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Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors Toward Nutrition Counseling

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CRITICAL FACTORS INFLUENCING PUBLIC HEALTH NURSES' ATTITUDES, PERCEPTIONS, AND BEHAVIORS TOWARD NUTRITION COUNSELING

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DEGREE IN NURSING

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by

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Abstract

Background: The importance of nutrition and its influence on health has been a part of public health nursing since its establishment in the 1800's. Changes within the structure of nursing have altered public health nurses' (PHNs') involvement in nutrition counseling. In the absence of understanding critical factors that influence PHNs' attitudes, perceptions, and behaviors of their role in nutrition counseling, they are less likely to meet the health and nutritional needs of the public.

Purpose: The purpose of this qualitative study using grounded theory methodology was to explicate the critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory to explain the PHNs' role in nutrition counseling.

Philosophical Underpinning: The qualitative, grounded theory study is based in the interpretivist /constructivist design that has philosophical underpinnings in symbolic interactionism and pragmatism.

Methods: The study used an interpretivist methodology as described by Corbin and Strauss (2015). Data was collected through semi-structured interviews from a purposive sample of nurses working in public health facilities. A focus group composed of registered nurses who possessed certification in public health and experience in nutrition counseling were chosen for theoretical sampling to confirm the conceptual theory of factors that influence PHNs' attitudes, perceptions, and behaviors toward their role towards nutrition counseling.

Results: The main categories developed to help understand critical factors that influence PHNs' attitudes, perceptions, and behaviors of their role in nutrition counseling included: *knowing, cultural competency, utilizing effective communication, engaging communities,* and *the revolving door.* Following exchanges and interactions between main categories and subcategories, the basic social process of *impacting the health of the public* emerged.

Conclusions: The theoretical framework developed from this research study revealed information about critical factors that influences PHNs' involvement in nutrition counseling. Providing a more structured process of providing nutrition counseling requires changes in policy to bring about more cohesion within each public health department and the public health systems. Understanding how PHNs view their role and engagement in nutrition counseling helps to identify how nurses' involvement in nutrition impacts the health of the public.

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DEDICATION

This work is dedicated to my husband, Eldridge T. Wynn and my children, Isa A. Wynn, Halimah L. Wynn, and Anwar J. Wynn, for your unyielding support. Thank you for being my light during this emotional and time-consuming process. You all have allowed me to challenge myself and follow my dreams and aspirations. I could not have asked for a more supportive, understanding, and encouraging husband and family.

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CHAPTER ONE

The critical factors that influence nurses' attitudes, perceptions, and behaviors provide perspectives of understanding, development, and awareness of various nursing concepts. Public health nurses' (PHNs') attitudes, perceptions, and behaviors toward nutrition counseling are concepts that are not well studied or understood, which often leave PHNs less likely to address the nutritional needs of the public. The purpose of this qualitative study using grounded theory methodology was to explicate the critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling and to subsequently generate a substantive theory that demonstrates the extent and capacities of PHNs' role to engage in nutrition counseling. Corbin and Strauss' grounded theory approach was used to guide the research toward developing this substantive theory.

PROBLEM AND DOMAIN OF INQUIRY

Background of Study

Historically, PHNs' have been one of the few primary health care professionals responsible for the nutritional health and well-being of the public. Changes within the field of nursing have altered nurses' dietary educational requirements and responsibilities, lessening their involvement in providing nutrition care and counseling. Today, poor nutrition is recognized as a contributing factor in 5 out of 10 leading causes of death in the United States (heart disease, cerebrovascular disease, malignant cancers, diabetes, and kidney disease) (DHHS, n.d.-a). Public health nurses are in an opportune position to play

a key role in promoting the nutritional health of the public; because as trusted health care professionals, nurses are more accessible to the public, giving them the opportunity to influence dietary behaviors. Two specific objectives of *Healthy People 2020* address nutritional health towards promoting PHNs' involvement in nutrition include: The provisions of nutrition counseling with every health care visit and urging Americans to increase their total vegetable intake. Although the implementation of these objectives are urged, studies presented by Ilmonen, Isolauri, and Laitinen (2012), Martin, Deveritt, Desbrow, and Ball (2014), and McClinchy, Dickinson, Barron, and Thomas (2013) indicated that health care providers, including nurses, rarely discuss nutrition with patients during routine medical visits. They further reported that nurses' attitudes, perceptions, and behaviors of providing nutrition counseling may play a key factor in their effort to initiate a discussion about nutrition.

There is a dearth of research studies published concerning the capacities of nurses to translate their knowledge and skill of nutrition to the public. The main themes that were repeated when researching this topic, included the evaluation of nurses' nutritional knowledge, nutrition education, dietary and health challenges, history of nutrition, and health care providers, including, nurses and dieticians' current roles in health promotion. Considering this study explored PHNs' perspective regarding nutrition counseling, information pertaining to public health nursing's involvement in nutrition counseling was addressed.

Nurses' Transitioning Involvement in Nutrition

A core responsibility of public health nursing involves educating and advocating for the importance of healthy dietary intake so as to improve the health of the public. Though PHNs are known to have access to a variety of nutrition resources, they do not possess a full comprehension of nutrition and they lack the understanding of how to adequately address and provide nutrition counseling, leaving them less likely to meet the nutritional health needs of the public (Henning, 2009). Historically, nurses were the first healthcare professionals responsible for the population's nutritional care. Financial difficulties and changes in the organizational structure and control between hospitals and nursing authorities resulted in nursing's detachment from their responsibility surrounding nutritional health, giving rise to the development of dietetics in the late 1800s. As a result of this exchange, there was a need to differentiate the nutritional responsibility between dieticians' and the nurses' role.

To help clarify these roles, Wuerffel (1954) published a research article that attempted to distinguish between the nurses' and dieticians' role in nutrition. In that article, Wuerffel reported that the role of the dietician was dedicated to planning and ordering of patients' meals based on their disease process, while the nurse was responsible for patients' nutritional health and well-being. According to this delineation, the nurses' role surrounding nutrition care appears broad-based and lacks clarity in the identification of well-defined nutritional responsibilities. This definition also presumes that nurses were the primary source of nutritional health and counseling, while the dietician modified patients' meals based on the

nurse's assessment and interpretation of the patient's health status. In the 1970s, Englert, Crocker, and Stotts (1986) reported nurses' role to be an "initiator and coordinator of the patient's nutritional care, while the dieticians taught diet therapy and encouraged patients to alter dietary behaviors" (p. 525). The role and responsibility of the nurse and the dietician seemed to have switched from Wuerffel's earlier reporting. Within Englert et al.'s (1986) study, the dietician is suggested to provide nutrition counseling while the nurse initiates and coordinates nutritional care.

The nurses' role and responsibility of initiating and coordinating the nutritional care of patients continues to be vague and not clearly defined, while leaving questions concerning the field of nursing's responsibilities towards patients' nutritional care. A comprehensive international study that included over 700 schools of nursing from within 53 countries performed in 1971, concluded that nurses, not dieticians, were considered the primary health care providers responsible for teaching nutrition therapy and overseeing nutritional care of patients in a clinical or hospital setting (Jelliffe, 1974). In addition, Henning (2009) felt that the health outcome of patients was greatly influenced by nutrition, and since nurses represent the largest number of health care providers available to the public, their role should rightfully then be one of a nutrition educator or counselor.

A study performed by Jefferies, Johnson, and Ravens (2011) described the nurses' role and responsibility involving nutrition care in a hospital setting as: (a) utilizing a nutrition tool to assess the patient's nutritional status; (b) developing a

nutritional care plan; (c) assessing the patient's ability to eat, including repositioning in bed and ensuring the environment is pleasant; (d) helping to maintain oral health; (e) consulting with the dietician or the nutritional care resource nurse, if the patient's condition changes as a result of dietary or nutritional influences; and (f) identifying and managing patients that have experienced prolong periods of fasting. Jefferies et al. (2015) conducted a similar study that revealed comparable results involving nurses' role in oral and nutrition care.

Although not clearly defined, over time, the nurses' role and responsibility of nutrition care within a hospital setting has experienced many changes. Unfortunately, there is little information that addresses the role of nursing's involvement in nutrition counseling and even less information pertaining to PHNs role in nutrition care or counseling. Public health nurses are in an opportune position to provide health education and influence health behaviors toward preventing or managing nutrition-related disorders. However, they must first come to understand their role in nutrition counseling, how to provide nutrition counseling, and identify critical factors that may influence their ability to be effective in this process.

Evolution of Nutrition Care and Counseling from Nursing to Dietetics

Nutrition has been an important component in nursing since Florence Nightingale. Nightingale noted that nutrition was one of the most significant components of health promotion and disease prevention when providing nursing care (DiMaria-Ghalili et al., 2014). According to Dossey, Selanders, Beck, and

Attewell (2005), a key aspect of promoting health and preventing disease (that Nightingale emphasized) was the "proper choosing and giving of diet" to enhance the health of the ill and prevent further deterioration of various debilitating health conditions (p. 154). In 1860, Nightingale opened her first nurse training school in London, where she placed great emphasis on the importance of nutrition and health. The educational standard for nurses at that time involved on-the-job training in a hospital setting because there was minimal classroom instruction offered.

Previously, nurse training schools required 1- year of preparation in the hospital, which included dietary services, wherein experienced nurses or nurse matrons supervised the kitchens and all food service activities. Student nurses learned about the entire cooking process from washing dishes, procuring food, and planning menus to serving food (Jelliffe, 1974). The understanding of nutrition among the nurse matrons involved preparing patient meals that were easily digested but also helped to build strength. The nutrient value of food and its influence on health had not yet been introduced to the cookery schools; thus, the menu consisted of gruel (a liquid type of oatmeal), mutton broth (beef broth), bread soup, arrowhead, eggs, pudding, and drinks (Jelliffe, 1974; Oliver, 2005). It was not until 1885 when *Boston Cooking School Cook Book* published an article that emphasized the importance of providing special therapeutic diets that could be beneficial for certain medical conditions (Lincoln, 1884). The publication of the *Boston Cooking School Cook Book* helped nurses and physicians become increasingly aware of the need for therapeutic dietary

requirements, especially for patients who were experiencing disorders such as obesity, diabetes, gout, and gastrointestinal disorders (Lincoln, 1884).

In the early 1900s, economic challenges required that operational control of nursing education shift from the schools of nursing to the hospital board of directors (Englert et al., 1986). This resulted in drastic changes within nursing education; consequently, hospital staffing became the major priority, while quality nursing educational needs declined (Englert et al., 1986). As a result of these changes, organizations such as the National League for Nursing (NLN) and the American Nurses Association (ANA) were established to maintain quality standards of care both for nursing itself and nursing education (Englert et al., 1986). Due to the shift of power between the hospitals and schools of nursing, the experiential quality of nutrition education suffered as well, and nurses began to divert their efforts toward other nursing competencies. Nursing's decreased involvement in nutrition ultimately resulted in the development of dietetics as its own field of study concerning nutrition and food preparation, further removing dietary responsibilities from nursing. The first American dietician was Sara Tyson Rorer, who founded the Philadelphia Cooking School in 1881 (Rosen, 1993/2015). In 1917, under the leadership of Lenna Cooper and Lulu Graves, the American Dietetic Association was founded to set standards of training dieticians.

However, nutrition was not completely detached from nursing; its influence on the public's overall health and well-being urged state boards of nursing to require testing of nutrition knowledge beginning in the 1950s. Nutrition competencies among nurses included understanding principal food

groups, values of food, diet, and disease, feeding infants, and metabolism and absorption (Hassenplug, 1960). Throughout the 1900s, nutrition courses within the nursing curriculum experienced continual fluctuations, while alterations of nutrition content within the nursing curriculum changed. As opposed to receiving actual experience of cooking as in the past, nursing students were lectured on principles of cookery and provided demonstrations of food preparation, further reducing nurses' involvement in food and nutrition. Certain sections of nutrition content not considered important were removed from the nursing curriculum and replaced with theoretical and medical knowledge (Englert et al., 1986).

Various state boards of nursing decided to reduce required nutrition content, while other boards of nursing refrained from requiring nutrition courses within their curriculum but allowed an integration of nutrition content throughout the curriculum (Englert et al., 1986). In the 1960s, documentation of a specific number of education hours in basic nutrition was no longer required by various state boards of nursing, although nutrition content remained on the nursing licensure examination (DiMaria-Ghalili et al., 2014; Englert et al., 1986). To ensure that nursing students maintained sufficient knowledge of nutrition, the Joint Committee for Nutrition in Nursing Education published, *Understanding and Abilities Needed by Nurses in Relation to Nutrition and Diet Therapy,* which was adapted from a book called *Teaching Nutrition in Nursing* (Rynbergen & Green, 1963). This document described general guidelines for faculty to teach nutrition and provided various examples as to how to incorporate nutrition content

into general nursing curriculum. To help nurses maintain patients' health, this document recommended ideas such as:

> … applying the principles of good nutrition to the maintenance and improvement of the nurse's own health and that recognizing and understanding the nutritional needs of individual patients is an integral part of therapy. While also balancing the use of reliable resources. (Rynbergen & Green, 1963, p. 15)

As nurses' roles in the present-day hospital settings continue to be revised, the role of nutrition in these settings also continue to be revised, witnessed by the resumption of the Joint Committee for Nutrition in Nursing Education.

Pender's Health Promotion Model (HPM) developed by Nora Pender in 1982 and revised in 2006 is a general theoretical framework that has been used to help guide nurses toward influencing health care behavior change among patients. A revision was developed to include diverse populations that contribute to the health of the individual, family, and communities (Pender, Murdaugh, & Parsons, 2006). Considering that health promotion is ubiquitous in the field of nursing, the use of HPM appears to be a relevant theory. The theory is universally used for research and nursing practice that urges patients to achieve optimal levels of well-being (Pender et al., 2006). It focuses on three main concepts that include a person's individual characteristics and experiences, behavior specific knowledge and affect, along with behavioral outcomes (Pender et al., 2006).

The HPM emphasizes counseling patients to engage in activities that encourage behavioral changes. The major tenets of this model include: (a) incorporating the use of health promotional education with activities in order to influence an individual's decision and actions to increase the patient's well-being; (b) a person will most likely accept recommended health-promotional behaviors if his or her perceptions of the benefit of the behavior outweigh the perceived barriers; (c) knowledge and experience help to guide an individual's perception; thus, a person that has sufficient knowledge and perception of their health status are more likely to participate in health-promoting activities and behaviors because they feel empowered. The HPM assumes that health care professionals' involvement in the community can help to influence health behaviors, help individuals to control their own behaviors, which in turn work to improve individual behavior and environment (Pender et al., 2006).

While HPM provides a theory explaining how health care professionals can influence behavioral changes among patients, it does not appear to consider the attitudes or perceptions of health care providers who may deliver counseling and the role this counseling plays in shaping and altering behavioral change. Fang, Cogswell, Keenan, and Merritt (2012) investigated primary health care providers' attitudes and counseling behaviors related to reducing dietary sodium. It indicated that if health care providers considered a patient to be non-compliant with the recommended regimen then public health care professionals would often not provide nutrition counseling to that patient (Fang et al., 2012).

Nurses' Role in Current Dietary Regimen

Nutrition is defined as the process of taking in and utilizing nutrients (American Society for Parenteral and Enteral Nutrition, 2015). Jahns and Kranz (2014) defined it as consuming the right combination of food in appropriate proportions to promote health and to optimize growth and development. There are few research articles that investigate nurses' role in nutrition, however, two articles provide differing views as they relate to nurses' role in nutrition. Henning (2009) expressed that nurses' role in nutrition is to educate patients toward health promotion. While Bjerrum, Tewes, and Pedersen (2011) iterated more specific responsibilities of nurses, including obtaining and assessing patient's dietary history, nutrition risk, need for assistance during meals, and monitoring patients' intake, and output. Bjerrum's et al. (2011) definition appears to be more in alignment with hospital nurses' responsibilities in nutrition care. However, if one follows Henning's (2009) definition of nurses' role in nutrition care, it appears to be more in alignment with the field of public health then merely providing nutrition education or counseling. This definition is more concrete and involves possessing knowledge of current nutritional standards along with the process of how to provide this information. In addition, Henning's definition encompasses an awareness of culture, socioeconomic variables where dietary options play a specific role in the overall health promotion counseling spectrum for PHNs.

As the health care delivery system is changing, Tappenden, Quatrara, Parkhurst, Malone, Fanjiang, and Ziegler (2013) reported that the implementation of a more comprehensive nutrition model is needed. A stronger interdisciplinary

approach involving nurses is critical, especially since they spend more of their time with patients, are able to provide nutrition screening, and can develop keen innovative strategies to promote compliance with patients. Like other researchers before them, Tappenden et al. (2013) reported that nurses continuously provide and oversee patient care within a hospital setting, but are rarely included in nutrition care. They further provide suggestions as to the content of what should be included in revolutionizing the nurses' role in nutrition in a hospital setting: (a) identifying and understanding nutrition risk among patients, (b) providing nutrition care; such as returning low-risk patient back to established feeding orders, initiating calorie count and measuring body weight, (c) receiving food ordering privileges for ordering diets, (d) including nutrition within reporting and huddle, (e) screening and rescreening patients based on nutrition status, (f) developing a nutrition care plan that is monitored and evaluated often, and (g) engaging in a comprehensive, discharge, nutrition education plan that monitors patients' nutritional status from admission to discharge. Validating observations by Tappenden et al. (2013), Ball, Hughes, Leveritt (2010) suggested that nurses' areas of responsibility within the nutritional care spectrum are not clearly defined. So, without a clear delineation of responsibilities within nutrition counseling, both nurses and the public remain clouded around the delivery and receipt of nutritional information.

In the 1990s, the Food Pyramid was developed by the United States Department of Agriculture as a guide towards helping Americans eat a greater variety of healthy foods according to recommended proportion sizes. It has been

revised multiple times until 2010 when the United States Department of Agriculture helped to develop MyPlate as a response to consumers' and health care providers' concerns about the complexity and incomprehensibility of the originally developed Food Pyramid. MyPlate provides a meal-time visual of the five-food groups illustrated on a plate: fruits, vegetables, whole grains, proteins, and dairy in appropriate portions; all designed to help consumers make healthier food choices while illustrating the size and amounts of those foods that are recommended to be eaten on the American plate. To build a healthy MyPlate, half of the plate should include non-starchy vegetables and fruits, one-fourth of the plate with lean protein, and the other quarter with unrefined whole grains. It is suggested that low-fat dairy products are included, which is positioned on the side of the plate (Ball, 2013; USDA, n.d.). Due to the excessive amounts of solid fats, added sugars, and sodium in the American diet, "it is suggested that consumers choose drinks and desserts with little or no added sugars" (Food Insight, 2011, p. 1). For example, it is recommended to eat fruit for dessert, drink low-fat milk with a meal, and use spices and herbs to season food as opposed to adding salt.

