a recent research study, authors identified the global research priorities for decreasing maternal mortality rates. Chapman et al. (2014) found that the highest ranked research priority (26%) was related to health systems and policy and urged governments and aid agencies to support such an initiative with the purpose of better serving the needs of researchers and decision-makers.

The other ranked research priorities in order were abortion and unplanned pregnancy (23.5%), diabetes and other causes (23%), postpartum hemorrhage and hypertensive disorders (16.5%) and labor and cesarean (10.5%; Chapman et al., 2014). Some researchers have concluded that MCH deaths are avoidable, and this issue has been a topic of discussion for years regarding potential solutions (Al Hussein, 2013; Cantwell et al., 2011; Rahman et al., 2010; Saleh et al., 2013). Children without their mothers are five times more likely to die in the first year (Denney, 2014; Douglas & Finkelhor, 2005; UNFPA, 2012), and if they survive, they are more vulnerable to malnutrition, diarrhea,

and other diseases (Ainsworth & Semali, 2000; Reed et al., 2000; Schlumbohm, 2013). Furthermore, these children are less probable to attend school and at risk of domestic violence and suicides (Denney, 2014; Ellsberg et al., 1999).

Many researchers supported by WHO have evidence-based priority setting models for supporting tools for policy in reducing the MCH mortality rates including the Child Health Epidemiology Reference Group (CHERG; Fathalla, 2014; Rudan et al., 2010) and the Lives Saved Tool (LiST; Boschi-Pinto et al., 2010).

Summary

Chapman et al. (2014) found that the highest ranked research priority (26%) was related to health systems and policy and urged government leaders and aid agencies to support such an initiative with the purpose of better serving the needs of researchers and policy-makers. For the purposes of the study, stages 1 and 2 of the continuum of care have been investigated, that is, the review of MCH may assist in improving the policy development and adoption across the EMR, thus increasing the years for both sexes of life expectancy within the EMR. The other ranked research priorities in order were abortion and unplanned pregnancy (23.5%), diabetes and other causes (23%), postpartum hemorrhage and hypertensive disorders (16.5%) and labor and cesarean (10.5%; Chapman et al., 2014). In another study, the MCH policies related to a mixture of the health system elements and the process (Hunter, 2003).

From the literature review, there is a need to investigate the influence of the health policy-making process in the relation to the Andersen Model. Based on the

Andersen Model research literature, the population characteristics within the model has always been of interest to researchers with the main focus of utilization of health services. With reference to the Andersen model, there has been limited evidence from the literature review indicating the correlations between the environment aspect (including the healthcare system and health policy-making process) and the population characteristics. Therefore, I have investigated whether or not MCH professionals and practitioners have influence on policy.

Maternal and Child Health Policy-Making Process

In the EMR, policy-making and development are understood as a decision-making framework or proposing some course of action to achieve the desired effect or change on outcomes. In the context of the public health sector in the EMR, policies support health purposes by government or administrative directions by organizations in response to the changing world around them. Policy-making is the process by which the political visions of governments are translated into programs and actions in order to deliver the outcomes (Cox, 2011, p. 75). A health policy document is not a law, but it is often identify new health laws which serve as tools needed to achieve the health policy goals. Health policy-making is the process of creating health laws, or standards set by healthcare businesses or governments (Imani-Nasab et al., 2014). MCH policy guides the decisions on the type of MCH technologies and medical equipment needed to be developed and used, including how to plan and finance health services.

This process includes the establishment and understanding the problem, changing of ideas in some course of action or solutions and testing the success of implementation and monitoring the changes (Imani-Nasab et al., 2014). Health policies have two distinct elements. The first is *healthcare policy* that focuses on addressing the needs of financial issues and providing the healthcare services. The second component is a *policy for health* that focuses on improving the overall health of a particular population (Hunter, 2003). The MCH policies relate to a mixture of the health system elements, *healthcare policy* and *policy for health* (Hunter, 2003).

The Types of Policy Terms

There are three types of policy terms including the short-term, medium-term and long-term. These types or policy terms are commonly known as or policy strategies (Cox, 2011, p. 75). The countries of the EMR have adopted a number of strategies for improving MCH, as reported in conjunction with the MDG 4 and 5 Countdown Initiative (WHO, 2013).

The short term policy type is urgent and requires immediate, necessary decisions or changes for implementation less than one year. Some examples of short-term policy types include the natural disasters and labor law. With reference to the MDGs 4 and 5, there were ten MCH policy and strategy mandated by the WHO and UN was described earlier in Chapter 2. One of the policies required is the maternal protection in alignment with the International Labor Organization (ILO) Convention 183 and another policy required is the notification of maternal deaths (Bhutta et al., 2010; Requejo et al., 2010).

These two policies classify as short-term policy types. Within the EMR, as compared with the ten priority countries, only Morocco was able to develop and adopt a policy on maternal protection in alignment with the International Labor Organization (ILO) Convention 183 (WHO-EMR, 2013). While, only five of the priority countries were able to adopt a policy on notification of maternal deaths (WHO-EMR, 2013).

The second type of policy is the medium-term policy which requires modernizing or evolving existing plans and policies in alignment with best practices. The time frame for the medium-term policies requires the change to occur with one to three years. With reference to the MDGs 4 and 5, there were 10 MCH policy and strategy mandated by the WHO and UN that was described earlier in Chapter 2, policies such as International code of marketing of Breast-milk Substitutes 2011, promotion of low osmolarity ORS and zinc for management of diarrhea, Rotavirus vaccine policy, and pneumococcal vaccine policy (WHO-EMR, 2013) are examples of medium-term policy types.

The third type of policy is the long-term policy which requires the necessary decisions and changes to be planned ahead to ensure that the future populations have access to education, health, and housing. Examples of long-term would include hospitals, roads, building the economy, and environmental infrastructures. With reference to the MDGs 4 and 5, there were 10 MCH policies and strategies mandated by the WHO and UN that was explained earlier in Chapter 2, policies such as community-based health workers authorized to identify and manage pneumonia and cost implementation plan(s)

for maternal, newborn and child health (WHO-EMR, 2013) are examples of long-term type policies.

Adoption of Policies and Strategies

Table 3 provides an illustration of the percentage of adoption of the WHO mandated MCH policies and strategies across the EMR. Within the EMR, 13 countries adopted the policies and strategies, while the other ten countries are struggling to develop or adopt such MCH policies for the reduction of mortality rate initiatives. These ten MDG 4 and MDG 5 priority countries within the EMR include Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, South Sudan, Sudan and Yemen (WHO-EMR, 2013; WHO, 2012). The priority countries in Table 3, namely Afghanistan, Morocco, Pakistan, and Yemen, have a 50% of adoption of the MCH mandated policies and strategies; Sudan has a 40% adoption, while both Djibouti and Egypt has a 30% adoption rate (WHO-EMR, 2013). Iraq has a 20% adoption rate while, Somalia and South Sudan has not developed nor adopted any of the MCH policies and strategies (Fathalla, 2014; WHO-EMR, 2013). There is the lack of evidence-based policy development guidelines across the EMR which includes weak or inadequate vital statistics reporting.

Public Policy-Making Process

Public policy-making is sometimes understood to be similar to any other decision-making process; however, policy-making is perhaps more a complex process. Lasswell (1956) and Ferguson (2001) highlighted that the policy-making process is more like a policy cyclic process. The public policy-making has three basic modules: the problem,

the policy, and the process (Smith, 2010). Some researchers found that the policy-making cycle comprised of eight stages including, *issue identification, defining policy objectives, policy design, policy testing, policy finalization, policy implementation, policy monitoring and evaluation,* and *policy readjustment and innovation* (Tsoukiàs, Montibeller, Lucertini, & Belton, 2013). In 1994, Walt & Gilson established a framework for interpreting health policy as a policy analysis triangle. This framework is focused on the content, context, process and actors in health policy dynamics of systematically thinking about the various factors that could potentially affect policy (Antrobus & Kitson, 1999; Walt et al., 2008; Walt & Gilson, 1994).

Hewison (2008) established a policy involvement continuum, where healthcare nurses can move along the continuum of policy literacy, through policy acumen and policy competence to influence on policy. Researchers have found that policy involvement may have very close meaning to the concept of influence on policy (Aarabi, Rafii, Cheraghi & Ghiyasvandian, 2014). The research studies were limited mainly to nurses' involvement and influence in health policy-making processes. Policy involvement or sometimes known as influence on policy tend to have three associated levels for nurses (Boswell, Cannon & Miller, 2005); including the policy maker as a voter; as a reviewer; and as an implementer of the health policy. Nurses were found to have played a significant role in healthcare policy development (Ferguson, 2001). At the same time, there was a need for nurses to understand how to navigate public health policy-making

processes (Ferguson, 2001).There tends to be the existence of informal health policy educational development programs in community organizations and nursing.

Health Professionals' Demographics as Independent Variables

As earlier recalled, the independent variables included nationality, level of work experience (including the number of years of MCH, health management experience), level of education, level of institutional support for MCH policy involvement (Aarabi et al., 2014; Antrobus & Kitson, 1999; Brownson et al., 2009; Holtrop, Price & Boardley, 2000; Jacobs et al., 2012) of the health professionals and practitioners within UAE, as well the type of services used in MCH. The dependent variables include the five phases of the policy-making process and development (Tsoukiàs et al. 2013), that is, preparation; formation; adoption and legitimization; implementation; and assessment and evaluation..

The traditional term of nationality was understood as the status of belonging to a particular country. In the UAE, nationality was defined as nationals versus non-nationals (UAE-NBS, 2013). Nationals are those 'native' and 'locals' known as Emiratis in the UAE (UAE-NBS, 2013). Nationality was an independent variable and measured as a nominal variable. This IV was controlled and manipulated by the researchers of the study since there were more than two possibilities, that is, over 200 nationalities reside in the UAE, according to the UAE National Bureau of Statistics in 2011. The dependent variable is the level of policy-making influence could be a scale as a Likert scale, where the respondent indicates their perception of the level of influence on the range of the scale of 1-5. This DV is a discrete variable where the respondents entered only values of

1, 2, 3, 4 and 5. This research question and hypotheses determined whether a relationship/association exists between IV & DV sets.

The level of work experience can be referred to as the number of years working with a healthcare institution, hospital, clinic or any health-related organization involving the delivery of MCH in some aspect or general MCH practice. The classification of this independent variable, number of years working in MCH, was classified as three categories: 0-5 years, 6-10 years and 11+years (Audet et al., 2005; Brownson et al., 2009; Holtrop, Price & Boardley, 2000; Robinson, Denney-Wilson, Laws & Harris, 2013). Research studies in the health arena classify the number of years of working as three tiers. The years of work experience is another independent variable and was measured as a continuous variable, but can be measured in discrete terms; only acceptable values were years; therefore, turning a continuous variable into a discrete variable. The years of work experience was not be controlled or manipulated by the researchers of the study. Also, for this IV, the job title has been asked with the survey and classified into nine categories according to the UAE-NBS including General Practitioner; MCH Specialist; Technicians; Assistant Technician; Nurse; Nursing Assistant; Pharmacist; Assistant Pharmacist; and Others. In addition, I have included Policy-Makers, Dentists, and Allied Health Professionals. The term ‘job titles’ or ‘job entitlement’ or ‘manpower title’ are commonly used within research studies (Brownson et al., 2009; Robinson, Denney-Wilson, Laws & Harris, 2013).

The level of education or the highest degree earned was another independent variable in the study. Health professionals' level of education within the EMR is rapidly changing due to the society's acceptance of various medical degrees earned and other applied health-related degrees (Frenk et al., 2011; Holtrop, Price & Boardley, 2000; Kronfol, 2012c). The highest level of education was classified according to nine categories: Doctorate (Ph.D.), Master, Diploma Post University (Postgraduate Diploma), Bachelor, Higher Diploma Associate Degree, and Other Degree including secondary education, certificates, and professional training.

The levels and specialization of the education was in accordance with the United Arab Emirates National Bureau of Statistics (UAE-NBS; 2013) and the National Qualifications Authority (2012) located in the UAE. There are fourteen classifications of education specializations, including Arts & Design; Engineering; Information Technology; Business & Economics; Education; Foreign languages; Environment & Health Sciences; Medical Sciences; Communication & Media Sciences; Sciences; Sharia & Law; Human & Social Sciences; Foundations; and Other. The level of education was an independent variable and measured as a categorical variable, where the highest level of education to the lowest level of education attained. The education IV was not be controlled or manipulated by the researchers of the study.

The level of organizational support was another independent variable. For the purposes of the study, organizational support can be described as a level, to which the participant's organization or healthcare institutional allows the staff to attain or seek

professional development through trainings, executive education, seminars, workshops, certifications in policy–making and development. In a recent study, there was a 93% lack of research training of physicians in Saudi Arabia (Mitwalli, Al Ghamdi & Moussa, 2014). The support from the institution of employment is another independent variable and measured as a categorical variable adapted from the perceived organizational support model established by Eisenberger et al., 1986).

Four items was selected from the survey for Perceived Organizational Support (POS) (Eisenberger et al., 1986) where prior studies have provided evidence of reliability and validity of this instrument (Allen & Shanock, 2013; Biswas & Bhatnagar, 2013; Loi, Ao & Xu, 2014; Shore & Tetrick, 1991; Shore & Wayne, 1993). Level of organizational support, an independent variable, was found to have a relationship with the policy-making process in a recent study with the findings of a relationship (Mitwalli, Al Ghamdi & Moussa, 2014). Four items of the POS survey questions for this study included the following:

1. The organization takes pride in my accomplishments.
2. The organization really cares about my well-being.
3. The organization values my contributions to its well-being.
4. The organization strongly considers my goals and values.

Each of the four items was scaled anchors from 1 (strongly disagree completely) to 5 (strongly agree) (Shore & Wayne, 1993). This variable is associated with the

enabling factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981).

Policy-Making Process within the UAE

In the UAE, the health policy-making and development is a 5 stage process cycle in accordance with the WHO standards of health policy-making framework. As illustrated in Figure 2, the five stages were the study's dependent variables:

1. policy preparation;
2. policy formation;
3. policy adoption and legitimization;
4. policy implementation; and
5. policy assessment and evaluation.

Policy Preparation

The first stage of the policy-making and development process is the identification of the health policy issue. These issues are sometimes in the form of publicized demands for government action that can lead to the identification of policy problems. The issues are identified based on public and stakeholder attention that prompts the need for government action. The identified health issues analyzed, and then the assessment of the strategic trends occurs, and evidence is gathered.

Tsoukiàs et al. (2013) found that policy issue identification requires perspectives from the various stakeholders. The policy preparation stage requires the policy-making and development team to be responsive, confidential, and immediate, and understand the

key stakeholders. Within this stage in UAE, the stakeholders include the cabinet, ministers, interdepartmental projects, the legislative process or other government entities, the public, businesses, NGO sector, international agencies such as WHO and UN, and media.

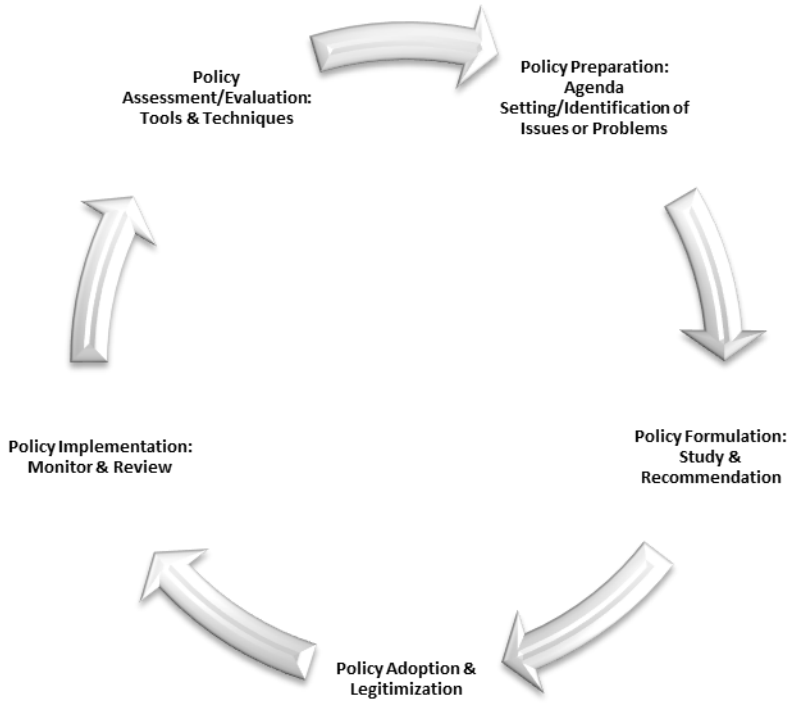


Figure 2. The flowchart of the UAE policy-making and development process
Data source adapted from the UAE, the health policy-making and development is a 5 stage process. The five stages were classified from "Policy Manual", by United Arab Emirates Ministry of Cabinet Affairs Prime Minister Office, 2011.

The policy identification approach within this stage follows the what, why, who, when, where, and how questions to gather the full story of a particular policy issue(s). The following is an example of a series of questions relating to efforts to lower MCH mortality rates in UAE:

1. What is the policy issue? What does the UAE government want to achieve in lowering the MCH mortality rates?
2. Why is a government intervention needed?
3. Who are the people affected by the increasing MCH mortality rates?
4. When is the MCH policy required to develop and implement?
5. Where is the issue targeted?
6. How can the government assist in resolving the issue?

There are limited research studies on the use of PESTLE framework analysis in relation to health policy-making. Audet et al. (2005) found that one-third of US physicians reported to be involved in redesign efforts in the past two years to improve the performance of the health system of care. Hewison (2008) established a policy involvement continuum, where healthcare nurses can move along the continuum of policy literacy, through policy acumen and policy competence to influence on policy. In this phase of policy preparation is consistent with that of the policy literacy within the continuum of policy involvement (Aarabi et al., 2014; Ferguson, 2001; Hewison, 2008).

Kolios and Read (2013) found that the utilization of the PESTLE analysis framework helps in sharing knowledge and setting policy requirements to address the policy issues. Cox (2011) also found that using both the PESTLE and SWOT analysis provided opportunities for the improvement of existing general policies and systems. The other factors considered in this first stage of policy-making in the UAE include the

political, economic, sociocultural, technological, legal and environmental analysis, or the PESTLE analysis.

Policy Formulation

The second stage of the policy-making and development process of policies within the UAE is the policy formulation. Policy proposals formulated through the UAE political channels by policy-planning organizations, government bureaucracies, interest groups, state (emirate) legislatures, and the president and cabinet. The development of possible solutions and alternatives to addressing the policy issues devised with consideration of several alternatives including three phases: *the start-up, assessment and appraisal and recommendations.*

1. The start-up phase includes securing the policy project resources, identifying the stakeholders, validating the interests and developing a policy project plan. Tsoukiàs et al. (2013) found that defining the policy objectives in relation to the value-driven, cultural-driven, and stakeholder-driven is critical in policy-making cycle. For instance, a new MCH health policy can affect the hospitals, municipalities, and education, justice, and trade entities.
2. The assessment and appraisal phase includes the review of the prior or existing policies and an analysis of the cost and benefits the potential solutions and alternatives for addressing the policy issues. Tsoukiàs et al. (2013) found that designing innovative and value-driven alternative policies and assessing potential impacts are critical in policy-making cycle. During this phase, there is the

consideration of the direct costs such as human resources, operating, and capital requirements.

3. The recommendation phase is used to formulate the complete policy for the concerned minister and presents the policy proposal. This phase is similar to the *policy finalization* of the policy cycle (Tsoukiàs et al., 2013). The input parameters such as issues, multiple values, and results are considered in the drafting of a policy.

Policy Adoption and Legitimization

The third stage of the policy-making and development process of policies within the UAE is the policy adoption. This stage is also similar to the *policy finalization* of the policy cycle (Tsoukiàs et al., 2013) where the formulated complete policy report has been presented to the key legislator. The policy proposal entails elements such as the title, relation to the UAE strategy, options, recommendation, implementation scheme, consultation, legal implications, financial implications, and wider impact.

Following the policy proposal presentation to the UAE Cabinet from Stage 2, the members of the cabinet ratify, reject, or provide recommendations for revision to the policy. Afterward, the policy legitimizes as a result of the public statements or actions of government officials including the president, cabinet, state (emirate) legislators, agency officials, and the courts. This stage includes executive orders, budgets, laws and appropriations, rules and regulations, and administrative and court decisions that set policy directions.

Policy Implementation

The fourth stage of the policy-making and development process of policies within the UAE is the policy implementation in relation to two phases: policy monitor and policy review. The purpose of the policy monitoring is to obtain feedback on the implementation of the policy based on the actual performance versus the planned performance. This stage pertains to the collection and reporting of data in relation to the inputs, initiatives and outcomes of the new health policy. Witter et al. (2013) found that policy implementation assessments included data collection mechanisms such as exit interviews, key informant interviews, facility survey, and financial analysis.

Policy implementation includes all of the activities that result from the official adoption of a policy. Policy implementation is what happens after a law passes. We should not assume that the passage of a law is the end of the policy-making process. Ross and Begala (2005) found that policy development was ranked well among the 55 developing countries. Ross and Begala (2005) stated that this was probably the easiest to achieve policy development for maternal health because governments viewed MCH policies as noncontroversial. There were concerns for the implementation of action plans as a result of the MCH policies developed (Ross & Begala, 2005). The policy review depends on the type of policy term or policy strategy selected. The periodic review occurs for long-term policy on an annual review; medium-term policies are considered on biannually, while short-term policies reviewed quarterly. The analysis review is

conducted to help determine the effectiveness of the policy and to report any changes or recommendations required.

Policy Assessment and Evaluation

The fifth stage of the policy-making and development process of policies within the UAE is the policy assessment and evaluation. The goal of this stage is to understand data and gather data, tools for using data and structured thinking tools. Tsoukiàs et al. (2013) found that policy evaluation, and readjustment and innovation tools are considered success criterion during the in policy-making cycle. Such evaluative analysis helps with being proactive and value-driven through the identification of and mapping a resistance to and adverse effects of the policy (Tsoukiàs et al., 2013). Some examples of the ways in which the understanding of policy-making can be acquired by the policy-makers include surveys, interviews, focus groups, forecasting, benchmarking, brainstorming, and SWOT and PESTLE Analysis.

Role of Health Professionals Andersen Model of Healthcare Services Utilization

This section highlights the introduction to the Andersen model and briefly describes the 5 stages of the Andersen Model development and its relevance to the study.

Introduction of Andersen Model

The Andersen model of healthcare services utilization was developed by Andersen (1968) to examine healthcare settings and processes (Andersen, 1995; Andersen, 1968; Andersen & Newman, 1973), as illustrated in Figure 1, Chapter 1. The Andersen model is used widely by researchers interested in understanding the factors

affecting the utilization of healthcare services (Austin et al., 2008; Goldsmith, 2002; Hughes & Wingard, 2008; Lo & Fulda, 2008; Stein et al., 2007). The Andersen Model is one of the most frequently used theoretical frameworks in healthcare administration and management (Brown, Barner, Bohman, & Richards, 2009; Jahangir, Irazola & Rubinstein, 2012; López-Cevallos & Chi, 2010; Najnin, Bennett & Luby, 2011; Young et al., 2006).

However, there are limited research on the study topic of policy-making and development and its' influence on reducing mortality rates in relation to the use of the Andersen model. This theoretical framework focused on how to utilize the Andersen model in exploring the factors associated with MCH care professionals and practitioners involved in policy-making and development. There were four phases involved in the making of the Andersen Model.

Origin of Andersen Model

The Andersen model had many approaches of study including socio-demographic, organizational, sociocultural, social systems and socio-psychological approaches (Anderson, 1974). The original model was developed in 1968 as illustrated in Figure 3. The model underwent some refinements to take into account these approaches (Aday & Andersen, 1981; Andersen, 1995; Andersen & Newman, 1973). The origin of the Andersen model emphasized to understand why families utilized health services; to assist in developing policies and strategies; to outline and measure reasonable and equitable

access to healthcare services (Andersen, 1995). The initial model suggests that patients' use of health services is a function of (Andersen, 1995):

- Their predisposing characteristics in the utilization of health services,
- The factors and resources to enable or impede use of services, and
- Their need for care, whether it be perceived or evaluated.

Researchers questioned whether the use of the initial model was for predict or explaining use of services (Mechanic 1979; Rundall, 1981). In the 1960s, the model was developed due to the policy goal of increasing the utilization of health services. The model has been criticized furthermore for not taking into account social interactions and social networks (Andersen, 1995; Bass & Noelker, 1981; Portes, Kyle & Eaton, 1992). There were concerns on the enabling resources within the model on the lack of consideration of organizational factors (Gilbert, Branch, & Longmate, 1993; Patrick et al., 1988) such as policy-making and development in order to facilitate or impede the utilization of the health services (Andersen, 1995; Bass & Noelker, 1987). The MCH policy-making process is the enabling resource in the study.

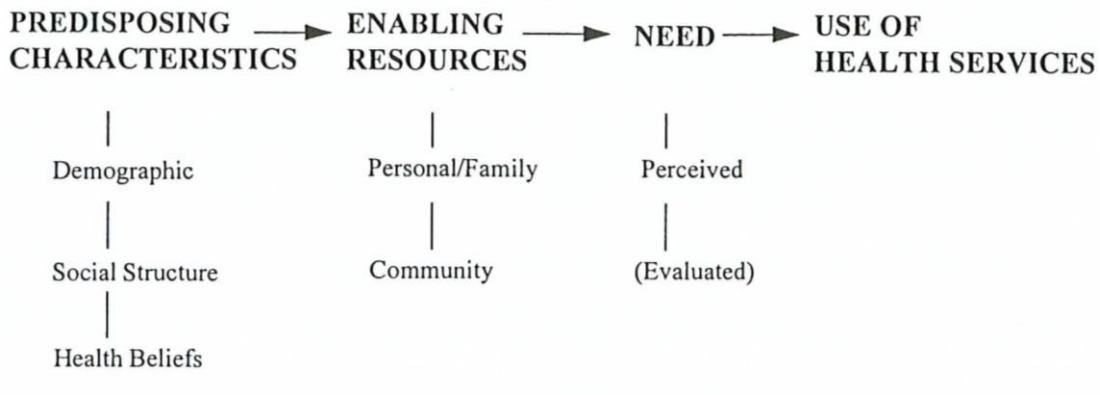


Figure 3. The Initial Andersen Model (1960s). From "Revisiting the Behavioral Model and access to Medical Care: Does It Matter?" by R. M. Andersen, 1995, *Journal of Health and Social Behavior*, 36, p. 2. Copyright 1995 by the American Sociological Association. Reprinted with permission.

Phase 2: Andersen Model (1970s)

As a result of the critiques, analyses and inputs from researchers, Andersen revised the model to reflect refinements on the explicit recognition of healthcare system including health policy, resources and organization's determinants of the population's use of health services (Aday & Andersen, 1974; Andersen & Newman, 1973; Fleming & Andersen, 1986). The revision is illustrated in Figure 4. In addition, customer satisfaction, an explicit outcome of the utilization of health services was added to the Phase 2 of the model in Figure 4.