Consuming more food than necessary, especially foods that are processed and composed of excessive amounts of salt, sugar, and fat leads to escalating percentages of obesity, diabetes, and cardiovascular disease, in the United States (Moss, 2013; Perlmutter, 2013). Current daily recommendations for fruits, vegetables, dairy, grains, protein, and oils vary depending upon age and gender. They include (a) 1 to 2 cups of fruit per day, (b) 1 to 3 cups of vegetables per day,

(c) 2 to 3 servings of dairy per day, (d) 3 to 8 ounces of grains (preferably whole) per day, (e) 2 to 6 ounces of protein per day and (f) 3 to 7 teaspoons of oils per day (USDA, n.d.). The United States Department of Agriculture expects that Americans incorporate the various categories of food in appropriate amounts and proportions. Depending on their body composition and activity level, people can consume up to 2,000 calories per day. At present, Americans older than 19- years of age consume an average of 2,640 calories per day, with the top two food choices being grain-based desserts and yeast breads (USDHHS & USDA, 2010).

Most Americans are eating less than the equivalent of 1- ounce of whole grains per day while over-consuming refined grains (USDHHS & USDA, 2010). In addition, people are eating more fast-food items and quick instant meals, which consist of a larger percentage of fat, sugar, salt, and carbohydrates while containing little to no whole grains. According to Moss (2013), a Pulitzer Prize-winning reporter from *The New York Times* and Lustig (2013), an American pediatric endocrinologist report that Americans are consuming an estimated 70 pounds of sugar per year, twice the recommended amount of salt, and around 12% of calories that are consumed come from saturated fat. Lustig maintained that the American lifestyle, which includes eating excessive amounts of sugar, is the cause of many nutrition- related diseases such as obesity, hypertension, diabetes, and heart disease. Obesity has more than doubled in the past 35 years, and people weighed 24 pounds more in 2014 than in the 1960s (The State of Obesity, 2015). It is quickly becoming one of the most common and costly diseases in the world today. More than 78.6 million American adults are obese, and 1 out of 3 children,

which equate to approximately 12.5 million people in the United States between the ages of 2 and 19 are obese (Centers for Disease Control and Prevention [CDC], 2014).

According to the American Diabetic Association, in 2012, diabetes has affected 29.1 million Americans, and it is predicted that as many as one out of three American adults will have diabetes by 2050, if current dietary trends continue (ADA, 2015). The leading cause of death in the United States is heart disease, with nearly 600,000 deaths that have occurred in 2010 (Murphy, Xu, & Kochanek, 2013). These nutrition-related diseases are considered to be preventable, which suggests that health care providers need to play a more prominent role in preventing these diseases via more intensive nutrition care and counseling. As technology advances and with greater accessibility of web-based information, health care providers are faced with the population seeking nutritional guidance from unreliable, non-evidenced based health sources or those seeking to promote fad associated diets, products, and services. This results in more people sampling fad diets to lose weight and maintain health, some of which can potentially cause irreversible harmful health effects (Perlmutter, 2013). Some of these diets suggest that people consume foods that are contraindicated with their health or dietary recommendation.

The federal government has implemented nutrition programs, some of which specifically target low- or fixed-income communities to help supplement their dietary needs while intending to decrease the occurrence of nutrition related diseases. Nutrition programs for fixed or low-income Americans such as, the

Supplemental Nutrition Assistance Program (SNAP), have not been successful in preventing obesity or ensuring that those who receive the benefits of the program follow the recommended dietary guidelines (Ver Ploeg & Ralston, 2008). The study performed by Ver Ploeg and Ralston revealed that programs such as SNAP fail to suppress the development of food insecurity behaviors. Food insecurity is described by Ver Ploeg and Ralston (2008) as placing priority on the quantity of food over its quality or health benefits. Fresh fruits and vegetables are notably more expensive than processed foods; thus, consumers who experience behaviors of food insecurity were more inclined to purchase additional processed foods than foods with more nutrient value (Ver Ploeg & Ralston, 2008). Therefore, there is a reduction in the consumption of fresh fruits and vegetables among Americans with low-income due to the higher cost of these foods, reduced quantity for the cost, and decreased shelf-life. In 2008, almost 15% of American households had a significant amount of food that was below the recommended nutritional quality (American Dietetic Association [ADA], 2010; DHHS, n.d.-a). The proposed target set by *Healthy People 2020* is to reduce this number to below 6%. American society's eating patterns reflect these food insecurity behaviors in that a number of Americans are attracted to obtaining the largest amount of the most flavorful and often unhealthy food for the lowest cost instead of investing in quality, nutritious alternatives (Healthy People 2020, 2016; Perlmutter, 2013; Ver Ploeg & Ralston, 2008).

Strategies needed to alter these food behaviors involve multiple approaches. The literature pertaining to enhancing nutritional health encourages

healthcare professionals to understand their role, increase their nutritional competencies, collaborate with other health care and community organizations, develop an understanding of factors that affect dietary choices, and become involved in food policies and regulations (Buxton & Davies, 2013; Yalcin, Cihan, Gundogdu & Ocakci, 2013). A study performed by Dinsdale (2006) identified that a need existed for nurses to initiate nutrition counseling amongst the public. The study reported that food-related chronic diseases cannot be treated in a few days of a hospital visit; thus, nutrition screening, care, and counseling should occur before a patient enters the hospital. In agreement with Dinsdale, Henning (2009) expressed that most hospitalizations may be prevented if nurses were more involved in patients' nutritional care. The author stated, "we need to effectively treat nutrition before illness or hospitalization occurs" (p. 301). Increasing public health nurses' involvement within the community can help implement preventive measures towards influencing the nutritional health of the population. Since nutrition is an important aspect of maintaining optimal health, as well as affecting patient health outcomes during periods of illness and recovery, it should be incorporated with every patient interaction (Bigbee, Otterness & Gehrke, 2010; Henning, 2009; Hughes, 2003).

The healthcare initiative, the Affordable Care Act (ACA), directed more awareness towards preventive healthcare measures through increasing the use of public health designs, especially within nursing. Designs such as, *Community Health Worker Toolkit* that uses public health workers to be a link between the public health workers and the community to promote health among population

groups that have traditionally lacked access to adequate care (CDC, 2015c; Minnesota Department of Health: Office of Rural and Primary Care, 2016). The primary goals of the ACA are to improve the health and the health care experiences of the public, ensure that all people have equal access to health care, and reduce the public's cost of healthcare (The Department of Health and Human Services, n.d.-b; Network for Public Health Law, 2013). These areas can be accomplished by strongly recommending staff to participate in health promotion education sessions and increasing public health certification among public health workers. Currently, Minnesota is the only state that offers a competency-based curriculum that is specifically standardized for public health workers to earn a certificate in public health through its state college system and private higher education institutions, increasing their knowledge, skill, and understanding of public health- related concerns. Furthermore, according to Minnesota Department of Health: Office of Rural and Primary Care, (2016) "In 2007, the Minnesota Legislature approved the direct Medicaid reimbursement of specific community or public health worker services" (p. 14).

Nutritional Educational Requirements of Nursing Students

The basic nutrition content that nursing students are required to comprehend is based on the National Council Licensure Examination for Registered Nurses (NCLEX-RN), which includes diet therapy, nutritional screening, assessment, and monitoring, evaluating the impact of disease process on the patient's nutritional status, nutritional supplementation and dietary restrictions, application of body mass index, maintaining special diets based on

patient's diagnosis and cultural considerations, and enteral and parenteral nutrition (National Council of State Boards of Nursing [NCSBN], 2016). According to the Essentials of Master's Education in Nursing and the Advanced Practice Registered Nurses Consensus Model, nutrition courses are not required at the graduate level. Although nurse practitioners' comprehension of nutrition has proven to be greater than nurses who received less education, nutrition continues to be an area of concern, both within clinical practice and the required core competencies among nurse practitioners (DiMaria-Ghalili et al., 2014).

Although nurses are often perceived by the public as being role models for healthy behaviors, they are often hesitant about providing nutrition counseling based on their own dietary habits and physical appearance (Blake & Harrison, 2013; Hicks et al., 2008). Undergraduate nursing students report that they infrequently receive extensive nutrition education in nursing school, leaving those who graduate and go directly into practice unsure of how to apply nutrition into health promotional activities (Henning, 2009). Undergraduate nursing students reported that strategies for teaching nutrition were lacking in nursing schools because existing nutrition courses reflect decreasing 'hands-on-practice' or a low occurrence of allowing active student participation in nutritional assessment, interventions, and evaluation. Nurses working with patients declared that nutrition is a low priority when compared to other nursing responsibilities, as evidenced by the number of nurses experiencing the same nutrition related disorders as their patients (Bjerrum et al., 2011).

A study performed by Bjerrum et al. (2011) discussed the relationship between nurses' body size and their comfort, perception, and ability to provide effective nutrition counseling. It was reported that patients felt less confident in receiving nutrition counseling from overweight or obese nurses and may be less likely to follow dietary recommendations. Thus, PHNs' appearance and their self-perception are areas to further investigate considering its influence on patients' compliance with dietary recommendations. Bjerrum et al. (2011) also reported that when nurses were questioned about nutrition, they often reflected outdated or incorrect information that did not consider cultural food choices or dietary habits of the population. Both Yalcin et al. (2013) and Buxton and Davies (2013) concluded that the nutritional content in nursing education needed to be expanded to prevent the potential of negligence in managing patients' nutritional complications. They determined that nursing students did not possess sufficient knowledge of the benefits or harmful effects of certain foods and thus were unable to provide alternative healthier options.

Since the profession of nursing is responsible for implementing a framework for nursing students to enhance continued learning, it is suggested by DiMaria-Ghalili et al. (2014) that additional in-service trainings and interactions between students, foods, and patients are needed to help them become more involved with nutrition and nutrition counseling. Buxton and Davies (2013), Raines (2014), and Yalcin et al. (2013) proposed addressing components that nursing students are lacking in nursing curricula, which involves: (a) incorporating health promotion training sessions to enhance nurses comfort in

motivating and engaging the public about nutrition, (b) ensuring that nursing students are well-informed about foods in various cultures, and (c) encouraging collaboration with health care professionals and community organizations towards promoting food behavior changes. To help enhance students' understanding of nutrition, it has been proposed that dietary professionals (who are experts in the field), teach nutrition education to nursing students. A study performed by Stotts, Englert, Crocker, Bennum, and Hoppe (1987) evaluated nutrition education offered in nursing curricula in both undergraduate and graduate levels and concluded that they were both inadequate. Out of the 253 schools that required nutrition courses, there was more emphasis placed on assessment, enteral feeding, and parenteral feedings than on concepts encompassing nutrition counseling. Areas surrounding nurses' attitude, perception, understanding, and skill involving nutrition counseling have been neglected and often overlooked, indicating that there is a need to revitalize the recommended curricular areas for nursing students within the nutritional counseling spectrum.

The Structure of Public Health Nursing

Public health nursing is defined as, "the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences" (Public Health Nursing Definition Document Task Force, 2013, p. 2). A specialty practice within the field of nursing, PHNs center their attention on improving health for entire populations through advocacy, educating the public about multiple health concerns, policy development, and social justice (American Public Health Association: Public Health Nursing Section, 2013).

Their aim is to improve the health of populations, while maintaining a unique understanding of complex public health issues. Responsibilities of a PHN include: (a) assessing the health of communities using data to further plan, implement, and evaluate health standards; (b) coordinating programs and assist with policy development; (c) incorporating cultural competency practices; (d) communicating with community leaders, families, and individuals to determine the level of health awareness and attitude; (e) being involved in research and current health concerns; and (f) promoting leadership and management skills to help enhance the development of the public health team (American Nurses Association, 2013). While PHNs possess a broad, general knowledge of multiple public health concerns, they can also specialize in specific sectors of public health; such as, communicable diseases, bioterrorism, pediatric and adult health, environmental disease, and numerous other divisions.

Public health nursing encompasses a wide range of responsibilities. Two main documents that help to provide structure and guidance to public health nursing are: The American Nurses Association *Public Health Nursing: Scope & Standards of Practice* and the Quad Council of Public Health Nursing Organizations' *Core Competencies* for PHNs (Public Health Nursing Definition Document Task Force, 2013). *The Public Health Nursing Scope & Standards of Practice*, released in 2013, describes professional performance practices for all levels and settings of public health nursing. The Quad Counsel of Public Health Nursing is comprised of four different organizations, which include: The Association of State and Territorial Directors of Nursing, Association of

Community Health Nurse Educators, American Public Health Association, and the American Nurses Association. These organizations helped to establish core competencies for PHNs to address and maintain public health nursing standards.

The core competencies are incorporated within eight domains: (a) analytic and assessment skills, (b) policy development and program planning skills, (c) communication skills, (d) cultural competency skills, (e) community dimensions of practice, (f) public health science skills, (g) financial planning and management skills, and (h) leadership and system thinking skills (Public Health Foundation, 2016; Quad Counsel of Public Health Nursing Organization, 2011). These competencies are not used to limit public health nursing practice but to establish basic standards based on PHNs' level of practice. The competencies are further divided into three tiers that distinguish specific roles and responsibilities based on the PHNs' qualifications and credentials. Tier 1- represents the generalist PHN that provides day-to-day patient care, tier 2 includes the PHNs' management and supervisory responsibilities, and tier 3 involves executive level administration or organization leaders who manage the operation of the organization (Kulbok, Thatcher, Park, & Meszaros, 2012; Quad Counsel of Public Health Nursing Organization, 2011). Although there are a myriad of competencies PHNs must possess, little is known about structured health promotion strategies specific to PHNs' involvement in nutritional counseling.

Possessing sufficient knowledge of nutrition and understanding nutrition counseling strategies are needed to influence food- related behaviors towards promoting health and preventing disease. Therefore, public health nurses'

knowledge, skills, and framework should continue to evolve in order to address current societal health needs (Buxton & Davies, 2013, Yalcin et al., 2013). Studies conducted by Cruz, Cohello, and Bautista (2013), McPherson, Mirkin, Heatherly, and Homer (2012), and Sacerdote et al. (2006) all reported effective results by educating health care professionals to work with communities toward dietary modifications. Although there are a multitude of competencies that PHNs must possess, little is known about their attitudes, perceptions, and behaviors towards nutrition counseling, which may influence health promotion strategies concerning PHNs' involvement in nutrition counseling.

Statement of the Problem

A major role of public health nursing is to work with population groups to reduce health risks and promote health (American Nurses Association, 2013). Despite the fact that billions of dollars are spent on education and food assistance programs on an annual basis, national statistics report that the health of Americans continue to decline as a result of poor nutrition (Rosen, Maddox, & Ray, 2013). Though there are multiple resources about nutritional health (Ball, 2013; CDC, n.d.; Office of Disease Prevention and Health Promotion, 2014; USDHHS & USDA, 2010) and various strategies of how to provide nutrition counseling available to PHNs (Monsen et al. 2014; Raines, 2014; Stotland et al., 2010), they are not consistently engaging patients in discussions about nutrition. Research conducted by Buxton and Davies (2013), Dinsdale (2013) and Yalcin et al. (2013) have determined that nurses in general, are not satisfying the public's desires for nutritional guidance. Public health nurses are in a prime position to

influence and educate people about nutritional health. By treating nutrition proactively, health risk may be lessened and population health may be improved.

Purpose of the Study

A grounded theory methodology can best benefit an inquiry when a theory is not explained, understood, or available. The purpose of this qualitative study using grounded theory methodology is to explicate the critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the PHNs' role in nutrition counseling.

Research Questions

The three primary research questions that will be used in this study are: (a) What are the critical factors that influence PHNs' attitudes, perceptions, and behaviors of their role in nutrition counseling? (b) What process do PHNs use to provide nutrition counseling? (c) How do PHNs' become aware of the process of providing nutrition counseling?

Philosophical Underpinnings

A philosophical underpinning is used as a guide to help researchers connect with various concepts and identify processes as a means to conducting a study. In order to understand the philosophical perspective, it is helpful to identify the paradigm from which the research is being approached. Paradigms are described as patterns of beliefs and practices that help to regulate inquiry within a field of study by providing a viewpoint and process to the research that is

performed (Weaver & Olson, 2006). Two major paradigm approaches exist: positivists and interpretivists. A positivist approach emphasizes the importance of one reality, one truth, control, and generalizability. A positivist paradigm uses the scientific method employing control of variables to describe and predict patterns and make generalizations about the world. Deductive reasoning is used as an underpinning of the positivist approach so as to generate hypotheses that predict the relationships among variables associated with the phenomenon. The data gathered from testing these relationships are then statistically analyzed.

Alternatively, the interpretivist paradigm emphasizes the importance of investigating social, cultural, or historical phenomena in a natural setting to understand meaning through interactions. Research conducted from the interpretivist paradigm generates new knowledge regarding the meaning of a phenomenon in a specific context. This new understanding is interpreted from thick, rich, descriptive data that is often (but not always) generated from social interactions. The interpretivist paradigm is used to "inquire, generate, or inductively develop a theory or new patterns of meaning" (Creswell, 2013, p. 25). As the current study did not warrant control of the environment nor of the participants, the goal involved composing an inquiry of understanding social constructs and meaning to help support the formation of a substantive theory.

Interpretivism is often associated with the works of Max Weber who suggested that human sciences are concerned with understanding or *Verstehen* (Crotty, 1998). This has been interpreted to suggest that Weber recommends that *Verstehen* or understanding is needed to comprehend human and social sciences,

while *Erklaren* or explaining concentrated on causality, is found in the natural sciences. Wilhelm Dilthey suggested that natural reality and social reality are different; thus, investigations should use different methods. Weber's interest in the concepts of explaining and understanding has been influential in his interpretation of social inquiry and human affairs. Weber suggests understanding of causation is derived from "interpretive understanding of social action and involvements and explanation of relevant antecedent phenomena as meaning-complexes" (Crotty, 1998, p. 69). Interpretivism acknowledges that there is a need to study and understand subjective perspectives and meanings derived in human behaviors. As an emerging perspective from contradictions of positivists' views, interpretivism strives to both understand and explain cultural and historical interpretations of humans in how they develop reality in a social world.

Multiple broad assumptions help to guide qualitative research grounded in social constructivism. Social constructivism suggests that knowledge is constructed by people in their natural setting. People engage with objects as they strive to make sense of them and develop meaning (Crotty, 1998). From a social constructivist perspective, the aim of research is directed toward the participants' views, beliefs, and subjective meaning of their experiences in the world, which are formed by their interactions with others along with cultural norms (Creswell, 2013). Using this approach within a qualitative paradigm allows the researcher to use patterns from the data to inductively generate a theory.

However, constructionism seeks to investigate how meaning is interpreted and constructed. It is viewed that all meaning and knowledge is constructed

through human beings and their world within a social context (Crotty, 1998). The world and objects may have potential meaning, but actual meaning does not emerge until consciousness, thought, or a mind engages with them. From a constructivist perspective, meaning is not created, but it is constructed. It must be understood, acknowledged, and articulated that that interpreter's observations and interpretations of a phenomena are influenced by the interpreter's own societal and cultural influences, which ultimately affect the construction of meaning.

The interpretivist paradigm allows health science researchers to study a phenomenon in its natural setting and explore the philosophical underpinnings which best fit the phenomena. Research utilizing this approach uses inductive processes to generate or develop a theory using patterns from the data. The goal of the study was to explore factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling. The chosen paradigm within this study was the interpretive paradigm from a social constructivist perspective, since participants' view of reality and meaning needs to be described by those who experience the phenomena. Obtaining PHNs' perception involves incorporating their interpretation of the phenomena; thus, the positivist paradigm of investigating one reality in a controlled setting is not congruent with the goal of the research study.

Qualitative Research

Qualitative research strives to understand social interactions and behaviors among people and their world, based on environmental influences using descriptive processes (Kerlinger & Lee, 2000; Weaver & Olson, 2006). Moving

away from the positivist approach, which relies on the use of numbers and measurements to deduce and quantify a result, in which the goal is to control and predict outcomes, qualitative research instead begins with assumptions of a research problem that obtains information in its natural environment. Through the use of inductive processes to analyze data towards establishing patterns, themes, or a theory, qualitative research describes and develops meaning and understanding through the exploration of participants' inner experiences and social interactions between others and their environment. This research approach aligns with the interpretive paradigm, which emphasizes understanding of meaning that people attribute to their actions and the perceived reactions from others in their environment (Weaver & Olson, 2006). Principles of qualitative research are based on interpretivist and naturalistic approaches to help to understand a social phenomenon in its natural environment. Qualitative research explains how individuals perceive their world; thus, through analytic inductive reasoning, thick, rich descriptions are used to explicate the development of social experiences and meaning of human life (Castellan, 2010).

The philosophical assumptions (ontology, epistemology, axiology, methodology, and rhetorical) are key factors that are woven into the interpretive framework to further guide the research (Creswell, 2013). In the interpretive paradigm, ontology represents the stance of believing in subjectivity and accepting the idea that multiple realities exist. People develop meaning subjectively; thus, it is important to understand that meaning and perception of reality is contingent on the beliefs and experiences of the participants and the

research. It is used to create meaning or develop a theoretical perspective to help explain patterns of significance within a phenomenon. The meaning of PHNs' attitudes, perceptions, and behaviors to nutritional counseling is not based in one truth. Multiple views about PHNs' attitudes, perceptions, and behaviors involving nutrition counseling were obtained. Within an interpretivist paradigm, the existence of multiple realities is embraced, and the researcher understands that data will be reported from a qualitative, social constructivist point of view.

Epistemology explains how knowledge is gained, and this process can be expressed through the researcher's experiences of "being the instrument" that remains open to accepting and understanding new knowledge. Influenced by both Dewey and Mead's assumption that knowledge is acquired through action and interaction, Corbin and Strauss (2015) believed that knowledge occurs through interactions and materializes from social perspectives within qualitative research. Meaning and truth are acquired through social interactions between the researcher, participants, and their environment; thus, meaning is not discovered or created; according to Crotty (1998), meaning is constructed. As knowledge seekers, researchers are the vessels for understanding and explaining processes of various phenomena throughout society. It is important to mention that as the worldview of society changes, knowledge is modified and continues to require investigation especially from an interpretivist perspective. Understanding social interactions and seeking meaning within a social setting of PHNs involvement in nutrition counseling must be done in a way that allows the participants' perspective to emerge toward the develop of new knowledge.

Axiology is the understanding of values; thus, within the interpretivist paradigm, it is understood that a researcher may appeal to certain viewpoints indicating bias; denoting, that the researcher's beliefs cannot be fully separated from the research process or results, although it can be controlled through various research strategies. Reflexivity suggests that the researcher form concepts and write about findings which incorporate their own biases, values, and experiences, thus communicating his or her own interpretation of results based on culture, socioeconomic status, political views, and experiences. Hence, it is important that researchers make their positions, biases, values, and experiences known. Researchers never know the full extent of their biases or influence on the results and interpretation of the data; thus, disclosure and transparency regarding the researchers' personal beliefs should be acknowledged upfront within qualitative research. Strategies of controlling bias include following the grounded theory method of constant comparison and memoing to express the researcher's thoughts and ideas. In addition, participants' responses can create many emotional reactions from the researcher; thus, documenting such reactions in a reflective journal is a way to assess bias and record these feelings (Corbin & Strauss, 2015).

Rhetorical assumptions help to articulate findings of participants' feelings, expressions, and stories through the researcher's voice and interpretation. Creswell (2013) stated, "all writing is 'positioned' within stances. All researchers shape the writing that emerges, and qualitative researchers need to accept this positioning and be open about it in their writings" (p. 215). Thus, qualitative researchers' writing can neither be removed from nor expressed or received

without referring to this positionality. Furthermore, language used within qualitative research should be expressed through rich, thick descriptions as vital components within the research directed towards fashioning and molding trustworthiness and transparency. The language used in an interpretivist paradigm to express research rigor includes: transferability, credibility, confirmability, and dependability.

Grounded Theory

Grounded theory (GT) is a flexible but rigorous and systematic method of analysis that provides insight into areas that are relatively unknown (Glaser & Strauss, 1967). Within this method, a theory is generated from the collecting, coding, and categorizing of data using constant comparative method of data analysis. It strives to move away from the positivist perspective of deducing hypothesis to utilize inductive reasoning in hopes of producing a theory. Assumptions that supported this shift toward a more qualitative inquiry involved understanding how people come to know and develop knowledge (Glaser & Strauss, 1967). Not only was the aim of GT to separate from a positivist perspective; it also sought to move beyond a narrative and phenomenological description towards developing a theory.

Four approaches to grounded theory exist: Classical Grounded Theory (CGT); Corbin and Strauss; Charmaz; and Clarke. Similarities of the grounded theory approaches include the use of a common or uniform inductive process by which theory is grounded based on the data. The various approaches to the grounded theory process use questions, coding, constant comparison method,

theoretical sampling, reflective writing, memos, and have a developed core category. The differences between each approach lies in the different methodology, coding, data analysis, and rhetorical perspectives. In addition, these differing approaches also bring attention to the concept of reflexivity or an understanding of how the researcher's assumptions (biases, values, and experiences) influence the study. The CGT approach has roots in Glaser's positivist influence from quantitative research. Researchers using this approach are encouraged to begin a study with general wonderment or an empty mind as to not force or influence the data. Prior to the study, a literature review is not encouraged, for fears that this might impose undue influences on the data. While Corbin and Strauss use a more interpretivist approach to grounded theory, through the incorporation of their action/interaction processes, Charmaz moved grounded theory to a more constructivist approach, where both the researcher and the participants co-construct meaning together. Clarke's grounded theory approach reflects a post-modern influence with the use of situational analysis that provides a new approach to analyze situations. From the founders of grounded theory, Barney Glaser and Anselm Strauss expanded their understanding into the development of what is known as CGT in 1967. Classical Grounded Theory has roots in Glaser's positivist influence from the quantitative research he performed while at Columbia University. Strauss' qualitative influences into CGT derived from his doctoral studies at the University of Chicago (Corbin & Strauss, 2015). Both wanted to identify a systematic approach to develop better understanding of a social research-based phenomenon.

In grounded theory, the theory must fit the situation being researched, while developed or iterated categories must not be forced but be natural and applicable to the phenomenon being studied. Both Glaser and Strauss initiated the concept of the "constant comparative method," which define the "fit" or applicability of the categories generated from codes and the "work" within this method which specifies the meaningful relevance of the generated categories to ensure they can explain the behaviors being studied (Glaser & Strauss, 1967). This "zigzag" approach in grounded theory is where the analysis process begins through the comparison and contrasting of any new data to already existing data. The researcher is consumed or buried in the data to strive to understand the context in order to obtain sensible conclusions towards effectively analyzing the data. The researcher is external to the process of data collection and instead is an observer rather than a creator or participant with the use of CGT. Development of a theory can only be done within the CGT spectrum when and if the researcher maintains a stance of objectivity while allowing for the participants' perspectives rather than the researchers perspective to come through (Glaser, 1978). Within CGT, the researcher incorporates bracketing or epoche, which involves setting aside his or her assumptions about the data or the evolution of findings (Creswell, 2013). Thus, within the CGT approach, the researcher becomes a mere observer striving to remove any personal influences on the data so as to allow the theory to emerge.

As grounded theory developed, Strauss' desire to view CGT through the lens of an improved systematic approach. Glaser, however expressed concerns

about Strauss's use of "forced data" as opposed to his interpretation that allowed the theory to emerge. Strauss ultimately separated from Glaser and began collaborations with Juliet Corbin to continue his structured approach to grounded theory. Critics of both Strauss and Corbin (1998) disapproved of how their philosophical arguments and criticism of their approach to grounded theory persisted to follow a positivistic tone of structured analytic techniques shifting grounded theory towards a method of verification (Charmaz, 2014). The Strauss and Corbin method continues to use Corbin's version of grounded theory that includes a more structured analysis process or guidelines to assist with fitting the data. Glaser sees this as forcing whereas Corbin and Strauss see it as "a coding paradigm process" (Corbin & Strauss, 2015, p.157). Although researchers criticize Corbin and Strauss for their strict, methodological way of developing theory, their perspective is that their techniques and procedures are tools to aid in analysis. They emphasize that no researcher should be overly obsessed with following coding procedures to the point where the "fluid and dynamic nature of the qualitative analysis is lost" (Corbin & Strauss, 2015, p. 25).

According to Corbin and Strauss's (2015) ontological perspective, they speak about the nature of reality in that each person develops and gives meaning to events according to their own experiences. Corbin and Strauss's approach describes processes that incorporate context, paradigm, and the conditional/ consequential matrix towards theory development. Through studying sets of conditions or events, action-interaction relationships that people take in response to what is happening, and results or consequences of their actions, this approach

helps to understand the explanations, actions people give for what they say, think, feel, and act in response to an event. Corbin and Strauss (2015) expressed that the researcher can influence participants' responses based on verbal and nonverbal cues. Since researchers do not know the full extent of their bias, they understand that bias and assumptions cannot be completely eliminated. Thus, it is recommended to keep a reflective journal to promote self-awareness; use the constant comparison technique, in which data is analyzed for similarities, differences, and consistency; and detail the researcher's experiences to acknowledge and limit biases (Corbin & Strauss 2015).

Charmaz's constructivist perspective builds upon Glaser and Strauss's CGT by allowing flexibility of the grounded theory method; however, the difference is that she incorporates a more "post-modern" stance whereby the researcher's position and perspective becomes an essential part of the research and theory development (Charmaz, 2014). Charmaz's approach aligns with other social constructivists such as Lev Vygotsky and Yvonna Lincoln where "social contexts, interactions, sharing view points, and interpretive understanding" are all part of the social constructivist perspective (Charmaz, 2014, p. 14). Unlike CGT, the constructivist perspective encourages and accepts the importance of the researchers' subjectivity or bias they bring to the study, and does not employ the use of bracketing or epoche to remove researcher's biases. Thus, Charmaz conveys that social existence cannot be separated from subjectivity, bias, or the researcher's influence in construction of a theory. Within other grounded theory approaches, such as Glaser and Strauss and Corbin, who view bias as a constant

concern in theoretical development, requiring the investigator to bracket in order to limit the perception of bias in data collecting, analysis, and in the results of the findings. Social constructivist grounded theory accepts the researcher's influence on the interpretation of data and the potential for biases; thus, while memoing, constant comparison of the data, and reflective journaling are still performed, they are not used to limit the researcher and development of a theory, but instead are used to make biases and assumptions known.

Clarke's post-modern approach to grounded theory emphasizes language and discourse towards encouraging researchers to inspect distinctions of meaning. This situational analysis grounded theory method strives to provide new approaches to analyze situations. It can be used in a wide array of research projects and can "draw on diverse sources such as feminist theory, post-modernist critiques, epistemological debates, and science and technology but synthesizes, integrates, and transforms them to produce original statements and unique methods" (p. 8). Building on the work of Strauss, situational analysis offers three main approaches that are intended to enhance traditional grounded theory analysis or "framing action over time as a basic social process" (Clarke, 2003, p. 554). Described as a post-modernist, Clarke's approach is described as a continual array of possibilities that directs attention towards complex processes. Thus, she strives to regenerate the traditional grounded theory method through studying social processes and actions using various maps of situation and discourse. Clarke suggested that the assumptions to her approach are more congruent with Charmaz's social constructivist grounded theory in that she strives to form a more

open and revised version of the traditional grounded theory approach emphasizing flexible, emergent, and constructivist elements. Between the extensive flexibility of Charmaz and Glaser, and the messy arrangement of data collection and analysis of grounded theory offered by Clarke, a novice researcher may have cause for confusion between the two approaches. In addition, the lack of analytical guidelines according to Charmaz's approach is overwhelming; thus, the grounded theory approach that this research study will utilize is the Corbin and Strauss (2015) grounded theory.

Pragmatism

Pragmatism is a philosophic underpinning of grounded theory research design which allows for flexibility and practicality. According to Crotty (1998), pragmatism was constructed by Charles Sanders Pierce in his search for the development of a critical philosophy and is described as a "method of reflection" to help form clear ideas through asserting that knowledge should be practical and useful while ensuring that ideas are clear and distinct (p. 73). Pragmatism involves interactions both with the social and natural environments, which serve as determinants and influences in the development of a person's experience and knowledge of the world (Creswell, 2013). Charmaz (2014) expressed that pragmatism allows for free and unrestricted interpretation of reality, seeing truth as relativist and conditional, while placing value in understanding that people have various perspectives based on their interactions with their environment, and accepts these perspectives as adding meaning to the world.

Pragmatism also values differing viewpoints used as the basis for solving problems, all the while requiring revisions of a person's understanding as new knowledge (Munhall, 2012). Through assigning meaning to give various processes and environmental structures, people constantly influence and alter the world they live in. In order to perceive and measure the desires for change within a pragmatic perspective, a disruption in the environment or among its participants needs to occur and then be reflected in the data, so as to spark a researcher's attention. Thus, meaning developed through the application of various theories and beliefs could be driven by change or by skill building in the capacity to solve practical problems. Answering research questions serves as essential steps in the theoretical process that acts as providing useful and rational foundations to pragmatism. Therefore, if responses to posed research questions do not result in a noticeable change in behavior, then the question is not worth researching.

According to Kim and Kollak (2006), identifying the major tenets of pragmatism are challenging, as there are various depictions from early pragmatists such as Mead, Pierce, and Dewey along with current scholars such as Bernstein and Putnam. The tenets of pragmatism can be expressed from numerous perspectives; these may include positions from ethical, scientific, or legal perspectives. Listed below are the tenets of pragmatism that may help to guide this grounded theory research study:

- Every purpose of an action is to produce some sensible result (Pierce, 1897/1997, p. 35).

- Things, ideas, and actions have value only if they serve a purpose or satisfy an impulse/- interest (Pierce, 1992, p. 132).
- Courses of interaction arise out of shared perspective (Blumer, 1969).
- Actions may be preceded, accompanied, and- /or succeeded by reflective interactions (feeling back onto each other). These actions may be an individual's own or those of other actors (Dewey, 1929).
- Meanings are aspects of interaction and are associated within systems of meanings. Meaning is constructed through interactions (Mead, 1934).
- Critical communities of inquiry are needed whose capacity allow them to act as disciplined arbitrators for inquiry and knowledge claims (Bernstein, 1988/1997).
- A major set of conditions for actors' perspectives, and thus, their interaction is their membership in social worlds and sub-worlds. In contemporary societies, these members are often complex, overlapping, contrasting, conflicting, and not always apparent (Strauss, 1993).
- Our beliefs are really rules for action; helping to develop and give meaning to thoughts; we only determine what conduit it is fitted to produce: that conduit is for us, its sole significance (James, 1907/1981, p. 26).

- Actions are embedded in temporal interactions of past, present, and future which generate further meaning, and then applies to further embedded action. Thus, action carries meanings that are located within a system of meaning (Mead, 1934).

Symbolic interactionism and pragmatism are two philosophical underpinnings of grounded theory that provide the foundation and conditions for generating new knowledge. They allow grounded theory to uncover associations within a social setting and offer explanations of a phenomenon.

Symbolic Interactionism

Symbolic interactionism is described by Crotty (1998) as an "approach to understanding and explaining society and the human world" (p. 3). Charmaz (2014) communicated that symbolic interactionism is "a theoretical perspective derived from pragmatism which assumes that people construct themselves, society, and reality through interaction" (p. 344). Blumer (1969), a student of George Herbert Mead who is considered to be a pragmatist philosopher, provides three assumptions for symbolic interactionism that include:

> Humans' reactions towards an object are based in the meaning they attribute to the object.
>
> Meaning is created through the interactions of others.
>
> Meaning is modified as people interact with others in order to make sense of their social world.

According to Blumer (1969), one of the assumptions of interactionism is where the meaning is placed during a process of interpretation and perception, and how that meaning is based on the person's worldview and experiences. Symbols are representative of social entities that stem from the utilization of language or verbal interaction. They serve as a way of communicating and thus, are important factors in the development of understanding and the interpretation of meaning (Chamberlin-Salaun, Mills, & Usher, 2013). Researchers utilize and transform communication in a way to categorize, interpret, and assign meaning within qualitative research. Meaning is developed through the use of communication in combination with the environment and through interactions with others, which then influences perceptions of symbols or phenomenon (Creswell, 2013).