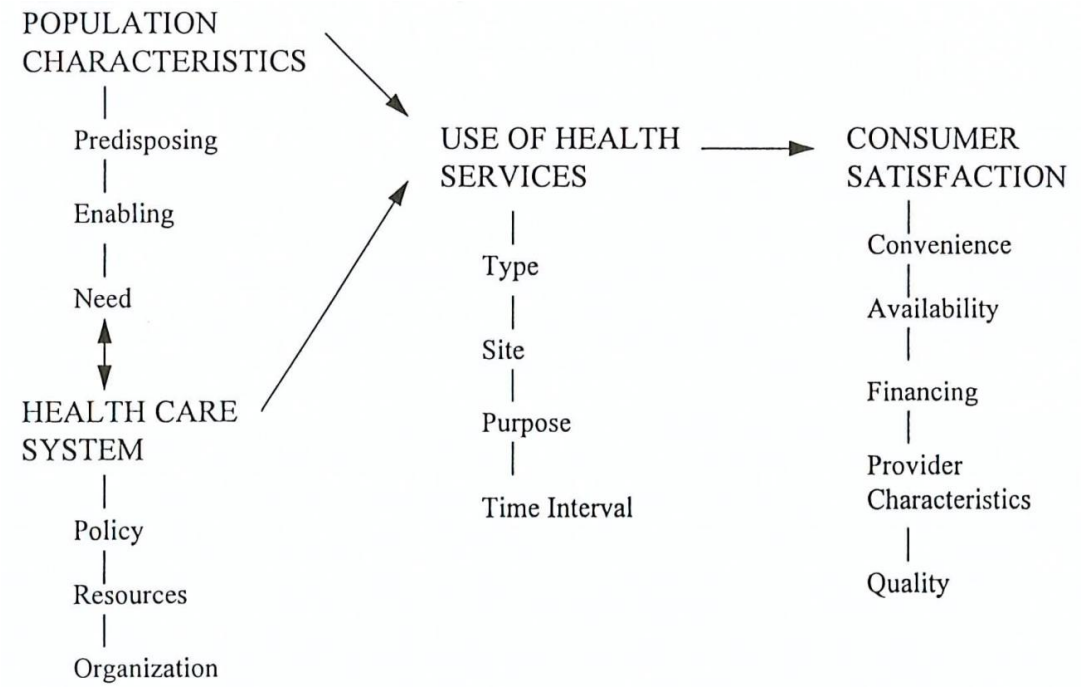


Figure 4. The model: Phase 2 (1970s). From "Revisiting the Behavioral Model and access To Medical Care: Does It Matter?" by R. M. Andersen, 1995, Journal of Health and Social Behavior, 36, p. 6. Copyright 1995 by the American Sociological Association. Reprinted with permission.

Phase 3: Andersen Model (1980s-1990s)

In the 1980s and 1990s, the Andersen Model was further revised to include the relationship of the function of the three characteristics: *predisposing factors, enabling factors* and *need factors* (Andersen, 1995) as illustrated in Figure 5. In the third phase of the model, there was the acknowledgment of the extrinsic factors such as the political, physical, economic aspects and personal habits including exercise and nutrition (Andersen, 1995). The IVs of the study has been correlated with each other in studies by Babitsh et al., 2012. The function of three characteristics entails (Andersen, 1995; Andersen & Newman, 1973):

1. The predisposing factors can reflect the demographic factors such as age, gender, education, occupation, nationality, and social status (Andersen, 1995; Babitsch et al., 2012). These predisposing factors of health utilization have been known and tested in some research studies (Babitsch et al., 2012; Kronfol, 2012b; Kishk, 2001; Valentine et al., 2003).
2. The enabling factors can reflect the marital status, living arrangement, access to health insurance, household number living together, and even genetic factors and psychological characteristics (Andersen, 1995). These enabling factors of health utilization have been known and tested in some research studies (Blackwell et al., 2009; Insaf et al., 2010; Surood & Lai, 2010).
3. The need factors could reflect the most immediate care of the health service use, from a functional and health problem (Andersen, 1995; Andersen & Newman, 1973). These need factors of health utilization have been known and tested in some research studies (Ani et al., 2008; Afilalo et al., 2004; Stockdale et al., 2007).

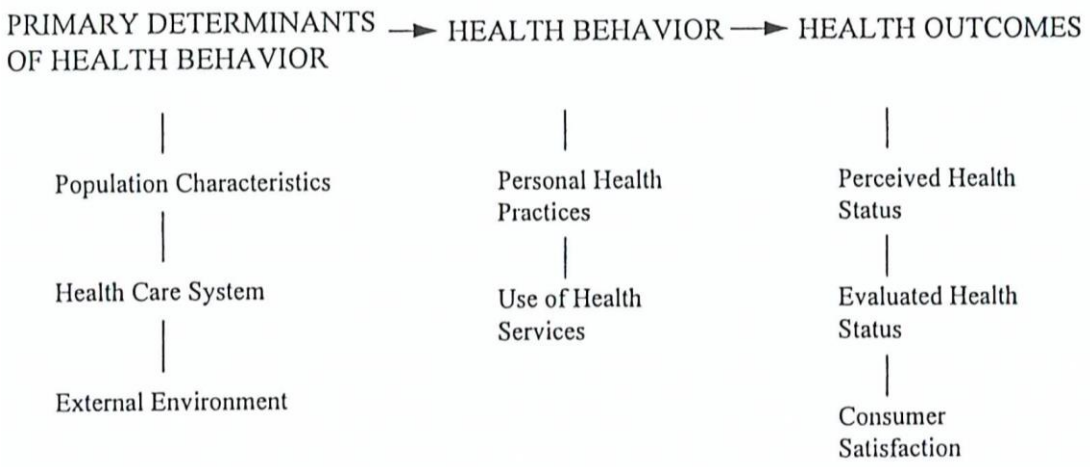


Figure 5. The model: Phase 3 (1980s-1990s). From "Revisiting the Behavioral Model and access to Medical Care: Does It Matter?" by R. M. Andersen, 1995, Journal of Health and Social Behavior, 36, p. 7. Copyright 1995 by the American Sociological Association. Reprinted with permission.

Habibov and Fan (2008) used the Andersen model to investigate the determinants of prenatal care utilization in Tajikistan. The authors found that higher educational attainment increased the prenatal care utilization while poverty, lack of public infrastructure and limited knowledge of sex education decreased the use of prenatal care services (Habibov & Fan, 2008). The policy implications highlighted in the study included for the government to revisit the policies and strategies for increasing the public expenditures on healthcare.

Phase 4: Final Andersen Model (1995)

The current model that exists is illustrated in Figure 6 and also displayed in Figure 1 within Chapter 1. This phase of the model emphasizes the dynamics and recursive nature of the utilization of health services and health outcomes (Andersen, 1995). Additionally, the model includes a feedback system with loops illustrating the health

outcome (Andersen, 1995). The result of the model is to have improved payoffs in understanding the health behaviors to inform vital health policies (Andersen, 1995).

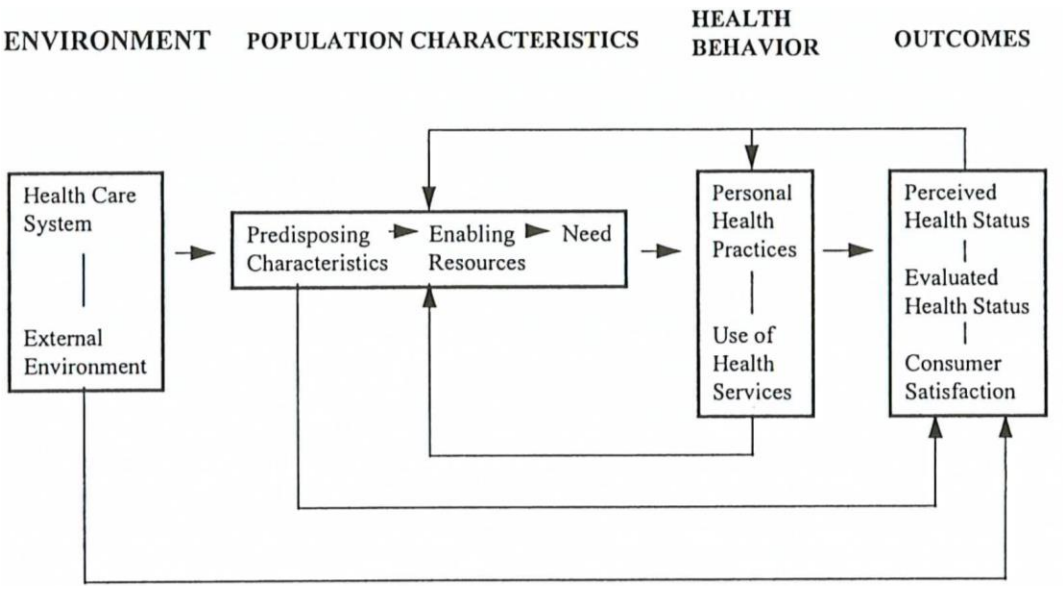


Figure 6. The Andersen model of healthcare utilization (1995). From "Revisiting the Behavioral Model and access to Medical Care: Does It Matter?" by R. M. Andersen, 1995, *Journal of Health and Social Behavior, 36,* p. 8. Copyright 1995 by the American Sociological Association. Reprinted with permission.

In this research study using the Andersen model (Andersen, 1995; Aday & Andersen, 1981; Andersen & Newman, 1973; Babitsch et al., 2012; Kim et al., 2006), the predisposing factors such as gender, education, occupation, and nationality; enabling factors such as years of work experiences and level of organizational support and need factors such as the number of health professionals and practitioners maternal and child care/health involved in the policy-making process was examined. The study highlighted the linkage between the Andersen Model and the MCH policy-making process. As

indicated earlier in phase 1, in the 1960s, the model was first developed in light of the existing policy goal to increase the utilization of health services.

The latest Andersen model in 1995 has its' purpose to discover conditions that either facilitate or impeded the utilization of health services (Andersen, 1995). This linkage may be through the identification of the population characteristics of the health professionals and practitioners and its social impact on the MCH policy-making process. Additionally, policies are implied firstly by determining what conditions explain the utilization of health services (Andersen, 1995). The predisposing, enabling and need components, the 'population characteristics' element in the Andersen Model was the IVs and while, the DVs was the 'healthcare system from the environment' within the Andersen Model of the study.

Andersen Model Justification

There are three components of the Andersen model: predisposing factors, enabling factors and need factors (Andersen, 1995; Andersen & Newman, 1973). A systematic review of the Andersen model was adopted by researchers from a recent research publication by Babitsch, Gohl and Lengerke (2012) that highlighted the research studies on the topic of MCH and policy-making using the Andersen model. Appendix A consists of 10 MCH research studies occurred in the EMR during the period of 2013 to 1986 and 17 MCH research studies occurred worldwide during the period of 2011 to 1999. Among these research studies, the methodology was quantitative research while the theoretical framework was the Andersen model.

This model is the most frequent reference and widely acknowledged model for elaborating the healthcare services utilization (Babitsch et al., 2012; Chiu & Eysenbach, 2010; Thind & Cruz, 2003). There have been over 1000 research studies and papers with citations of 86,187 which made reference to the Andersen model of healthcare services utilization over a 44-year period (Harzing's Publish or Perish, 2014). The Andersen model of healthcare services utilization, Figure 6 (Andersen & Newman, 1973), is referred to as a tool to assess various influences associated with the patterns of utilization of healthcare (Aday & Andersen, 1981; Aday & Andersen, 1974), particularly to MCH care. In the 1970s, the Andersen model was revised to include elements of health policy, additional resources and healthcare institutions (Aday & Andersen, 1974). These additional resources included the human capital investments, that is, professional development, education and training for healthcare staff.

Kiyak (1987) found that the revised Andersen Model explained 32% of a variance in dental utilization where the implications included developing educational programs and relevant policies. Maiman and Becker (1974) suggested that one of the objectives of the Andersen Model is to define the impending impact of policy changes designed to improve access to health services. The research literature on the Andersen Model in relation to policy-making and development process is limited.

The Andersen model has been revised in 1995 to reflect refinements on the explicit recognition of healthcare system including health policy, resources and organization's determinants of the population's use of health services. Research on the

utilization of health services suggests vital dependent variables (manipulable) such as policy and the independent variables (non-manipulable) such as population characteristics that might be incorporated into a study for healthcare systems (Aday & Andersen, 1974; Coleman, 1975). Goldsmith (1972) and Moriyama (1968) indicated the need for defining public policy in terms of equitable distribution of health services. The researchers' assumption were based on the public policy development to ultimately result in an improvement in general health status (Goldsmith, 1972; Moriyama, 1968). To address the research agenda of defining public influence on policy, Andersen and Newman (2005) using the Andersen Model to impact policy implications such as defining public policy to influence the general health status of the population.

Few studies focused on various aspects of the Andersen Model of healthcare utilization such as predisposing variables in relation to the continuum of care policy development (Andersen, 1995; Andersen & Davidson, 1997; Ballantyne, 2014; Beidenharn & Normoyle, 1991; Bradley et al. 2002; Keysor, Desai, & Mutran, 1999). One study stated the implications for long-term care policy develop and service delivery in relation to predisposing factors; that is, an element within one aspect of the Andersen Model, the population characteristics (Bradley et al. 2002).

Recently, researchers recommended for further development of the Andersen Model by integrating assumptions and behaviors of professionals working in health policy and services (von Lengerke, Gohl, & Babitsch, 2014). For instance, clarifying whether enabling factors tend to moderate associations between other variables (von

Lengerke, Gohl, & Babitsch, 2014); in the present study, population characteristics: predisposing factors, enabling factors, need factors and the environment: healthcare system and policy (Figure 6).

More recently, a study was aimed at examining the determinants of health check attendance by using the Andersen Model to provide evidence which is comparable with population factors (predisposing, enabling and need) influencing the health service systems including policy in Germany (Hoebel et al. 2014). Hoebel et al. (2014) highlighted the need for investigating the quality of health services systems by health providers and the need to develop and improve specific approaches for public health interventions. In another study, Walter et al. (2012) found that contributing factors such as healthcare policy systems and demographic characteristics were a part of the model of pathways to treatment. The researchers acknowledged the need for 'future unpacking' of the healthcare systems and processes to allow for a deeper understanding (Walter, Webster, Scott & Emery, 2012) and the challenges (Scott & Walter, 2010) using the Andersen Model.

Andersen Model Linkages with Associated Theories

There are limited research studies on the MCH policy-making and development process (COHRED, 2014; Chapman et al., 2014). With the many theoretical frameworks, the Andersen model of healthcare services utilization was best fitted for this research study. The Andersen model analyzed the factors that influence the policy-making process in the area of MCH. The associated theories of path-goal, transformational leadership,

HBM, learning theories will be discussed to establish the existing connections and identify gaps in accordance of utilizing the Andersen model. Table 6 provides an illustration summary of the number of publications within the health field by theory type.

Table 6

Summary of Associated Health-Related Theories for Books, Journals and Reports

Associated Theories (Health –related)	Books	Journals	Reports	Total
Path-goal Theory	71	323	13	407
Transformational Leadership	53	553	0	606
Health Belief Model	1	48	0	49
Learning Theories: SLT & HLT	6	35	0	41
Andersen Model of Healthcare Services Utilization	2	73	0	75

Path-Goal Theory

One of the valid theories of leadership in healthcare is the path-goal theory. The theory depends on the nature and operations of the public health institution. Path-goal theory provides a useful theoretical framework for the understanding of how various leadership behaviors affect the satisfaction of subordinates and their performance (House, 1996). The theory attempts to integrate the motivation principles of the expectancy theory into a theory of leadership (House, 1996). It is the only theory that deals with motivation (House, 1996; Sarin & O'Connor, 2009; Vecchio et al., 2008).

In the field of public health, particularly, in the MCH arena, the strength of path-goal theory is said to be evident through traits and behaviors demonstrated by the healthcare leaders (Fernandez et al., 2010; House, 1996; House, 1971; Vecchio et al.,

2008). Such a leader who is involved in the process that provides employee motivation through increasing the employee's engagement and involvement and empowerment activities via the utilization of extrinsic rewards in order to exert positive influence (Fernandez et al., 2010; House, 1996; House, 1971; Vecchio et al., 2008). Examples of the extrinsic characteristics can be illustrated within the model diagram, *Figure 8*, provides an illustration of with an understanding of the path-goal theory adapted from House (1996).

There is no evidence of research literature that connects the Andersen Model to the path-goal theory model directly. The similarities lie within the environmental aspect of the Andersen Model. The utilization of extrinsic rewards involved in the path-goal theory is also similar for those elements within the Andersen Model, under the external environment element (Andersen, 1995; Andersen & Newman, 1973). There is a need to investigate the linkages to be derived between leadership style such as the path-goal theory and the Andersen Model, particularly in the health policy-making domain.

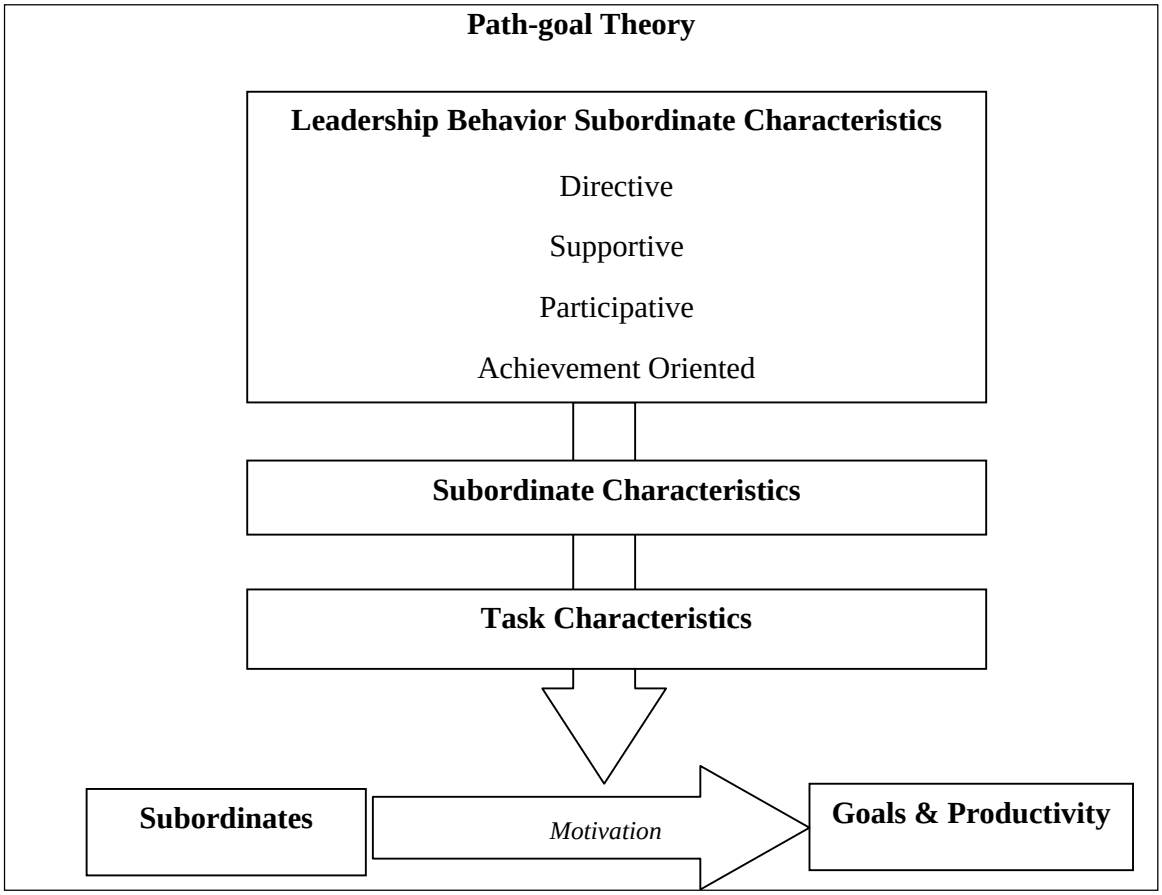


Figure 7. Adapted from figure 7.2 on page 127 based on the book from Northouse, P. G. (2010). Leadership: Theory and Practice. (5th ed.). Thousand Oaks, CA: Sage Publications. Reprinted with permission.

Transformational Leadership

According to Bass (1990), the transformational type of leadership usually possesses charisma, provides scholarly stimulation, individualized consideration, and inspirational enthusiasm to employees. Transformational leaders communicate the significance of the organization's mission and objectives to the employees (Beugré, 2006; Borkowski, 2009; Kumar, 2013; Kouzes & Posner, 2011; Oliver, 2006; Reichwald,

Siebert & Möslein, 2005). Such key characteristics of transformational leaders also include having an articulated vision, engagement of risk-taking and self-sacrifice, sensitivity to employees' feelings and needs, adoption of change, and perception as being novel (Borkowski, 2011; Collins, 2001; Hayes, 2007). Goleman (2004) found that transformational leaders promote intelligence, rationality and careful problem-solving. They also give personal attention to their people, treat everyone equally and provide mentoring and coaching (Kouzes & Posner, 2009; Hayes, 2007; Smith, 1999).

There is no evidence in research literature that connects the Andersen Model to transformational leadership directly. The similarities lie within the environmental aspect of the Andersen Model. The utilization of charismatic characteristics of the a transformational leaders is also present within the Andersen Model, under the external environment element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). There is a need to investigate the linkages to be derived between leadership style such as the transformational leadership and the Andersen Model, particularly in the health policy-making domain.

Furthermore, there have been some discussions and debates on the comparison of transactional and transformational leadership styles within the healthcare systems in a general notion (Borkowski et al., 2011) but no evidence on the MCH care and health policy-making process. There is much research needed to investigate more of the field of MCH care leadership, specifically to guide the health policy-making process for MCH

care services and management and creation of more public health awareness and forums (Moos, 2006; Rising et al., 2004; Rising, 1998).

Alexander (2003) noted that it took leadership in MCH to assure the preparation of others with the skills, the knowledge, the will, the traits, the conviction, and a sense of purpose with the hope of improving the safety, health and well-being of mothers and children. Even though the research literature provides an illustration of the infant and maternal mortality rates having dramatically decreased in the 20th century as compared to the earlier decades, there is limited research to demonstrate the type of leadership that has been the responsibility for impacting positively upon these reduced rates (COHRED, 2014; Moos, 2006).

Another gap is why the goal of MCH care is evolving as the years proceed forward (Strong, 2000). Transformational leadership plays an important role in the evolution of the MCH care goals (Moonesar & Vel, 2012; Moos, 2006). The studies highlighted that an area to research and contribute to the knowledge base is to explore the types, styles and theory of the leadership of MCH care (Moonesar & Vel, 2012; Moos, 2006). There is a need to investigate the linkages to be derived between leadership style such as the transformational leadership and the Andersen Model, particularly in the health policy-making domain.

Health Belief Model

The health belief model (HBM) is a psychological framework that focuses the attitudes and behaviors of individuals seeking an explanation and prediction of health

behaviors. The HBM was developed in the 1950s by social scientists (Rosenstock et al., 1988; Rosenstock, 1974). There are key variables of the HBM, which include perceived threat, perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Beckman & Kocel, 1982; Maiman & Becker, 1974; Rosenstock et al., 1994). This HBM has been adapted to explore both short term and long term health behaviors such as sexual risks behaviors. As a result, this model is not applicable to this research study.

Some efforts have been made to connect the elements of Andersen Model to those elements of the HBM directly (Andersen, 1995). The similarities lie within the environmental aspect of the Andersen Model. The utilization of key variables from the HBM include perceived threat, perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995). These behaviors can be exhibited through either personal health practices of the use of health services or both. There is a need to investigate the linkages to be derived between health belief model and the Andersen Model, particularly in the health policy-making domain.

Learning Theories

There are multiple learning theories in the healthcare management. These include learning theories such as behaviorists, cognitive, social psychodynamic and humanistic (Braungart & Braungart, 2008). The two key theories included the Social Learning

Theory (SLT) and the Humanistic Learning Theory (HLT) (Braungart & Braungart, 2008). The utilization of key variables including include perceived threat, perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). These behaviors can be exhibited through either personal health practices of the use of health services or both.

The SLT has been heavily researched by the theorist, Albert Bandura, "who mapped out a perspective on learning that includes consideration of personal characteristics of the learner, behavioral patterns, and the environment" (Braungart & Braungart, 2008; Bandura, 2001; Bandura, 1977). Through the use of SLT, healthcare professionals can devise ways of promoting the well-being and encouraging patients' feelings of competency all leading to a better quality of care (Barton, 2010; Pratt, 2010).

The HLT is mainly a motivational theory. The HLT basic assumption is that everyone is unique and has a desire to grow in a positive manner (Braungart & Braungart, 2008). The theorist of the HLT is Abraham Maslow where the theory is commonly known as the 'Hierarchy of Needs' (Maslow, 1987). Maslow's theory states that a person "does not feel a higher need until that needs of the current level have been satisfied" (Braungart & Braungart, 2008). Maslow's basic five needs are physiological, safety, belonging and love, esteem and self-actualization (Chapman, 2007). In healthcare, it is vital to convey respect for patients and even among the healthcare professionals. For

instance, if a health professional is judgmental towards MCH patient**s**, then there may be lapses in the number of visits and the healthcare advice received may not be adhered to, impacting the mother's health and even the unborn baby (Moonesar & Vel, 2012).

SLT and HLT in research literature indicate that they are adopted to understand how behavior is influenced by motivation. In relation to the healthcare industry, understanding the behaviors of the health professionals and practitioners and how they are influenced by motivational factors is vital to the continuous improvement on the quality of care delivery. Researchers indicated the future need for exploring more on the awareness of MCH care in decreasing the risks associated with premature birth and other pregnancy-related complications to reduce death rates (Busuttil et al., 2004; Davis, 2007; Schulman et al., 1997). Learning theories such as SLT and HLT include new knowledge that is related to something already known and also contain results in new skills, perspectives and a changed sense of self (Goldman, 2009).

The utilization of SLT & HLT can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). These behaviors can be exhibited through either personal health practices of the use of health services or both. There is a need to investigate the linkages to be derived between learning theories (including SLT and HLT) and the Andersen Model, particularly in the health policy-making domain.

Andersen Model Analysis on Research Methodologies

The Andersen model of healthcare services utilization was used in many research studies (Aday & Andersen, 1974; Andersen, 1995; Aday & Andersen, 1981; Andersen & Newman, 1973; Babitsch et al., 2012; Kim et al., 2006; Fleming & Andersen, 1986). A review of the research studies was conducted to assess the usage and implementation of the Andersen model (Figure 6) for the period using this model and illustrated in Appendix A. This systematic review of the Andersen model adopted the practice used by researchers, Babitsch, Gohl and Lengerke (2012). Appendix A has been adopted, revised and updated from the research study conducted by Babitsch et al. (2012) which include research studies on the topic of MCH and policy-making using the Andersen model. Within Appendix A consists of ten research studies occurred in the EMR during 2013 to 1986 and 17 research studies occurred worldwide during 2011 to 1999. 27 of these research studies used quantitative research methodologies when the Andersen model was the theoretical framework. The study used a quantitative correlational approach.

Summary of Andersen Model of Healthcare Services Utilization

The Andersen model of healthcare services utilization was developed by Andersen (1968) to examine healthcare settings and processes (Andersen, 1995; Andersen, 1968; Andersen & Newman, 1973), as illustrated in Figure 6. There are limited research on the study topic of policy-making and development (Ervin, 1982; Freudenberg, 1984; Holtrop, Price & Boardley, 2000; Ogden, 1986; O'Rourke, 1989; Steckler & Dawson, 1982) and its' influence on reducing mortality rates in relation to the

use of the Andersen model. This theoretical framework focused on how to utilize the Andersen model in exploring the factors associated with MCH care professionals and practitioners involved in policy-making and development.