This study sought to explore factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling. Furthermore, the study intended to understand the social constructs generated through meaning according to PHNs' perspectives as to what nutrition counseling represents. Additionally, this study explored how nurses come to know how to provide nutrition counseling and develop a better understanding of factors that motivate and influence their propensity to offer nutrition counseling, and factors which help to contribute to greater understanding of PHNs' attitudes, perceptions, and behaviors in their offering of nutrition counseling. The application of symbolic interactionism within the study involves PHNs creating their own meaning from what they perceive as influential factors affecting their involvement in nutrition counseling.

Relationship of Grounded Theory to This Study

Grounded theory is used to investigate a social problem or situation to which people must adapt (Corbin & Strauss, 2015). According to Corbin and Strauss (2015), the goal is to explicate interactions, behaviors, and experiences of people that result in changes in their social environment. This research intends to move beyond mere description so as to better understand, explain, and subsequently develop a substantive theory based upon critical factors that influence PHNs' attitudes, perceptions, and behaviors concerning nutrition counseling. Understanding attitudes, perceptions, and behaviors of an experience suggests that there are certain social and environmental influences that shape a person's view of the phenomena. Investigating the attitudes, perceptions, and behaviors of a group also suggests that there is more than one explanation of a situation or event. Addressing these issues from a theoretical perspective of symbolic interactionism as derived from pragmatism, which assumes that "people construct themselves, society, and reality through interaction," appears to be the best approach in obtaining an in-depth response to this inquiry (Charmaz, 2014, p. 344).

The Corbin and Strauss approach was chosen to help guide this study due to the procedural outlines to guide data analysis. Strauss and Corbin's (1998) earlier version of grounded theory provided structured, clear guidelines for constructing grounded theory research, in which none previously existed. Their approach to grounded theory has evolved to the current Corbin and Strauss' (2015) version after critics pointed out that the prior version was too rigid and

may have forced the data, rather than allowing the data to emerge on its own. The current version clarifies major concepts and divides theoretical analysis into major elements symbolically connected to relationships and working towards more formal integration of analyses. Thus, while this revised approach of Strauss and Corbin's grounded theory continues to incorporate guidelines to the research process, the breakdown and explanation of various sections allows the novice researcher to develop a more in-depth grasp of the systematic approach to this research methodology.

Corbin and Strauss' grounded theory approach is widely used among novice nurse researchers because it provides a guideline for theory development while assisting the researcher avoid frustrating feelings of possessing a lack of direction (Hussein, Hirst, Salyers, & Osuji, 2014). Strauss and Corbin (1998) introduced the concept of context, which "explains action-interactions within a background of consequences" (p. 153). Context is "expressed in the explanation or reason a person gives for what they say, think, feel, or do in response to the situation" (Strauss & Corbin, 1998, p. 155).

Significance of the Study

The cornerstone of good health is adequate nutrition. According to national statistics, the health of Americans continues to deteriorate due to poor nutrition, despite billions of dollars spent on governmental food assistance and educational programs for food insecure citizens every year. By proactively discussing nutrition at every health care visit, health risks may be lessened and population health may be improved. Public health nurses whose role involves

interacting with larger population groups are on the front lines to reduce health risks and promote health (American Nurses Association, 2013). More recent studies conducted by Buxton and Davies (2013), Dinsdale (2006), Henning (2009), and Yalcin et al. (2013) reported that despite governmental interventions the public's nutritional needs are still not being addressed. Studies have shown that attitudes and perceptions of nutrition counseling greatly influences behavior. In addition, when PHNs have received sufficient health promotion training and are utilized within the community to provide health promotion education, the health of the community increases (CDC, 2015c). Therefore, investigations into PHNs' attitudes, perceptions, and behaviors towards nutrition counseling, which act as influences on client behaviors, can bring some insight into why limited emphasis is placed on nutrition counseling and often not in the cadre of tools used by health care professionals.

Significance of the Study to Nursing

Nutrition counseling is a process that may generate many different responses among PHNs. Although nutrition should be a subject that is addressed among all patients, with considerable importance to those that are experiencing nutrition-related diseases; unfortunately, it is often not discussed at all. Buxton and Davies' (2013) and Yalcin et al.'s (2013) research findings indicate that nurses are ill-prepared to counsel patients about nutrition; thus, this study generated a more comprehensive list of factors and explanations to explain the ill-preparedness of PHNs around nutrition counseling via their attitudes, perceptions, and behaviors as to how and why this occurs.

Public health nurses' involvement in nutrition has endured many changes throughout history; nevertheless, their positions surrounding nutrition counseling have yet to be clearly understood. One of the most significant health concerns affecting a large percentage of adults living in the United States involve the increased percentages of nutrition-related, non-communicable, and chronic diseases such as obesity, diabetes, and heart disease. It is anticipated that the results of this study may serve to advance nursing knowledge and the science of nursing overall to help contribute to decreasing these rising percentages.

Implications for Nursing Education

According to the literature, nursing students' understanding and utilization of nutrition as a health promotion strategy has declined (Buxton & Davies, 2013; Yalcin et al., 2013). The curricular benchmarks for nutrition in nursing courses include: learning about nutrients and how they function in the body, nutritional requirements throughout the human life cycle, and dietary management of chronic disease and deficiencies (Buxton & Davies, 2013). These objectives do not address nutrition counseling, nor do they address factors which may perpetuate their perceptional paradigms. Furthermore, the objectives do not focus attention on strategies needed to provide effective nutrition counseling, leaving nurses entering public health nursing confused concerning the extent, breadth, and depth of their involvement and understanding around nutritional care.

This research study anticipates explaining and better defining the influential factors affecting how nurses, especially those working in the field of public health perceive nutritional counseling. Information concerning factors

which influence PHNs' attitudes, perceptions, and behaviors regarding nutrition counseling will generate new content for nursing curricula and continuing education programs for nurses. Nursing educators and nursing managers within public health facilities could use such information to encourage further staff development by enhancing awareness of nutrition through education programs and certification programs that serve to enhance the role of PHNs involvement in nutrition counseling.

Implications for Nursing Practice

Exploring factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling may contribute to the development of a more concise understanding of why nurses give low priority to nutrition counseling (Bjerrum et al., 2011). It could bring attention to current policies and systematic approaches to public health nursing toward providing a higher quality, more structured delivery of health promotion information to the community. Since nutrition counseling involves both the knowledge of nutrition and communication skills, this study could help PHNs increase their competencies of nutrition, nutritional counseling, communication strategies, and resources to enhance the health of the public as well as prevent diseases.

Implications for Nursing Research

Research is conducted to build on a body of knowledge, develop meaning, and provide a basis for modifying practices (Munhall, 2012). Research surrounding critical factors that influence PHNs' attitudes, perceptions, and

behaviors toward nutrition counseling is limited and indicates that a gap exists in the literature. As a profession that is involved in the health of the population, it is the responsibility of nursing to help PHNs identify influential factors that affect their involvement in nutrition counseling and provide suggestions of how to best use this information among PHNs. National nutritional standards are reevaluated every 5 years; thus, it is recommended that PHNs' understanding and influence of nutrition follow recommended modifications by reevaluating nutrition courses, education, and policies that are associated with public health nursing (Bejerrum et al., 2011). Few qualitative studies have described the nurses' and more specifically the PHNs' attitudes, perceptions, and behaviors in nutrition counseling. This proposed study may stimulate further research surrounding nurses' involvement in nutrition and nutritional counseling.

Implications for Health/- Public Policy

With the long history of PHNs' influence on policy change for the health and well-being of the public, it is expected that nurses today continue that legacy. Public health nurses are in an optimal position to collaborate with community leaders and policy makers to help influence health policies involving food and nutrition. Specific initiatives that may help PHNs foster policy change within their communities is a proposal by *Healthy People 2020.* Within this initiative, it is suggested that individuals increase the proportion of their health visits to include counseling or education related to nutrition and weight and to increase total vegetable intake per person among children and adults, specifically eating and adding in more dark green, orange, red vegetables, beans, and peas to the

American diet (Office of Disease Prevention and Health Promotion [ODPHP], 2014). In 2007, only 12.2% of health care offices provided nutrition counseling to patients, whereas *Healthy People 2020's* goal is to increase this percentage to 15.2% by 2020. From 2005 to 2008, a baseline of 0.76 cups of total vegetables was consumed per 1,000 calories on a daily basis among Americans. Out of those consumed vegetables, only 0.29 were of dark green, orange, and red origins, which also included beans and peas. The initiative recommended increasing this target to 1.16 cups of vegetables per 1,000 calories, with specific emphasis on increasing the intake of dark green, orange, and red vegetables in addition to beans and peas from 0.29 to 0.53.

Federal State and Local Organizations. One national organization that supports the implementation of evidence-based strategies is to improve the nutritional health of communities is the *Partnership to Improve Community Health* (PICH) (CDC, n.d.). This organization encourage changes in poor nutritional habits but also address tobacco use and physical inactivity specifically within the United States. On a local level within the state of Florida, the concept of a healthier community has been adopted by *The Healthy Community Zon*e. This is a health initiative developed by *Broward Regional Health Planning Council* in partnering with *Transforming Our Community Health* (TOUCH). This program strives to empower professionals, local organizations, and community residents to collaborate with the intention of implementing improvements in various focus TOUCH areas that include active living and healthy eating but also address tobacco- free living, healthy environments, and clinical and community

linkage. To help apply the active living and healthy eating objectives, the organization has partnered with the Go, Slow, Whoa "traffic light" food labeling program and the Broward County Public Schools to help students make healthier food choices. The labeling program has a color-coding system that label foods in the green or Go area, representing healthy food choices such as green leafy vegetables; foods in the yellow or Slow areas or those that are higher in fat, added sugar, and salt, and should not be eaten every day and red for Whoa foods that are often highly processed and low in nutrients, high in calories, sugar, and fat. It recommends that red foods should only be eaten in smaller portions and not as often (Schonfeld, 2015). Another application of community collaboration through TOUCH is PATCH (Providing Access to Community Horticulture) established in 2013. This effort brings local produce to communities with low access to fresh fruits and vegetables or "grocery desert" zones. Promoting initiatives such as PICH, TOUCH, and PATCH can help PHNs in various communities within Florida encourage the importance of nutrition.

Another local organization that promotes nutrition by providing fruits and vegetables to low-income communities unable to afford higher produce costs is the Shining Light Garden Foundation. This organization began in 2008 as a backyard project and has expanded to a 10-acre farm which grows fruits and vegetables particularly for homeless and low-income families. The gardening and harvesting of the food are entirely volunteer based, and all of the produce is given away to food related charities who can distribute the produce to needy individuals and families. Collaboration and coordination of resources available in the

community coupled with plans to achieve community wide nutrition goals could be of great benefit to bolstering PHNs in the spectrum of nutrition counseling. By virtue of their work, PHNs could bring attention to the various initiatives, resources, services, and programs in their communities. In addition, encourage individuals to adopt the dietary vegetable regimens of adding more intake of green, red, and orange vegetables with the addition of beans and peas to their daily consumption.

Scope and Limitations of the Study

This study focused attention on PHNs who work in public health facilities and who provide nutrition counseling to patients. Participants chosen for this study will be based on their involvement in providing nutrition counseling, who possess an active nursing license, and work at a public health facility. Participants will be chosen using purposive and snowball sampling and may withdraw from the study or self-eliminate without penalty. The study was limited to the public health status and nutritional standards of the sample population in the United States; Western countries such as England or Canada may have different public health and nutritional standards and thus were not sought.

Researcher's bias is a customary limitation within qualitative research, as a novice researcher, inexperience with research, the grounded theory method, and Corbin and Strauss's approach will also serve as individual limitation to this study. The choice to use the Corbin and Strauss approach of grounded theory also serves as a limitation because while other approaches could have been used, the structural guidelines that help to guide data analysis are more appealing to the

topic being investigated and the aims and goals of this research. The choice to use grounded theory as a methodology is complex, time-consuming, and heavily relies on the researcher's ability to understand, categorize, and analyze the data. As a qualitative study, grounded theory lends itself to researcher bias as well as the potential for participants to exaggerate their involvement in nutrition counseling.

Chapter Summary

This chapter discussed nurses' transitioning involvement in nutrition, evolution of nutritional care and counseling from the field of nursing to dietetics, the nurses' role in current dietary regimen, nutritional educational requirements of nursing students, and the structure of public health nursing. In addition to providing the problem statement, this chapter presented the purpose of the study, research questions, and the philosophical underpinnings of the study. It also expanded upon the attitudes, perceptions, and behaviors as they related to grounded theory, the significance of this study, significance of the study to nursing as it relates to education, practice, health and public policy, and the scope and limitations of the study were also discussed. Chapter Two will follow with the literature review.

CHAPTER TWO
REVIEW OF THE LITERATURE

The purpose of this qualitative study using grounded theory methodology is to explicate the critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the PHNs' role in nutrition counseling. A literature review was conducted to further support the reasons of performing the study. The databases used for this search included: Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE, and Dissertation Abstracts. The key words used to conduct this search were nurses, nutrition, perception and attitude, behaviors, knowledge, nurses, and nutritional knowledge, public health nursing, attitude, nurses' role, nurses and nutritional competencies with nutrition as the major word in the subject heading. All results were limited to the English language as well as by date. Although articles were reviewed from 2000 to ensure a thorough review of the literature within the 21st century, those that ranged from 2006 until 2015 were given the highest priority.

The literature review is often a debatable issue within qualitative grounded theory (GT) as to the best approach and utilization within research studies. One of the primary concerns is that reviewing literature prior to performing a study has potential to increase bias through threatening rigor of the study. This view has historically been a concern for traditional grounded theorists who indisputably encouraged researchers to write the literature review after the completion of the analysis to avoid contamination of the research findings (Glaser & Strauss, 1967;

Hussein et al., 2014). Delaying the review is thought to encourage the researcher to articulate his or her ideas while avoiding the potential to be captivated by others' positions. Evolving grounded theorists such as Charmaz (2014) and Dey (2012) have opposing views from traditional grounded theorists concerning the use of literature review within research studies. Their position reflects the importance of utilizing the literature review to help set the stage for what is done in subsequent chapters and to have a place to engage ideas in areas that the grounded theory study addresses (Charmaz, 2014). Corbin and Strauss encouraged the use of some non-technical and technical literature to be used toward enhancing theory development. Becoming familiar with the literature could enhance sensitivity or block creativity; thus, Corbin and Strauss encouraged the researcher to ask themselves important questions about various concepts to expand their thoughts and understanding (Strauss & Corbin, 1998). The questions include: Are these concepts emergent and relevant? How are they the same or different from what is in the literature? The answers to these questions are intended to help the researcher formulate the structure and content of the literature review and enhance to the quality of the research. Hence, the literature review provides a historic context along with a strategic compilation of articles to support the proposed research. Within this chapter, historical context as it relates to the therapeutic usage of food, discovery of dietary deficiencies, the development of dietary recommendations, providing nutrition counseling, and the history of public health and its influence on nursing will be discussed. Two additional

categories that will be discussed include: nutrition counseling and PHNs' approach toward health promotion behaviors.

Historical Context

Before the discovery of the chemical properties of food, certain foods were once considered alimental and used to help cure and prevent diseases. The remedial use of nutrition and its influence on health can be traced as far back as 1500 BC, where in ancient Egypt it was discovered that various foods contributed to health described by dietary treatments and nutrient enemas of wine, milk, and other components in order to maintain health (Bliss, 1882). In 400 B.C., Greek physician and philosopher, Hippocrates, also known as the "Father of Medicine," recognized that food influenced the physical and mental health of people through his famous quote, "Let thy food be thy medicine and thy medicine be thy food," emphasizing that the diet and nutrition were the best ways to treat and prevent diseases (Hwalla & Koleilat, 2004; Rosen, 1993/-2015). Hippocrates was one of the first to express the importance of eating in moderation; one of his statements was, "people who are fat are more likely to die earlier than those who have a more slender build" (Hwalla & Koleilat, 2004, p. 716).

Plato, another Greek physician and philosopher, expressed how food played an important role in the prevention of disease. His view of a healthy diet was similar to what is considered the Mediterranean diet, which consisted of cereals, legumes, milk, honey, fish, and fruits (Skiadas & Lascaratos, 2001). Claudius Galenus also known as Galan, was the physician to the Roman emperor following the 12th century who believed that a person's health primarily

depended on his or her choice of food and stressed the importance of treating various diseases with milk (Skiadas & Lascaratos, 2001). Andrew Boorde, a 16th century physician wanted to express his passion about the importance of food and health thus he wrote two books, *A compendious regiment or a dietary of health* and *Breuyery of health* (Boorde, 1870/1906). Within the books, Boorde described various ailments such as choleric, consumption, palsy, dropsy, and fever and explained which specific foods, herbs, or roots helped to manage each condition (Boorde, 1870/1906; Hwalla & Koleilat, 2004). There were many more philosophers, scientists, and physicians who shared the same views about food and its association with health.

Therapeutic Usage of Food

Scientists and physicians recorded dietary intake and the various foods they would provide for certain illnesses. The first hospital nutrition record appeared at St. Bartholomew, one of the oldest British hospitals in London, in 1123. The nutritional foundation of food that patients received consisted of bread, beef broth, mutton, cheese, butter, milk, sugar, and water (Todhunter, 1973). The components of food were divided into four different types of diets, and each diet combination was used for different health treatments: the common diet (what would be considered as a regular diet today), the broth diet, the thin or fever diet, and the milk diet. The broth diet excluded meat; the thin or fever diet did not include beer, meat, or butter; however, it contained foods such as milk with tapioca, arrowroot, rice and barley water, and the milk diet consisted of milk porridge, bread, milk with tapioca, arrowroot, rice, and barley water, butter, and

bread pudding (Todhunter, 1973). The use of therapeutic diets continued for many years to help treat various ailments; however, the discovery of vitamin deficiencies would not become known until the 17th century.

Nutrition-related diseases continued to emerge throughout the 18th, 19th, and 20th centuries. In response, therapeutic diets were developed (a) to maintain, restore, and correct a patient's nutritional status; (b) to decrease or increase weight gain; (c) to balance the intake of carbohydrates, protein, and fats related to chronic health conditions; (d) to increase protein, decrease salt, and exclude foods that are allergens (California Department of Social Services [CDSS], 2017). Today, there are over 40 different types of therapeutic diets used within health care, with some of the most common being: clear and full-liquid diets, diabetic or calorie controlled diet, no added salt diet, low fat and low cholesterol diet, high fiber diet, renal, pureed diet, mechanically altered or soft diet, food intolerance or allergy modification diet, low residual diet, and tube feedings (CDSS, 2017; Hospital Corporation of America [HCA] Florida, 2017).

Discovery of Dietary Deficiencies

During the 1600s and 1700s awareness of nutrient-deficient diseases, such as scurvy, rickets, and berry-berry, had increased due to the limited intake of a different variety of food (Payne-Palacio & Canter, 2011). Scurvy is a condition that is a result of vitamin C deficiency characterized by weakness, bleeding gums, and skin lesions. A ship doctor, Dr. James Lind, conducted one of the earliest clinical trials involving scurvy in 1747. Lind took a sample of 12 men; half of the men consumed a diet of bread and beer and discovered that the other half of the

men that incorporated citrus such as oranges and lemons in their diets recovered the quickest from scurvy. Lind concluded that foods such as citrus juices, which are now known to contain vitamin C, should be regularly consumed to prevent vitamin C deficiency diseases such as scurvy.

In 1884, a Japanese sailor, Kanehiro Takaki, made an association between beriberi, a vitamin B_1 deficiency among men that consumed the diet of only Polish rice. Beriberi is a disease that is characterized as experiencing weakening of limbs, cardiac muscles, and ultimately heart failure (Payne-Palacio & Canter, 2011). Takaki discovered that consuming milk and vegetables, which are now known to have vitamin B_1, helped to eradicate the disease. In the 17th century, researchers noticed that people who lived on farms where they were exposed to the sun were less likely to experience a bone deformity condition called rickets, when compared to those who worked in the city, in which they spent most of their time indoors. It was discovered that exposure to the sun and cod liver oil was the recommended treatment of rickets in the 17th century until dairy was fortified with vitamin D. These discoveries were the beginning of many that helped to explained the association between various foods and the essential vitamins and minerals they contain to prevent diseases.

Iron deficiency was often seen among slaves due to the limited dietary choices provided to them, and children of slaves often struggled with chronic iron deficiency anemia. Since iron is part of the red blood cell, in iron deficiency anemia, the tissues are not getting enough oxygen and the person may feel tired and weak. If insufficient amounts of iron are consumed over an extended amount

of time, blood cells become pale colored and the bone marrow expands. Thomas Sydenham, an English physician in the 17th century, discovered that pale, weak people would develop more energy and regain their color when they drank a tonic made of steeping iron fillings in a tea (Blatner, 2010). Close to the 20th century, a variety of biochemists discovered that the mineral iron became a remedy for anemia.

In 1813, Gay Lussac identified a new violet-colored element as iodine. Following, a physician in Switzerland, J.F. Coindet, discovered that the administration of iodine used as a grain in distilled alcohol could decreased the size of his patient's goiter (Leung, Braveman, & Pierce, 2012). Iodine is a mineral that helps in the process of basic metabolism in the human body. A common mineral in fish and seawater, people living close to the coast had access to fish and seawater; however, some who lived inland often appeared to have a large lump in the front of their neck. This large lump was the cause of the thyroid gland overworking to make more thyroxin when iodine, as the key component in the production of thyroxin is deficient. The disfiguring image of the person with goiter was often a cause for alarm, but a more debilitating cause of iodine deficiency was seen in the cognitive impairment and delayed growth of the children born to women with iodine deficiency. In most cases, if the babies were treated early with thyroid hormone and provided iodine in their diets, the cognitive impairment was most often reversed.

Many other deficiencies have been discovered, such as kwashiorkor or marasmus, two different protein deficiencies that causes various clinical

manifestations, such as muscles to shrink, reddish tint to hair and swelling of the liver. Pellagra or nicotinic acid (niacin) deficiency, discovered by Joseph Goldberger in the 1930s, caused chronic dermatitis, diarrhea, and death. Although many foods are fortified with vitamins and minerals today, some deficiencies are still seen in our society, such as iron deficiency anemia, pellagra, and vitamin D deficiencies. Theories of why these deficiencies continue to linger in society today suggest that they are related to a genetic or organic cause, while others think that the population is still not consuming the needed variety of foods that can help to prevent majority of these diseases.

The Development of Dietary Recommendations

The science of food can be explained as the intake of various chemical components that affect the way the human body functions. In 1770, the "Father of Nutrition and Chemistry" Antoine Lavoisier initially developed the concept of using food to make heat in the body (Rosen, 1993/2015). He was the first chemist to realize the connection between the physiology of nutrition in his discovery between various elements of food, such as carbon, nitrogen, and oxygen and their connection to health. Justus von Liebig, a German chemist, based his work on the French physiologist, Francois Magendie, who identified that the consumption of proteins, carbohydrates, and fats were used to repair tissues and to fuel the body (Rosen, 1993/ 2015). Liebig's work was followed by many others, such as Dr. Wilber Olin Atwater who was the initial scientist in the United States to report an association between nutrition and health among Americans (USDHHS & USDA, 2010). Atwater also introduced the first known dietary guideline in 1894 while

serving as director for the United States Department of Agriculture (USDA). As director, Atwater emphasized the importance of eating a variety of foods in appropriate proportions and moderation to maintain optimal health. The relationship between food consumption, nutrient value, and health led to the development of a food guideline that provided recommendations of nutrient intake. Recommendations of 125 grams of protein, 400 grams of carbohydrates, 125 grams of fat, and 3,230 kilocalories per day were suggested for men who participated in physical labor (Atwater, 1896).

Following Atwater's dietary guideline, a USDA food guide developed in 1916 by Caroline Hunt, a nutritionist, focused on foods for children that were divided into various food groups: meat, cereals, milk, vegetables, fruits, fats, and sugars (Davis & Saltos, 1999; USDHHS & USDA, 2010). Food guidelines were modified throughout the years specifically to serve as a guide to people at various economic levels to help direct their food choices towards disease prevention. At this point, the guidelines were recommended only in different regions and for certain groups such as men performing physical labor or children experiencing nutrition- related disorders. The transition to nutrition guidance as a national recommendation occurred in 1941 when President Franklin Roosevelt requested that the National Nutrition Conference for Defense develop the recommended daily allowances (RDA) by the Nutrition Board of the National Academy of Science (USDHHS & USDA, 2010).

During the development of the first recommended daily allowance (RDA), the recommendations consisted of specific caloric intake and nine essential

nutrients that included: protein, iron, calcium, vitamins A and D, thiamin, riboflavin, niacin, and ascorbic acid (vitamin C) (USDHHS & USDA, 2010). These nine essential nutrients were used to combat dietary deficiencies, and they influenced the use of food enrichment and fortifications. To help resolve iodine deficiency, table salt was offered as iodized table salt, while vitamin D was added to milk and the enrichment of inexpensive nutrients such as bread and cornmeal became mandatory in 28 to 30 states in America (American Medical Association Council of Foods, 1939; Todhunter, 1973). Continuing to enhance the enrichment of foods, the American Medical Association Council of Foods helped to approve fortification of vitamins, calcium, and iron in various food products such as margarine and cereal.

Revisions of the food guidelines were drafted in 1946 and again in 1956 when the "basic four" were introduced. The "basic four" proposed that a minimum number of recommended nutrients came from four food groups: milk, meats, fruits and vegetables, and grains. During both revisions, the recommended guidance concerning the intake of calories, sugar, and fat had not been discussed; however, following investigations that Americans were over consuming saturated fats, sweets, salt, and alcohol, the fifth food group (saturated fats, sugar, salt, and alcohol) was introduced to emphasize the importance of regulating the dietary intake of the fifth food group (Davis & Saltos, 1999; USDHHS & USDA, 2010). Nutrition recommendations prior to the 1970s focused on preventing illness; regulating vitamin, mineral, and protein deficiencies while avoiding death from malnutrition and starvation by increasing the intake of food. Through research

and surveillance, after 1970, the major aim of providing nutrition recommendations was diverted toward the prevention of overconsumption of nutrients in hopes to maintain health and prevent the development of chronic diseases. Although research performed on the health of Americans revealed decreases in various deficiencies, there were drastic spikes in nutrition-related diseases such as obesity, diabetes, and heart disease, which has attributed to the overconsumption of saturated fats, sodium, and sugars (USDHHS & USDA, 2010).

Providing Nutrition Counseling

Nutrition counseling is a science and an art that uses both nutrition knowledge and creativity to explain the nutrients of food while interacting within the culture environments and emotional connections people have with food (Snetselaar, 2009). A nutrition counselor is a health care provider who uses a nutrition care process of assessment, diagnoses, and the application of interventions to improve upon the nutritional health of a person or population (Snetselaar, 2009). These counselors incorporate communication, counseling skills, and strategies to help guide patients toward better behavioral health changes. The process of providing nutrition counseling has transformed from health care providers dictating to the patient's specific foods to eat, to the incorporation of the various factors such as "Nutrition science, psychology, physiology, and a negotiated treatment plan" that are established between the health care provider and the patient (Snetselaar, 2009, p. 3).

The nutrition counselor understands how to integrate communication, emotions, economic and environmental influences, and the psychological status of the patient, as it relates to food consumption and physical image. Pioneers in the field of nutrition counseling began with Frances Stern who opened a nutrition clinic in the early 1900s. In the 1940s, clinics began to recognize that psychological factors were influential in promoting dietary changes among the population. Thus, it was recommended that diagnostic studies be performed to determine the appropriate psychological approach of providing nutrition counseling (Chick, Lloyd, & Crombie, 1985; Snetselaar, 2009). In 1973, Margaret Ohlson encouraged an interviewing environment where patients had an opportunity to respond to questions and speak freely. Within this new nutrition-counseling model, there is an interaction between the nutrition counselor and the patient to better understand various factors that influence the patient's dietary habits.

Although nurses are expected to obtain and assess patient's dietary history, nutritional risk, identify patients who need assistance during meals, and monitor intake and output, this is usually the extent of their involvement in nutrition care and counseling (Bjerrum et al., 2011). Jansink, Braspenning, van der Weijen, Elwyn, and Grol (2010) found that nurses reported having a lack of counseling skills and often used strategies of dictating orders to patients about nutritional concerns. Thus, the study recommended that nurses shift from giving simple dietary advice to providing a more interactive, counseling-based approach with their patients. Counseling patients about nutrition with the intent towards

behavior change is often associated with nurses who have advanced training and education in nutrition counseling, such as advanced nurse practitioners and diabetic nursing educators. However, strategies that help to motivate patients to change their dietary behavior require appropriate time and knowledge, which in most cases are often solely limited to nurses, including more skilled nurse practitioners and diabetic nursing educators (Jansink et al., 2010; Pedersen, Tewes, & Bjerrum, 2011).

History of Public Health and Its Influence on Nursing

Florence Nightingale helped to establish the role of the public health nurse (PHN), which encouraged a holistic approach to promote the health of ill people. Nightingale inspired the idea that agents of health (nurses) should go into the communities to care for and teach the sick about health promotion and disease prevention strategies, as described in one of her letter's *Sick-Nursing and Healthy-Nursing* (Dossey et al., 2005). With the help of PHNs, society saw a decrease in unclean sanitary practices in the mid-1900s (Kulbok et al., 2012). What qualities did Nightingale possess that helped to influence people to use new health promotion activities? Dossey et al. (2005) reported that Nightingale possessed a charismatic determination and confidence that influenced her ability to inspire others. Although many people mention Nightingale as one of the founders of public health nursing, she was surrounded by influential figures that made great contributions to the health of the American population. People like Frances Root who founded the Visiting Nurses Association (VNA), established in the 1880s, an organization that provided home care to the ill (Lundy & Janes,

2009). In 1925, Mary Breckinridge introduced the first nurse-midwives to the United States. During the same year, Breckinridge founded the Frontier Nursing Service to increase community health programs towards reducing pregnancy complications, stillbirths, and infant mortality rates in inaccessible rural areas of Kentucky.

The Henry Street Settlement was established by nurses Lillian Wald and Mary Brewster in 1893 to assist those affected by social, economic, political, and health challenges. Wald was the first to assign the title of "Public Health Nurses" to those who provided health care to people within the community (Lundy & Janes, 2009). She was also an active member of the American Red Cross and helped to encourage the promotion of health and reduce the occurrence of diseases such as tuberculosis (TB) and typhoid fever. State and local health departments increased their employment of PHNs, differentiating their role from those who visited the ill in their homes, as in community health or visiting nurses (Lundy & Janes, 2009). While Wald was able to provide care to a large number of Caucasian Americans and immigrants that experienced healthcare challenges, segregation prevented many of the Caucasian nurses from effectively caring for African-Americans who were experiencing similar health care challenges. Embracing her true commitment to care for all people, Wald hired African-American nurses, Elizabeth Tyler in 1906 and then Edith Carter to help serve the needs of their community. However, the first African-American nurse was Jessie Street Scales, who helped to pave the way for African-American PHNs such as Elizabeth Tyler and Edith Carter.

The PHNs' role changed between the late 1800s and the early 1900s when earlier standards of public health nursing emphasized caring for acutely ill patients in a one-way model from nurse to patient. However, with emphasis placed on promoting preventative care, the model was altered to encourage PHNs to educate patients toward health promotion activities. This shift placed great strain on the PHNs to ensure that they choose appropriate interventions that the patient could comprehend and implement, which would provide swift results while leaving lasting health improvements (Kulbok et al., 2012). This shift in PHNs framework extended beyond caring for the sick, it included being an advocate, health educator, community leader, and policy reformer (American Nurses Association, 2013).

In the late 1800s, nurses were either employed as a PHN or hospital nurses. However, the structure of public health nursing was vastly different than what was taught in nursing school at the time. The training that nurses received was in a hospital setting; thus, transitioning them to become PHNs required significant education, skill, and preparation. As a result, in 1912, Adelaide Nutting played an integral part in introducing public health nursing courses in postgraduate education to help nurses make an easier transition into public health nursing. Working with patients in the community, the hospital trained nurses were suddenly exposed to the exploitation and social injustice that occurred among women, children, immigrants, and African-Americans. They witnessed unsanitary and often unsafe health conditions within settlements, slums, and highly populated areas in cities, which inspired these PHNs to advocate for those

living in these deplorable conditions. Consequently, many PHNs developed a passion for politics, immersing themselves in local, state, and national legislature to influence the development and often modification of health policy for marginalized or underserved populations. Public health nurses continued to voice their concerns about public health issues as they promoted the rights of the public through policy reform. Government programs that nurses fought to promote finally began to form such as the Social Security Act in 1935 to improve the health of many impoverished women and children in rural areas as well as provide assistance to children plagued with chronic, debilitating disorders. Another organization was the Crippled Children's Program that helped to train nurses in rehabilitation and orthopedic services to bring assistance to children afflicted with crippling diseases.

The need for health care personnel in schools opened job opportunities for PHNs after World War II. Those who were not involved in school health continued to perform nursing duties in the community, such as dressing changes, TB testing, and administering vaccines. As society changed, so did the direction and training of public health nursing. In the 60s and 70s, teen pregnancy rates had increased along with sexually transmitted diseases, and Medicaid was established to provide health care services to an impoverished population that did not have the financial means towards accessing health care. Social programs began to increase, PHNs' competency requirements continued to increase as well, due to Medicaid reimbursement of home health visits as well as using the Denver Developmental Screening (DDS) test among children. Public health nurses used

this tool (DDS) to identify developmental delays in children to ensure prompt referrals for early interventions services. With the advancement of technology, more screening tools were established such as genetic newborn testing for detection of sickle cell anemia in the 1980s. In the 1980s and 1990s, human immunodeficiency virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) increased concern and fear for the well-being of the public within the United States. population among health care providers, since at the time these were relatively unknown diseases. In conjunction with a nationwide nursing shortage, public health nursing experienced increased health care needs with insufficient staffing; however, they remained vigilant. Public health nurses' numerous contributions to health, advocacy, policy, and social justice continue to benefit the profession of nursing, other healthcare professions and society. Their work has contributed to the low rates of vaccine preventable disease through their advocacy and educational efforts. They have also established public health nurses' associations to provide support and education. Lastly, public health nurses have contributed their knowledge and expertise to the development of the Affordable Care Act, promoting the importance of preventative care.

Nurses can now receive board certification in public health nursing (APHN-BC). Although an examination is no longer provided, the current certification is granted through a valid and reliable portfolio compilation assessment (American Nurse Credentialing Center [ANCC], 2017). After receiving a registered nursing license and graduate education, nurses may complete the portfolio assessment to receive certification as a public health nurse

and will be awarded the credentials, Advanced Public Health Nurse-Board Certified (APHN-BC). The portfolio process involves submitting documented evidence of the registered nurses' knowledge, skills, understanding, and the application of nursing practice and theory. The registered nurse must clearly express their performance in: professional development, professional and ethical nursing practice, teamwork and collaboration, and quality and safety (ANCC, 2017). The ANCC was made aware that nurses with different certifications were using the same credentialing acronym, thus on May 17, 2017, the Commission on Certification (COC) determined that nurses that currently possess an Advanced Public Health Board Certification (APHN-BC) from ANCC will be required to change the credentials to Public Health Nurse-Advanced Board Certified (PHNA-BC).

Nutrition Counseling

McClinchy et al. (2013) used a qualitative grounded theory approach to investigate practitioner and patient experiences of giving and receiving healthy eating advice. The study was conducted in east England in a primary care trust, which is a collection of administrative bodies that coordinate care for the population to ensure there are enough healthcare personnel accessible to the public. Seven focus groups were created, arranged in smaller groups of six to 13 with a total of 57 primary care professionals consisting of; general practitioners, nurses, and managers (28 women and 29 men). Six other focus groups with 30 patients that comprised 20 women and 10 men were also a part of the study in

which the focus groups, patients, and practitioners' data collecting sessions were held separately. The focus groups included:

- Alzheimer's society career's support group (group 1)
- A local multi-ethnic group (including participants) (group 2)
- A primary care trust (PCT) public and patient involvement forum (group3)
- A diabetes UK support group (group 4)
- A National Osteoporosis Society support group (group 5)
- A Breathe Easy support group (group 6)

The practitioners were asked which nutrition topic was most often reviewed within a consultation, while the patients were asked about their experiences in receiving nutritional advice from practitioners. Patients in this focus group discussed their desires to seek nutritional advice and reviewed a wide range of factors that affected how and why they desired nutrition advice from healthcare providers. The themes that emerged from the patient focus group were (a) individual need for advice, (b) availability to nutritional information, and (c) personal success versus powerlessness.