There were four phases (Andersen 1995) involved in the making of the Andersen Model including the Initial Andersen model (1960s); the Andersen Model: Phase 2 (1970s); the Model- Phase 3 (1980s-1990s); and the current Andersen model of healthcare utilization (1995). At each of the phases, as a result of the critiques, analyses and inputs from researchers, Andersen revised the model to reflect refinements on the explicit recognition of healthcare system including health policy, resources and organization's determinants of the population's use of health services (Aday & Andersen, 1974; Andersen & Newman, 1973; Fleming & Andersen, 1986). Appendix A has been adopted, revised and updated from the research study conducted by Babitsch et al. (2012) which include research studies on the topic of MCH and policy-making using the Andersen model.

Within Appendix A, there are ten research studies occurred in the EMR during 2013 to 1986 and 17 research studies occurred worldwide during 2011 to 1999 using the Andersen Model. 27 of these research studies used quantitative research methodologies when the Andersen model was the theoretical framework. In this research study using the Andersen model (Andersen, 1995; Aday & Andersen, 1981; Babitsch et al., 2012; Kim et al., 2006), the predisposing factors such as gender, education, occupation, and nationality; enabling factors such as years of work experiences and level of

organizational support and need factors such as the number of health professionals and practitioners maternal and child care/health involved in the policy-making process was examined. The study highlighted the linkage between the Andersen Model and the MCH policy-making process. This linkage may be through the identification of the population characteristics of the health professionals and practitioners and its social impact on the MCH policy-making process. These predisposing, enabling and need components are the IVs & DV of the study.

There is no evidence of research literature that connects the Andersen Model to the path-goal theory model directly. The similarities lie within the environmental aspect of the Andersen Model. The utilization of extrinsic rewards involved in the path-goal theory is also similar for those elements within the Andersen Model, under the external environment element (Andersen, 1995; Andersen & Newman, 1973). There is a need to investigate the linkages to be derived between leadership style such as the path-goal theory and the Andersen Model, particularly in the health policy-making domain.

There is no evidence in research literature that connects the Andersen Model to transformational leadership directly. The similarities lie within the environmental aspect of the Andersen Model. The utilization of charismatic characteristics of the a transformational leaders is also present within the Andersen Model, under the external environment element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). There is a need to investigate the linkages to be derived between leadership style

such as the transformational leadership and the Andersen Model, particularly in the health policy-making domain.

Some efforts have been made to connect the elements of Andersen Model to those elements of the HBM directly (Andersen, 1995). The similarities lie within the environmental aspect of the Andersen Model. The utilization of key variables from the HBM include perceived threat, perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995). These behaviors can be exhibited through either personal health practices of the use of health services or both. There is a need to investigate the linkages to be derived between health belief model and the Andersen Model, particularly in the health policy-making domain.

The utilization of SLT & HLT can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). These behaviors can be exhibited through either personal health practices of the use of health services or both. There is a need to investigate the linkages to be derived between learning theories (including SLT and HLT) and the Andersen Model, particularly in the health policy-making domain.

From the literature review, there is a need to investigate the relationship between Andersen Model factors and the health policy-making process domain using a correlational quantitative research method.

Summary of Literature Review

For this research study, the focus was primarily on stages 1 and 2 of the 10-stage continuum of care, that is, MCH care aspect. Research studies indicate the need for improving the availability and access to such care through enhanced policies and national budgets, in addition to improving the health promotion efforts and awareness activities through the enhancement of policies and strategies.

In the 19th century, the countries within the EMR such as Cairo, Istanbul, Levant, Bahrain, Kingdom of Saudi Arabia and Oman all embraced public health as an initiative to improve the health status of the citizens. However, research studies have shown that as the improvement of public health policy and practices were evident as they moved towards the adoption of international measures that occurred within the 20th century. In the first half of the 20th century, there was the growth of healthcare establishments across the EMR. By this time, one of the top-most priorities of the WHO in 1948 was focused on the MCH policies (Kronfol, 2012a; UNICEF, 1989, p. 21) and remained the main focus in contemporary times (Jabbour et al., 2012).

One of the main challenges that occurred in the EMR during the 20th century era was the cultural and traditional conservatism barrier with regards to the role of women in the public service; therefore, impacting the nursing and midwifery practises and policy-making processes (Kronfol, 2012b; UNICEF, 1989, p. 23). Moreover, lately policy recommendations have been of a topic of debate in the EMR where has been evidence of very little adoption of the policy recommendations through MDGs 4 and 5 goals.

Many governmental leaders across the EMR are debating the continual raise in maternal and child mortality rates may be due to the lack of MCH policy development and adoption (Al Hussein, 2013). The table 3 shows the twenty-three countries within the EMR and the percentage of MCH policies and strategies adopted. According to the WHO, there are ten MDG 4 & MDG 5 priority countries within the EMR include Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, South Sudan, Sudan and Yemen (WHO-EMR, 2013; WHO, 2012).

Governmental leaders and healthcare professionals were eager to learn more on whether the MCH professionals influenced in the UAE policy resulting to an overall health outcome of lowering the mortality rates. Many researchers supported by WHO have evidence-based priority setting models for supporting tools for policy in reducing the MCH mortality rates including the Child Health Epidemiology Reference Group (CHERG; Fathalla, 2014; Rudan et al., 2010) and the Lives Saved Tool (LiST; Boschi-Pinto et al., 2010). The MCH policies relate to a mixture of the health policy elements, *healthcare policy* and *policy for health* (Hunter, 2003).

There are three types of policy terms or policy strategies (Cox, 2011, p. 75) including the short-term, medium term and long term. Lasswell (1956) highlighted that the policy-making process is more like a policy cyclic process. Some researchers found that the policy-making cycle comprised of eight stages including, issue identification, defining policy objectives, policy design, policy testing, policy finalization, policy

implementation, policy monitoring and evaluation, and policy readjustment and innovation (Tsoukiàs et al., 2013).

In the UAE, the health policy-making and development is a 5 stage process cycle including preparation; formation; adoption and legitimization; implementation; and assessment and evaluation. (UAE Cabinet, 2011). A review of the literature on the role of health professionals in policy-making was limited; research studies on the role of health professionals related more to the promotion of health behavioral changes.

There are limited research studies on the MCH policy-making and development process (COHRED, 2014; Chapman et al., 2014). With these many theoretical frameworks, the Andersen model of healthcare services utilization was best fitted for this research study. The Andersen model was to analyze the factors that influence the policy-making process in the area of MCH. The associated theories of path-goal, transformational leadership, HBM, and learning theories were discussed to establish the existing connections with the Andersen model.

The Andersen model of healthcare services utilization was developed by Andersen (1968) to examine healthcare settings and processes (Andersen, 1995; Andersen, 1968; Andersen & Newman, 1973), as illustrated in Figure 1, Chapter 1 and Figure 6 in this chapter. The Andersen model is used widely by researchers interested in understanding the factors affecting the utilization of healthcare services (Austin et al., 2008; Goldsmith, 2002; Hughes & Wingard, 2008; Lo & Fulda, 2008; Stein et al., 2007). There were four phases (Andersen 1995) involved in the making of the Andersen Model

including the Initial Andersen model (1960s); the Andersen Model: Phase 2 (1970s); the Model- Phase 3 (1980s-1990s); and the current Andersen model of healthcare utilization (1995).

At each of the phases, as a result of the critiques, analyses and inputs from researchers, Andersen revised the model to reflect refinements on the explicit recognition of healthcare system including health policy, resources and organization's determinants of the population's use of health services (Aday & Andersen, 1974; Andersen & Newman, 1973; Fleming & Andersen, 1986). Appendix A has been adopted, revised and updated from the research study conducted by Babitsch et al. (2012) which include research studies on the topic of MCH and policy-making using the Andersen model. This table within Appendix A consists of ten research studies occurred in the EMR during 2013 to 1986 and 17 research studies occurred worldwide during 2011 to 1999. 27 of these research studies used quantitative research methodologies when the Andersen model was the theoretical framework.

There is no evidence of research literature that connects the Andersen Model to the path-goal theory model directly. The similarities lie within the environmental aspect of the Andersen Model. The utilization of extrinsic rewards involved in the path-goal theory is also similar for those elements within the Andersen Model, under the external environment element (Andersen, 1995; Andersen & Newman, 1973). There is a need to investigate the linkages to be derived between leadership style such as the path-goal theory and the Andersen Model, particularly in the health policy-making domain.

There is no evidence in research literature that connects the Andersen Model to transformational leadership directly. The similarities lie within the environmental aspect of the Andersen Model. The utilization of charismatic characteristics of the a transformational leaders is also present within the Andersen Model, under the external environment element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). There is a need to investigate the linkages to be derived between leadership style such as the transformational leadership and the Andersen Model, particularly in the health policy-making domain.

Some efforts have been made to connect the elements of Andersen Model to those elements of the HBM directly (Andersen, 1995). The similarities lie within the environmental aspect of the Andersen Model. The utilization of key variables from the HBM include perceived threat, perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995). These behaviors can be exhibited through either personal health practices of the use of health services or both. There is a need to investigate the linkages to be derived between health belief model and the Andersen Model, particularly in the health policy-making domain.

The utilization of SLT & HLT can be also present within the Andersen Model, under the external environment element and the behavior element as illustrated in Figure 1 (Andersen, 1995; Andersen & Newman, 1973). These behaviors can be exhibited

through either personal health practices of health services or both. There is a need to investigate the linkages to be derived between learning theories (including SLT and HLT) and the Andersen Model, particularly in the health policy-making domain.

From the literature review, there is a need to investigate the relationship between Andersen Model factors and the health policy-making process domain. Based on the Andersen Model research literature, the population characteristics within the model has always been of interest to researchers with the main focus of utilization of health services. With reference to the Andersen model, there has been limited evidence from the literature review indicating the correlations between the environment aspect (including the healthcare system and health policy-making process) and the population characteristics. Therefore, the study investigated whether MCH professionals and practitioners have influence on policy.

The following chapter provides a detailed description of the research design and methodology in the study and included details on procedures for recruitment and data collection, instrumentation and operationalization of constructs and threats to validity.

Chapter 3: Research Method

Introduction

The purpose of this quantitative correlational study was to investigate how health professionals and practitioners develop and influence policy (Chapman et al., 2014; Smith et al., 2014). Influence on policy development by health professionals and practitioners was recommended as a research agenda by researchers in the field (Bhutta et al., 2010; Chervenak et al., 2013; Smith et al., 2014). The research questions for the study are as follows:

1. To what extent, if any, does the nationality of the MCH professional relate to the level of influence in policy-making?
2. To what extent, if any, does the level of education attained by the MCH professional relate to the level of influence in policy-making?
3. To what extent, if any, does the number of years of work experience of the MCH professional relate to the level of influence in policy-making?
4. To what extent, if any, does the level of support from the institution of employment of the MCH professional relate to the level of influence in policy-making?

I begin this chapter with the research design and rationale, followed by a description of the study variables. The following section on the methodology includes the population, sampling and its procedures, and the relationship with other research studies. There are highlights detailing the procedures for the data collection, including the

recruitment and participation strategies. The type of Likert scaling is discussed in addition to its operationalization and data analysis plan. Chapter 3 also includes a section on the threats to validity and the ethical procedures, followed by a summary.

Methodology

As mentioned in Chapter 1, in quantitative research methods, theory comes before scientific analysis, which is either tested or measured against data (Creswell, 2009; Laureate Education, Inc., 2008; Mason, 2002). A quantitative methodology is the most appropriate approach to be used because deductive theory allows for less depth but more breadth of information across a large number of cases (Creswell, 2009; Laureate Education, Inc., 2008; Mason, 2002; Myers, 2008). As demonstrated in the review of the literature in Chapter 2, use of quantitative studies is prominent in healthcare studies. According to Harzing's Publish or Perish (2014), in the field of the MCH care management, the most common research approach is quantitative due to its established credibility, reliability and applicability to the area, and the types of research agendas and questions.

Population

Respondents for the research study consist of health professionals and practitioners involved in the MCH care and management; the *where* were the health centers and hospitals across the UAE; and the *when* was during the periods of healthcare delivery to pregnant women by health professionals and practitioners such as physicians, nurses, dietitians, specialists, psychologists, and others. According to reports from the

UAE National Bureau of Statistics data for 2011, the overall population of UAE health professionals and practitioners was 34,603 (UAE Statistics, 2013). The study population consisted of 7,850 health professionals and practitioners who were working in the field of MCH at health centers and hospitals affiliated with the UAE Ministry of Health and private sector health centers and hospitals (UAE Statistics, 2013).

This sample recognized the values, language preferences, cultural beliefs, traditions, attitudes, and health and medical practices of a diverse population. This awareness can be applied to yield an affirmative health outcome (McKinney & Kurtz-Rossi, 2000; Shaw, Pickett, & Wilkinson, 2010) such as improvements to health status, pregnancy complications, and reduction of mortality rates (Moonesar & Vel, 2012).

Sample Size and Sampling Procedures

The sampling procedure usually follows a selection of defining the population, contrasting sample versus census, determining the sampling plan, determining the sample size, estimating costs of sampling, and last, executing the sampling process (Smith & Albaum, 2010).

As identified in earlier sections, the research design instrument is the survey research method because of the likelihood to reach more participants (Christensen, Johnson, & Turner, 2011; Smith & Albaum, 2010). Sampling is the course of action of drawing a sample from a population (Christensen et al., 2011). There are selection methods for sampling procedures: probability and nonprobability (Smith & Albaum, 2010; Trieman, 2009).

A simple random sampling design provides a degree of representativeness. The sample size, however, is determined by consideration of the precision of the resulting estimates (95% CIs) and the ability to detect meaningful differences between groups of interest (power). The simple random sampling technique was conducted using the database of healthcare professionals, where every fifth person was chosen in random order to participate in the study. The simple random sampling was used to invite a sample size of 425 (minimum sample size was 366) participants.

From the G*power analysis calculation (illustrated in Appendix D), the power to test the hypotheses is 99.9% based on calculating the achieved power (Faul et al., 2009). Accordingly, for this study, where *N* is the size of the study population of approximately 7,850, then *n* the recommended sample is 366 (Krejcie & Morgan, 1970). It is important to note that the sample size of 366 chosen and calculated through the Raosoft Sample Size calculator (Raosoft Inc., 2004; Wilson, 2014) was based on the 95% confidence level (Bartlett, Kotrlik, & Higgins, 2001; Krejecie & Morgan, 1970). Table 7 provides an illustration of the manual calculation of the sample size according to the formula adopted by Krejcie and Morgan (1970).

Table 7

Sample Size Calculation

Sample size formula (adopted from Krejecie & Morgan, 1970)	
$ss = \frac{Z^2 * (p) * (1-p)}{c^2}$ $ss = \frac{1.96^2 * (0.5) * (1-0.5)}{0.05^2}$ $ss = \frac{0.9604}{0.0025}$ ss= 384.16	Where: *Z* = *Z* value (e.g., 1.96 for 95% confidence level) p = percentage picking a choice, expressed as decimal (.5 used for sample size needed) c = confidence interval, expressed as decimal (.05 = ±5) ss = sample size
Correction for finite population	
$\text{New ss} = \frac{ss}{1 + \frac{ss - 1}{pop}}$ $\text{New ss} = \frac{384.16}{1 + \frac{384.16 - 1}{7850}}$ New ss = 366.28 Therefore, sample size is 366.	Where: pop = population (that is, 7,850) ss = sample size

The minimum sample size of 366 (Bartlett et al., 2001; Krejcie & Morgan, 1970) was to include UAE health professionals and practitioners involved in MCH for the research study. The health professionals and practitioners involved in MCH included

doctors, nurses, medical assistants, pharmacists, dieticians, obstetrician specialists, and other MCH-related professionals.

Research Design

The nature of the study followed guidelines by the Medical Research Council (Craig et al., 2008). These guidelines were focused on the selection of appropriate design choices and theoretical framework for the study (Craig et al., 2008). The model is summarized in Figure 8, and the use of MRC guidelines are reflected in Chapter 2. Therefore, the approach to the study is quantitative correlational research due to its solid credibility and reliability.

Correlational research provided a representation of healthcare professionals' and practitioners' involvement. This research methodology approach assisted in generating hypotheses and identifying the areas that needed improvement. In this quantitative research study, the laws of thought and behavior was examined and assessed (Creswell, 2009; Macey, 2000) in relation to the characteristics of health professionals and practitioners in the MCH care arena. There is limited research on whether or not health professionals and practitioners are to be involved in MCH policy-making and development process in order to influence the reduction of complications and mortality rates (including the MMR, IMR, and NMR).

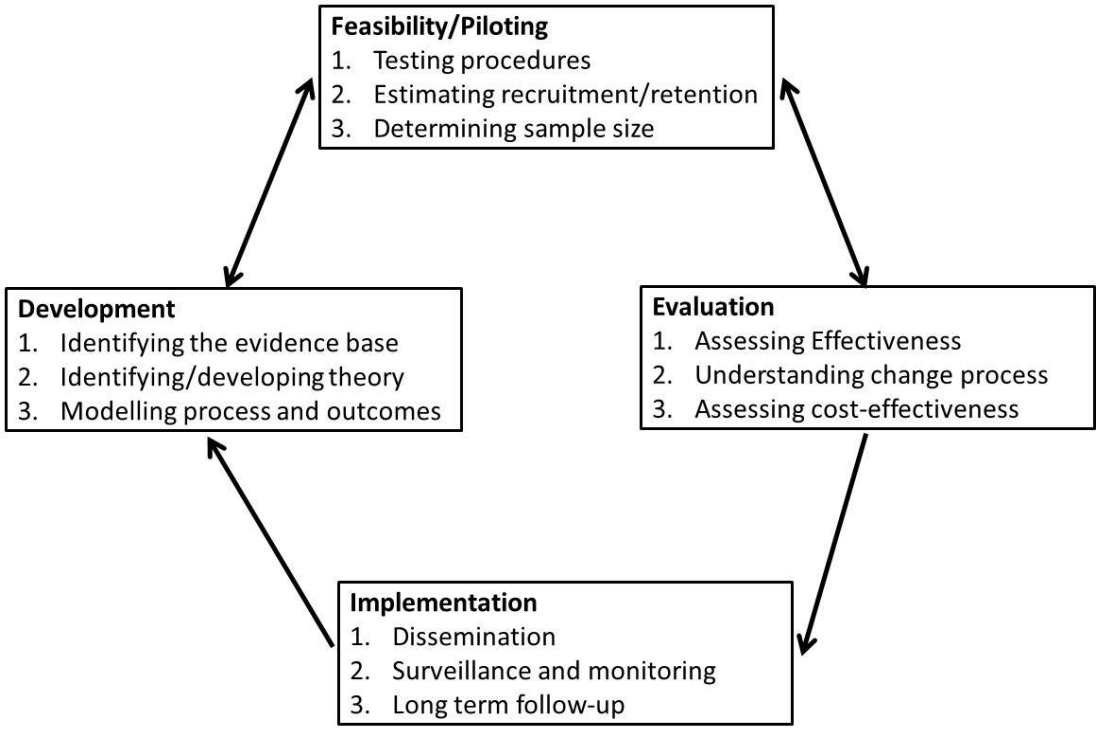


Figure 8. The Medical Research Council guidelines. Adapted from the Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: The new Medical Research Council guidance. *British Medical Journal, 337*. Reprinted with permission.

Correlational research was used to determine whether health professionals and practitioners exert influence in the policy-making and adoption process for the improvement of MCH correlational research, providing a representation of health professionals' involvement in the MCH policy-making and development process to help reduce mortality rates in the EMR as a means of generating hypotheses and identifying areas that need improvement (Simon & Goes, 2013). Throughout the study, there was the development process of the theoretical framework that is the identification of the evidence base theories, identification of the theories, and modelling of the process and

outcomes (Craig et al., 2008). As illustrated in Figure 8, the key elements of the development and evaluation process of the theoretical framework were applied to the study.

The correlational research design reflected the characteristics of the UAE health professionals and determined relationships between the variables. The correlational analysis followed the cross-sectional study-type approach using a sample survey. This cross-section approach involved the drawing of a sample of participants from the UAE healthcare professionals who were involved in MCH care and delivery of services. This cross-sectional approach also generated a summary of statistics such as averages, percentages, and correlations.

Study Variables

The IVs included nationality, highest level of education, years of work experience, level of organizational support (Brownson et al., 2009; Jacobs et al., 2012) of health professionals and practitioners within UAE, as well the type of services used in MCH.

Nationality, an IV, was classified into two groups: native to UAE and expatriates living the the UAE. The level of education was another IV and was measured as a categorical variable--the highest level of education to the lowest level of education attained. The level of education or the highest degree earned is defined by the UAE National Bureau of Statistics and classified of five categories: Doctorate (Ph.D.) Master, Diploma Post University (Postgraduate Diploma), Bachelor, and others such as Higher

Diploma Associate Degree and Other Degrees including secondary education, certificates, professional training (UAE-NBS, 2013). The years of work experience was another IV and was measured as a continuous variable but could be measured in discrete terms; only acceptable values were years, therefore, can turn a continuous variable into a discrete variable.

The support from the institution of employment was another IV and was measured as a categorical variable, adapted from the perceived organizational support model established by Eisenberger et al. (1986). Four items were selected from the survey for POS (Eisenberger et al., 1986) where prior studies have provided evidence of reliability and validity of this instrument (Allen & Shanock, 2013; Biswas & Bhatnagar, 2013; Loi et al., 2014; Shore & Tetrick, 1991; Shore & Wayne, 1993). Level of organizational support, an IV, was found to have a relationship with the policy-making process in a recent study by Mitwalli et al. (2014). Four items of the POS survey questions for this study were included as follows:

1. The organization takes pride in my accomplishments.
2. The organization really cares about my well-being.
3. The organization values my contributions to its well-being.
4. The organization strongly considers my goals and values.

Each of the four items had scale anchors from 1 (*strongly disagree*) to 5 (*strongly agree*; Shore & Wayne, 1993). This variable is associated with the enabling factors phase of the Andersen model (Aday & Andersen, 1981; Andersen, 1995).

The DVs included the five phases of the policy-making process and development (Tsoukiàs et al. 2013): preparation, formation, adoption and legitimization, implementation, and assessment and evaluation. The DV was the level of policy-making influence on the range of scale from 1 to 5 where 5 = *strong influence*, 4 = *considerable influence*, 3 = *moderate influence*, 2 - =*limited influence*, and 1 -= *no influence*. There were five stages, each with three subsets for the DVs amounting to 15 items. For each of the five phases, the combined three responses in each of the five stages resulted in an average within the particular stage. There were established mean levels of perceived influence at each of the five stages. These DVs are discrete variables where the respondents entered only values of 1, 2, 3, 4, and 5. The research questions and hypotheses determined whether or not a relationship/association existed between the IV and DV sets.

Recruitment, Participation, and Data Collection

The participation of respondents for the study were considered in terms of location and development a database. At the same time as an absolute representation of locales is accessible via maps. There was no comprehensive register of all MCH professionals and practitioners working in the UAE - whether natives or expatriates. A list of MCH healthcare professionals working in the UAE both in the public and in private sector was compiled.

Procedures for Database Development

I have developed a database of all MCH professionals and practitioners within the UAE. The minimum size of the sample was 366. The database development followed similar steps as exhibited by Chan and co-researchers (2011) that include establishing a set of standardized data set elements. Responses of MCH professionals were consolidated into one data file. The researcher had a list of all healthcare institutions across the UAE, including private, public and semi-government clinics, centers and hospitals. Therefore, the database was compiled through the attendance of MCH-related conferences, workshops, forums, networking events, websites, staff directories, UAE health ministry's directories and others where business cards were exchanged and collected. The final registry database has not been made public.

Instrumentation

The instrument survey questionnaires were in English language only (via online mechanisms) for the correlational research study. The survey instrument included an application for ethics adherence, and clearance and approval of the Institutional Review Board (IRB) in the United States of America. Initially, pilot testing of the survey instrument included information about the survey's objectives, benefits and any potential risks (refer to Appendices F-H).

Pilot Study

The pilot study determined whether the study would have been able to sufficiently produce valid results in a scientific manner, through the review of the questions being

asked in the survey, and linking this to the purpose and the research questions of the study. Typically, pilot testing was intended to better develop questions and survey instruments and have become increasingly routine to pre-test the survey instrument (Collins, 2003).

The purpose of the pilot testing exercise was to find out if the survey instrument would work in the study population, by trying to investigate whether it worked on a few individuals. The main theme was to ensure that everyone in the study population would be able to understand the survey in the same way. The pilot test was been conducted with the following steps:

1. The survey was administered to a small group of healthcare professionals and practitioners under the same recruitment procedures and similar conditions as planned for the actual dissemination of the universal survey.
2. The time of start until the time of finish was recorded within the Qualtrics system software.
3. The researcher paid attention and made notes for those instances where the respondents of the small group seemed to have difficulties in understanding, hesitating to respond to the survey questions or to ask for clarification.
4. Upon completion of the survey, the researcher then asked the respondents how he/she understood each of the questions. Upon completion of the feedback form, each respondent was given a feedback form which asked if he/she

understood each of the questions. Feedback was collected by the researcher and reported in Appendix H.

5. The cultural sensitivities and relevance of the survey were noted by asking if there were anything offensive in the survey, or if certain questions were not relevant to the survey.
6. Furthermore, queries were asked in relation to whether the sequence of questions flowed with ease.

Following the pilot testing steps above, the survey instrument as illustrated in Appendix E, F & G, the researcher observed patterns within the feedback provided by the respondents. Similar pilot testing steps were adopted by researchers recently in the launch of an employer health and safety procedures survey (Steege, Boiano & Sweeney, 2014). The patterns would have to include whether there were several encounters on the same requests for clarifications, hesitations to answer particular questions, varying comprehension of the questions or suggestions for rephrasing particular survey questions. The researcher used this data in assessing whether or not the survey instrument should have been revised. The pilot testing method intended to provide more creditability, reliability and validity to the survey instrument.

Furthermore, the internal consistency was measured among a group of items combined to form a single scale through the determination of the Cronbach's coefficient alpha. The general rule of thumb for internal consistency is a range between 0.70 and 1.00 (Tabachnick & Fidell, 2007). Reliability was established by ensuring that the

instructions were standardized across all settings: 1). the number of items to be increased; 2). omitting unclear items; 3). minimizing the effect of external events; and 4). moderating the easiness and/or difficulties of tests.

The validity of the instrument was measured through the face validity, content validity and convergent construct validity. The survey adopted the face validity technique within the pilot testing that entailed reviews by untrained persons to determine whether they think the questions and items were clear and understandable. Content validity involved the subjective measure of how appropriate the items seemed to a set of experts from the field of study. This form of validity consisted of an organized review of the survey instrument's contents to ensure that it contained all the relevant details and questions and advised on what was to be excluded and included. The test items in the survey were universal through establishing a content expert, verifying whether the items represent all the possible items and whether the number of items reflects what was taught. The third form of validity included the evaluations of convergent construct validity that is similar to the alternative form of reliability as mentioned in the reliability section. This method of validity entailed the use of different methods for obtaining the same information about a given concept to produce similar results. While this was the most difficult source of validity to establish, attempts were made to utilize a construct in terms of a group of interrelated variables such as each specific policy-making phases. Then, the construct would either correlate with related independent variables or not correlate with IVs that are not related.

Procedures for Informed Consent

In the process of soliciting participants for the study, careful consideration was taken into account for confidentiality, informed consent and opportunity for participants to withdraw from the study if they choose to do so. The informed consent form was distributed to each respondent participating in an online survey which is discussed in detail later in this section. The participants were given a universal link to the survey (such that the same link is given to all potential participants). Before the survey commences, the objectives, information on the research project and rationale of the survey, was presented to the participants. The participants were asked to agree or disagree to the information provided before proceeding to the survey questions. Those respondents who selected 'disagree' were diverted to a closed webpage of the survey.