Two overall themes were generated from the practitioner focus group: (a) giving advice and (b) practitioner advice: effectiveness and adherence. The focus group discussions may have expressed overriding concerns detailing around the management of obesity as a complex and difficult problem and how obesity caused frustration for both practitioner and patient alike. Within public health, a nutritional campaign was established to educate the public about all aspects of healthy eating, while paying particular attention to weight management. Weight

management was a major concern for both patients and the practitioners. The focus of weight management could have been an external influence that impacted the participants' and practitioners' responses to the study. The limited qualitative research has been conducted on views and beliefs of patients and practitioners when compared with public nutrition policy, recommending a need for further research using a qualitative exploratory methodology.

Sacerdote et al. (2006) performed a study using a quasi-experimental, nonequivalent control group or pretest-posttest design, two arm-randomized trial for a period of 12 months. Their study investigated the effectiveness of a non-structured 15-minute education session for general practitioners (GPs) and how that education session affected healthy adults' modifications of their diets. Data analysis was subsequently conducted using a multivariate analysis of variance (MANOVA) algorithm to study the changes in the outcome variables beginning from base-line to 1 year. The overall goal of their study was to have practitioners recommend (a) an increase greater than five servings a day of fruits and vegetables, (b) an increase greater than one serving a week of fish, (c) eating fewer than three servings a week of red meat, (d) using olive oil instead of saturated fats, and (e) attaining a BMI between 19 and 25 with normal weight and normal blood pressure (of $\leq$ 140 mmHg/ $\leq$ 90 mmHg) among the intervention group. Patients of 33 different general practitioners (GPs) working in two cities in Italy were randomly selected, with a total of 3,186 participants. At each visit, GPs collected a 40-item food frequency questionnaire (FFQ) and a brief lifestyle

questionnaire. The FFQ investigated a self-reported weekly intake of the main food groups.

Patients who fulfilled the age range and did not have gastrointestinal problems or dietary restrictions were asked to participate in the study. All patients received base-line anthropometric measurements of blood pressure, (according to the World Health Organization's guidelines), weight, and BMI three times during the study: initial visit, 6- months after the initial visit, and the final visit at the 12-month mark. A healthy diet score was created to clarify the overall indicator of efficacy toward an intervention and to reduce multiple comparisons. The intervention group was given a 15-minute personalized nutritional session by the GPs that included a brochure about diet and health. The control group received a less personalized conversation with the GPs without a brochure.

The first step of the study requested that each GP participate in a 4-day course on nutrition conducted by a clinical nutritionist. The same method was used for weight and consumption of fish and healthy oils. Data analysis was conducted using multivariate analysis of variance (MANOVA) to study the changes in the outcome variables beginning from base line to 1 year. The difference in score from baseline to the final visit in the intervention versus the control group was statistically significant at $p < 0.001$. The results indicated that it is possible to improve dietary habits of the population if the healthcare providers delivering the counseling experienced nutrition education.

A brief 15-minute intervention resulted in more people eating a healthy diet after 1- year. In addition, 4- years after the study, patients continued to follow dietary recommendations that closely resembled the study. Considering that a brief initial educational intervention by GPs induced multiple diet changes, it is recommended to consider offering nutritional educational in-services to healthcare personnel. In addition, there was not strong evidence of changes in blood pressure; thus, repeating the study to evaluate similar results would be beneficial.

A study performed by Ball et al. (2013) investigated health professionals' views of self-effectiveness in proving nutrition care in general practice settings. This qualitative grounded theory study aimed to explore the perceptions of health professionals' effectiveness of nutrition care in a general practice setting. Purposive sampling was used to attain participants through association websites, snowball sampling, and email. The sample consisted of a total of 28 participants from various disciplines: general practitioners, practicing nurses, dieticians, naturopaths, and exercise physiologists. An inquiry formed by the literature helped to guide semi-structured telephone interviews that incorporated open-ended questions. Each audio-taped interview lasted between 9 to 26 minutes with an average of 17- minutes and was transcribed verbatim and analyzed using a constant comparison approach. Open and axial coding were used to analyze the codes and themes using a Microsoft Excel spreadsheet. After saturation was reached, post-analysis discussions of the themes were performed between the two authors to "Identify common dissident viewpoints among interviewed

participants" (Ball et al., 2012, p. 37). Results indicated that 93% of the participants provided nutrition care to patients on a regular basis. Key response themes that related to the effectiveness of nutrition care in general practice were: (a) nutrition care provided by GPs is ineffective, (b) nutrition competency was deficient in GPs, (c) service delivery was altered by Medicare reimbursements, (d) the time GP's gave to provide nutrition care was inadequate, and (e) interdisciplinary tensions. This study recommended that further research of the topic is needed with emphasis on identifying broader based strategies among healthcare providers towards the improvement of nutritional care for their patients.

Stotland et al. (2010) examined prenatal care providers and their knowledge, attitudes, and practices regarding prevention of excessive weight gain during pregnancy and secondarily their approach to nutrition and physical activity counseling during pregnancy. Using a grounded theory qualitative approach, a convenience sample of seven focus groups with a total of 52 participants was obtained using snowball effect from various practice settings in San Francisco Bay Area. The sample included participants working in private practices, academic health centers, county hospitals, and a large Health Maintenance Organization (HMO). Participants were comprised of obstetrician/gynecologists (OB/GYNs), nurse practitioners (NPs), and certified nurse midwifes. Open-ended interview questions were used in which each session was audio-taped and lasted 90 minutes. The audiotapes were transcribed by a transcription service. Data analysis involved team members working together to code categorize and to

clarify and develop themes. Peer auditing was used, in which results were reviewed by other prenatal care providers to test the research rigor. Providers noted that weight gain, nutrition, and physical activity were important topics that had great impact on the health of pregnant women and their babies.

Providing health promotion information and discussing behavioral changes to pregnant women appeared at an optimal time since the patients were already motivated by their baby's health and the avoidance of complications of birth. Providers expressed a growing health concern that involved pregnant women experiencing increased rates of obesity and excessive prenatal weight gain. They were also concerned about finding effective interventions to lower the rates of weight-related perinatal complications. Three major themes expressed as barriers to weight gain counseling were identified: provider's knowledge, attitude, and behaviors. Depending on the profession, there were differing views about providers' knowledge of nutrition. Obstetrician/gynecologists (OB/GYNs) reported that they felt their medical school and residency training about weight gain and nutrition was inadequate. Conversely, NPs felt comfortable reflecting on nutrition course information and clinical training to provide nutrition counseling.

The providers' attitudinal expressions were divided into three motivational and perceptual indicators: motivation for participation, perception of effectiveness of counseling, and provider perception around the topic's sensitivity. In every focus group, participants reported caring for many overweight and obese prenatal participants but were most motivated to participate in the focus group to find out what other practitioners were doing to help their patients concerning the problems

of weight gain and nutrition. In addition, they wanted to compare their counseling techniques to those of other practitioners. Participants' practices and behaviors in response to patient weight, nutrition, and physical activity coalesced into seven discrete discussion areas and factors: (a) Initial clinical assessment of weight, (b) nutrition and physical activity, (c) providing a target weight gain range, (d) weighing patients, (e) counseling approaches and techniques, (f) informing patients of health risks related to weight and weight gain, and (g) setting achievable behavioral change goals, which were focused on the outcome for producing a healthy baby.

Discussion of this study indicated that many providers face multiple barriers when striving to meet the American College of Obstetricians and Gynecologists' (ACOG) recommendations of optimal nutritional care to pregnant women. The providers within the study expressed strong views that weight gain, nutrition, and physical activity were important factors in a healthy pregnancy and birth. Participants reported a broad range of behaviors concerning weight gain assessment and nutritional counseling among pregnant women. An assortment of different beliefs and practices among providers regarding body mass index (BMI), providing target weight gain range, and reviewing the weight gain flow chart with patients stems from providers' own doubts about their effectiveness at controlling weight gain through counseling.

Recommendations of this study include using assessment tools similar to those used in smoking and alcohol cessation type counseling because they may prove to be beneficial for nutrition counseling behavioral change and

improvement. However, until such a tool is developed and tested, in the meantime the study suggested that providers continue to follow the recommended guidelines by ACOG around nutritional and weight gain counseling. In addition, the study referenced the Institute of Medicine (IOM) free online clinical implementation guide, which includes a model for nutrition care, assessment tools, and counseling strategies. The study further recommended that providers concerned with the impact of excessive weight gain experienced by their patients help their patients develop improved weight-related behavioral strategies as measured by an initial baseline BMI early in the pregnancy with allowable target weight gain ranges throughout the course of their pregnancy based on the initial BMI. In addition, it is encouraged that patient knowledge, attitude, and behaviors about weight and food during the initial prenatal assessment incorporate the family's cultural influences, past experiences, and willingness and capacities to change their health behaviors. The study's final recommendation was for nutrition counseling to be provided on an ongoing basis throughout the pregnancy so that any weight gain be continually measured, assessed, and recorded among the provider and the patient.

As a means to improve all aspects of nutritional counseling, Ball et al. (2012), Sacerdote, et al. (2006), and Stotland et al. (2010) suggested that health care professionals' nutrition knowledge is deficient. Stotland et al. (2010) specifically recommended that nurses receive in-service trainings concerning better collaboration between families and healthcare professionals and that resources in this area of counseling by nurses, including time available for

counseling, up-to-date educational materials and clinical guidelines, be developed in order to improve upon the deficiencies. The study performed by Sacerdote et al. (2006) indicated that additional and relevant nutrition counseling can influence patients' dietary habits. Although dietary counseling is important, the dietary habits and physical appearance of the healthcare official providing the counseling can greatly influence patients' adherence to dietary recommendations. Thus, if nurses are to provide nutrition counseling, they must ensure that external factors such as their own physical health and appearance do not interfere with patient compliance. Although patient and practitioners alike may both concur around the same goals towards improvement of dietary intake, those giving such advice may have different perspectives than those receiving the counseling. As in the study conducted by McClinchy et al. (2013), primary care practitioners were concerned about patient adherence to dietary plans, while patients' chief concerns were feelings of powerlessness. In addition, this study noted that societal dietary changes greatly influence how people adhere to suggested dietary habits. Ball et al. (2012) provided compelling research that outlines various concerns that general practitioners express concerning their views of providing effective nutritional care. These concerns range from experiencing lack of time, an ineffective Medicare reimbursement system model for providing nutrition counseling, to providing ineffective and superficial nutrition care.

The nutrition of the general population in the United States of America continues to be a growing concern, especially around emotional and psychological fascination with food, as advertised and promoted via television

and social media. The outcomes from these "fascinations" have resulted in increasing percentages of nutrition-related chronic diseases including: obesity, diabetes, and heart disease. It is a broad, complicated process that requires further investigation from various healthcare perspectives. From a health care perspective, nurses are often the initial and sometimes primary health care providers people in various communities are exposed to. However, before nurses can effectively and efficiently provide appropriate nutritional counseling, they must first understand their attitudes, perceptions, and behaviors about this process, which is an objective of this study.

Public Health Nurses' Approach Toward Health Promotional Behaviors

Kaiser, Farris, Stoupa, and Agrawal (2009) conducted a quantitative, quasi-experimental design study to test the effects of home visitation and mutual goal-setting interventions on the intensity of need for public/community health nursing (P/CHN) care and health behavior of vulnerable primary care patients. Data analysis used a one-way analysis of variance or ANOVA to evaluate the variables in behavior changes. The sample consisted of a total of 80 participants ranging in age from 19 to 93 who had unmet health needs. They were asked to participate in the study by one of four primary care offices associated with an Ambulatory Care Community Health Nursing Program. Each area of concern, which included intensity of need for nursing care, health behavior change, and mutual goal setting interventions, had a measuring tool.

Tools used to collect and measure the data included a Community Health Nursing Intensity Rating Scale (CHIRS), Health Promoting Lifestyle Profile II

(HPLPII), and a goal attainment scale (GAS). The CHIRS is used to measure intensity of need for P/CHN care in both home and community settings; this measuring tool provided a way to quantify comprehensive need while considering the patient's perspective. The HPLPII measured health promoting lifestyle behaviors and health management behaviors that consisted of a 52-item Likert questionnaire that was divided into subscales: spiritual growth, health responsibility, physical activity, nutrition, interpersonal support, and stress management. A consistency (alpha) of 0.943 was reported for this measuring tool. The GAS was used to measure outcomes of interventions by applying standardized scores of total attainments for each individual, with reliability reported at 0.66 to 0.81.

All primary care clients were considered for this study unless they were diagnosed with a psychiatric condition or were unavailable during home visitation. Patients were referred under the "Auspices of an academic health sciences center education-service collaborative called Ambulatory Care Community Health Nursing Program (ACCHNP)" (Kaiser et al., 2009, p. 90). This program served patients whose need for care was greater than adequately provided in primary care visits and who do not qualify for home health reimbursements. Nursing students were the main facilitators of the study, as the clinical faculty members functioned as case managers to assist students in assessing, planning, and implementing interventions of the participants. Home visits and individualized mutual goal-setting interventions were conducted for a 10-week period for the intervention group. "The activities included: health status

monitoring, health interviewing, medication review, targeted health teaching and coordination of care including communication with primary care providers" (Kaiser et al., 2009, p. 90). Each participant chose one or more health behaviors they wanted to change. The control group received home visits without the individual mutual goal setting intervention.

The health management behavior measurement had a significantly positive effect between pre- and post-intervention time periods, F (1; 78) = 11.48, $p <$ 0.001. A significantly positive effect of P/CHN home visit interventions noted scores that indicated a decreased intensity of need for nursing care. Three health behavioral measures had significant pretest- and posttest results: (a) health management, (b) overall health promoting lifestyle behavior, and (c) the physical activity sub-scores. All indicated that P/CHN home visitation interventions were effective for health behavior changes, possibly due to the personalized intervention strategies. Thus, the results of the study suggest that collaborating with patients to provide home care, (even for short periods of time) is effective at reducing intensity of the need for care and improving health behaviors for vulnerable populations that seek primary care providers. The 10-week home visitation intervention was found to have significant positive effects on intensity of need for nursing care levels and health behaviors; thus, it was recommended to encourage communication and visitation to patients in the community to help improve health behavior choices.

Zandee, Bossenbroek, Slager, and Gordon (2013) examined the effectiveness of community health workers (CHWs) and nursing student teams in

promoting secondary protection, improving access to care for residents living in three different urban underserved neighborhoods, and measuring CHWs and resident satisfaction of this community and health collaboration. A quantitative quasi-experimental and a non-experimental research design was used. Data were analyzed using descriptive statistics to measure changes in knowledge and access to care, program satisfaction, and changes in community assessment. A convenience sample of residents who participated in the CHW program from 2005 to 2006, CHWs and residents who participated in the CHW program between 2005 to 2007, and a systematic random sample of residents throughout the three neighborhoods was used. The sample of total participants was recruited by going door-to-door within the vicinity of the three neighborhoods. A systematic random sample was instrumental in determining which houses in the neighborhood were eligible for participation; the selection process began with the first house being randomly selected followed by every other house in the neighborhood. Three different qualitative measuring tools were used: a pre/posttest of residents, a satisfaction survey of CHWs and participants, and a community assessment survey of the neighborhoods where the program took place.

Under the category of changes in knowledge, (between 2005 and 2006), a total of 173 residents were willing to participate in both the pre- and posttest. Of the 173 residents, 76 (44%) revealed an increase in awareness regarding the location of clinics within the area by identifying the names of available clinics in the neighborhood and within the city. In addition, a referral form listing health

care resources was provided to all residents to promote access to care. They were encouraged to share this information with others in the neighborhood to help others understand and satisfy their health care needs. From the same sample of 173 residents, 13% did not have a regular medical home, while 12% had not had their blood pressure measured in the last 24 months. Results of the study indicated that by the end of the program 57% found a home clinic, whereas all (100%) of residents who referred participants received a blood pressure screening by the CHW/nursing students who also provided health education at the time.

The collaboration between CHWs/nursing students appeared to be an effective strategy towards promotion of selected objective from *Healthy People 2020* initiatives while at the same time, the collaboration served to increase secondary protection for cardiovascular disease. Residents seemed satisfied with the program as demonstrated by a positive response rate of 4.29 to 4.64 out of 5. CHWs levels of satisfaction with the program were also consistently high ranging from 4.63 to 5.0. Community assessment results indicated that hospital ER visits decreased from 61% in 2002 to 40% by 2009 and in one of the neighborhoods the percentage of residents that had never visited a dentist or dental clinic declined from 11% in 2003 to 0.5% by 2010.

The study results indicated that the CHW/nursing student collaboration had been beneficial to the health of the residents in that community. It impacted program participants by increasing their awareness of community resources and promoting their use of regular resources, especially for those who did not have a medical home. Participants were self-empowered and demonstrated increased

knowledge concerning their own personal health and capacities to find needed medical health care resources within their community. An implication for public health nursing practice resulting from this study involved the importance of communication and listening to the voices of the community members when addressing public health concerns. One study limitation was that the researcher designed the pre/posttest tool, and thus the reliability and validity of the tool may be questionable. Thus, one recommendation from the study would be to repeat the study using tools to test for validity and reliability. It is also recommended that PHNs begin to collaborate with CHW's towards increasing the health of the community.

Monsen, et al. (2014) performed a grounded theory qualitative study to investigate the perceptions of administrators and clinicians regarding public health facilitated inclusion of the Institute for Clinical Systems Improvement (ICS) Adult Obesity guidelines and to further understand how support is translated into practice. Ten health care organizations comprised of five primary care facilities, four local public health departments, and one independently owned physical and occupational therapy clinic voluntarily participated in the inter-professional obesity management collaborative. A public health nurse who facilitated the collaborative project recruited a purposive sample of 39 participants. The participants' backgrounds ranged from licensed practical, registered, and PHNs to nurse practitioners, physicians, physician assistants, registered dieticians, and physical/occupational therapists. Semi-structured

interviews were performed to collect the data over a 6- month period and content analysis was used by members of the research team.

Four themes emerged from the interviews that involved the participants' perceptions of their experience with obesity practice guideline translation: (a) a shift from powerlessness to positive motivation, (b) heightened awareness coupled with improved capacity to respond, (c) personal ownership and use of creativity, and (d) a sense of the importance of increased interprofessional collaboration. The findings suggest that providing patients with resources and skills helps to shift the participants' feelings of powerlessness to feelings of empowerment. Participants further expressed feelings of ownership through helping to develop support for guidelines. Recommendations from this study suggest that local public health agencies and providers (specifically nurses) become more involved in the interprofessional collaborations for the benefit of their patients within the community. The researchers felt that the PHNs' role as facilitators may be instrumental towards the implementation of obesity guidelines in clinical settings due to the knowledge of various resources. Further research is needed to develop a system that links system level public health nursing interventions to the population's health outcomes.

Stark, Chase, and DeYoung (2010) performed a descriptive correlational survey design study to examine the attention demands that might act as barriers toward health promoting behaviors among elders who were 65- years and older living in the community. A sample of 144 elders who were 65- years and older living independently in the community were recruited. They were divided into

three different age groups, 65- to- 74 years old (n = 65), 74- to- 85- years old (n = 54), and 85- years and older (n = 22). The sample consisted of mostly unemployed, Caucasian females who often volunteered and attended senior centers, churches, and community centers. Data collection was obtained through mailed questionnaires between May and July 2008 in a community in Michigan. All interested participants were instructed to complete the consent forms and questionnaires and return them to the researcher via the United States Postal Service.

Data analysis was obtained through descriptive correlational design and a one-way analysis of variance (ANOVA) for the purpose of determining significant differences between the age groups. The instruments used included the Health Promoting Lifestyle Profile II (HPLPII), Attention Demand Survey (ADS), and a demographic questionnaire. The HPLPII is a 52-item tool developed to measure components influencing a healthy lifestyle. It contains features that measure behaviors used to promote health that incorporated six subscales: "Health responsibility (HR), physical activity (PA), nutrition (NURT), spiritual growth (SG), interpersonal relations (IPR), and stress management (SM)" (Stark et al., 2010, p. 179). Reliability of the HPLPII measured by Cronbach's alpha was 0.95, and the subscales reliability ranged between 0.76 and 0.87. The ADS is a 42-item instrument used to measure the elders' attentional demands and it consists of four domains: physical-environment (PE), informational (INF), behavioral (BEH), and affective (AF). The ADS instrument

had a Cronbach's alpha of 0.96 for the sum of all items, while the Cronbach's alpha for the individual scales ranged from 0.84 to 0.91.

The researchers sought to answer two research questions: (a) Is there a relationship between attentional demands and health promotion? (b) Is there a difference between the younger (65- to- 74 years old), middle (75 to 84 years old) and the oldest (85 and older) concerning their attentional demands? The results of the study were organized in response to the research questions. In response to the first research question, Is there a relationship between ADS and HPLPII? The results indicated that there was a negative correlation between the two scales (r = -0.48, p = 0.000). A negative correlation was also found between HPLPII and each of the four ADS scales, suggesting that elders who perceived more attentional demands also experienced fewer health promoting behaviors. The second research question addressed whether there were any differences between the three age groups in their perception of attentional demands. The results indicated that the 75- to- 84- year-old group had the greatest attention demand while the 65- to- 74- year-old group had the least. In addition, the researchers suggested that bringing awareness to attentional demands and introducing interventions to reduce such demand may provide opportunities for elders living in the community to increase their health-promoting behaviors.

The items that the elders found most demanding were both physical and environmental demands. Understanding their needs and demands could help through greater use of PHNs to modify and develop ways to support elder independence and safety. This study provided vital implications for the nursing

field, calling attention to a greater understanding of how attentional demand plays a role in helping nurses to better identify and assist with supportive services, health maintenance, illness, and/or injury prevention needs. Acknowledging the significance of the oldest age participants or those between 75- and- 84- years-old who required the most attentional demand suggests that PHNs or other health care providers should consider educating elders younger than 75- years old about various interventions to reduce the anticipated attentional demands before they increase. This is to ensure that the elders have strategies and tools in place before reaching the age of 75- years old to prevent the demand from becoming too overwhelming.

The results of the four studies concluded that PHNs' involvement in health education or counseling had a significant influence on the health outcomes and behaviors of the population. The studies revealed that PHNs' approaches to health promotional behaviors reflect the importance of communication, collaborating with other health-promoting professional, the necessity to provide appropriate resources, PHNs need to contribute to creative solution building, and have the ability to provide effective health-promotional strategies. As health care providers whose goal is to prevent disease or decrease its prevalence, PHNs are in a unique position to help make significant changes concerning the health of the population.

According to Kaiser et al. (2009), PHNs are able to collaborate with community leaders and other health care professionals to help reduce the need for emergency or urgent care and to improve health behavior for vulnerable

populations. Similar to the results that Zandee et al. (2013) found when teams of community health workers and nurse collaborators were effective in increasing an underserved urban neighborhoods' awareness of community resources, the need for a medical home and increased access to health care. Kaiser et al. (2009) reported on the importance of interacting with community residents towards helping to alter their health behaviors. Conversely, Zandee et al. (2013) expressed the same results after interacting with the community. Their study also conveyed the importance of collaborating with other health care professionals in helping to meet the health care needs within the community.

Monsen et al. (2014) studied health care providers' and administrators' perceptions regarding the translation of the Institute for Clinical Systems Improvement Adult Obesity Guidelines and how they are placed and used them in practice. These guidelines stressed the importance of positive motivation, improved capacity, creative ownership, and interprofessional collaboration and how they may be instrumental to implementing obesity guidelines. Monsen et al. also provided insight into the challenges inexperienced nurses face when providing counseling while expressing that more experienced nurses had a greater capacity to counsel patients. Stark et al. (2010) encouraged PHNs to better understand the concept of attentional demand and to provide proactive strategies towards decreasing the occurrence or preventing this demand. All studies provided the benefit of involving PHNs' interventions within the community, and demonstrated concerns and challenges around such interventions. These studies also stressed how nurses' active involvement in health behavior ideally impacts

the health status of the participants. Only one study provided insight into the challenges of providing counseling surrounding obesity; while no others specifically addressed any factors that influences PHNs' attitudes, perceptions, and behaviors concerning nutrition counseling. All of the studies suggested that additional research should be conducted to help PHNs further understand their and potential influences within the community and the greater health care arena.

Experiential Context

My interest with nutrition began prior to entering nursing school. I knew there was an association between the food we ate and our physical, emotional, and mental health. Moreover, I became fascinated with nutrition and behavioral influences associated with food; thus, I began to read books and magazines and watch documentaries about the relationship between food and its myriad of influences on physical and mental health. Working with patients in a public health facility gave me more of an opportunity to observe the struggles nurses were experiencing toward providing nutrition counseling. Public health nurses, who often themselves practiced unhealthy dietary habits, were instructed to provide dietary counseling to the public, but when they did so, they were met with resistance. They struggled with the same nutrition-related deficiencies and disorders that most of their patients were experiencing. I witnessed nurses trying to explain the recommended dietary choices to families and the nurse experiencing difficulty comprehending dietary recommendations themselves. Many of these nurses did not receive certification as a public health nurse, those

who were certified in public health often worked in an administrative capacity removed from providing direct patient care.

I observed that patients often relied upon the help of nurses to clarify dietary recommendations involving various medical conditions, including but not limited to dyslipidemia, constipation, and diabetes. The nurses did not know how to answer most of the questions presented to them and would try their best to explain basic nutritional concepts via external resources obtained from websites or from what they remembered from nursing school. There was no structured framework as how to present nutrition counseling to patients or how to help influence behavioral changes among and between the various cultures encountered at the facility as well as the socioeconomic status of the patients. I understood that nurses not only lacked nutritional competencies but also lacked competencies in how to provide nutrition counseling. I wanted to investigate if these deficiencies of nutrition were within other public health institutions within the nation, and if they were, I felt that they needed to be addressed. Questions I sought to answer included, "What are factors involving nurse' attitudes, perceptions, and behaviors in nutrition counseling? How do they affect the nurses' ability to understand and explain aspects of nutritional care"? I remember hearing that if someone has a positive and eager attitude, then they will be more willing to inspire others with using more kindness, compassion and empathy as they share this knowledge. I feel that PHNs are able to demonstrate these holistic and positive approaches to maintain the nutritional health and well-being of the patient, community, and environment.

Chapter Summary

This chapter discussed a review of literature regarding the historical accounting of the use of food through the ages, provided information concerning the discovery of dietary deficiencies, formation of dietary recommendations, providing nutrition counseling, and history of public health and its influence on nursing. Furthermore, two additional categories were discussed: nutrition counseling and PHNs' approach toward health promotional behaviors. These studies concluded that nurses lack knowledge about nutrition counseling, which is influenced by their views, attitudes, and perceptions on nutrition. It is coupled with demands from within health care delivery systems and time constraints. It is interesting to note that a preponderance of articles concerning nurses' knowledge of nutrition involved nurses working in a hospital setting. There were few qualitative studies pertaining to nurses' knowledge of nutrition counseling that addressed it from within a public health setting. Although studies were found that provided information about nutrition counseling, no theoretical framework has been developed to date, to explain critical factors that may influence PHNs' attitudes, perceptions, and behaviors towards nutrition counseling. Thus, considering the importance of preventive health, a theory specific to the PHNs' involvement in nutrition may help to reform change in the nursing practice, education, and research. Chapter Three will explain the methods that will be used to guide this study.

CHAPTER THREE
METHODS

The purpose of this qualitative study using grounded theory methodology was to explicate critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling. This study also intended to generate a substantive theory explicating the PHNs' role in nutrition counseling. Chapter Three will explain the research design, sample and setting, participant access and recruitment, and participant inclusion and exclusion criteria for this study. Additionally, ethical considerations around the protection of human subjects, data collection procedures, interview questions, demographic data, data analysis, and research rigor will also be discussed.

Research Design

A qualitative research design using a grounded theory approach was selected for this study. Such a research design is used in the exploration or understanding of complex social and behavioral processes influential to life experiences of persons or populations. Grounded theory methodology is a form of qualitative research which emphasizes the use of a systematic but flexible process by which data is collected and utilized from social interactions, using inductive methods to generate a theory (Charmaz, 2014; Corbin & Strauss, 2015). The intent of grounded theory is to bring attention to human behavior; thus, individuals who have experienced such interactions are pursued as participants.

The grounded theory approach that this research study utilized was Corbin and Strauss' (2015) grounded theory. An earlier version of Strauss and Corbin's (1990, 1998) approach was considered too rigid, causing the data to be forced and therefore not allowing the theory to emerge. The more current version known as Corbin and Strauss (2015) continues to utilize some similar steps in the research process but now supports and recognizes the contributions of other researcher's models. This grounded theory approach can prove to be highly beneficial to a novice researcher as it strives to clarify, explain, and help beginning researchers to better grasp systematic approaches to research methodology. Furthermore, the Corbin and Strauss' (2015) grounded theory method was selected to guide this study as it incorporates a clear and detailed description of how to conduct grounded theory research that utilizes data that is systematically obtained and analyzed using the constant comparative method. This grounded theory approach appears to be the most appropriate in explicating the role of PHNs as well as critical factors that influence attitudes, perceptions, and behaviors toward nutrition counseling, because this process has successfully been used in other types of research studies to provide greater understanding of roles and critical factors that influence various perspectives, attitudes, perceptions, and behaviors of other phenomena.

This study proceeded in two phases: Phase I involved interviewing registered nurses employed by public health facilities who provide health promotional and nutritional counseling to patients. Within this phase, data were collected and coded for the development of themes and a theoretical framework.

Phase II of this research collected data from PHNs who held advanced public health nurse certification credentials, had expertise in the phenomena being studied, and were willing to review the categories that emerged from the data to confirm or refute areas developed from the proposed theoretical framework.

Sample and Setting

Phase I sampling utilized purposive and snowball sampling, while theoretical sampling was used for Phase II. Sampling in a grounded theory (GT) study is purposive in that participants and sites are chosen for their propensity to increase understanding of the research problem and address research questions (Creswell, 2013). Phase I (purposive sampling) began in the data collection phase and participants were selectively chosen based on their background and knowledge of PHNs' involvement in nutrition counseling. Additional participants were identified and obtained using snowball sampling in which participants identified others possessing similar characteristics, that may prove viable in their contributions to the study. As a reference to appropriate sample sizes of qualitative studies, Munhall (2012) stated, "In a broader domain, interviews with about 40 participants are manageable and allow for theoretical saturation" (p. 235). Charmaz (2014) suggested that study sample size depends upon the complexity of the inquiry, the research purpose, and the research questions. The goal of saturation is a key factor when obtaining quality, descriptive information in a GT study that provides boundaries of data collection by indicating when theoretical categories are saturated and no new information inspires insight towards a theoretical configuration. Creswell (2013) suggested in order to

achieve saturation in a GT study using Strauss and Corbin's systematic approach, 20 to 30 participants are typically used. Given that this study was seeking to generate a substantive middle range theory to explore an area with a limited amount of information surrounding the phenomena, a maximum sample size of 45 participants was selected in Phase I of the purposive sample. The setting within Phase I will be via Skype interviews, or alternatively telephone interviews.

Phase II of the study commenced as soon as the theoretical categories were identified. Within this phase, theoretical sampling was used as a guide to help direct and clarify the formation of a theoretical framework. Such guidance was attained by interviewing new participants with significant experience in the area being studied. There is no suggested quantity recommended in a theoretical sample; however, a literature review of other GT studies revealed using a theoretical sample of focus group members between four to seven participants. Thus, a maximum of nine participants was included in the theoretical sample. The focus group participants comprised of registered nurses who possessed a certification in public health nursing; have published, participated on a panel, or presented information surrounding nurses' role and involvement in nutrition counseling at nursing conferences; and/or possessed a graduate degree, were recruited in the theoretical sample. Therefore, the total number of participants in both Phase I (purposive) and Phase II (theoretical) sampling was expected to be 54.

Access and Recruitment of Study

Upon approval from the Barry University Institutional Review Board (IRB), access and recruitment of participants proceeded in two phases. In Phase I, a letter was emailed to the directors, administrators, or nurse managers of public health facilities throughout the United States to obtain permission to access PHNs (Appendix C). Upon receiving permission for access, a flyer was emailed and posted in areas designated by the facility manager (Appendix E). A $25 Visa gift card was offered to all Phase I participants, as a token of appreciation. Public health nurses who were interested in participating in the study contacted the researcher via email or telephone listed on the flyer, and were screened for inclusion. This purposive sampling strategy was supplemented with snowball sampling, where by participants were asked to refer other PHNs who may be interested in volunteering for the study, by providing them with the researcher's contact information. As soon as the referred individuals contacted the researcher, they were screened for inclusion.

In Phase II, public health nurse experts within nutrition counseling were recruited to participate in a focus group interview via four strategies. First, nurse experts were identified by the researcher via their nutrition publication on nutrition/nutrition counseling in peer-reviewed nursing journals. Nurses who met this inclusion criteria were invited by the researcher to participate via an email invitation (Appendix G) using the contact email addresses provided in the published articles. Second, professional organizations such as Sigma Theta Tau – the International Honor Society of Nursing, and the Association of Public Health

Nurses were asked via email (Appendix D) to post a recruitment flyer (Appendix F) on their websites. Third, the researcher conducted a search of the Linkedin.com website, a professional networking site, for nurse experts who met the inclusion criteria. Once identified via this website, nurses were sent an email invitation to participate (Appendix G). Finally, focus group participants were recruited through snowball sampling, as previously described in Phase I. A $25 Visa gift card was offered to all Phase II participants as a token of appreciation.

Inclusion Criteria

Phase I inclusion criteria:

- Public health nurses who possess an active RN license
- Registered nurses working for public health facilities
- Provide nutrition information to clients
- Employed in the United States
- Willing to be audiotaped
- Fluent in English
- Access to a computer, Internet, Skype®, telephone, and/or email

Phase II inclusion criteria:

- Public health nurses who possess certification in public health nursing (APHN-NC or PHNA-BC)
- Public health nurses who have published, participated in an expert panel, or presented on nurses' role or involvement in nutrition counseling at nursing conferences

- Possess a graduate degree (Master's, DNP, PhD, or EdD)
- Willing to review a new theory on public health nurses' attitudes, perceptions, behaviors, and their role in providing nutrition counseling
- Willing to participate in an audio recorded, focus group interview
- Fluent in English
- Access to computer, Internet, Skype®, telephone, and email
- Employed in the United States

Exclusion Criteria

Phase I exclusion criteria include:

- Registered nurses who are not public health nurses with an RN license
- Public health nurses who do not provide nutrition information to clients
- Not employed in the United States
- Not willing to be audiotaped
- Not fluent in English
- Do not have access or are unwilling to participate in the interview process via Skype® or telephone interview

Phase II exclusion criteria include:

- Public health nurses who do not possess certification in public health nursing (APHN-NC or PHNA-BC)
- Public health nurses who have not published, participated on a panel, or presented information pertaining to nurses' role in nutrition

- Do not possess a graduate degree
- Unwilling to review a new theory on public health nurses' attitudes, perceptions, behaviors, and their role in providing nutrition counseling
- Unwilling to participate in an audio recorded focus group interview
- Not fluent in English
- Do not have access to a computer, Internet, Skype®, or email
- Do not live in the United States

Ethical Considerations/ Protection of Human Subjects

It is the researcher's ethical responsibility to protect participants who volunteer to participate in any research study. Approval from Barry University Institutional Review Board was obtained prior to starting the investigation. To ensure confidentiality in Phase I, participants self-selected a pseudonym that was used to identify all data sources (demographic questionnaires, transcripts, and audiotape recordings) other than the electronically signed informed consent forms. This electronic data is being stored on a password-protected computer in the researcher's home office. The electronic signed informed consents are also being stored on a password-protected file in a computer in the researcher's home office. The identity of each participant is only known to the researcher. Transcription of the audiotaped recordings were performed by a third party who signed a third- party confidentiality agreement (Appendix J). Audio-recordings were destroyed after the transcripts were confirmed by the participants in the

follow-up interview. Hard-copy data is being kept in a locked cabinet in the researcher's home office. All data from Phase I will be kept for the required 5 years after the conclusion of the study and then destroyed.