The informed consent form highlighted the purpose of the study, the procedures for participating in the survey questionnaire, confidentiality protection issues, the foreseeable risks to the participants, potential benefits to the participant or others, contact information for questions regarding the study, participants' rights, and the conditions of participation, including right to refuse or withdraw without penalty. The participants were given a chance to proceed with the study questions or choose to opt out at any time during the survey questionnaire. The Qualtrics survey system was utilized to collect the data for the study. At the start of the online survey via Qualtrics, the survey information details were outlined as were the objectives of the study. The survey also included check boxes asking whether the respondent would be interested for a copy of a short executive

summary findings. Information was presented at the beginning on the first webpage on the survey.

Once the potential respondent agreed that they had been informed about the survey, they then were able to participate. The elements of the informed consent included the following:

1. A statement of purpose regarding the research; the expected duration and frequency of the participants' participation; a description of the procedures to be followed or activities to be undertaken, and an outline about the intended dissemination of the research findings;
2. A statement of the participants' responsibilities with respect to the research;
3. A statement describing how confidentiality or anonymity will be maintained and private information identifying the participants will be dealt with;
4. A statement that the participants' participation is voluntary, that refusal to participate did not involve any penalty or loss of benefits to which the subject was otherwise entitled, and that the subject may choose to stop participating at any time without penalty;
5. The name and contact details of the researcher, as well as the name and contact details of the Walden University IRB Ethics approval reference number were all provided.

If the participant chose to exit, the participant was directed to a new page which thanked the participant for his/her time. Furthermore, an email address was attached for

any questions and queries within the information area of the survey and also when the participant exited the survey. At the end of the survey, a check box was provided for those participants interested in receiving a short executive summary of the results of the study.

Data Collection

To be more specific, conducting online surveys or questionnaires were best suited for this type of study as they are more structured and direct, and focus on the research to be more objective (Smith & Albaum, 2010; Frankfort-Nachmias & Nachmias, 2008). The advantages of the survey method as the measurement instrument in terms of validity and reliability, included being inexpensive; reasonably elevated measurement validity for well-constructed and substantiated surveys; superior to measuring attitudes and obtaining insights; and useful for exploration in addition to hypothesis testing research (Christensen, Johnson & Turner, 2011; Creswell, 2009). The use of the internet as the means of collecting the data were highly effective for the study. The advantages of employing the electronic surveying method for the study were cost effective, in terms of electronic surveys not requiring postage, printing and/or interviewees' face-to-face involvement. It had been estimated that electronic surveys cost about one-tenth of the cost of a comparable mail survey (Anderson & Kanuka, 2003).

Furthermore, another advantage was having a large range of access to a wider audience, regardless of the geographical location. In addition, the researcher was able to export the data via spreadsheets from the secured database Qualtrics system. Therefore,

the time and cost of hiring research assistants for data entry was eliminated. The data were collected and stored using the highest level of encryption within the Qualtrics survey system which was password protected.

The relevance of using an electronic survey method that was structured and directed for the study (in relation to the research questions), included the idea of obtaining descriptive information and facts needed to answer the research questions. Such a survey method can be specific in that there were well-formulated survey questions to obtain the required information in the most systematic and orderly manner. It also assisted in reducing memory error (Smith & Albaum, 2010). Furthermore, using this method counteracted the cultural sensitivities, especially in the United Arab Emirates (Moonesar, 2012).

Data Protection and Handling

The data were secured and collected via the Qualtrics survey system with a designated username and password-protected account. The researcher was the only person with access to the data account. During the research project, the survey system stored and was accessed via one computer only which was located in an office which could only be accessed a key. On the completion of the research project, the survey system was stored and accessed on the same computer located in the office. The data will be held securely for a minimum of five years after this completion of the research project. The research project did not involve obtaining identifiable information.

Data Analysis Plan

Qualtrics software was used for collecting the data of the survey. Qualtrics software provided the flexibility to design the survey. The data collected was exported in file formats such as SPSS, Microsoft Word, and Microsoft Excel and were exported in both forms as coded values or coded text. Within the Qualtrics survey system, the data were exported in a format as the Statistical Package for the Social Sciences (SPSS). Data cleaning and screening procedures were applied to the exported SPSS survey data. One way that the data were cleaned was through the scanning of data for errors or unexpected characters through the checking of the 'frequencies' for each variable (Tabachnick & Fidell, 2007, p. 92).

The frequency was found using the SPSS program and proceeding to *Analyze* → *Descriptive Statistics* → *Frequencies*. The variables of the survey were to be checked in terms of frequencies. For the purposes of the study, any removal of outliers and the labelling of missing values are documented in Chapter 4. A second way for screening the data was through the 'Crosstabs' function within the SPSS program and proceeding to *Analyze* → *Descriptive Statistics* → *Crosstabs*. This function displayed a matrix of the frequency of two variables. These descriptive statistics frequency tables were used to illustrate the quantitative descriptions into manageable forms and are illustrated in Chapter 4.

Given the nature of the research questions and hypothesis mentioned earlier, the number of variables and the level of the measurement of each of the variables, multiple

regression analysis was selected to predict the level of the healthcare professionals' involvement in policy-making to the IVs such as nationality, education, work experience and organizational support. Multiple correlation and regression was selected because the IVs may or may not be correlated with each other and the goal is to study the relationships among many variables. The study has more than three measurement variables where one is the dependent (Y) variable and the remaining of the variables is the independent (X) variables. The multiple regression technique evaluated whether the model provided a reasonable fit to the data and the contribution of each of the IVs to the DVs (Tabachnick & Fidell, 2007, p. 26).

The following is a summary checklist of data analysis plans for the standard multiple regression of the study (Tabachnick & Fidell, 2007, p. 172):

- Issues

  a. Ratio of cases to IVs and missing data

  b. Normality, linearity, and homoscedasticity of residuals

  c. Outliers

- Major analyses

  a. Multiple R^2 and its confidence limits, *F* ratio

  b. Adjusted multiple R^2, overall proportion of variance accounted for

  c. Significance of regression coefficients

  d. Prediction equation

Ratio of Cases to IVs

With a minimum of 366 potential respondents and 4 IVs, the number of cases were well above the minimum requirement of 108 (104 + 4) for testing individual predictors in standard multiple regression. There was potentially no missing data.

Normality, Linearity, and Homoscedasticity of Residuals

An SPSS regression syntax and residuals scatterplot for original variables including some descriptive and frequencies were conducted (Tabachnick & Fidell, 2007). The normality of the variables were assessed through two components, skewness and kurtosis that was achieved from statistical and graphical methods (Tabachnick & Fidell, 2007). Linearity was considered since the Pearson's *r* only captured the linear relationships among the variables (Tabachnick & Fidell, 2007) and was assessed through scatterplots inspection. The homoscedasticity or the assumption of homogeneity data of variance was considered since one of the variables was discrete and the other was continuous (Tabachnick & Fidell, 2007).

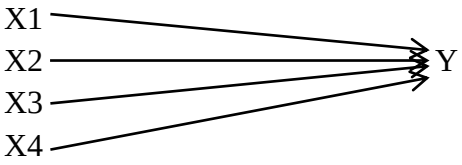
Outliers

Univariate outliers in the DV and in the IVs were sought using output from SPSS program by running an analysis of the Mahalanobis distance, which is a procedure used for identifying outliers and calculating the distance of specific scores based on the remaining cases within the centre cluster (Tabachnick & Fidell, 2007). Then, multivariate outliers were again to be sought using the transformed IVs as part of an SPSS regression run in which the Mahalanobis distance of each case, to the centroid of all cases were

computed. Extreme cases were deleted or modified. Univariate outliers were detected via initial data screening. Bivariate outliers were detected via scatterplots (Tabachnick & Fidell, 2007).

Multiple Regression

Multiple regression was chosen for the study based on the research questions and hypotheses mentioned earlier in order to find out whether there are any linear relations between two or more IVs and one DV (Tabachnick & Fidell, 2007). The schematic model below illustrated the investigation of the relations between IVs & DVs:



Multiple R^2 and Its Confidence Limits, *F* Ratio

Reporting of R^2 was done instead of R, which indicated the % of variance in DV explained by combined effects of the IVs. The rule of thumb for $R^2 \sim .30$ is a good relationship for social sciences which was referenced (Tabachnick & Fidell, 2007).

Adjusted Multiple R^2, Overall Proportion of Variance Accounted For

Adjusted R^2 was used for estimating the explained variance in a population. R^2 is explained variance in a sample and usually reported as R^2 and adjusted R^2. Particularly for small N and where results are to be generalized as in the study, more notice was given to the adjusted R^2.

Prediction Equation

The multiple regression formula for the study was as follows:

Y(Policy-making process influence)= B(X1) + B(X2) +B(X3) +B(X4) + A + E

Y = the value of the predicted score for the dependent variable

X1 = the value of the first independent variable

X2 = the value of the second independent variable

X3 = the value of the third independent variable

X4 = the value of the fourth independent variable

b = the regression weight for each variable

a = the constant

e = error (residual)

Threats to Validity

Threats to internal validity included subject characteristics or selection bias, attitudes of subjects, instrumentation and statistical regression.

Selection bias: the respondents for the study differed from each other in terms of age, level of education, gender, nationality and years of work experience. Furthermore, the study invited UAE health professionals and practitioners as respondents to the survey, which meant that any findings were used only for that particular group. Randomization of the sampling minimized the threats of internal validity for selection bias.

Attitudes of subjects: the policy-making process involving input from the health professionals and practitioners to influence policy change has not been explored and/or developed (Chapman et al. 2014) in previous research studies. The sample population of participants were recruited for the statistical analyses.

Survey instrumentation: the survey instrumentation was a constant application and scoring of variable items. Furthermore, based on the review of literature on policy-making instrumentations, there were no set surveys. Therefore the survey instrument was developed. The researcher was mindful in specification and control of the measurement procedures, including standardizing the survey instrument and the data collection procedures.

Statistical regression: the measurement of the DV was not perfectly reliable since this had not been tested before within the field of MCH research. There could have been a tendency for extreme scores to regress or move toward (or to) the mean. In other words, such a phenomenon may be presented as being extreme on its first measurement of the DV, then it may tend to be closer to the mean on its second measurement of the DV (Bland & Altman, 1994). Therefore, avoiding the assignment of respondents to groups minimized the threat of internal validity for statistical regression.

The measurement of external validity was concerned with the generalizability of findings of the particular target population. The key was to have a sample of the population as more representative in order to be more generalizable. The research findings were applicable to different kinds of population in the field of MCH in terms of the IVs representing the differences in nationalities residing in the UAE, the years of work experience, level of education and level of organizational support for the study.

Ethical Procedures

One of the ethical considerations included the procedures that were consistent with creditable research designs. The survey instrument had no identification marker to the respondent, therefore privacy was maintained as another ethical consideration. The research design has no potential risk to the participant. An Institutional Review Board (IRB) application was submitted after the approval of the written proposal had been obtained. Within the IRB approval (reference number: 05-08-15-033386), the research addressed the foreseeable ethical issues; highlighted any risks and how they will be minimized, and included documents such as the research ethics planning worksheet, participation information sheet and confidentiality forms. The following were the list of items that were addressed in the IRB application:

- General description of the research.
- Community research stakeholders and partners.
- Potential risks and benefits.
- Data integrity and confidentiality.
- Potential conflicts of interest.
- Data collection tools.
- Description of research participants.
- Informed consent.
- Final checklist and electronic signatures, where applicable.

There was an equitable selection of participants, where the survey was disseminated to 425 MCH professionals for a minimum sample size of 366 respondents. The data were collected using survey system software entitled Qualtrics. The collected data were exported and stored electronically with a secure password to the laptop and the data file. All the data were presented in aggregate manner in Chapter 4.

Summary

A correlational research design was used to determine whether health professionals and practitioners exert influence in the policy-making and adoption process for the improvement of MCH. The demographic factors (IVs) such as nationality, years of work experience, level of education and level of organization support and, the 5 phases of policy-making process (DVs) helped to determine whether there was a relationship/association existing or not, between IV & DV sets. The demographic factors of nationality, years of work experience, level of education were compared to the UAE National Statistics Bureau guidelines. The sample size of the study was 380 MCH practitioners and professionals of the UAE. A survey instrument was developed and pilot testing was conducted. The final survey was approved; this was then disseminated to the participants for their responses. The data were collected via online survey system, Qualtrics. Ethical procedures followed and adhered to the IRB guidelines and the IRB application was submitted.

Chapter 4 includes a report of all statistical analyses, any changes in data collection procedures, and results of analyses in the form of tables and figures. Chapter 4 concludes with the summarization of the answers to the research questions.

Chapter 4: Results

Introduction

The purpose of the quantitative correlational study was to investigate how health professionals and practitioners develop and influence policy (Chapman et al., 2014; Smith et al., 2014). Influence on policy development by health professionals and practitioners was recommended as a research agenda by researchers in the field (Bhutta et al., 2010; Chervenak et al., 2013; Smith et al., 2014). The research questions for the study are as follows:

1. To what extent, if any, does the nationality of the MCH professional relate to the level of influence in policy-making?
2. To what extent, if any, does the level of education attained by the MCH professional relate to the level of influence in policy-making?
3. To what extent, if any, does the number of years of work experience of the MCH professional relate to the level of influence in policy-making?
4. To what extent, if any, does the level of support from the institution of employment of the MCH professional relate to the level of influence in policy-making?

I begin Chapter 4 explaining the pilot study, followed by a description of the data collection. The results in this section also include the descriptive statistics, the statistical analysis findings in relation to the research, the report results of multiple regression, and a summary.

Pilot Study

A pilot study was conducted with three healthcare professionals and practitioners with established guidelines (Appendices E, F & G). Participants were selected from a random sampling from the database of healthcare professionals and practitioners in the UAE. These participants were asked to identify whether the survey questions were easily understood in relation to the level of policy development influence and adoption required by healthcare professionals and practitioners. Appendix G: Pilot Study procedures outlined the steps for selecting participants in the pilot study; once the IRB approval (#: 05-08-15-0303386) was obtained, the survey was disseminated via email to the potential participants who were asked to return the results within 7 days.

In summary, the pilot results indicated that the instructions in the survey were understandable, and all the survey questions were clear. Furthermore, jargon was not used in the survey questions. The pilot study feedback report is illustrated in Appendix H. There was no need to conduct interviews by phone since all feedback items were clear and understandable (refer to Appendices F, G & H). Based on the pilot study feedback report, there was no need for any changes, hence resubmitting to IRB was not required.

Data Collection Procedures

The data collection process began with the survey being distributed via e-mail to UAE healthcare professionals and practitioners using Qualtrics.com. The use of Qualtrics.com provided ease of use and distribution. Qualtrics software has been an online survey provider since 2002 and is based in the United States. This software was

customized by the user and was one of the most popular online survey tools that conducts quantitative and qualitative research (Rolison, Hanoch, & Miron-Shatz, 2012).

The participants were instructed to complete the UAE health policy survey instrument via electronic mail (Appendix C). Four-hundred twenty-five participants were selected and were within the range of the minimum sample size representative of the MCH healthcare population. The data collection process began with an e-mailed invitation to participates and sent to a selected cross-section of (425) MCH healthcare professionals and practitioners. Healthcare professionals were selected from a compiled database with every fifth person on the list selected. This process allowed participants to remain anonymous.

The data collection progressed over 4 weeks and involved two mass electronic emails sent to the selected participants from the database list. The first email was sent initially to a cross-section of 425 participants. Two weeks later, the second email was sent to participants (identified by Qualtrics) who did not respond to the first email. After 4 weeks, the survey was closed and the results were downloaded from Qualtrics.

By the end of the data collection period, there were 396 UAE healthcare professionals and practitioners who attempted to respond, of which only 380 completed the survey in its entirety. The interest of those participants who chose to respond and those participants who chose not to complete the survey could not be determined. Furthermore, the Qualtrics system did not track who responded nor did it compile identifying information such as e-mail addresses; thus, the participation was voluntary and anonymous.

Sample Description

A total of 396 respondents accessed the survey and initiated responses on Qualtrics. Among the 396 participants, 16 did not answer all the questions required for the analysis. Therefore, such cases were deemed unusable. After excluding incomplete cases, the final sample size for the study was 380, which was above the minimum target of 366. The Qualtrics survey technology does not track how many times a person tried to complete the survey; it was not possible to determine how many respondents attempted multiple times before completing the survey. Based on the number of those who began the survey and those who ultimately completed it during the data collection window, the response rate was 95.9%.

Demographic Characteristics of Sample

The demographic characteristics of the 380 respondents who completed the survey are shown in Table 8. Among the 380 respondents, the majority were female (57.6%), ages 20 to 50 (53.1%), had more than 11 years of work experience (38.1%), worked in the private sector (39.3%), and had a master's degree (28.7%). The demographics of this sample are similar to the population of healthcare services delivery (Habib & Vaughan, 1986; Mahfouz et al., 2004). Table 8 displays the demographic characteristics and frequencies of this current study.

Demographic Characteristics

Gender

The gender variable was defined as 1 = *male* and 2 = *female*. Regarding Table 8, there were 219 female respondents (57.6%) and 161 male respondents (42.4%) for the study.

Age

Age was defined as 1 = *below 20 years*, 2 = *20 to 35 years*, 3 = *36 to 50 years*, and 4 = *51+ years*. With reference to Table 8, there were two respondents (0.5%) who were between the ages of 18 to 20 years, 205 respondents (53.9%) who were between the ages of 20 and 35 years, 137 respondents (36.1%) were between the ages of 36 and 50 years, and 36 respondents (9.5%) were 51+ years of age.

Table 8

Demographic Characteristics of the Study Sample

Variables		*N*	%
Gender	Female	219	57.6
	Male	161	42.4
Age	Below 20	2	0.5
	20-35	205	53.9
	36-50	137	36.1
	51+	36	9.5
Education level	Bachelors	121	31.8
	Postgraduate diploma	40	10.5
	Masters	192	50.5
	Doctorate	26	6.8
	Other	1	0.3
Years of experience	0-5	20	5.3
	6-10	101	26.6
	11+	259	68.2
Nationality	Local/Emirati	128	33.8
	Non-Emirati	251	66.2
Title	General Practitioner	82	21.6
	MCH Specialist	75	19.7
	Medical Technician	17	4.5
	Assistant Technician	5	1.3
	Nurse	70	18.4
	Nursing Assistant	9	2.4
	Pharmacist	17	4.5
	Policy Specialist	41	10.8
	Allied Health Professional	58	15.3
	Other	6	1.6
Work setting	Private Practice	23	3.1
	Government	146	38.4
	Private Sector	207	54.5
	Other	4	1.1
Location within the UAE	Dubai	178	46.8
	Abu Dhabi	105	27.6
	Ajman	32	8.4
	Sharjah	38	10.0
	Umm Al-Quwain	5	1.3
	Fujariah	14	3.7
	Ras al-Khaimah	8	2.1

Education Level

The education level variable value was 1 = *doctorate*, 2 = *master's*, 3 = *postgraduate diploma*, 4 = *bachelor's*, and 5 = *other*. With reference to Table 8, there were 192 respondents (50.5%) who had a master's degree, 121 respondents (31.8%) who had a bachelor's degree, 40 respondents (10.5%) who had a postgraduate diploma, 26 respondents (6.8%) who had a doctoral degree, and 1 respondent (0.3%) who had other as diploma.

Years of Experience

The variable value for years of experience was 1 = *0 to 5 years*, 2 = *6 to 10 years*, and 3 = *11 or more years*. With reference to Table 8, there were 259 respondents (68.2%) who had reported having 11 or more years of experience, 101 respondents (26.6%) who had 6 to 10 years of experience, and 20 respondents (5.3%) who had 0 to 5 years of experience.

Nationality

The variable value for nationality was 1 = *Local/ Emirati* (Native to UAE) and 2 = *Nonlocal/Expatriate* (Nonnative to the UAE). With reference to Table 8, there were 251 Nonlocal/Expatriate respondents (66.2%) and 128 Local/Emirati respondents (33.8%). The list of expatriates is illustrated in Appendix I.

Healthcare Professional Job Title

The healthcare professional job title was defined as 1 = *general practitioner*, 2 = MCH *specialist*, 3 = *medical technician*, 4 = *assistant technician*, 5 = *nurse*, 6 = *nursing*

assistant, 7 = *pharmacis*t, 8 = *assistant pharmacist*, 9 = *policy specialist*, 10 = *allied health professional*, and 11 = *other*. With reference to Table 8, there were 82 respondents (21.6%) who were general practitioners, 75 respondents (19.7%) who were MCH specialists, 70 respondents (18.4%) who were nurses,58 respondents (15.3%) who were allied health professionals, 41 respondents (10.8%) who were policy specialists, 17 respondents (4.5%) who were medical technicians, 17 respondents (4.5%) who were pharmacists, nine respondents (2.4%) who were nursing assistants, six respondents (1.6%) who were defined as other, and five respondents (1.3%) who were assistant technicians.

Work Setting

The work setting variable was defined as 1 = *not employed*, 2 = *private practice (freelancer*), 3 = *government*, 4 = *private sector*, and 5 = *other*. There were 207 respondents (54.5%) who reported work as in private sector hospitals and clinic settings, 146 respondents (38.4%) who reported work as in a government hospital setting, 23 respondents (3.1%) who reported work as in private practice, and four respondents (1.1%) who indicated other.

Location within the UAE

The Emirate residency variable was defined as 1 = *Dubai*, 2 = *Abu Dhabi/Al Ain*, 3 = *Ajman*, 4 = *Sharjah*, 5 = *Umm Al-Quwain*, 6 = *Fujairah*, and 7 = *Ras al-Khaimah*. With reference to Table 6, there were 178 respondents (46.8%) working in Dubai, 105 respondents (27.6%) working in Abu Dhabi/Al Ain, 38 respondents (10.0%) working in

Sharjah, 32 respondents (8.4%) working in Ajman, 14 respondents (3.7%) working in Fujairah, eight respondents (2.1%) working in Ras al-Khaimah, and five respondents (1.3%) working in Umm Al-Quwain.

Organizational Support Level

The perceived organizational support was measured through the following four statements that were rated from *strongly agree* to *strongly disagree.*

1. The organization takes pride in my accomplishments.
2. The organization really cares about my well-being.
3. The organization values my contributions to its well-being.
4. The organization strongly considers my goals and values.

The organizational support was valued as 1 = *strongly disagree,* 2 = *disagree*, 3 = *neutral*, 4 = *agree*, and 5 = *strongly agree*. With reference with Table 9, the average total mean for the perceived organizational support level was $M = 3.87$, thus indicating at least 77.4% of respondents agreed that their respective place of employment provided some level of organizational support.

Table 9

Organizational Support Level Results of the Study Sample

#	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total responses	Mean
1	My place of work/ organization takes pride in my accomplishments	14.3%	66.6%	13.2%	4.2%	1.6%	378	3.88
2	My place of work/ organization really cares about my well-being	23.8%	50.0%	19.5%	5.0%	1.6%	378	3.89
3	My place of work/ organization values my contributions to its well-being	21.7%	50.5%	21.7%	4.2%	1.8%	378	3.86
4	My place of work/ organization strongly considers my goals and values.	18.2%	57.9%	17.4%	4.2%	2.1%	378	3.86
	Overall Organizational Support Means	19.5%	56.3%	18.0%	4.4%	1.8%	378	3.87

Correlational Statistical Analysis

There were four research questions with four hypotheses under statistical investigation. Each of the research questions queried whether relationships existed between the independent and dependent variables of the study. The study's the independent variables included were nationality, highest level of education, years of work experience, and level of organizational support (Brownson et al., 2009; Jacobs et al., 2012) of health professionals and practitioners within UAE, as well the type of services used in MCH. These variables were associated with the enabling factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981).

The dependent variables included five phases of the policy-making process and development (Tsoukiàs et al. 2013), including policy preparation, policy formation,

policy adoption and legitimization, policy implementation, and policy assessment and evaluation. Within each of the five stages, there were three subsets of the DVs amounting to 15 items. Each of the phases combined the three responses in each of the five stages to get an average within the stage. The independent variables were tested for correlation with the dependent variables. The following tables, nested under each research question and set of hypotheses, illustrated the statistical results from the analysis of the relationships between the IVs and the DVs. Research questions and hypotheses determined whether or not a relationship/association existed between IV & DV sets.

Research Question 1

RQ1: To what extent, if any, does the nationality of the MCH professional relate to the level of influence in policy-making?

H_o1: There is no relationship between the nationality of the MCH professional and level of influence in policy-making.

H_a1: There is a relationship between the nationality of the MCH professional and level of influence in policy-making.

Nationality was an independent variable and measured as a nominal variable. This IV was controlled in the study, and there were two possibilities, that is, native to UAE and non-native to the UAE, according to the UAE National Bureau of Statistics in 2011. This variable associated with the predisposing factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981). The dependent variables included the five phases of the policy-making process and developments (Tsoukiàs et al. 2013) were

evaluated: policy preparation (phase 1); policy formation (phase 2); policy adoption and legitimization (phase 3); policy implementation (phase 4); and policy assessment and evaluation (phase 5). Each of these policy-making phases was correlated with the nationality variable.

A Spearman correlation was used to determine the relationship between nationality and policy preparation (phase 1). For the policy preparation (phase 1), Table 10 shows that the significant Spearman correlation coefficient value of -0.120 was a very strong negative monotonic correlation between the policy preparation (phase 1) and nationality, r_s=-0.120, n=379, $p < 0.05$. According to SPSS, the p-value for this test as being 0.020 in Table 10, there is evidence to reject the null hypothesis (H_o1), that is, the data supported the hypothesized relationship between nationality and policy preparation (phase 1) and conclude there is a relationship between the two variables as hypothesized.

A Spearman correlation was used to determine the relationship between nationality and policy formation (phase 2). For the policy formation (phase 2), Table 10 shows that the significant Spearman correlation coefficient value of -0.209 was a strong negative monotonic correlation between the policy formation (phase 2) and nationality, r_s=-0.209, n=379, $p < 0.01$. According to SPSS, the p-value for this test as being $p <$ .001 in Table 10, there is evidence to reject the null hypothesis (H_o1), that is, the data supported the hypothesized relationship between nationality and policy formation

(phase 2) and conclude there is a relationship between the two variables as hypothesized.

Table 10

Relationship Between Nationality And Policy-Making Phases

Spearman's rho (r_s) Correlations		Nationality
Policy preparation	Correlation Coefficient	-.120*
(phase 1)	Sig. (2-tailed)	.020
	N	379
Policy formation	Correlation Coefficient	-.209**
(phase 2)	Sig. (2-tailed)	.000
	N	379
Policy adoption and legitimization	Correlation Coefficient	-.207**
(phase 3)	Sig. (2-tailed)	.000
	N	379
Policy implementation	Correlation Coefficient	-.249**
(phase 4)	Sig. (2-tailed)	.000
	N	379
Policy assessment and evaluation	Correlation Coefficient	-.202**
(phase 5)	Sig. (2-tailed)	.000
	N	379
Combined Policy-making Phases	Correlation Coefficient	-.230**
	Sig. (2-tailed)	.000
	N	379

Note. *. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

A Spearman correlation was used to determine the relationship between nationality and policy adoption and legitimization (phase 3). For the policy adoption and legitimization (phase 3), Table 10 shows that the significant Spearman correlation coefficient value of -0.207 was a strong negative monotonic correlation between the

policy adoption and legitimization (phase 3) and nationality, r_s=-0.207, n=379, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 10, there is evidence to reject the null hypothesis (H_o1), that is, the data supported the hypothesized relationship between nationality and policy adoption and legitimization (phase 3) and conclude there is a relationship between the two variables as hypothesized.

A Spearman correlation was used to determine the relationship between nationality and policy implementation (phase 4). For the policy implementation (phase 4), Table 10 shows that the significant Spearman correlation coefficient value of -0.249 was a strong negative monotonic correlation between the policy implementation (phase 4) and nationality, r_s=-0.249, n=379, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 10, there is evidence to reject the null hypothesis (H_o1), that is, the data supported the hypothesized relationship between nationality and policy implementation (phase 4) and conclude there is a relationship between the two variables as hypothesized.

A Spearman correlation was used to determine the relationship between nationality and policy assessment and evaluation (phase 5). For the policy assessment and evaluation (phase 5), Table 10 shows that the significant Spearman correlation coefficient value of -0.202 was a strong negative monotonic correlation between the policy assessment and evaluation (phase 5) and nationality, r_s=-0.202, n=379, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 10, there is evidence to reject the null hypothesis (H_o1), that is, the data supported the hypothesized

relationship between nationality and the policy assessment and evaluation (phase 5) and conclude there is a relationship between the two variables as hypothesized.

A Spearman correlation was used to determine the relationship between nationality and the combined policy-making phases. For the combined policy-making phases, Table 10 shows that the significant Spearman correlation coefficient value of -0.230 was a strong negative monotonic correlation between the combined policy-making phases and nationality, r_s=-0.230, n=379, $p < 0.01$. According to SPSS, the p-value for this test as being $p < .001$ in Table 10, there is evidence to reject the null hypothesis (H_o1) that is, the data supported the hypothesized relationship between nationality and the combined policy-making phases and conclude there is a relationship between the two variables as hypothesized.

Overall, the results for RQ1 indicate that nationality was strongly related to the policy-making phases. There was a statistical relationship between nationality and each of the policy-making phases. There is evidence to reject the null hypothesis (H_o1) that is, the data supported the hypothesized relationship between nationality and the combined policy-making phases and conclude there is a relationship between the two variables as hypothesized.

Research Question 2

RQ2: To what extent, if any, does the level of education attained by the MCH professional relate to the level of influence in policy-making?

H_o2: There is no relationship between level of education attained of the MCH professional and the level of influence in policy-making.

H_a2: There is a positive relationship between level of education attained of the MCH professional and the level of influence in policy-making.

The level of education was an independent variable and measured as a categorical variable, from the highest level of education to the lowest level of education attained. The Education IV was not be controlled or manipulated. Health professionals' level of education within the EMR is rapidly changing due to the society's acceptance of various medical degrees earned and other applied health-related degrees (Frenk et al., 2011; Kronfol, 2012c). Education, an independent variable, was found to have a relationship with the policy-making process in a recent study with the findings of a relationship (Maibach, Leiserowitz, Roser-Renouf & Mertz, 2011).

This variable was associated with the predisposing factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981). The level of education or the highest degree earned was defined by the United Arab Emirates National Bureau of Statistics and classified of five categories: Doctorate (Ph.D.) Master, Diploma Post University (Postgraduate Diploma), Bachelor and others such as Higher Diploma Associate Degree, secondary education, certificates, professional training (UAE-NBS, 2013).

Table 11

Relationship Between Education And Policy-Making Phases

Spearman's rho (r_s) Correlations		Education
Policy preparation	Correlation Coefficient	-.144**
(phase 1)	Sig. (2-tailed)	.005
	N	380
Policy formation	Correlation Coefficient	-.192**
(phase 2)	Sig. (2-tailed)	.000
	N	380
Policy adoption and legitimization	Correlation Coefficient	-.168**
(phase 3)	Sig. (2-tailed)	.001
	N	380
Policy implementation	Correlation Coefficient	-.134**
(phase 4)	Sig. (2-tailed)	.009
	N	380
Policy assessment and evaluation	Correlation Coefficient	-.184**
(phase 5)	Sig. (2-tailed)	.000
	N	380
Combined Policy-making Phases	Correlation Coefficient	-.184**
	Sig. (2-tailed)	.000
	N	380

Note. **. Correlation is significant at the 0.01 level (2-tailed).

The dependent variables included the five phases of the policy-making process and developments (Tsoukiàs et al. 2013) were evaluated: policy preparation (phase 1); policy formation (phase 2); policy adoption and legitimization (phase 3); policy implementation (phase 4); and policy assessment and evaluation (phase 5). Each of these policy-making phases was correlated with the education variable.

A Spearman correlation was used to determine the relationship between education and policy preparation (phase 1). For the policy preparation (phase 1), Table

11 shows that the significant Spearman correlation coefficient value of -0.144 was a very strong negative monotonic correlation between the policy preparation (phase 1) and education, r_s=-0.144, n=380, p < 0.01. According to SPSS, the p-value for this test as being 0.005 in Table 11, there is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the hypothesized relationship between education and the policy preparation (phase 1) was not supported by the data.

A Spearman correlation was used to determine the relationship between education and policy formation (phase 2). For the policy formation (phase 2), Table 11 shows that the significant Spearman correlation coefficient value of -0.192 was a very strong negative monotonic correlation between the policy formation (phase 2) and education, r_s=-0.192, n=380, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 11, there is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the hypothesized relationship between education and the policy formation (phase 2) was not supported by the data.

A Spearman correlation was used to determine the relationship between education and policy adoption and legitimization (phase 3). For the policy adoption and legitimization (phase 3), Table 11 shows that the significant Spearman correlation coefficient value of -0.168 was a very strong negative monotonic correlation between the policy adoption and legitimization (phase 3) and education, r_s=-0.168, n=380, p < 0.01. According to SPSS, the p-value for this test as being 0.001 in Table 11, there is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the data did not

support the hypothesized relationship between education and the policy adoption and legitimization (phase 3).

A Spearman correlation was used to determine the relationship between education and policy implementation (phase 4). For the policy implementation (phase 4), Table 11 shows that the significant Spearman correlation coefficient value of -0.134 was a very strong negative monotonic correlation between the policy implementation (phase 4) and education, r_s=-0.134, n=380, $p < 0.01$. According to SPSS, the p-value for this test as being 0.009 in Table 11, there is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the data did not support the hypothesized relationship between education and the policy implementation (phase 4).

A Spearman correlation was used to determine the relationship between education and policy assessment and evaluation (phase 5). For the policy assessment and evaluation (phase 5), Table 11 shows that the significant Spearman correlation coefficient value of -0.184 was a very strong negative monotonic correlation between the policy assessment and evaluation (phase 5) and education, r_s=-0.184, n=380, $p < 0.01$. According to SPSS, the p-value for this test as being $p < .001$ in Table 11, there is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the data did not support the hypothesized relationship between education and the policy assessment and evaluation (phase 5).

A Spearman correlation was used to determine the relationship between education and the combined policy-making phases. For the combined policy-making

phases, Table 11 shows that the significant Spearman correlation coefficient value of -0.184 was a very strong negative monotonic correlation between the combined policy-making phases and education, r_s=-0.184, n=380, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 11, there is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the data did not support the hypothesized relationship between education and the combined policy-making phases.

Overall, the results for RQ2 indicate that education was not positively related to the policy-making phases. There is evidence to suggest failure to reject the null hypothesis (H_o2), that is, the data did not support the hypothesized relationship between education and the combined policy-making phases.

Research Question 3

RQ3: To what extent, if any, does the number of years work experience of the MCH professional relate to the level of influence in policy-making?

H_o3: There is no relationship between the number of years of work experience of the MCH professional and the level of influence in policy-making.

H_a3: There is a positive relationship between the number of years of work experience of the MCH professional and the level of influence in policy-making.

The years of work experience was another independent variable and measured as a continuous variable with a restricted range, that is, 0-50 years. Years of work experience, an independent variable, was found to have a relationship with the policy-making process in a recent study with the findings of a relationship (Maibach, Leiserowitz, Roser-Renouf

& Mertz, 2011; Rotundo & Sackett, 2002). This variable associated with the predisposing factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981).

The years of work experience were not be controlled or manipulated. The dependent variables included the five phases of the policy-making process and developments (Tsoukiàs et al. 2013) were evaluated: policy preparation (phase 1); policy formation (phase 2); policy adoption and legitimization (phase 3); policy implementation (phase 4); and policy assessment and evaluation (phase 5). Each of these policy-making phases was correlated with the years of work experience variable.

A Spearman correlation was used to determine the relationship between work experience and policy preparation (phase 1). For the policy preparation (phase 1), Table 12 shows that the significant Spearman correlation coefficient value of 0.046 indicate no monotonic correlation between the policy preparation (phase 1) and work experience, r_s=0.046, n=380, p=0.370. According to SPSS, the p-value for this test as being 0.370 in Table 12, there is evidence to suggest failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the policy preparation (phase 1).

Table 12

Relationship Between Work Experience And Policy-Making Phases

Spearman's rho (r_s) Correlations		Work experience
Policy preparation (phase 1)	Correlation Coefficient	.046
	Sig. (2-tailed)	.370
	N	380
Policy formation (phase 2)	Correlation Coefficient	-.027
	Sig. (2-tailed)	.597
	N	380
Policy adoption and legitimization (phase 3)	Correlation Coefficient	-.041
	Sig. (2-tailed)	.422
	N	380
Policy implementation (phase 4)	Correlation Coefficient	-.023
	Sig. (2-tailed)	.652
	N	380
Policy assessment and evaluation (phase 5)	Correlation Coefficient	-.049
	Sig. (2-tailed)	.342
	N	380
Combined Policy-making Phases	Correlation Coefficient	-.023
	Sig. (2-tailed)	.657
	N	380

A Spearman correlation was used to determine the relationship between work experience and policy formation (phase 2). For the policy formation (phase 2), Table 12 shows that the significant Spearman correlation coefficient value of -0.027 indicate no monotonic correlation between the policy formation (phase 2) and work experience, r_s=-0.027, n=380, p=0.597. According to SPSS, the p-value for this test as being 0.597 in Table 12, there is evidence to suggest failure to reject the null hypothesis (H_o3), that is,

the data did not support the hypothesized relationship between work experience and the policy formation (phase 2).

A Spearman correlation was used to determine the relationship between work experience and policy adoption and legitimization (phase 3). For the policy adoption and legitimization (phase 3), Table 12 shows that the significant Spearman correlation coefficient value of -0.041 indicate no monotonic correlation between the policy adoption and legitimization (phase 3) and work experience, r_s=-0.041, n=380, p=0.422. According to SPSS, the p-value for this test as being 0.422 in Table 12, there is evidence to suggest failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the policy adoption and legitimization (phase 3).

A Spearman correlation was used to determine the relationship between work experience and policy implementation (phase 4). For the policy implementation (phase 4), Table 12 shows that the significant Spearman correlation coefficient value of -0.023 indicate no monotonic correlation between the policy implementation (phase 4) and work experience, r_s=-0.023, n=380, p=0.652. According to SPSS, the p-value for this test as being 0.652 in Table 12, there is evidence to suggest failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the policy implementation (phase 4).

A Spearman correlation was used to determine the relationship between work experience and policy assessment and evaluation (phase 5). For the policy assessment

and evaluation (phase 5), Table 12 shows that the significant Spearman correlation coefficient value of -0.049 indicate no monotonic correlation between the policy assessment and evaluation (phase 5) and work experience, r_s=-0.049, n=380, p=0.342. According to SPSS, the p-value for this test as being 0.342 in Table 12, there is evidence to suggest failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the policy assessment and evaluation (phase 5).

A Spearman correlation was used to determine the relationship between work experience and the combined policy-making phases. For the combined policy-making phases, Table 12 shows that the significant Spearman correlation coefficient value of -0.023 was no monotonic correlation between the combined policy-making phases and work experience, r_s=-0.023, n=380, p=0.657. According to SPSS, the p-value for this test as being 0.657 in Table 12, there is evidence to suggest failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the combined policy-making phases.

Overall, the results for RQ3 indicate that work experience was unrelated to the policy-making phases. There was no statistical relationship between work experience and each of the policy-making phases. There is evidence to suggest failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the policy-making phases.

Research Question 4

RQ4: To what extent, if any, does the level of support from the institution of employment of the MCH professional relate to the level of influence in policy-making?

H_o4: There is no relationship between level of support from the institution of employment of the MCH professional and the level of influence in policy-making.

H_a4: There is a positive relationship between level of support from the institution of employment of the MCH professional and the level of influence in policy-making.

The level of support from the institution of employment was another independent variable and measured as a categorical variable adapted from the perceived organizational support model established by Eisenberger et al., 1986). Four items were selected from the Survey for Perceived Organizational Support (POS) (Eisenberger et al., 1986) where prior studies have provided evidence of reliability and validity of this instrument (Allen & Shanock, 2013; Biswas & Bhatnagar, 2013; Loi, Ao & Xu, 2014; Shore & Tetrick, 1991; Shore & Wayne, 1993). The level of organizational support, an independent variable, was found to have a relationship with the policy-making process in a recent study with the findings of a relationship (Mitwalli, Al Ghamdi & Moussa, 2014). For the study, four items of the POS survey questions included:

1. The organization takes pride in my accomplishments.
2. The organization really cares about my well-being.
3. The organization values my contributions to its well-being.
4. The organization strongly considers my goals and values.

Each of the four items had scale anchors from 1 (strongly disagree) to 5 (strongly agree) (Shore & Wayne, 1993). This variable associated with the enabling factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981). The four statements were combined and re-coded to represent one variable as illustrated in Table 12. The dependent variables included the five phases of the policy-making process and development (Tsoukiàs et al. 2013) were evaluated: policy preparation (phase 1); policy formation (phase 2); policy adoption and legitimization (phase 3); policy implementation (phase 4); and policy assessment and evaluation (phase 5). Each of these policy-making phases was correlated with the perceived organizational support (POS) variable.

A Spearman correlation was used to determine the relationship between perceived organizational support (POS) and policy preparation (phase 1). For the policy preparation (phase 1), Table 13 shows that the significant Spearman correlation coefficient value of 0.507 was a moderate positive monotonic correlation between the policy preparation (phase 1) and POS, $r_s=0.507$, $n=378$, $p < 0.01$ According to SPSS, the p-value for this test as being $p < .001$ in Table 13, there is moderate evidence to reject the null hypothesis ($H_0 4$), that is, there is some evidence to suggest that POS and the policy preparation (phase 1) are positive monotonically correlated in the population.

Table 13

Relationship Between Organizational Support And Policy-Making Phases

Spearman's rho (r_s) Correlations		Perceived Organizational Support (POS)
Policy preparation (phase 1)	Correlation Coefficient	.507**
	Sig. (2-tailed)	.000
	N	378
Policy formation (phase 2)	Correlation Coefficient	.517**
	Sig. (2-tailed)	.000
	N	378
Policy adoption and legitimization (phase 3)	Correlation Coefficient	.478**
	Sig. (2-tailed)	.000
	N	378
Policy implementation (phase 4)	Correlation Coefficient	.417**
	Sig. (2-tailed)	.000
	N	378
Policy assessment and evaluation (phase 5)	Correlation Coefficient	.436**
	Sig. (2-tailed)	.000
	N	378
Combined Policy-making Phases	Correlation Coefficient	.529**
	Sig. (2-tailed)	.000
	N	378

Note. **. Correlation is significant at the 0.01 level (2-tailed).

A Spearman correlation was used to determine the relationship between POS and policy formation (phase 2). For the policy formation (phase 2), Table 13 shows that the significant Spearman correlation coefficient value of 0.517 was a moderate positive monotonic correlation between the policy formation (phase 2) and POS, r_s=0.517, n=378, $p < 0.01$. According to SPSS, the p-value for this test as being $p < .001$ in Table 13, there is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some

evidence to suggest that POS and the policy formation (phase 2) are positive monotonically correlated in the population.

A Spearman correlation was used to determine the relationship between POS and policy adoption and legitimization (phase 3). For the policy adoption and legitimization (phase 3), Table 13 shows that the significant Spearman correlation coefficient value of 0.478 was a moderate positive monotonic correlation between the policy adoption and legitimization (phase 3) and POS, r_s=0.478, n=378, $p < 0.01$. According to SPSS, the p-value for this test as being $p < .001$ in Table 13, there is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some evidence to suggest that POS and the policy adoption and legitimization (phase 3) are positive monotonically correlated in the population.

A Spearman correlation was used to determine the relationship between POS and policy implementation (phase 4). For the policy implementation (phase 4), Table 13 shows that the significant Spearman correlation coefficient value of 0.417 was a moderate positive monotonic correlation between the policy implementation (phase 4) and POS, r_s=0.417, n=378, $p < 0.01$. According to SPSS, the p-value for this test as being $p < .001$ in Table 13, there is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some evidence to suggest that POS and the policy implementation (phase 4) are positive monotonically correlated in the population.

A Spearman correlation was used to determine the relationship between POS and policy assessment and evaluation (phase 5). For the policy assessment and evaluation

(phase 5), Table 13 shows that the significant Spearman correlation coefficient value of 0.436 was a moderate positive monotonic correlation between the policy assessment and evaluation (phase 5) and POS, r_s=0.436, n=378, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 13, there is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some evidence to suggest that POS and the policy assessment and evaluation (phase 5) are positive monotonically correlated in the population.

A Spearman correlation was used to determine the relationship between POS and the combined policy-making phases. For the combined policy-making phases, Table 13 shows that the significant Spearman correlation coefficient value of 0.529 was a moderate positive monotonic correlation between the combined policy-making phases and POS, r_s=0.529, n=378, p < 0.01. According to SPSS, the p-value for this test as being p < .001 in Table 13, there is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some evidence to suggest that POS and the policy-making phases are positive monotonically correlated in the population.

Overall, the results for RQ4 indicate that POS moderately related to the policy-making phases. There was a statistical relationship between POS and each of the policy-making phases. There is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some evidence to suggest that POS and each of the policy-making phases and combined are positive monotonically correlated in the population.

Multiple Regression Analysis

Ratio of Cases to IVs & Multi-Collinearity

With a total of 380 respondents and 4 IVs, the number of cases were well above the minimum requirement of 108 (104 + 4) for testing individual predictors in standard multiple regression. There was missing data for two cases. Regarding Appendix J, for the multi-collinearity diagnostics assumptions, there are three independent variables (nationality, education, and POS) that seem related with the DV. All the correlations values are less than 0.7, therefore, all variables both IVs and DV are applicable to the model. The tolerance values for the IVs are all above the 0.10 value, therefore suggesting there is no further evidence of multi-collinearity among the IVs. The variance inflation factor (VIF) values for the IVs are all below the threshold value of 10, therefore suggesting there is no further evidence of multi-collinearity among the IVs.

Normality, Linearity, And Homoscedasticity Of Residuals

An SPSS regression syntax and residuals scatterplot for original variables including some descriptive and frequencies were conducted (Tabachnick & Fidell, 2007). According to Appendix J, the normal probability plot charts shows that the data lie reasonably close to the line that best fits and shows very little deviations from normality. Also within the scatterplot, there is roughly a rectangular distribution with the dots centralized. There are a small number of residuals outside of the -3 to 3 ranges and represent as the outliers.

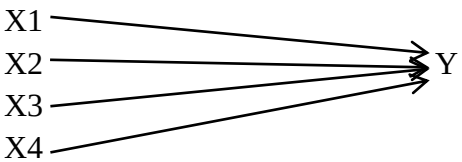
Outliers

Univariate outliers in the DV and in the IVs were sought using output from SPSS program by running an analysis of the Mahalanobis distance which is a procedure used for identifying outliers and calculating the distance of specific scores based on the remaining cases within the center cluster (Tabachnick & Fidell, 2007). Then, multivariate outliers were again to be sought using the transformed IVs as part of an SPSS regression run in which the Mahalanobis distance of each case to the centroid of all cases computed. The critical values for an outlier on the predictors were judged by Mahalanobis D^2 where the threshold value was set at 26.37 at the 0.01 level of significance and degrees of freedom as 4.

There was only 1 case higher than that threshold value, however, this did not have the influence to affect the ability of the regression model and as such this extreme case was not deleted or modified since the case represented less than the 2% of the total sample size (Tabachnick & Fidell, 2007). Univariate outliers were detected via initial data screening. Bivariate outliers detected via scatterplots (Tabachnick & Fidell, 2007). Furthermore, from the SPSS case wise diagnostics (refer to Appendix J), there were four cases that were above the -3.00 threshold limit. These cases were not above the threshold for the Cook's distance, and the maximum was 0.061. Therefore, in a summary, such cases were concluded to not have an overall influence on the ability of the prediction of the outcome.

Multiple Regression

A multiple regression was chosen for the study based on the research questions and hypotheses mentioned earlier in order to find out whether there are any linear relations between two or more IVs and one DV (Tabachnick & Fidell, 2007). The revised schematic model below illustrated the investigation of the relations between IVs & DVs:



Multiple R^2 And Its Confidence Limits, *F* Ratio

Reporting of R^2 was done instead of R, which indicated the % of the variance in DV explained by combined effects of the IVs. The rule of thumb for $R^2 \sim .30$ as good relationship with social sciences referenced (Tabachnick & Fidell, 2007). With reference Table 14, the Model using the true predictor variables explain about 41.7% of the variance in policy-making.

Table 14

Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.646[a]	.417	.411	.59498

a. Predictors: (Constant), POS, Employment, Work experience, Nationality, Education

b. Dependent Variable: Policy-making Phases

Hierarchical Multiple Regression

Furthermore, a four stage hierarchical multiple regression was conducted with the combined policy-making stages as the dependent variable. Nationality was entered at stage one of the regression of control for nationalities responding. The work experience variable entered at stage two, education at stage three and organizational support at stage four. The inter-correlations among the multiple regression variables are reported in Table 16, and the hierarchical regression statistics are in Table 15 and Appendix K. Variables entered in Block 1 (nationality) explained a 5% of the variance (0.5 x 100) in DV. After Block 2 variable (work experience) has been included, the model explained same 5% of the variance in DV.

Table 15

Summary of Hierarchical Regression Analysis for Variables Predicting Policy-Making

Variable	β	*t*	*B*	*SE*	*R*	R^2	ΔR^2
Block 1					.22	.05***	.05***
Nationality	-.21***	-4.32	-.36	.08			
Block 2					.22	.05	.04
Nationality	-.21***	-4.29	-.36	.08			
Work experience	-.02	-.59	-.40	.07			
Block 3					.29	.09***	.08***
Nationality	-.18***	-3.84	-.31	.08			
Work experience	-.05	-1.21	-.81	.07			
Education	-.21***	-3.85	-.14	.04			
Block 4					.64	.42***	.41***
Nationality	-.15***	-3.92	-.25	.07			
Work experience	-.06	-1.71	-.91	.05			
Education	-.12**	-2.64	-.08	.03			
Organizational Support	.58***	14.56	.61	.04			

*Note. N= 380; *p< 0.05, **p< 0.01, ***p< 0.001*

Variables entered in Block 3 (education) explained 9% of the variance (0.9 x 100) in DV. After Block 4 variable (organizational support) was included, the model as a whole explained 42% of the variance (0.42 x 100) in DV. This organizational support variable explained additional 33% of the variance in DV. The organizational support is a significant contribution, as indicated by Sig. F Change value for this Block 4 (0.000).

The hierarchical multiple regression revealed that at Stage one, nationality contributed significantly to the regression model, F (1, 375) = 18.679, p<.001) and

accounted for 5% of the variation in policy-making. Introducing the work experience variable explained no additional percentage variation in policy-making and this change in R^2 was not significant, F (2, 374) = 9.498, p<.001). Additionally, the education variable to the regression model explained an additional 9% of the variation in policy-making and this change in R^2 was significant, F (3, 373) = 11.500, p<.001). Finally, the addition of the organizational support variable to the regression model, explained an additional 42% of variation in policy-making and this change in R^2 was also significant, F (4, 372) = 66.507, p<.001).

When all four variables were included in stage four of the regression model, only work experience was not a significant predictor of policy-making. Therefore, according to all the Blocks (Models 1 to 4), only work experience did not make a significant unique contribution (p> .05). In Model 4, the most important predictor of policy-making was organizational support (β = 0.59) which explained the 42% of variation in policy-making, followed by nationality (β = 0.16), and education (β = 0.11). The standardized Beta values also indicate the number of SDs that scores in the DV would change if there were the 1SD unit change in the predictor (IV). For instance, if we could increase education scores by 1SD (which is 1.066, from the Descriptive Statistics Table, Appendix K), the policy-making influence scores would be likely to increase by 0.11 standard deviation units. Together the four independent variables accounted for 56% of the variance in policy-making.

Adjusted multiple R^2, overall proportion of variance accounted for

Adjusted R^2 used for estimating explained variance in a population. R^2 explained variance in a sample and usually reported as R^2 and adjusted R^2. Particularly for small N and where results were generalized as in the study, more notice was given to the adjusted R^2. With reference Table 14, the Model using the true predictor variables explain about 42% of the variance in policy-making. The *R* squared change, organizational support explained an addition of 33.2% of the variance in DV. This is a significant contribution, as indicated by Sig. *F* Change value for this Block 4 (0.000).

Prediction Equation

The multiple regression formula for the study was as follows:

Y(Policy-making process influence)= A + B(X1) + B(X2) +B(X3) +B(X4) + E

Y = the value of the predicted score for the dependent variable

X1 = the value of the first independent variable, Nationality

X2 = the value of the second independent variable, Education

X3 = the value of the third independent variable, Work experience

X4 = the value of the fourth independent variable, POS

b = the regression weight for each variable

a = the constant

e = error (residual)

Based on the regression results, the multiple regression formula is as follows:

Y(Policy-making process influence)= 2.202 + -0.257(X1) + -0.078(X2) +-0.091(X3) +0.612(X4) + 0.595

There is statistical significance for this model since the p-value is less than 0.05 and can predict the outcome better than only chance. From all the IVs, the POS variable has the largest beta standardized value, 0.585.Therefore, this made the strongest contribution to explaining the outcome when the variance is explained but all other variables in the model are controlled. The other independent variables made lesser of a contribution in explaining the outcome of the model. The nationality ($p < .001$), education (0.009), and POS ($p < .001$) variables show significant statistical contribution, since their values were all less than 0.05. For the work experience variable (0.088), the value was greater than the 0.05 level of significance, therefore, was not making a significant contribution to the prediction of the outcome (refer to Appendix J).

In summary, the model includes the IVs (nationality, education, work experience, and POS) explains about 42% of any variance in the influence of policy-making. Amongst these four variables, the POS makes the largest unique contribution, and the other variables (nationality, education, and work experience) have some significant statistical contributions (lesser than the POS variable) in predicting the influence of the policy-making phases.

Summary

380 MCH practitioners provided complete responses to the survey questions, yielding a 90% response rate. Four research questions with four hypotheses guided the

statistical investigation. Each of the research questions queried whether relationships existed between the independent and dependent variables of the study. The independent variables included nationality, highest level of education, years of work experience, and the level of organizational support, as well the type of services used in MCH.

The dependent variable included the five phases of policy-making process and development: preparation; formation; adoption and legitimization; implementation; and assessment and evaluation. This dependent variable was combined into one variable to represent the influence of policy-making processes. Table 16 illustrates the summary findings of the relationship between the IVs and the policy-making phases.

Overall, the results for RQ1 indicate that nationality strongly related to the policy-making phases. There was a statistical relationship between nationality and each of the policy-making phases. There is evidence to reject the null hypothesis ($H_0$1) that is, the data supported the hypothesized relationship between nationality and the combined policy-making phases and concluded there is a relationship between the two variables as hypothesized.

Overall, the results for RQ2 indicate that education was not positively related to the policy-making phases. There is evidence to suggest the failure to reject the null hypothesis ($H_0$2), that is, the data did not support the hypothesized relationship between education and the combined policy-making phases.

Overall, the results for RQ3 indicate that work experience was unrelated to the policy-making phases. There was no statistical relationship between work experience

and each of the policy-making phases. There is evidence to suggest the failure to reject the null hypothesis ($H_0$3), that is, the data did not support the hypothesized relationship between work experience and the policy-making phases.

Overall, the results for RQ4 indicate that POS was moderately related to the policy-making phases. There was a statistical relationship between POS and each of the policy-making phases. There is moderate evidence to reject the null hypothesis ($H_0$4), that is, there is some evidence to suggest that POS and each of the policy-making phases and combined are positive monotonically correlated in the population. All the assumptions met in terms of the ratio of cases to IVs and multi-collinearity; normality, linearity, and homoscedasticity of residuals; outliers; multiple regression and the prediction equation.

Table 16

Summary Of Relationship And Predictors Between Variables And Policy-Making Phase

Spearman's rho (r_s) Correlations		Policy-making Phases	Decision	Regression Model Outcome Predictor
Nationality	Correlation Coefficient	-.230**	RQ1: Reject the	Least Important
	Sig. (2-tailed)	.000	$H_0$1	Predictor (5%)
Education	Correlation Coefficient	-.184**	RQ2: Fail to reject	Some Value
	Sig. (2-tailed)	.000	the $H_0$2	Predictor (9%)
Work	Correlation Coefficient	-.023	RQ3: Fail to reject	Little Perceived
Experience	Sig. (2-tailed)	.657	the $H_0$3	value Predictor
Perceived	Correlation Coefficient	.529**	RQ4: Reject the	Most Important
Organizational	Sig. (2-tailed)	.000	$H_0$4	Predictor (42%)
Support (POS)				

**. Correlation is significant at the 0.01 level (2-tailed).

N=380

Adjusted R^2 = 0.411

Taken as a whole, when all four variables were included in stage four of the regression model, and according to the all Blocks (Models 1 to 4) only work experience was insignificant as a predictor of policy-making and did not make a significant contribution ($p > .05$). With reference to Table 16, the most important predictor of policy-making was organizational support ($\beta = 0.59$) which uniquely explained the 42% of the variation in policy-making, followed by nationality ($\beta = 0.16$), and education ($\beta = 0.11$). The standardized Beta values also indicated the numbers of SDs scored in the DV would change if there were the 1 SD unit change in the predictor (IV). Together the four independent variables accounted for 56% of the variance in policy-making.

Chapter 5 includes an introduction, an interpretation report of all statistical analysis and findings, limitations of the study and recommendations. The chapter concludes with the implications and conclusion of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Since 2000, increased attention has been given to improving MCH as a global priority, according to the WHO. The research agenda for this study was to investigate whether MCH professionals and practitioners influence the policy-making process (Smith et al., 2014) in order to reduce mortality rates across the EMR. Quantitative correlational methods were used to answer what and how much in relation to scope, purpose, and research questions (Creswell, 2009; Myers, 2008). This method involved using a deductive theory that allows for less depth and more breadth of information from a large number of cases (Creswell, 2009; Mason, 2002; Myers, 2008).

UAE health professionals and practitioners were studied to investigate to what extent they were involved in the policy-making process. Public health leaders, academics, community professionals, health industries, healthcare professionals, and government entities and agencies could use the results of the study to lower the mortality rates within the priority countries through improving the policy-making processes. The quantitative research methods employed were (a) collecting survey responses from UAE healthcare professionals and practitioners, (b) statistical hypotheses, (c) Spearman's correlation tests, (d) multiple regression including hierarchical, (e) analyzing the exact *p*-values to assess the relationship between nationality, education, work experience, and organizational support of the policy-making stages, and (f) analyzing the level of

influence of predictors: nationality, education, work experience, and organizational support on the policy-making stages.

Summary of Key Findings

Four hundred and twenty five surveys were distributed with a 90% response rate. To gather statistical information, four questions and hypotheses were posed. Each of the questions queried whether relationships existed between IVs and DVs of the study. IVs included nationality, highest level of education, years of work experience, and level of organizational and the type of services used in MCH. The DV included the five phases of policy-making process and development: preparation, formation, adoption and legitimization, implementation, and assessment and evaluation. This DV was combined into one variable to represent the influence of the policy-making process.

Results from RQ1 indicate that nationality was strongly related to each of the policy-making phases as hypothesized in H_o1. RQ2 results indicate that education was not positively related to policy-making phases, and, therefore, the null hypothesis H_o2 does not support the hypothesized relationships with education.

The results for RQ3 indicate that work experience was unrelated to the policy-making phases, and, therefore, evidence suggests that the null hypothesis (H_o3) be rejected. The overall results for RQ4 indicate that POS was moderately related to policy-making phases, and, therefore, the null hypothesis (H_o4) is rejected.

In summary, when all four variables were included in Stage 4 of the regression model, only work experience was not a significant predictor of policy-making.

Therefore, according to all the blocks (Models 1 to 4), only work experience fails to make a significant unique contribution ($p > .05$). With reference to Table 14, the most important predictor of policy-making was organizational support ($\beta = 0.59$), which uniquely explained the 42% of the variation in policy-making, followed by nationality ($\beta = 0.16$), and education ($\beta = 0.11$). The standardized Beta values also indicate that numbers of SDs with scores in the DV would change if there were the 1SD unit change in the predictor (IV). Together the four independent variables accounted for 56% of the variance in policy-making.

Interpretation of the Findings

The research process included an investigation of four research questions and four hypotheses. The data were collected in a quantitative phase (in the form of a survey) and resulted in several insights that correlated with the ability to influence policy-making process.

Demographic Characteristics

This section contains the discussions on the demographic characteristics of as gender, age, job title, and location within the UAE.

Gender

The disproportionate number of females within the medical workforce remains a concern in many countries (Frenk et al., 2010). There were 219 female respondents (57.6%) and 161 male respondents (42.4%) in this study. In a systematic review of studies from 1998 to 2011, Babitsch et al. (2012) suggested that studies reported on both

males and females. In another study, the number of nursing staff in Saudi Arabia increased from 9% in 1996 to 22% in 2006 (Aldossary, While, & Barriball, 2008); the percentage distribution in Saudi Arabia between males versus females was not reported.

According to the International Labor Organization report on female Labor Force Participation (LFP; 2004), the female LFP rate at the world level is 56.6% while in the Middle East and North Africa, it represents 32%. Arab states have the lowest female representation in the world. In a recent report on gender issues in employment and labor market policies, the female LFP rate at the world level is 50.5% as of 2011, while in the Middle East and North Africa, it represented 42.1% as of 2011 (Otobe N. (2014). On the other hand, according to a 2013 annual report issued by the UAE Ministry of Health, 14% of licensed nursing practitioners was male and 86% female. Even though the Arab states have the lowest female representation in the world, females are more like to work in the field of MCH. Females in the MCH sector are likely to be disproportionately represented as women are encouraged to undertake paramedical roles such as MCH and family planning (Quigley & Ebrahim, 1994; Standing, 2000).

One of the reasons women are disproportionately represented in the MCH field is due to strong gender stereotypes among health professionals (Frenk et al., 2010). Furthermore, in countries such as the Arab states, apart from cultural sensitivities, there is a driver for more patient-centeredness where female patients require female MCH professionals (Frenk et al., 2010). The gender demographics in this sample are similar to the population of healthcare services delivery (Habib & Vaughan, 1986; Mahfouz et al.,

2004). Therefore, female healthcare professionals are likely to be disproportionately represented in the field of MCH in the UAE.

Age

As indicated in Table 8, there were 205 respondents (53.9%) who were between the ages of 20 and 35 years, 137 respondents (36.1%) who were between the ages of 36 and 50 years, and 36 respondents (9.5%) who were 51+ years of age. An Iraq study presented age groups of health workers as 22.2% under 30 years and the other 77.8% as 30 years and above (Hashim, Al Kubaisy, & Al Dulayme, 2003). In a systematic review of studies from 1998 to 2011, Babitsch et al. (2012) suggested that studies reported age as ranges and percentages. In the UAE setting, the majority of the respondents was within the age group 20 to 35, followed by ages 36 to 50 years. According to the UAE labor law, the retirement age is 60; therefore, this might explain the lower percentage of health care professionals in the age group of 51+ years as compared to countries. The policy-making variable (DV) did not measure actual impact on policy, only perceived impact on policy. Therefore, younger personnel believed they have impacted policy, whereas older and more experienced people know had little impact on policy.

Healthcare Professional Job Title

Table 8 indicates there were 82 respondents (21.6%) who were general practitioners, 75 respondents (19.7%) who were MCH specialists, 70 respondents (18.4%) who were nurses, 58 respondents (15.3%) who were allied health professionals, 41 respondents (10.8%) who were policy specialists, 17 respondents (4.5%) who were

medical technicians, 17 respondents (4.5%) who were pharmacists, nine respondents (2.4%) who were nursing assistants, six respondents (1.6%) who were defined as other, and five respondents (1.3%) who were assistant technicians. From the findings, the majority of healthcare professionals were general practitioners involved in the field of MCH, followed by MCH specialists and then nurses. These findings were similar to the 2013 reports issued by the UAE Bureau of Statistics (UAE-BoS, 2013).

Location within the UAE

Table 8 shows there were 178 respondents (46.8%) working in Dubai, 105 respondents (27.6%) working in Abu Dhabi, 38 respondents (10.0%) working in Sharjah, 32 respondents (8.4%) working in Ajman, 14 respondents (3.7%) working in Fujairah, eight respondents (2.1%) working in Ras al-Khaimah, and five respondents (1.3%) working in Umm Al-Quwain. From the seven Emirates, the majority of the respondents were working in Dubai followed by Abu Dhabi. These data findings were similar to the 2013 reports issued by the UAE Bureau of Statistics (UAE-BoS, 2013).

Research Question 1

To what extent, if any, does the nationality of the MCH professional relate to the level of influence in policy-making?

The Andersen model reflects upon predisposing factors such as nationality (Aday & Andersen, 1981; Andersen, 1995). Nationality was related to each of the policy-making phases as it was one of the IVs measured, that is, citizenship or passport holder of the respondent (Vössing, 2005). Results of the study supported that nationality was a

strong and significant factor in explaining respondents' preferences toward the policy-making influence in the European Union context (Vössing, 2005).

Another study by Greer, da Fonseca, and Adolph (2008) indicated that the debate of systematic biases in policy-making may be a result of certain groups' involvement such as nationality. The data findings were consistent with the tenets of nationality and policy-making from the study by Greer et al. (2008). Furthermore, Waidmann and Rajan (2000) found that race and ethnic disparities (non-Hispanic Whites, Latinos, and African Americans) played a major role in access to and utilization of healthcare services since the disparity of health insurance policies has increasingly been a concern of governments. The findings confirm that nationality (citizenship) influences the involvement of individuals, contributing to health-related policy development. Future research should nonetheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, legal frameworks, and institutional structures that may have an influence on the policy-making process as a whole or at each of the phases of the policy-making process.

Research Question 2

To what extent, if any, does the level of education attained by the MCH professional relate to the level of influence in policy-making?

Education, an IV, was found to have a positive relationship with the policy-making process in a recent study by Maibach, et al. (2011). This variable is associated with the predisposing factors phase of the Andersen model (Aday & Andersen, 1981;

Andersen, 1995). According to Ferguson (2001), there tends to be informal educational programs that focus on developing health policies in both community organisations and nursing.

Although the results for RQ2 indicate that education was not positively but rather negatively related to influence policy-making phases, there was an inverse correlation supported by the data. In other words, as the education level increases, the involvement in policymaking influence decreases and vice versa. The policy-making variable (DV) did not measure actual impact on policy, only perceived impact on policy. Therefore, one possible interpretation of these negative results is that younger, less experienced, less educated personnel believed they have impacted policy, whereas better educated, more experienced people know they had little impact on policy. In a systematic review of studies from 1998 to 2011, Babitsch et al. (2012) suggested that studies reported that education was significantly associated with the Andersen model utilization of healthcare services.

Results from other studies indicated that maternal education was a strategy for improving child health (Caldwell 1994; Cleland & Kaufmann, 1998; Desai & Alva, 1998). According to a review of the literature by Caldwell (1994), education was enhancing health exclusively by improving the use of modern health services and technologies. Even though this null hypothesis of the current study was a failure to reject, there were very strong negative monotonic correlations between education and health policy. Health professionals' level of education within the EMR is rapidly

changing due to society's acceptance of various medical degrees and other applied health-related qualifications (Frenk et al., 2011; Holtrop et al., 2000; Kronfol, 2012c).

Although the education variable increases, the level of influence of policy-making does not. Therefore, this finding suggests that even the best-educated health professionals and practitioners may not have an influence on policy-making. The current findings is similar to the results of Askim (2009), where it was hypothesized that the relationship between education and use of performance information for decision-making processes would be positive, but that data showed a negative relationship. Furthermore, Hanushek (2002) and Milligan et al. (2004) studied the effect of education on the functioning of decision-making, where there were strong and robust relationships.

Other researchers suggested that educational level has a positive influence on the ethical decision-making process (Kaplan et al., 1995; Kracher, Chatterjee, & Lundquist, 2002; Pierce & Sweeney, 2010). On the other hand, researchers found no significance between the two variables education and decision-making (Dubinsky & Ingram, 1984; Marques & Azevedo-Pereira, 2009; Musbah, Cowton, & Tyfa, 2014). However, Simon (2013) argued that the variable that often directs attention will influence the entire policy-making process because it directs attention towards selected aspects of the problem at hand.

It can be concluded that education has no effect on the policy-making process in the UAE. The absence of effect might have been a result of the entry requirements to the UAE healthcare system--a minimum of a Bachelor's degree. In recent times, the level of

education in the UAE has become competitive in terms of the number of degrees one holds in the healthcare sector due to the newest addition of increasing medical tourism and developing UAE as a medical hub within the Dubai National Agenda 2020. The recruitment of health professionals are geared to having more highly skilled employees. Having a postgraduate degree does not have any additional influence on policy on the UAE context because of the health organizations have become more professionalized, higher competent people, that the additional value of an advance degree has less and less importance to policy-making influence. Therefore, such that the level of education does not have a direct influence on policy making in the UAE context. The stages of policy making are not often overlapped but rather seen as inseparable; therefore, continual education about the policy-making process may be needed. The policy-making variable (DV) did not measure actual impact on policy, only perceived impact on policy. Therefore, younger, less experienced, less educated personnel believed they have impacted policy, whereas better educated, more experienced people know they had little impact on policy. Future research should nonetheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, and legal frameworks. Institutional structures may have an influence on the policy-making process as a whole or at each of the phases of the process.

Research Question 3

To what extent, if any, does the number of years work experience of the MCH professional relate to the level of influence in policy-making?

Years of work experience, an IV, has found to have a relationship with the policy-making process as described in a recent study whereby the findings of a relationship were noted (Maibach et al., 2011; Rotundo & Sackett, 2002). This variable is associated with the predisposing factors phase of the Andersen model (Aday & Andersen, 1981; Andersen, 1995). The data indicate that work experience and each of the policy-making phases were not related. Experience in the workplace demonstrates essentials of attaining some level of balance of pressure and support (McLaughlin, 1987). Healthcare managers and healthcare policy makers have experience in dealing with and influencing the policy-making process (Lavis et al., 2005). A research study based in Pakistan highlighted the role research plays is linking research with policy for improving MCH (Hilderbrand, Simon, & Hyder, 2000).

Researchers have found that policy involvement and influence on policy may have very close meanings (Aarabi et al., 2014). The research studies were limited mainly to health professionals and practitioners' involvement and influence in health policy-making processes. Overall, the results for RQ3 indicate that work experience was unrelated to the policy-making phases. There were no statistical relationship between work experience and each of the policy-making phases. There is evidence to suggest a failure to reject the null hypothesis (H_o3), that is, the data did not support the hypothesized relationship between work experience and the policy-making phases. The data shows that healthcare professionals and practitioners' abilities to influence policy-making processes have no relationship with the number of years working in the MCH

field. On the contrary, research studies have shown that there is a relationship between policy-making and years of work experience (Askim, 2009; Melkers & Willoughby, 2005).

Other studies have shown that among nurses, work experience carried lesser weight than nationality when assessing the work-role theory and performance policies (Borman, White, & Dorsey, 1995; Oh & Rich, 1996; Rotundo & Sackett, 2002). Other researchers suggest that work experience has a positive influence on the ethical decision-making process (Kaplan et al., 1995; Fang & Foucart, 2013; Pierce & Sweeney, 2010). In another research study, females involved in policy-making correlated with being a "working professional" more so than males (O'Campo, Eaton & Muntaner, 2004). One research study suggested that personal experience is the precursors to adopting the recommendations on how to improve the use of evidence by policy-makers (Innvær, Vist, Trommald, & Oxman, 2002).

Therefore, the work experience of health professionals and practitioners had no effect on the policy-making process. The policy-making variable (DV) did not measure actual impact on policy, only perceived impact on policy. Therefore, younger, less experienced, less educated personnel believed they have impacted policy, whereas better educated, more experienced people know they had little impact on policy. Future research should nonetheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, and legal frameworks. Institutional

structures may have an influence on the policy-making process as a whole, or at each of the phases of the process.

Research Question 4

To what extent, if any, does the level of support from the institution of employment of the MCH professional relate to the level of influence in policy-making?

The level of support from the institution of employment was another independent variable and measured as a categorical variable adapted from the perceived organizational support model established by Eisenberger et al., 1986). Four items were selected from the Survey for Perceived Organizational Support (POS) (Eisenberger et al., 1986) where prior studies have provided evidence of reliability and validity of this instrument (Allen & Shanock, 2013; Biswas & Bhatnagar, 2013; Loi, Ao & Xu, 2014; Shore & Tetrick, 1991; Shore & Wayne, 1993). The level of organizational support, an independent variable, found to have a relationship with the policy-making process in a recent study with the findings of a relationship (Mitwalli, Al Ghamdi & Moussa, 2014). This variable associated with the enabling factors phase of the Andersen Model (Andersen, 1995; Aday & Andersen, 1981). Researchers have found that policy involvement may have very close meaning to the concept of influence on policy (Aarabi et al., 2014). The research studies were limited mainly to health professionals and practitioners' involvement and influence in health policy-making processes. In a recent study of Saudi Arabian physicians, 93% lacked research training which was perceived as a lack of organizational support (Mitwalli, Al Ghamdi & Moussa, 2014).

Overall, the results for RQ4 indicate that POS moderately related to the policy-making phases. POS and each of the policy-making phases were related. A recent study by Weber et al., (2011) shows that the introduction of a new breastfeeding policy is significant to enabling factors such as organizational support for the employees. The study also highlighted that having a positive attitude towards breastfeeding in the workplace is significantly improved by the likelihood of policy success (Johnston & Esposito, 2007; Rojjanasrirat, 2004).

The findings are consistent with prior assessments of perceived organizational support which influenced the advancement of evidence-based decision-making in the field of MCH (Rosenberg, Herman-Roloff, Kennelly, & Handler, 2011). Klerman et al., (2007) found that availability of family planning facilities varied in structure and organization which impacted on policy reform across federal and state levels. Effective MCH policy and practice were found to have some significance on more scientific and organizational support to address the MCH needs effectively (Fraser 2013).

Therefore, this argument provides motive to consider that the perceived organizational support of health professionals and practitioners do not differ much at the various phases of the policy-making process. Future research should nonetheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, and legal frameworks. Institutional structures may have an influence on the policy-making process as a whole or at each of the phases of the process.

Summary Discussion of Statistical Analysis

When all four variables were included in stage four of the regression model, only work experience failed to be a significant predictor of policy-making. In Model 4, the most important predictor of policy-making was Organizational Support ($\beta = 0.59$) which uniquely explained the 42% of the variation in policy-making, followed by nationality ($\beta = 0.16$), and education ($\beta = 0.11$).

A research study by Vössing (2005) supported nationality as a strong and significant factor in explaining respondents' preferences toward the policy-making influence in the European Union context. In a systematic review of studies from 1998-2011, Babitsch et al. (2012) suggested that studies reported that education significantly associated with the Andersen Model utilization of healthcare services. Results from other studies indicate that maternal education was a strategy for improving child health (Caldwell 1994; Cleland & Kaufmann, 1998; Desai & Alva, 1998).

The data shows that healthcare professionals and practitioners' ability to influence policy-making processes have no relationship with the number of years of work in the MCH field. On the contrary, research have shown that there is a relationship between policy-making and years of work experience (Askim, 2009; Melkers & Willoughby, 2005). The findings are consistent with prior assessments of perceived organizational support impacting the advancement of evidence-based decision-making in the field of MCH (Rosenberg, Herman-Roloff, Kennelly, & Handler, 2011). Together, the four independent variables accounted for 56% of the variance in policy-making. There are

other variables that could be explored in future research to account for the other 44% of the variance in policy-making.

Limitations of the Study

One of the limitations was that the health professionals and practitioners had perceptions that their current leadership skills and competencies were being assessed and evaluated; therefore, they may have expressed more textbook theories than the actual reality of the policy-making process. Efforts were made to acquire participants' involvement via online surveys, taking into account the ethical implications of the online survey research methodology. The advantages of the survey method as the measurement instrument were used for validity and reliability. This includes being inexpensive; valid for well-constructed and substantiated surveys; superior to measuring attitudes and obtaining insights; and useful for exploration in addition to hypothesis testing research (Christensen et al., 2011; Creswell, 2009).

Additional limitations resulted from the research techniques employed since correlational research did not indicate causation. The correlational method only uncovered relationships between the IVs and DV and, therefore, did not determine a conclusive reasoning as to why the relationship existed. From the data, some of the IVs such as nationality and organizational support had a positive effect on the policy-making process. As a result, the data was unable to conclude which variables caused the other. Three ways in which the IVs and DV may causally relate are through a particular IV causing DV (either directly or indirectly); DV causes a particular IV (either directly or

indirectly); or a third variable causes both IV and DV. The focus of study was determining whether or not the IVs had influence on the policy-making process, rather than revealing which variables influence each other. Therefore, reasons for the relationships cannot be determined until further research is done.

The theoretical limitation of the correlational survey method was the interpretability of results (Tabachnick & Fidell, 2007), where the procedures focusing on maximum correlation efforts may not necessarily provide the best interpretation of the sets of variables correlated. Correlational research method was another limitation where the relationship demonstrated the prediction of the behavior of one variable from the behavior of another but not necessarily directionality (Simon & Goes, 2013). There were also inverse correlations. According to Dür (2008), the measuring of influence on policy can be very challenging.

The first main concern would be the diversity of channels of influence on policy used by healthcare professionals and practitioners. The second difficulty is the healthcare professionals and practitioners can influence several stages of the policy-making process (Dür, 2008; Jesus, 2010). Another theoretical limitation of the correlational survey method was the sensitivity and generality of the findings (Simon & Goes, 2013; Tabachnick & Fidell, 2007), where the solution were dependent on the correlations among the variables in the respective IV and DV sets and the correlations among variables between the IV and DV sets.

Conceptual Framework

The theoretical concept that guided the study was the Andersen Model of Health Service Utilization. This was developed by Andersen (1968) to examine healthcare settings and processes (Andersen, 1995; Andersen, 1968; Andersen & Newman, 1973), as illustrated in Figure 1, Chapter 1. There are three components of the Andersen model: 1. predisposing factors; 2. enabling factors; and 3. need factors. The dependent variable included the five phases of policy-making process and development: preparation; formation; adoption and legitimization; implementation; and assessment and evaluation. As a result, this model provided the basis for assessing the involvement of healthcare professionals and practitioners working in the MCH field across the UAE.

This Andersen model was the most frequent reference in the study and widely acknowledged for elaborating the healthcare services utilization (Babitsch et al., 2012; Chiu & Eysenbach, 2010; Thind & Cruz, 2003). The Andersen model, Figure 6 (Andersen & Newman, 1973), is referred to as a tool to assess various influences associated with the patterns of utilization of healthcare (Aday & Andersen, 1981; Aday & Andersen, 1974), particularly to MCH care. In the 1970s, the Andersen model was revised to include elements of health policy, additional resources and healthcare institutions (Aday & Andersen, 1974). These additional resources included human capital investments, that is, professional development, and education and training for healthcare staff; for instance, clarifying whether enabling factors tend to moderate associations between other variables.

According to all the Blocks (Models 1 to 4), work experience did not make a significant unique contribution (p> .05). In Model 4, the most important predictor of policy-making was organizational support (β = 0.59) which uniquely explained the 42% of variation in policy-making, followed by nationality (β = 0.16), and education (β = 0.11). When all four variables included in stage four of the regression model, only work experience was not a significant predictor of policy-making. Kiyak (1987) found that the revised Andersen Model explained 32% of a variance in dental utilization where the implications included developing educational programs and relevant policies. Maiman and Becker (1974) suggested that one of the objectives of the Andersen Model is to define the impending impact of policy changes designed to improve access to health services. The research literature on the Andersen Model about policy-making and development process is limited. The present study findings suggested that enabling factors such as organizational support, nationality and education had some level of influence in the policy-making process to inform policy and program efforts from the improvement of MCH.

The Andersen model was revised in 1995 to reflect refinements on the explicit recognition of health care systems including health policy, resources and organization's determinants of the population's use of health services. Research on the utilization of health services suggests vital dependent variables (manipulable) such as policy and the independent variables (non-manipulable) such as population characteristics that might be incorporated into a study of healthcare systems (Aday & Andersen, 1974; Coleman,

1975). Goldsmith (1972) and Moriyama (1968) indicated the need for defining public policy in terms of equitable distribution of health services. The researchers' assumption based on the public policy development will ultimately result in an improvement in general health status (Goldsmith, 1972; Moriyama, 1968). To address the research agenda of defining public policy influence, Andersen and Newman (2005) used the Andersen Model to impact policy such as defining public policy to influence the general health status of the population.

Few studies have focused on various aspects of the Andersen Model of healthcare utilization such as predisposing variables in relation to the continuum of care policy development (Andersen, 1995; Andersen & Davidson, 1997; Ballantyne, 2014; Beidenharn & Normoyle 1991; Bradley et al. 2002; Keysor, Desai & Mutran, 1999). One study stated the implications of having long-term care policy development and service delivery related to predisposing factors (Bradley et al. 2002).

Recently, researchers recommended further development of the Andersen Model by integrating assumptions and behaviors of professionals working in health policy and services (von Lengerke, Gohl, & Babitsch, 2014); for instance, clarifying whether enabling factors tend to moderate associations between other variables (von Lengerke, Gohl, & Babitsch, 2014). In the present study, according to the Andersen Model, the population characteristics consisting of predisposing factors, enabling factors, need factors and the environment: healthcare system and policy (Figure 6) was referenced. The

present study was successful in determining whether the enabling factors tend to moderate associations between other variables.

More recently, a study was aimed at examining the determinants of health check attendance by using the Andersen model to provide evidence which is comparable with population factors (predisposing, enabling and need) influencing the health service systems including policy in Germany (Hoebel et al. 2014). Hoebel et al. (2014) which highlighted the need for investigating the quality of health services systems by health providers, and the need to develop and improve specific approaches for public health interventions. In another study, Walter et al. (2012) found that contributing factors such as healthcare policy systems and demographic characteristics were part of a model of pathways to treatment.

Chapman and co-authors (2014) found the highest ranked research priority (26%) related to health systems and policy, and recommended governments and aid agencies to support such an initiative with the purpose of better serving the needs of researchers and policy-makers. Nonetheless, there is a problem in achieving these goals. According to the Council on Health Research for Development (COHRED, 2014) there is an absence of an agenda for health research across the Government sector of EMR. Therefore, further research may be needed where potential factors that may be preventing the achievement of global research priorities in developing a research agenda. The use of the Andersen model provided that platform for understanding whether factors influenced the

MCH policy-making process. A quantitative correlational study was useful in determining whether MCH professionals and practitioners have influence over policy.

The research findings suggested that enabling factors such as organizational support, nationality and education had some level of influence in the policy-making process to inform policy and program efforts from the improvement of MCH. However, more research is needed to determine the additional factors to influence policy-making. The researchers acknowledged the need for 'future unpacking' of the healthcare systems and processes to allow for a deeper understanding (Walter, Webster, Scott & Emery, 2012) and the challenges (Scott & Walter, 2010) using the Andersen Model. The findings of the study were successful in confirming the future need for a deeper understanding of the healthcare systems and processes particularly, policy-making.

Recommendations

This section will include a discussion of the recommendations for future research; recommendations for MCH leadership; and recommendations for MCH practitioners.

Recommendations for Future Research

The study of policy-making in the UAE is critical. Policy-making is a significant focus of health policies because of its influence on promoting awareness, lowering MCH mortality rates, and enhancing population health status. The present study included a quantitative method designed to investigate healthcare professionals and practitioners' factors that influence policy-making stages. Using different research methods and designs could be conducted in future studies. Additional research is

necessary to provide conclusive answers regarding other factors that may influence policy-making.

Regarding the nationality variable, there was a statistical relationship between nationality and each of the policy-making phases. Furthermore, Waidmann and Rajan (2000) found that race and ethnic disparities (Non-Hispanic Whites, Latino and African American) played an important role in the access to and utilization of healthcare services, since the disparity of health insurance disparity policies have increasingly been a concern of governments. The findings confirmed that nationality (citizenship) contributed to health policy process. Future research should nonetheless aim to include other factors that may have an influence on policy-making processes as a whole, or at each of the phases of the policy-making process.

Additional research could be conducted to allow more in-depth analysis of experiences and perceptions of the expatriate community where there is a higher percentage of expatriates (from a particular country) working in the field, as opposed to the local population. Future research could be aimed at exploring whether nationality with the other independent variables such as gender, age, education, work experience, working setting, POS, and job title have moderate associations. Exploring whether these independent variables have moderate associations, a study which includes analysis of various factors and its' policy-making influence might prompt additional insights.

Regarding the education variable, researchers suggest that educational levels have a positive influence on the ethical decision-making process (Kaplan et al., 1995;

Kracher, Chatterjee & Lundquist, 2002; Pierce & Sweeney, 2010). Furthermore, Simon (2013) argued that the variable that often directs attention will influence the entire policy-making process because it directs attention towards selected aspects of the problem at hand. Therefore, this argument provides motive to consider that higher education of health professionals and practitioners do not differ much at the various phases of the policy-making process. Future research should nonetheless aim to include factors such as gender, performance appraisals, training, knowledge and innovation, legal frameworks. Institutional structures which may have an influence on the policy-making process as a whole, or at each of the phases of the process. Future research could be aimed at exploring whether education with the other independent variables such as gender, age, nationality, work experience, working setting, POS, job title have moderate associations. Exploring whether independent variables such as nationality, gender, age, work experience, working setting, POS, and job title have moderate associations, a study which includes analysis of various factors and its' policy-making influence might prompt additional insights.

Regarding the work experience variable, one research study suggested that personal experience is the precursor to adopting the recommendations on how to improve the use of evidence by policy-makers (Innvær, Vist, Trommald & Oxman, 2002). Therefore, this argument provides motive to consider that work experience of health professionals and practitioners do not differ much at the various phases of the policy-making process. Future research should nonetheless aim to include other factors

such as gender, performance appraisals, training, knowledge and innovation, legal frameworks. Institutional structures that may have an influence on the policy-making process as a whole, or at each of the phases of the policy-making process. Future research could be aimed at exploring whether work experience with the other independent variables such as gender, age, nationality, education, work experience, working setting, POS, and job title have moderate associations. Exploring whether these independent variables have moderate associations, a study which includes analysis of various factors and its' policy-making influence might prompt additional insights.

Regarding the POS variable, Klerman et al. (2007) found that availability of family planning facilities varied by structural and organizational variables impacted policy reformation across the federal and state level. Effective MCH policy and practice were found to some significance on more scientific and organizational support capacity to address the MCH needs efficiently (Fraser 2013). Therefore, this argument provides motive to consider that the perceived organizational support of health professionals and practitioners do not differ much at the various phases of the policy-making process. Future research should nonetheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, legal frameworks. Institutional structures that may have an influence on the policy-making process as a whole, or at each of the phases of the policy-making process. Future research could be aimed at exploring whether POS with the other independent variables such as gender, age, nationality, education, work experience, working setting, POS, and job title have

moderate associations. Exploring whether these independent variables have moderate associations, a study which includes analysis of various factors and its' policy-making influence might prompt additional insights.

Recommendations for MCH Leadership

UAE MCH leadership such as the country's Federal and State Ministry/ Departments of Health to influence the policy development of reducing mortality rates and continuing to improve the lives of mothers and children. Alexander (2003) noted that it took leadership in MCH to assure the preparation of others with the skills, the knowledge, the will, the traits, the conviction, and a sense of purpose with the hope of improving the safety, health and well-being of mothers and children. The factors that influence policy-making in the UAE is crucial for future policy development processes at the federal level. Public health leaders, ministers, undersecretaries and government entities and agencies may use the results of this study to be aware of the importance of lowering the mortality rates of maternal and children within the country and also priority countries within the EMR.

In order for professionals to have a positive impact on the development of policies it may be critical to understand and implement enabling factors such as organizational support, employing highly-skilled and competent healthcare professionals, and ensuring that professionals come from a variety of countries. The MCH leadership may transfer this knowledge across those priority countries within the EMR as best practice. Furthermore, the MCH leadership may review the current health policy systems in the UAE to include enabling factors for increased involvement and influence. Additionally, MCH leadership could create an awareness of the importance of practitioners' involvement in policy-making processes.

Recommendations for MCH Practitioners

UAE health professionals and practitioners were surveyed to investigate to what extent health professionals are involved in the policy-making process and the possible impact analysis from new or revised MCH policies. Some countries' Ministry/ Departments of Health within the EMR may influence the policy development of reducing mortality rates and achieving the MDGs 4 and 5. Public health leaders, academics, community professionals, health industries, healthcare professionals, and government entities and agencies may use the results of this study to lower the mortality rates in maternal and children within the priority countries. The factors that influence policy-making in the UAE is crucial for future policy development processes at the practitioners' level.

It may critical to understand why practitioners' involvement in the policy making process is important. Having the enabling factors embedded in organizational policy such as increasing organizational support, and employing highly-skilled and competent individuals from a variety of countries, practitioners may be more suited and ready to be involved in the policy-making process. The MCH practitioners may attain a sense of belonging and ownership in shaping the health policies through increased knowledge transfer. Furthermore, the MCH practitioners may also review the current health policy systems in the UAE to include enabling factors for increasing involvement and influence.

Implications

This section will include a discussion of the methodological and theoretical implications and recommendations for positive social change.

Recommendations for Social Change

Positive social change means to enhance and improve systems through changes in attitudes and behaviors; through increased awareness and understanding; through influence on policy/changes; and through training and professional development so as to improve the existing systems and reduce the 'injustice' of that system. In other words, some extent of transforming a system or process, resulting in positive outcomes. The context of my research study is to impact social change by developing and generating evidence on how maternal and child mortality rates could be reduced within the priority countries of the EMR. This would come about with the help of health professionals and practitioners.

The findings suggest that the identification of what works for one community or country may/ may not necessarily work in another city or state within the EMR. The recommendations from this study could inform policy-makers across the EMR to improve the policy-making processes for the MCH field which could be applied in other policy areas. Also, the knowledge will be transformed into government reports, policy notes, policy briefs, and journal papers for an array of target audiences.

The positive social change may derive from developing evidence on how MCH healthcare professionals influence the policy-making process by MCH leaders and

practitioners. For MCH leaders, the positive social change may result from the implementation of the enabling factors, review of current health policy system and knowledge transfer of policies. MCH practitioners' involvement in the policy making process is vital. Embedding enabling factors such as increasing organizational support, and employing multi-nationalities and highly-skilled and competent individuals, practitioners may be in a better position to be involved in the policy-making process. The MCH leaders and practitioners may develop a sense of belonging and ownership in shaping the health policies. Furthermore, the MCH leaders and practitioners may also review the current health policy systems in the UAE to include enabling factors for increasing involvement and influence.

Findings from the study clarified that nationality, education, and organizational support are contributing factors to the policy-making influence. The question for EMR government leaders and decision-makers was to understand why the UAE is successful in lowering mortality rates and how can they learn from the UAE. Therefore, the knowledge gained, provides for policies and organizational awareness for healthcare professionals and decision-makers to create an environment that encourages policy-making involvement via organizational support activities.

Methodological and Theoretical Implications

The methodological implication considered the evaluation of the representativeness of policy-making as a single occasion assessment. This short-term approach added significantly to understanding in a more in-depth nature. The theoretical

implication considered the evaluation of factors such as nationality, education, and organizational support to be incorporated into the day-to-day aspects of policymakers and decision-makers. The standardized Beta values also indicate that number of SDs that scores in the DV would change if there were the 1 SD unit change in the predictor (IVs). In other words, if we could increase education scores by 1 SD (which is 1.066, from the Descriptive Statistics Table, Appendix K), the policy-making influence scores would be likely to increase by 0.11 standard deviation units. Therefore, encouraging policy-makers to enhance their training, certifications, and education might be influential in theory.

Summary

Maternal and child mortality in contemporary times remain a foremost challenge to the health systems internationally. According to the WHO, the UAE has been among the world's lowest MCH mortality rates and achieved the targets of MDGs 4 and 5. One of the best practices in achieving and maintaining the lowered mortality rates is the development and implementation of MCH policies and strategies. The purpose of this correlational research study was to investigate the policies and strategy processes that were used by the health professionals for improving MCH to reduce the child and maternal mortality rates in the UAE. For this research study, the focus was primarily on stages 1 and 2 of the 10-stage continuum of care process which is MCH care. Research studies indicated the need for improving the availability and access to such care through enhanced policies and national budgets, in addition to improving the health promotion and awareness efforts and activities.

Based on a review of many theoretical frameworks, the Andersen model of healthcare services utilization was best fitted for this research study. The Andersen model was to analyze the factors that influence the policy-making process in the area of MCH. From the literature review, there were limited research studies on the MCH policy-making and development process (COHRED, 2014; Chapman et al., 2014). Therefore, there was a need to investigate the relationship between Andersen Model factors and the health policy-making process domain. Based on the Andersen Model research literature, the population characteristics within the model has always been of interest to researchers with the main focus of utilization of health services. With reference to the Andersen model, there has been limited evidence from the literature review indicating the correlations between the environment aspect (including the healthcare system and health policy-making process) and the population characteristics. Therefore, the study investigated whether MCH professionals and practitioners have influence on policy development.

The independent variables within the study included nationality, the level of work experience, the level of education, and organizational support for health professionals and practitioners within UAE. The dependent variable included five phases of the policy-making process and development. The quantitative methodology included data collection of a sample size of 380 MCH practitioners (who provided complete responses to the survey questions), yielding a 90% response rate. Four research questions with four hypotheses guided the statistical investigation. Each of the research questions queried

whether relationships existed between the independent and dependent variables of the study.

When all four variables were included in stage four of the regression model, only work experience was insignificant as a predictor of policy-making. Therefore, according to all the Blocks (Models 1 to 4), only work experience did not make a unique significant contribution ($p > .05$). With reference to Table 14, the most important predictor of policy-making was organizational support ($\beta = 0.59$) which uniquely explained the 42% of variation in policy-making, followed by nationality ($\beta = 0.16$), and education ($\beta = 0.11$). The standardized Beta values also indicate the numbers of SDs with scored in the DV would change if there were 1 SD unit change in the predictor (IV). Together, the four independent variables accounted for 56% of the variance in policy-making.

The focus of study was determining whether or not the IVs had an effect on the policy-making process, rather than revealing which variable influenced the other. Reasons for the relationships cannot be determined until further research is done. Future research should nonetheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, legal frameworks. Institutional structures that may have an influence on the policy-making process as a whole, or at each of the phases of the process. The researchers acknowledged the need for 'future unpacking' of the healthcare systems and processes to allow for a deeper understanding of the challenges in using the Andersen model. The findings of the study were successful in confirming the future need for a deeper understanding of the healthcare

systems and processes particularly, policy-making. The study had relevance to social change by developing and generating evidence on how maternal and child mortality rates can be further reduced within the priority countries of the EMR. This can come about through the help of health professionals and practitioners and factors that influence policy in the UAE.

Conclusion

According to the WHO, the UAE has been among the world's lowest MCH mortality rates and have achieved the targets of MDGs 4 and 5. One of the best practices in achieving and maintaining the lowered mortality rates is the development and implementation of MCH policies and strategies. The purpose of the present correlational research study was to investigate the policies and strategy processes that were used by the health professionals for improving MCH to reduce the child and maternal mortality rates. For this research study, the focus was primarily on stages 1 and 2 of the 10-stage continuum of care process.

The study began with the identification of gaps in the literature with respect to the policy-making influence from the healthcare professionals and practitioners. From the literature review, there was a need to investigate the relationship between Andersen Model factors and the health policy-making process domain. Based on the Andersen Model research literature, the population characteristics of the model has always been of interest to researchers with the primary focus on utilization of health services. There has been limited evidence from the literature review regarding the Andersen model,

indicating the correlations between the environment aspect (including the healthcare system and health policy-making process) and the population characteristics. Therefore, the quantitative study investigated whether MCH professionals and practitioners influence on policy policy-making through a correlational research approach.

The research agenda was addressed from the results of this study which revealed that there were statistical correlations and that the most significant predictor of policy-making was organizational support that uniquely explained the 42% of the variation in policy-making, followed by nationality, and education. The research adds value to decision-makers in considering the extent of maternal and child health policy, laws, and regulations that could assist in evaluating the success in realizing current challenges and strategies of health policies and legislation. The research findings could positively influence decision makers' action plans in formulating new guidelines, and public policies and strategies for the development of maternal and child health across the UAE and its regions. Future research should nevertheless aim to include other factors such as gender, performance appraisals, training, knowledge and innovation, legal frameworks and institutional structures that may have an influence on the policy-making process as a whole, or at each of the phases of the policy-making process.

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Appendix A: Review of Andersen Models Usage in MCH Research Studies

Authors	Year	Country	Data Analysis	Methodological Approach	Setting/ Healthcare Sector	Sample Size (N)
Chomi, E. N., Mujinja, P. G., Enemark, U., Hansen, K., & Kiwara, A. D. (2014).	2014	Tanzania	Bivariate & Multivariate	Quantitative	Not specified	3290
Hocchausen L., Le H.N., Perry D.F.	2011	USA	Descriptive statistics	Quantitative	Mental health services	532
Insaf T.Z., Jurkowski J.M., Alomar	2010	USA	Poisson regression	Mixed methods	General healthcare	287
Surood S., Lai D.W.	2010	Canada	Hierarchical regression analysis	Quantitative	General healthcare	220
Hammond W.P., Matthews D., Corbie – Smith G.	2010	USA	ANOVA & Multiple logistic regression	Quantitative	General healthcare	386
Dhingra S.S., Zack M., Strine T., Pearson W.S., Balluz L.	2010	USA	Multiple logistic regression models	Quantitative	Not specified	169,546
Blackwell D.L., Martinez M.E., Gentleman J.F., Sanmartin C., Berthelot J.M.	2009	*Canada, **USA	Multiple logistic regressions	Quantitative: Country-specific	Physician and hospital services	*3,505; **5,183
Ani C., Bazargan M., Bazargan-Hejazi S, Andersen	2008	USA	Logistic regression	Quantitative	General healthcare	287

R.M., Hindman D.W., Baker R.S.						
Chen A.W., Kazanjian A., Wong H.	2008	Canada	Linear regression	Quantitative	Mental health services: General practitioner psychiatrists	152,184
Nabalamba A., Millar W.J.	2007	Canada	Logistic regression	Quantitative	General healthcare	132,947
Stockdale S.E., Tang L., Zhang L., Belin T.R., Wells K.B.	2007	USA	Logistic regression	Quantitative	Primary care or specialty provider	11,137
Thode N., Bergmann E., Kamtsiuris P., Kurth B.M.	2005	Germany	Linear models	Quantitative	Primary healthcare	7,124
Afilalo J., Marinovich A., Afilalo M., Colacone A., Leger R., Unger B., Giguere C.	2004	Canada	Descriptive statistics & Multiple Analyses	Quantitative	Academic tertiary care centers	2,348
Brown ER, Davidson P.L., Yu H., Wyn R., Andersen R.M., Becerra L., Razack N.	2004	USA	Multiple models Hierarchical logistic regression	Quantitative	Outpatient care	12,861
Jorm A., Parslow R., Christensen H., Jacomb P.	2002	Australia	Logistic regression	Quantitative	Primary healthcare	

Andersen R.M., Yu H., Wyn R., Davidson P.L., Brown E.R., Teleki S.	2002	USA	Logistic regression	Quantitative	Outpatient care	12,446
Broyles R.W., McAuley W.J., Baird-Holmes D.	1999	USA	Logistic regression	Quantitative	General healthcare	1,512
Eastern Mediterranean Region						
Zassanzadeh, J., Mohammadbeigi, A., Eshrati, B., Rezaianzadeh, A., Rajaeefard, A.	2013	Iran	Systematic sampling method	Quantitative	Healthcare	758,271
Yunus, A., Iqbal, S., Munawar, R., Zakar, R., Mushtaq, S. K., Sadaf, F., Usman, A.	2013	Pakistan	Logistic regression	Quantitative	Prenatal and Neonatal Care	10,023
Harpaz-Rotem, I., Rosenheck, R.A.	2011	Iraq, Afghanistan	Poisson regression	Quantitative	Mental healthcare	204,184
Seal, K. H., Maguen, S., Cohen, B., Gima, K. S., Metzler, T. J., Ren, L., …	2010	Iraq, Afghanistan	Descriptive statistics	Quantitative	Mental healthcare	238,098
Abu-Mourad, T., Alegakis, A., Shashaa, S., Koutis, A., Lionis, C., Philalithis, A.	2008	Palestine	Descriptive statistics	Quantitative	Primary healthcare	956

Mahfouz, A.A., Al-Sharif, A.I., ..	2004	KSA	Descriptive statistics	Quantitative	Primary healthcare	253
Al-Nasser, A. N., Bamgboye, E. A., Abdullah, F. A.	1994	KSA	Descriptive statistics	Quantitative	Antenatal care	880
Obermeyer, C.M., Potter, J.E.	1991	Jordan	Multivariate analysis	Quantitative	Prenatal care	2,949
Abbas, A.A., Walker, G.J.A.	1986	Jordan	Descriptive statistics	Quantitative	Antenatal, delivery and postnatal care services	1,675
Habib, O.S., Vaughan, JP	1986	Iraq	Descriptive statistics	Quantitative	General healthcare	324

Appendix B: Permission to Reprint Figures

Andersen Model

Material Requested:
"Revisiting the Behavioral Model and Access to Medical Care: Does it Matter?"
Ronald M. Andersen
Journal of Health and Social Behavior, Vol. 36, No. 1 (Mar., 1995), Fig. 1, 4, 5, 6, & 7.

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Immanuel Moonesar
Walden University

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Appendix C: Survey Instrument

UAE HEALTH POLICY SURVEY 2015

UAE Health Policy-Making Survey Information

You are invited to take part in a research study which is investigating the level of influence in the policy-making process of UAE healthcare professionals working in the arena of Maternal and Child Health (MCH). This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named, Immanuel Azaad Moonesar, who is a doctoral student at Walden University.

Background Information:

The goal of the study is to generate evidence on how involvement of health professionals and practitioners does or does not influence policy-making process and development. More specifically, it will identify level of policy development involvement and adoption required by health professionals and practitioners for the purposes of providing recommendations for improving and lowering Maternal & Child Health (MCH) mortality rates.

Procedures:

If you agree to be in this study, you will be asked to identify the level of policy development involvement and adoption required by health professionals and practitioners

Here are some sample questions:

Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 1- Policy preparation: This is the first stage of the public policy-making process in which policy problems and issues are defined and the policy agenda is set. This stage is commonly known as the problem identification and agenda setting stage.

Stage 1- Policy preparation	5	4	3	2	1
Analysis of Health Issue/Problem	☐	☐	☐	☐	☐
Assessment of strategic trends and gathered evidence	☐	☐	☐	☐	☐
Determining the actions required	☐	☐	☐	☐	☐

We would appreciate you taking a few minutes (7-10) to complete the survey questionnaire.

Voluntary Nature of the Study:
This questionnaire is strictly for research purposes and anonymity of answers is assured. Only grouped data will be reported. No response you make in this survey will be connected or identified with you. This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at the Walden University will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time, by clicking on the 'X" button of the webpage.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as psychological factors as well as issues concerning privacy and confidentiality. Although there could be risks of strong emotional response, taking the survey is on a strictly voluntary basis. Being in this study would not pose risk to your safety or wellbeing.

The benefits for the society in general, realizing the need for improved policy-making process across the healthcare arena, understanding the need for healthcare professionals involvement and equity for each and every mother and child, and acquiring an overall understanding of healthcare professional interactions and perceptions can help policy makers identify policy recommendations for reforms that will ultimately strategize ways to implement successes.
The benefits for participants in the survey, although not conclusive, may include feelings of happiness, relief, and constructively. Participants may be happy that their experiences and feelings are being given attention. They may be very relieved that past tensions, climatic shifts, and general regard are being studied. Participants may also feel a real sense of constructive involvement because they are taking part in a project that can help understand the policy-making process. Realizing the need for improved policy-making process across the healthcare arena, understanding the need for healthcare professionals' involvement and equity for each and every mother and child, and acquiring an overall understanding of healthcare professional interactions and perceptions can help policy makers identify policy recommendations for reforms that will ultimately strategize ways to implement successes.
Payment:
There is no payment or gifts associated with your participation in the survey.

Privacy:
Any information you provide will be kept anonymous. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will

be kept secure by encrypted software procedures. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone: XXX or e-mail: XXX@waldenu.edu. If you want to talk privately about your rights as a participant, you can call XYZ. She is the Walden University representative who can discuss this with you. Her phone number is XXX (for participants outside the US). Walden University's approval number for this study is 05-08-15-0303386 and it expires on 7th May, 2016. Please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By returning a completed survey, "I consent", I understand that I am agreeing to the terms described above.

I am very grateful to the University of Wollongong in Dubai and Walden University for their encouragement and support for this study. At the end of the survey, you will be given the opportunity to provide your contact information should you like to receive a summary report of the findings from the survey. These details will be aggregated separately from the survey question responses and no third party will have your respective information.

Thank you for your interest in our initiative.

Select □Yes OR □No to consent to participate in the survey.

Personal Details

Q1 **Gender** (please select your gender)

- ☐ Male
- ☐ Female

Q2 **Age** (years)

- ☐ Below 20
- ☐ 20-35
- ☐ 36-50
- ☐ 51+

Q3 **Nationality**

- ☐ Local/ Emirati (Native to UAE)
- ☐ Non-local/Expatriate (Non-native to the UAE), Please specify: …….

Employment

Q4 Which of the following best characterizes your current employment status?

- ☐ Not employed
- ☐ Self-employed (e.g. entrepreneur, freelancer)
- ☐ Employee of federal government
- ☐ Private sector employee
- ☐ Other: _____

Q5 Which of the following best characterizes your **total years of work experience**?

- ☐ 0-5 years
- ☐ 6-10 years
- ☐ 11+ years

Q6 Which of the following best characterizes your **current job roles, responsibilities and scope**?

- ☐ General Practitioner
- ☐ Maternal & Child Health (MCH) Specialist
- ☐ Medical Technician
- ☐ Assistant Technician
- ☐ Nurse
- ☐ Nursing Assistant
- ☐ Pharmacist
- ☐ Assistant Pharmacist
- ☐ Policy-Maker/Policy Specialist
- ☐ Allied Health Professional (Such as Dietitian, Nutritionist, Health Administrator/Manager/Director)
- ☐ Other (please specific, if not mentioned above) _____

Q7 Please indicate the Emirate in which you are currently employed:

- ☐ Dubai
- ☐ Abu Dhabi & Al Ain
- ☐ Ajman
- ☐ Sharjah
- ☐ Umm al-Quwain
- ☐ Fujairah
- ☐ Ras al-Khaimah

Q11 **Level of Education**

Please indicate your highest level of Education

- ☐ Doctorate (Ph.D.)
- ☐ Master's degree
- ☐ Diploma Post University (Postgraduate Diploma)
- ☐ Bachelor's Degree
- ☐ Other, please specify: …….

Q12 **Education Specialization**

Please indicate your area of specialization that matches the highest level of education selected in the previous question.

- ☐ Arts & Design
- ☐ Engineering
- ☐ Information Technology
- ☐ Business & Economics
- ☐ Education
- ☐ Foreign languages
- ☐ Environment & Health Sciences
- ☐ Medical Sciences
- ☐ Communication & Media Sciences
- ☐ Sciences
- ☐ Sharia & Law
- ☐ Human & Social Sciences
- ☐ Foundations
- ☐ Other _____

Q13 Please select your level of agreement with the following statements on overall 'place of employment' /organizational support towards yourself. The scale is as follows:

Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly Disagree (5)

Statements	5	4	3	2	1
My place of work/ organization takes pride in my accomplishments	☐	☐	☐	☐	☐
My place of work/ organization really cares about my well-being	☐	☐	☐	☐	☐
My place of work/ organization values my contributions to its well-being	☐	☐	☐	☐	☐
My place of work/ organization strongly considers my goals and values.	☐	☐	☐	☐	☐

Perceptions of the level of influence in MCH Policy-making Process

Q14 Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 1- Policy preparation: This is the first stage of the public policy-making process in which policy problems and issues are defined and the policy agenda is set. This stage is commonly known as the problem identification and agenda setting stage.

Stage 1- Policy preparation	5	4	3	2	1
Analysis of Health Issue/Problem	☐	☐	☐	☐	☐
Assessment of strategic trends and gathered evidence	☐	☐	☐	☐	☐
Determining the actions required	☐	☐	☐	☐	☐

Q15 Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 2- Policy formation: The second stage of the public policy-making process in which policies is created or revised.

Stage 2- : Policy formation	5	4	3	2	1
Start-up phase: Securing project resources	☐	☐	☐	☐	☐
Assessment and Appraisal phase: Review of existing or prior health policies	☐	☐	☐	☐	☐
Appraisal phase: Cost/benefit analysis	☐	☐	☐	☐	☐

Q16 Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 3- Policy adoption and legitimization: The third stage of the public policy-making process where the policy is enacted, or brought into force, for instance, by the Emirate in the UAE.

Stage 3- Adoption and legitimization	5	4	3	2	1
Health policy monitoring occurred through obtaining feedback on implementation plan progress	☐	☐	☐	☐	☐
Health policy legitimized as a result of the public statements or actions of government officials	☐	☐	☐	☐	☐
Monitoring with a progress rate in adoption and communication of the health policy	☐	☐	☐	☐	☐

Q17 Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 4- Policy implementation: The fourth stage of the public policy-making process which includes the actions and mechanisms whereby policies are brought into practice, that is, the written policy document is turned into a reality.

Stage 4- : Policy implementation	5	4	3	2	1
Health policy monitoring occurred through obtaining feedback on performance progress	☐	☐	☐	☐	☐
Health policy implementation occurred as a result of data collection mechanisms such as exit interviews, key informant interviews, facility survey, and/or financial analysis.	☐	☐	☐	☐	☐
Health policy review of the actual performance versus the planned performance pertaining to the existing or prior health policies.	☐	☐	☐	☐	☐

Q18 Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 5- Policy assessment and evaluation: The final stage of the public policy-making process including monitoring, analysis, critics and assessment of existing policies in terms of the appraisal of the content, implementation and effects.

Stage 5- : Policy assessment and evaluation	5	4	3	2	1
Policy review assessment report	☐	☐	☐	☐	☐
Identification of and mapping resistance to and adverse effects of the health policy	☐	☐	☐	☐	☐
Data collection by means of surveys, interviews, focus groups, forecasting, bench-marking, brainstorming, and SWOT (Strengths, Weakness, Opportunities & Threats Analysis) and PESTLE* Analysis (Political, Economic, Social, Technology, Legal & Environmental Analysis)	☐	☐	☐	☐	☐

Q19 List up to 2 things that you enjoyed most when being involved of the policy-making process?

1 ……...….

2 ……..……

Q20 List up to 2 things that you did not enjoy most when being involved of the policy-making process?

1 …….
2 …….

Q21 What aspects of the health policy-making process at your workplace, do you think should be improved?

.....
.....
.....

Should you like a summary report of the findings, please provide the information below, otherwise click on the submit button:

Request for summary report findings.

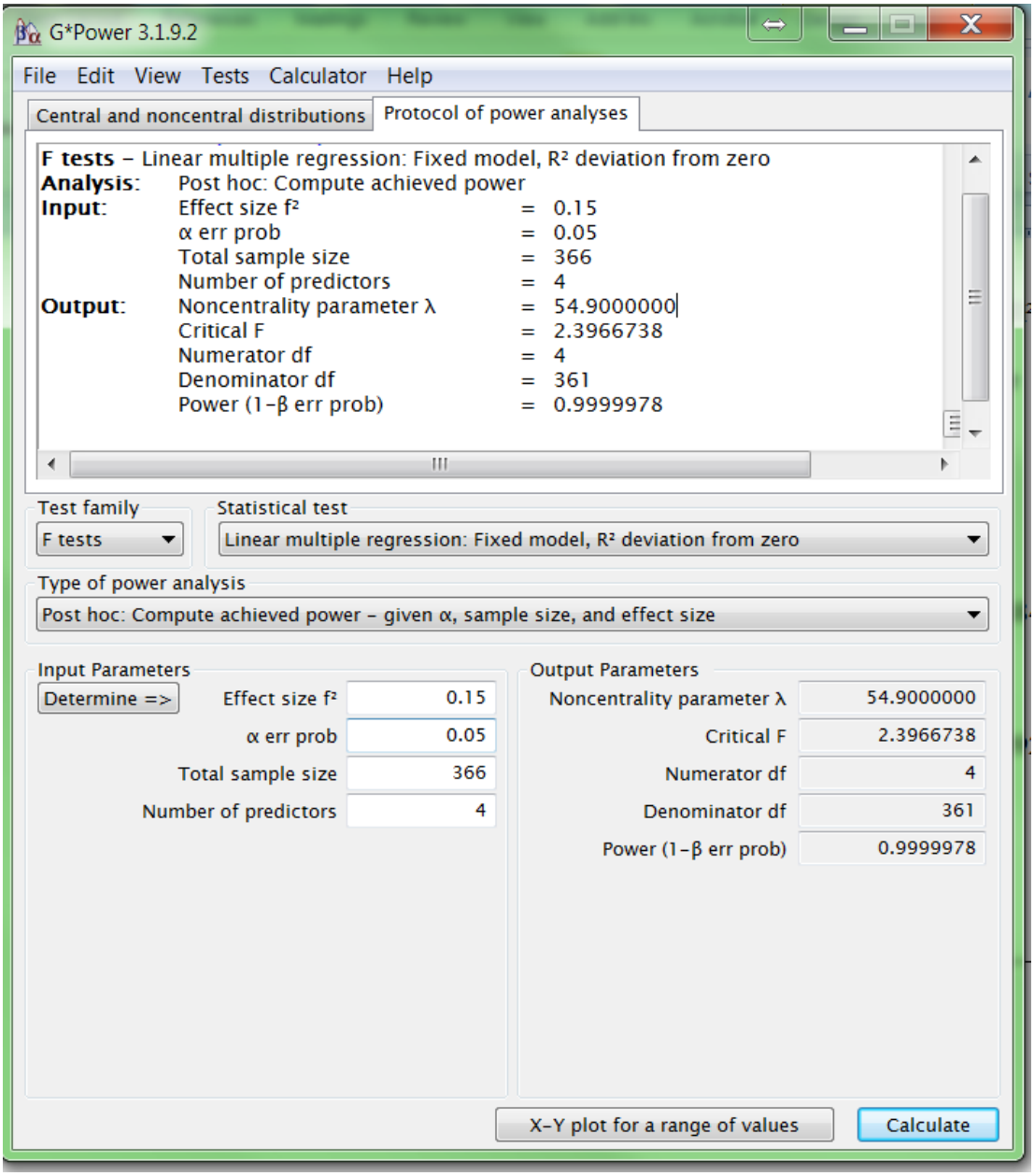
Name

Email Address

Contact number

Thank you for your participation in this survey.

Appendix D: G*Power Calculations of Sample Size



Appendix E: Pilot Study Feedback Form

1. Were the instructions in the survey understandable?

   a. Yes

   b. No: Why?
   ……..…….…….
   ……..…
   ……..…….……

2. Were all the survey items or questions clear and understandable?

   a. Yes

   b. No: Please list which items/questions were not understandable
   ……..…
   ……..……
   ……
   ……..…

3. Was there any specific wording/jargon of survey items or questions that is unclear?

   a. Yes

   b. No: Please list which jargon that were not clear
   ……..……
   ……..……
   ……..……
   ……..……

4. Are there any additional questions that I SHOULD have asked?

   ……..……..……
   ……..……
   ……..……..……
   ……..……..……
   ……

Appendix F: Pilot Study Consent Form

PILOT STUDY: UAE Health Policy-Making Survey Information

You are invited to take part in a research ***pilot*** study which is investigating the level of influence in the policy-making process of UAE healthcare professionals working in the arena of Maternal and Child Health (MCH). This form is part of a process called "informed consent" to allow you to understand this ***pilot*** study before deciding whether to take part.

This ***pilot*** study is being conducted by a researcher named, Immanuel Azaad Moonesar, who is a doctoral student at Walden University.

Background Information:
The goal of the ***pilot*** study is to generate information that is needed to improve the understanding of the intended survey. This will help the survey to be understood by the participants of the study.

Procedures:

You have been selected from a random sampling from the database of healthcare professionals and practitioners in the UAE. If you agree to be in this **pilot** study, you will be asked to identify whether the survey questions are easily understood in relation to the level of policy development influence and adoption required by healthcare professionals and practitioners.
Here are some sample survey questions:

Using a scale of 5 (strong influence), 4 (considerable influence), 3 (moderate influence), 2 (limited influence) and 1 (no influence), please rate your level of influence for the stage below:

Stage 1- Policy preparation: This is the first stage of the public policy-making process in which policy problems and issues are defined and the policy agenda is set. This stage is commonly known as the problem identification and agenda setting stage.

Stage 1- Policy preparation	5	4	3	2	1
Analysis of Health Issue/Problem					
Assessment of strategic trends and gathered evidence					
Determining the actions required					

I would appreciate you taking a few minutes (7-10) to complete the pilot survey questionnaire to provide your feedback on understanding the survey.

Voluntary Nature of the Pilot Study:

This questionnaire is strictly for research purposes and anonymity of answers is assured. Only grouped data will be reported. No response you make in this survey will be connected or identified with you. This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at the Walden University will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time, by clicking on the 'X" button of the universal webpage.

Risks and Benefits of Being in the Pilot Study:

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as psychological factors as well as issues concerning privacy and confidentiality. Although there could be risks of strong emotional response, taking the survey is on a strictly voluntary basis. Being in this study would not pose risk to your safety or wellbeing.

The benefits for the society in general, providing the feedback on the survey instrument and realizing the need for improved policy-making process across the healthcare arena, understanding the need for healthcare professionals influence and equity for each and every mother and child, and acquiring an overall understanding of healthcare professional interactions and perceptions can help policy makers identify policy recommendations for reforms that will ultimately strategize ways to implement successes.

The benefits for participants in the survey, although not conclusive, may include feelings of happiness, relief, and constructively. Participants may be happy that their experiences and feelings are being given attention. They may be very relieved that past tensions,

climatic shifts, and general regard are being studied. Participants may also feel a real sense of constructive influence because they are taking part in a project that can help understand the policy-making process.

Payment:
There is no payment or gifts associated with your participation in the pilot survey.

Privacy:
Any information you provide may not be kept anonymous since your feedback will be used to improve the survey instrument and you may be contacted should we need further clarifications. However, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by encrypted software procedures. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone: XXX or e-mail: XXX@waldenu.edu. If you want to talk privately about your rights as a participant, you can call XYZ. She is the Walden University representative who can discuss this with you. Her phone number is XYZ (for participants outside the US). Walden University's approval number for this study is 05-08-15-0303386 and it expires on 7th May 2016. Please print or save this consent form for your records.

Statement of Consent:
I have read the above information and I feel I understand the study well enough to make a decision about my influence. By returning a completed survey, "I consent" , I understand that I am agreeing to the terms described above.

I am very grateful to the University of Wollongong in Dubai and Walden University for their encouragement and support for this study. At the end of the survey, you will be given the opportunity to provide your contact information should you like to receive a summary report of the findings from the survey. These details will be aggregated separately from the survey question responses and no third party will have your respective information.

Thank you for your interest in our initiative.

Select □Yes OR □No to consent to participate in the **pilot** survey.

Appendix G: Pilot Study Procedures

Procedures

You have been selected from a random sampling from the database of healthcare professionals and practitioners in the UAE. If you agree to be in this **pilot** study, you will be asked to identify whether the survey questions are easily understood in relation to the level of policy development influence and adoption required by healthcare professionals and practitioners. The following are the steps for selecting participants in the pilot study:

Once the IRB approval is obtained; the survey will be disseminated via email to the potential participants as a pilot study:

a) Recruitment: Three pilot participants will be recruited through the database developed in step 1, in Item 12 of the IRB application form.

b) Consent: Pilot participants will complete a consent form at the beginning of the universal survey web-link supported by the Qualtrics survey system (software). Participants may read the information sheet and accompanying instructions, and choose or not choose to participate in the taking of the survey. The Qualtrics software will be accessed with a designated username and password-protected account. I will be the only person to access the account. During the research project, I will have the survey system stored and accessed only one computer located in the office which is accessed only with a key. On the completion of the research project, I will have the survey software system stored and accessed only on the same computer located in the office which is accessed only with a key in only my possession. The data will be held securely for a minimum of five years after completion of the proposed research project.

c) Administration and Analysis of Pilot Study: Survey will be done with participants for clarity and timing. Participants will participate in a short interview by phone to determine if any items were not clear and to determine time for completion (Refer to Appendix F, G & H).

d) Changes to Actual Study: Any changes required will be submitted to IRB through Change of Procedure form.

Appendix H: Pilot Study Feedback Report

Pilot Study Feedback Report

Last Modified: 05/14/2015

Profession

#	Answer	Response	%
1	Physician	2	67%
2	Policy- Maker Specialist	1	33%
	Total	**3**	**100%**

1. Were the instructions in the survey understandable?

#	Answer	Response	%
1	No, if selected, please state why	0	0%
2	Yes	3	100%
	Total	**3**	**100%**

2. Were all the survey items or questions clear and understandable?

#	Answer	Response	%
1	Yes	3	100%
2	No, Please list which items/questions were not understandable	0	0%
	Total	**3**	**100%**

3. Was there any specific wording/jargon of survey items or questions that is unclear?

#	Answer	Response	%
1	No	3	100%
2	Yes: Please list which jargon that were not clear	0	0%
	Total	3	100%

4. Are there any additional questions that I SHOULD have asked?

Text Response
1. Usually Income Category is asked in surveys in the UAE
2. No comments
3. None

Appendix I: List of Expatriates Nationality

#	Country	# of cases	%
1	India	41	16%
2	Philippines	20	8%
3	Pakistan	12	5%
4	Algeria	11	4%
5	Lebanon	9	4%
6	Qatar	8	3%
7	Egypt	7	3%
8	Morocco	7	3%
9	Cuba	6	2%
10	United States of America	6	2%
11	Oman	5	2%
12	Iraq	5	2%
13	Italy	5	2%
14	Australia	5	2%
15	Indonesia	5	2%
16	Argentina	4	2%
17	Colombia	4	2%
18	Trinidad and Tobago	4	2%
19	United Kingdom of Great Britain and Northern Ireland	4	2%
20	Bahrain	4	2%
21	Saudi Arabia	4	2%
22	Jordan	4	2%
23	Kuwait	4	2%
24	Malaysia	3	1%
25	Kazakhstan	3	1%
26	Nepal	3	1%
27	New Zealand	3	1%
28	Poland	3	1%
29	Ireland	2	1%
30	Croatia	2	1%
31	Iran, Islamic Republic of...	2	1%
32	Côte d'Ivoire	2	1%
33	Libyan Arab Jamahiriya	2	1%
34	Afghanistan	2	1%
35	France	2	1%
36	Denmark	2	1%

37	Kenya		2	1%
38	Costa Rica		2	1%
39	Comoros		2	1%
40	Bolivia		2	1%
41	Palestine		2	1%
42	Belgium		2	1%
43	Mexico		2	1%
44	Yemen		2	1%
45	Thailand		2	1%
46	Tunisia		2	1%
47	China		2	1%
48	Ukraine		1	0%
49	Syrian Arab Republic		1	0%
50	Turkey		1	0%
51	Sweden		1	0%
52	Japan		1	0%
53	Venezuela, Bolivarian Republic of...		1	0%
54	Austria		1	0%
55	Czech Republic		1	0%
56	Germany		1	0%
57	Cyprus		1	0%
58	Norway		1	0%
59	Nigeria		1	0%
60	Djibouti		1	0%
61	Sri Lanka		1	0%
	Total		251	100%

Appendix J: SPSS Output Tables for Multiple Regression

Descriptive Statistics

	Mean	Std. Deviation	N
All Policy Phases	3.6953	.77505	380
Nationality	1.66	.474	379
Education	2.69	1.066	380
Work experience	2.63	.583	380
POS	3.8730	.74060	378

Correlations

		All Policy Phases	Nationality	Education	Work experience	POS
Pearson Correlation	All Policy Phases	1.000	-.218	-.209	-.038	.612
	Nationality	-.218	1.000	.121	.036	-.078
	Education	-.209	.121	1.000	-.153	-.158
	Work experience	-.038	.036	-.153	1.000	.034
	POS	.612	-.078	-.158	.034	1.000
Sig. (1-tailed)	All Policy Phases	.	.000	.000	.232	.000
	Nationality	.000	.	.009	.244	.066
	Education	.000	.009	.	.001	.001
	Work experience	.232	.244	.001	.	.253
	POS	.000	.066	.001	.253	.
N	All Policy Phases	380	379	380	380	378
	Nationality	379	379	379	379	377
	Education	380	379	380	380	378
	Work experience	380	379	380	380	378
	POS	378	377	378	378	378

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94.175	4	23.544	66.507	.000[b]
	Residual	131.690	372	.354		
	Total	225.865	376			

a. Dependent Variable: All Policy Phases

b. Predictors: (Constant), POS, Work experience, Nationality, Education

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	2.202	.265		8.299	.000	1.680	2.724					
Nationality	-.257	.065	-.157	-3.917	.000	-.385	-.128	-.218	-.199	-.155	.979	1.022
Education	-.078	.030	-.108	-2.640	.009	-.137	-.020	-.209	-.136	-.105	.940	1.064
Work experience	-.091	.053	-.069	-1.709	.088	-.196	.014	-.038	-.088	-.068	.973	1.027
POS	.612	.042	.585	14.561	.000	.529	.695	.612	.603	.576	.971	1.029

a. Dependent Variable: All Policy Phases

Casewise Diagnostics[a]

Case Number	Std. Residual	All Policy Phases	Predicted Value	Residual
2	-4.716	1.07	3.8728	-2.80615
144	-4.716	1.07	3.8728	-2.80615
288	-3.827	1.53	3.8105	-2.27714
323	-3.143	1.87	3.7364	-1.86974

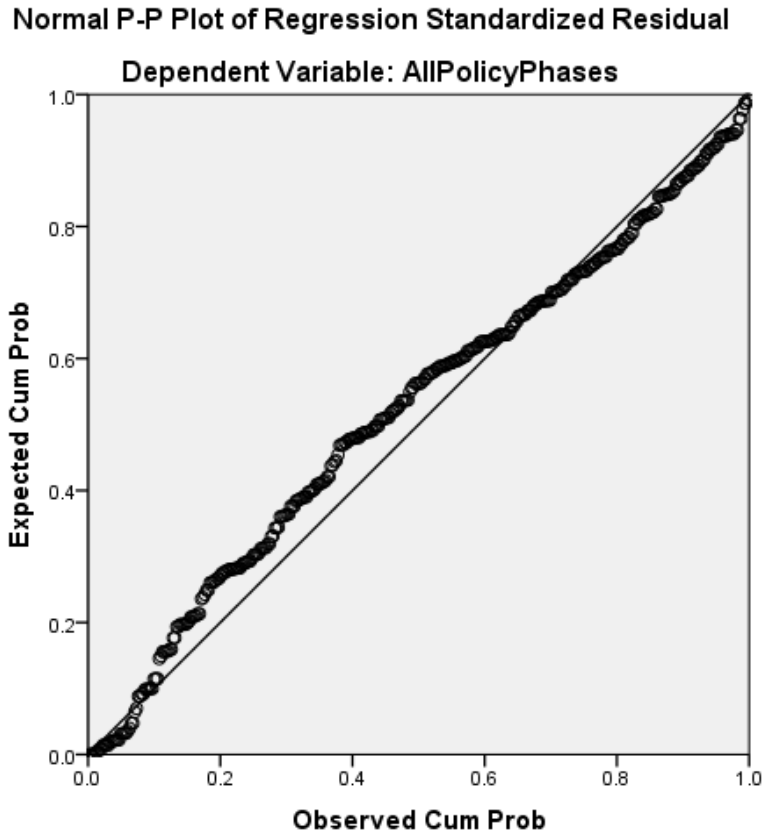
a. Dependent Variable: All Policy Phases

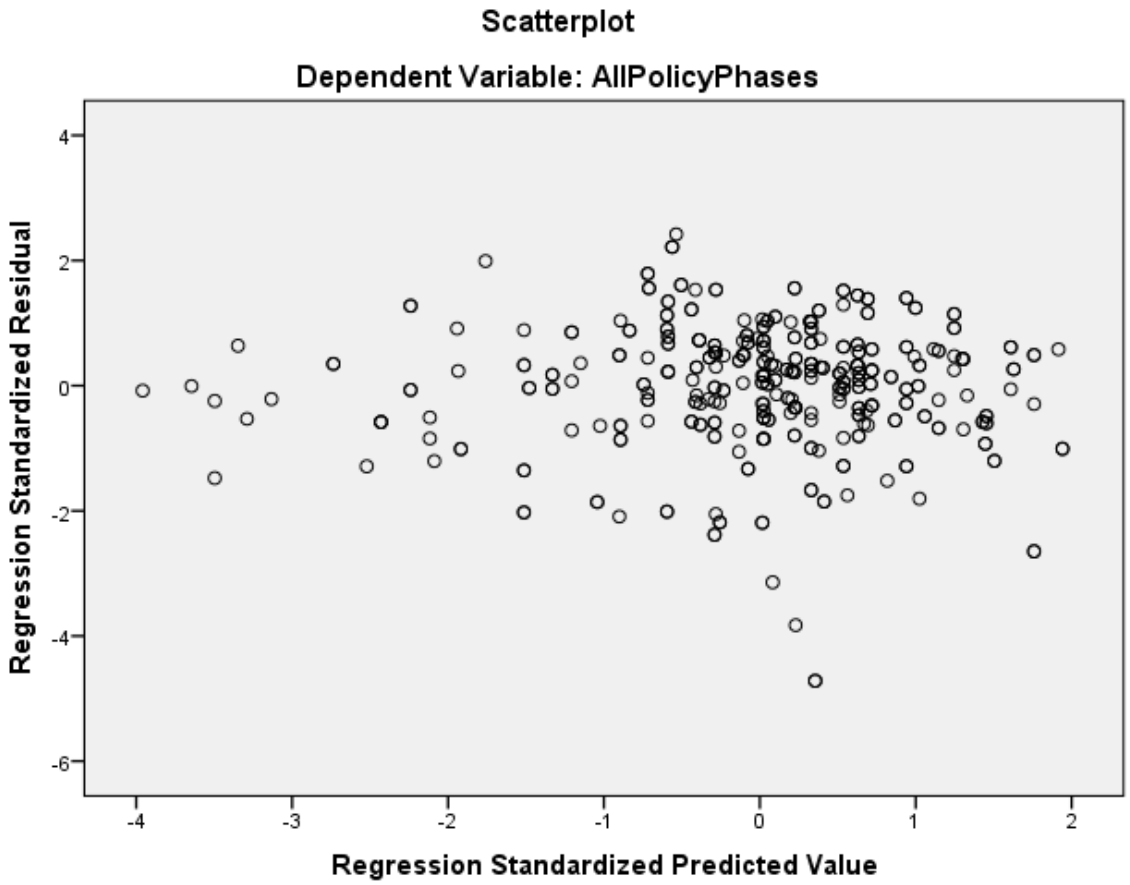
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.7140	4.6668	3.6947	.50108	377
Std. Predicted Value	-3.959	1.941	-.001	1.001	377
Standard Error of Predicted Value	.043	.219	.066	.019	377
Adjusted Predicted Value	1.7163	4.6771	3.6950	.50047	377
Residual	-2.80615	1.44005	.00610	.58888	377
Std. Residual	-4.716	2.420	.010	.990	377
Stud. Residual	-4.736	2.453	.010	.996	377
Deleted Residual	-2.82956	1.47953	.00575	.59676	377
Stud. Deleted Residual	-4.879	2.470	.009	1.003	377
Mahal. Distance	.982	50.102	3.990	3.804	377
Cook's Distance	.000	.061	.003	.006	377
Centered Leverage Value	.003	.133	.011	.010	377

a. Dependent Variable: All Policy Phases

Charts


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: AllPolicyPhases
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: AllPolicyPhases
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-6
-4
-3
-2
-1
0
1
2

Appendix K: SPSS Output Tables for Hierarchical Multiple Regression

Descriptive Statistics

	Mean	Std. Deviation	N
AllPolicyPhases	3.6953	.77505	380
Nationality	1.66	.474	379
Work experience	2.63	.583	380
Education	2.69	1.066	380
Organizational Support	3.8730	.74060	378

Correlations

		AllPolicyPhases	Nationality	Work experience	Education	Organizational Support
Pearson Correlation	AllPolicyPhases	1.000	-.218	-.038	-.209	.612
	Nationality	-.218	1.000	.036	.121	-.078
	Work experience	-.038	.036	1.000	-.153	.034
	Education	-.209	.121	-.153	1.000	-.158
	Organizational Support	.612	-.078	.034	-.158	1.000
Sig. (1-tailed)	AllPolicyPhases	.	.000	.232	.000	.000
	Nationality	.000	.	.244	.009	.066
	Work experience	.232	.244	.	.001	.253
	Education	.000	.009	.001	.	.001
	Organizational Support	.000	.066	.253	.001	.
N	AllPolicyPhases	380	379	380	380	378
	Nationality	379	379	379	379	377
	Work experience	380	379	380	380	378
	Education	380	379	380	380	378
	Organizational Support	378	377	378	378	378

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Nationality[b]	.	Enter
2	Work experience[b]	.	Enter
3	Education [b]	.	Enter
4	Organizational Support[b]	.	Enter

a. Dependent Variable: AllPolicyPhases

b. All requested variables entered.

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.218[a]	.047	.045	.75745	.047	18.679	1	375	.000
2	.220[b]	.048	.043	.75811	.001	.350	1	374	.554
3	.291[c]	.085	.077	.74449	.036	14.802	1	373	.000
4	.646[d]	.417	.411	.59498	.332	212.011	1	372	.000

a. Predictors: (Constant), Nationality

b. Predictors: (Constant), Nationality, Work experience

c. Predictors: (Constant), Nationality, Work experience, Education

d. Predictors: (Constant), Nationality, Work experience, Education , Organizational Support

e. Dependent Variable: AllPolicyPhases

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.717	1	10.717	18.679	.000[b]
	Residual	215.148	375	.574		
	Total	225.865	376			
2	Regression	10.918	2	5.459	9.498	.000[c]
	Residual	214.947	374	.575		
	Total	225.865	376			
3	Regression	19.122	3	6.374	11.500	.000[d]
	Residual	206.743	373	.554		
	Total	225.865	376			
4	Regression	94.175	4	23.544	66.507	.000[e]
	Residual	131.690	372	.354		
	Total	225.865	376			

a. Dependent Variable: AllPolicyPhases

b. Predictors: (Constant), Nationality

c. Predictors: (Constant), Nationality, Work experience

d. Predictors: (Constant), Nationality, Work experience, Education

e. Predictors: (Constant), Nationality, Work experience, Education , Organizational Support

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4.288	.143		30.078	.000					
	Nationality	-.356	.082	-.218	-4.322	.000	-.218	-.218	-.218	1.000	1.000
2	(Constant)	4.389	.223		19.668	.000					
	Nationality	-.355	.083	-.217	-4.294	.000	-.218	-.217	-.217	.999	1.001
	Work experience	-.040	.067	-.030	-.592	.554	-.038	-.031	-.030	.999	1.001
3	(Constant)	4.811	.245		19.636	.000					
	Nationality	-.314	.082	-.192	-3.843	.000	-.218	-.195	-.190	.982	1.018
	Work experience	-.081	.067	-.061	-1.206	.229	-.038	-.062	-.060	.974	1.027
	Education	-.141	.037	-.194	-3.847	.000	-.209	-.195	-.191	.960	1.041
4	(Constant)	2.202	.265		8.299	.000					
	Nationality	-.257	.065	-.157	-3.917	.000	-.218	-.199	-.155	.979	1.022
	Work experience	-.091	.053	-.069	-1.709	.088	-.038	-.088	-.068	.973	1.027
	Education	-.078	.030	-.108	-2.640	.009	-.209	-.136	-.105	.940	1.064
	Organizational Support	.612	.042	.585	14.561	.000	.612	.603	.576	.971	1.029

a. Dependent Variable: AllPolicyPhases

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.7140	4.6668	3.6947	.50108	377
Std. Predicted Value	-3.959	1.941	-.001	1.001	377
Standard Error of Predicted Value	.043	.219	.066	.019	377
Adjusted Predicted Value	1.7163	4.6771	3.6950	.50047	377
Residual	-2.80615	1.44005	.00610	.58888	377
Std. Residual	-4.716	2.420	.010	.990	377
Stud. Residual	-4.736	2.453	.010	.996	377
Deleted Residual	-2.82956	1.47953	.00575	.59676	377
Stud. Deleted Residual	-4.879	2.470	.009	1.003	377
Mahal. Distance	.982	50.102	3.990	3.804	377
Cook's Distance	.000	.061	.003	.006	377
Centered Leverage Value	.003	.133	.011	.010	377

a. Dependent Variable: AllPolicyPhases