Due to the nature of a focus group interview, confidentiality cannot be guaranteed for the participants in Phase II. Confidentiality will be maintained to the extent required by law. Each focus group participant provided a pseudonym that was used to identify him or her in the focus group transcript, and in reporting the research findings. Transcription of the audiotaped focus group interview was performed by a third-party who signed a third- party confidentiality agreement (Appendix J). The electronic signed informed consents are stored in a password-protected file in a computer in the researcher's home office. The audio-recording of the focus group interview are being kept in a separate password protected electronic file in a computer in the researcher's home office. Hard-copy data are kept in a locked cabinet in the researcher's home office. All data from Phase II will be kept for the required 5 years after the conclusion of the study and then destroyed.

Procedures for Data Collection

Upon IRB approval from Barry University, data collection proceeded in two phases. Phase I of the data collection process involved the researcher interviewing individual participants via telephone at a mutually agreed upon date and time. Participants who met the inclusion criteria and agreed to participate in the study were informed by the researcher: (a) the purpose and procedures involved in the study (a maximum 60 minute interview; maximum 20 minute

follow-up interview that occurred within 1-2 weeks of the initial interview to confirm the accuracy of the transcription; and a maximum of 10 minutes to complete the demographic form prior to beginning the initial interview); (b) the initial and follow-up interviews were audio-recorded; (c) participation was entirely voluntary, and the participants were instructed that they could withdraw at any time without repercussions; (d) they could refuse to answer any questions posed by the researcher, and may request that the recording of the interview be stopped at any time; (e) the gift card is theirs to keep after signing the consent form, regardless of whether or not they withdrew; and (f) there were informed that there were no known risks or benefits to the participant for being in the study.

The interviews were scheduled at a mutually agreeable date and time. Prior to conducting the initial interview, the informed consent (Appendix B) was sent electronically via DocuSign, a secure electronic signature service. Once the signed informed consent was received by the researcher, the $25 Visa gift card was sent electronically to the participant's email address. The initial interview was conducted via telephone and lasted a maximum of 60 minutes. At the beginning of the interview, participants were thanked for volunteering to participate and were verbally reminded that they could withdraw from the study at any point during the course of the study and the gift card was theirs to keep. In addition, each participant was reminded that they may refuse to answer any question(s) and may request that audiotaping be stopped without penalty. Next, the participants were asked to provide a pseudonym, which was used to identify them on the demographic questionnaire (Appendix I).

Each interview began after the demographic questionnaire was completed (maximum 10 minutes). The interviews were recorded using a digital audio-recorder made known to the participant. Open-ended interview questions (Appendix H) were used, as well as, additional probing questions as needed to clarify or expand upon the participant's comments. The interview concluded with the researcher asking if there were any additional pieces of information that the participant wanted to offer; the participants were thanked for volunteering, and reminded that they would receive the transcript via email within 1 to 2 weeks. Subsequently, the researcher contacted the participant via telephone or email to set-up the follow-up interviews to confirm accuracy within the transcriptions. The follow-up interviews lasted a maximum of 20 minutes. The total time commitment for participants in Phase I was a maximum of 90 minutes. A total of 17 participants were used within Phase I of the research study.

Phase II data collection consists of one audio-recorded interview and two interviews via Skype®, with a total of three public health nurse experts in nutrition counseling to review the theory developed from the data collected in Phase I. Participants who met the inclusion criteria and agreed to participate in the focus group were informed by the researcher: (a) the purpose and procedures involved in volunteering to participate in the focus group (a maximum 60 minutes to review the initial theory prior to the focus group interview; and a maximum 90 minute focus group interview with three experts, to provide feedback on the developed theory); (b) participation is entirely voluntary, and they may withdraw at any time without repercussions; (c) the gift card is theirs to keep after signing

the consent form, regardless of whether or not they withdrew; (d) the focus group interview will be recorded; and (e) there are no known risks or benefits to the participant for being in the focus group.

Prior to conducting the focus group interview, the informed consent (Appendix B) was sent electronically to each participant via DocuSign, a secure electronic signature service. Once the signed informed consent was received by the researcher, the $25 Visa card was sent electronically to the focus group participant's email address. Subsequently, a copy of the initial theory was emailed to each focus group participant. The participants had a minimum of 2 weeks to review the theory. A maximum of 60 minutes was allocated for this review. The focus group interview, via Skype® or telephone was scheduled for a mutually agreed upon time for the researcher and all focus group participants.

At the beginning of the scheduled focus group interview, the researcher welcomed and thanked the participants for volunteering to be in the study. The researcher reviewed the purpose of the study and the focus group interview process, and remind the participants that the interview was being recorded, and that they could withdraw at any time. The interview included initial and follow-up questions, confirm, challenge, or elaborate on the initial theory. After the interview was completed, the researcher thanked the focus group participants and offered a copy of the finalized theory to be sent via email if desired. The total time commitment of the focus group participants was a maximum of 150 minutes.

Interview Questions

Grounded theory involves social processes and actions that ask participants to elaborate upon an environmental experience or happening and how they reacted to that experience within their environment where certain phenomena has occurred (Sbaraini, Carter, Evans, & Blinkhorn, 2011). The researcher began Phase I of the interview with a broad, open-ended questions followed by probing questions which serve to clarify or encourage the participant to expand upon self perceptions or experiences in order that the researcher obtained more in-depth meaning from these experiences. A typical first open-ended question within a grounded theory study that was directed at a participant in a purposive sample was, "Tell me about your experience with providing nutrition counseling as a nursing professional." A list of guiding interview questions for the Phase I (purposive sample) participants and Phase II (focus group) participants can be found in Appendix H.

Demographic Data

A demographic questionnaire (Appendix I) was created by the researcher and used for the Phase I (purposive sample) only. Due to the researcher's primary intention of selecting specific Phase II focus group participants after review of the literature, the demographic information was already known and did not need to be obtained within this sample. Demographic data were collected from the purposive sample participants, and it was used to describe the characteristics of the participants as it related to their role and critical factors that influenced PHNs' involvement in nutrition counseling. The demographic data that was collected

included: age, gender, race and ethnicity, and level of nursing certification or licensure, years of nursing experience, number of years working in public health, number of years of providing nutrition counseling, educational level, and the specific area employed within the public health facility.

It is interesting to note that there were diverse ranges within each demographic category with the exception of gender. Considering the increased presence of men entering the profession of nursing, the researcher projected more males represented within the research study. However, there was no male representation within the research study; all of the participants self-reported as female. The demographic questionnaire contained eight questions. The length of time to obtain demographic information was included in the process of reviewing the inclusion, procedure, confidentiality information, member check information, designation of a pseudonym, which took an average of 10 minutes. The 10 minutes were not included in the Phase I, 60-minute interview time.

Data Analysis

The data analysis process as described by Corbin and Strauss was used in this study. All grounded theory approaches utilized the constant comparative process, data coding and categorization, and theoretical sampling, while simultaneously incorporating memo writing and reflective journaling into the data collection process (Creswell, 2013). Field notes were used with each interview to describe the details of the interview and settings as well as for the identification of verbal cues and body language of the participants (Corbin & Strauss, 2015).

After each semi-structured interview, the researcher used a transcriptionist to transcribe digital recordings. The transcriptionist signed a third- party confidentiality agreement (Appendix J). The researcher used Microsoft Excel and NVivo to organize and help to analyze the open coding process. NVivo is a software program that is used to help organize, analyze, and structure qualitative data including interviews or articles (QRS International, n.d.).

Corbin and Strauss' design offers an opportunity to develop an understanding of these critical factors and allows this population to express their views concerning nutrition counseling. Corbin and Strauss' approach incorporates three stages of coding: open, axial, and selective coding.

- Open coding separates data into major categories.
- Axial coding explores the relationships between categories to further explain the data.
- Selective coding involves the development of a hypothesis from the model.

(Corbin & Strauss, 2015)

An adapted model of Strauss and Corbin's (1998) methodological grounded theory approach for this study is illustrated in Figure 1 below. It presents an interactive process that uses constant comparison, memoing, reflective journaling, and member checking throughout the study. Three coding processes, open, axial, and selective, illustrate the development of a theoretical framework. Interviewing participants, transcribing, coding, categorizing, and analyzing data will also be used to help form a theory.

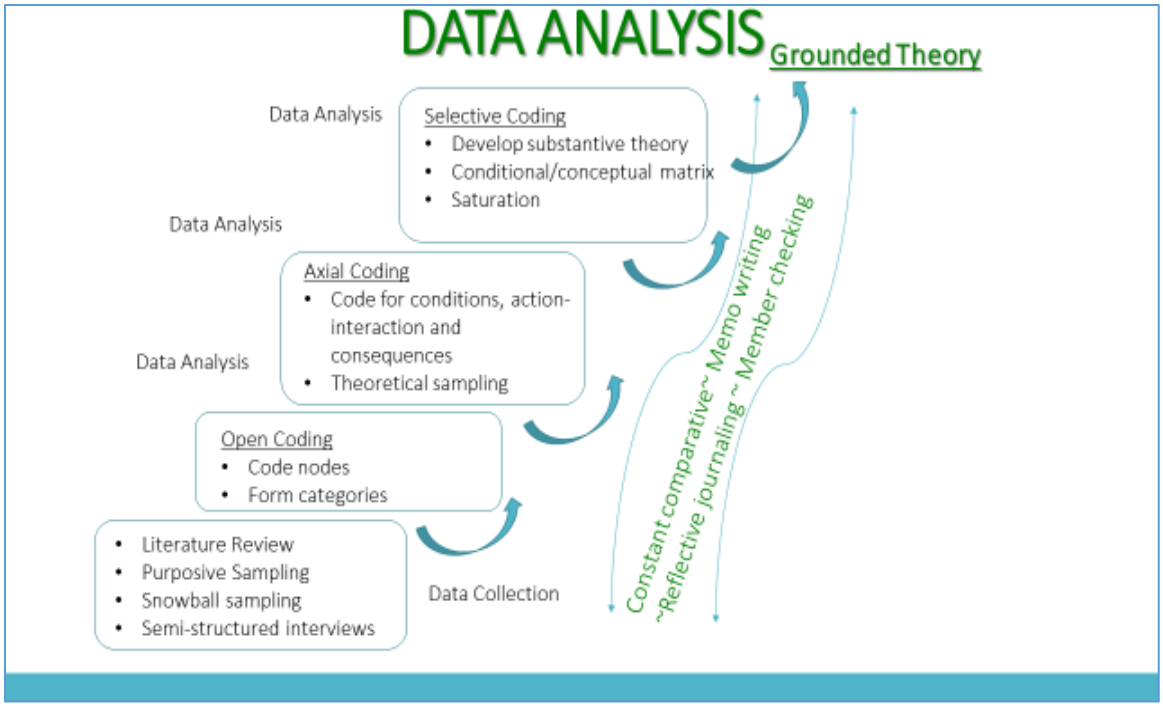

Figure 1. Grounded theory method (Wynn, 2016, adapted from Corbin & Strauss, 2015).

Below is an example of open, axial, and selective coding process used within this study.

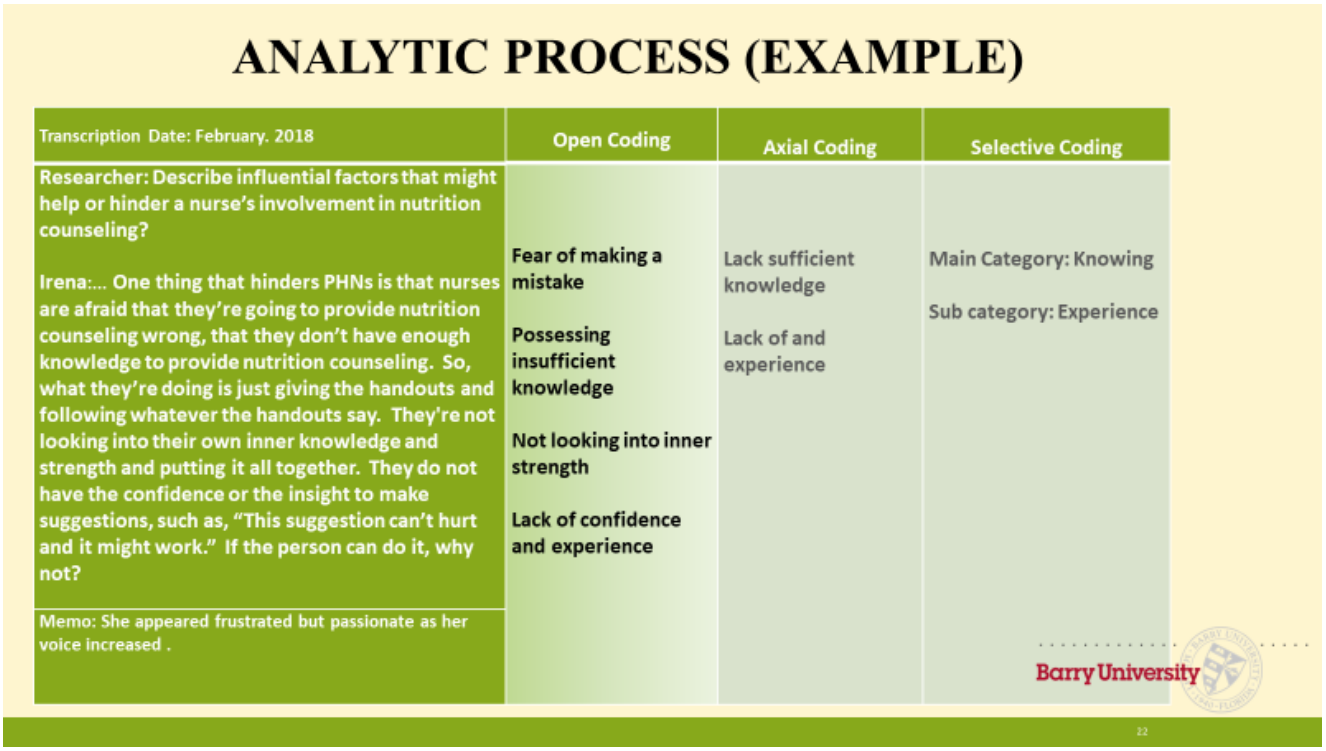

Figure 2. Example of the analytic process of open, axial, and selective coding.

Open Coding

Open coding is performed to identify initial concepts from the data. According to Strauss and Corbin (1998) during open coding, data is separated into segments, carefully inspected for similarities and differences. Open coding is a process that begins the identification of concepts in the data. Concepts described by words, phrases, and themes may be used to help to identify codes. During this phase of coding, line-by-line analysis of the data was used to find as many initial concepts as possible. After the first interview, the constant comparison of subsequent interviews was used to identify codes and categories. All codes developed from the open coding process were incorporated into various categories according to their mutual properties. Emerging concepts were identified according to the characteristic and variation of the codes and categories. A

myriad of codes were identified and placed into various categories. From the large amount of codes developed during the open coding phase, axial coding formed similar concepts and was assembled together to configure major categories and sub-categories.

Axial Coding

The axial phase strives to make connections between the categories by taking the data apart and then examining it through different lenses in terms of context, content, conditions, action/interaction, and consequences. This is a labor-intensive process as data is sorted, synthesized, reorganized, and then reassembled towards the development of specific categories. These categories are then compared and contrasted to one another until they form much broader categories so as to create a more concise summary of the phenomena.

During the axial coding phase, analytic tools such as the paradigm and conditional or consequential matrix was utilized to help link concepts in the development of a theoretical framework. An explanation of context needs to be explained before describing the use of paradigm and conditional/consequential matrix. Context is a broad term that can be summed up as an explanation people give for what they do, say, feel, or think in response to an event or condition (Corbin & Strauss, 2015). When researchers code for context, they are performing axial coding "Linking action-interaction within a framework of sub-concepts that give it meaning and explain what interactions are occurring, why and what consequences real or anticipated are happening because of action-interaction" (Corbin & Strauss, 2015, p. 156). The paradigm consists of

conditions, action-interactions, and consequences or outcomes. It is an analytic tool that begins to weave, sort, and arrange concepts by questioning and analyzing possible linkages. Within this tool, conditions are described as the explanations people give as to why they responded in a specific manner. Action-interactions are the actual reactionary outcomes that people report responding to concerning an event or a situation. Finally, consequences of actions are anticipated or actual responses of actions indicating how people react to what has occurred.
The conditional or consequential matrix helps to fill in the gaps and enrich the analysis of the paradigm. It helps to understand conditions that may complicate the relationship between conditions, action-interaction, and consequences.

Within this phase, the developed theory became more refined. When focus was placed on the development of categories and sub-categories, the context and the conditions surrounding critical factors influencing PHNs' attitudes, perceptions, and behaviors toward nutrition counseling, helped the researcher comprehend the phenomena from differing perspectives, which, further added to the construction of the categories toward a theoretical framework. Theory development centers on the development of one core category, which represents the main theme (Glaser, 1978).

Selective Coding

Selective coding is the final phase of Corbin and Strauss' approach grounded theory analysis process in which the categories were integrated and refined into a selected core category to be considered on a more abstract level. The categories were analyzed for links and a conceptualization of the basic social

processes. To integrate theory, various techniques were utilized. One of the techniques involved the use of field notes, which helped to describe details surrounding the interview; such as, the setting, verbal cues, and body language of the participants throughout the entirety of the data collection phase. Another technique that was used involved reflecting upon and setting aside personal views and influences in a reflective journal. This process allowed the researcher to permit the voices of the study participants to help shape the underlying categories toward the formation of a core category. Bracketing was another important aspect of Corbin and Strauss's grounded theory, which was used to limit bias by the researcher, by focusing on the voices of the participants to help guide the formation of the categories. The last technique used in grounded theory involved the use of memo writing, which was used to reflect the researcher's thoughts, impressions, or questions about what the data intended to reveal. Memos were used beginning with the first interview and throughout the entirety of the data collection and analysis process.

Another important aspect within grounded theory methodology was the development of theoretical saturation. In a research study, saturation of data occurs when no new properties, concepts, or relationships emerge, and the researchers determines that there is enough data to replicate the study (Corbin & Strauss, 2015). Within the study, theoretical saturation was achieved at 15 interviews. No new data appeared, indicating that all concepts of the theory were well developed (Corbin & Strauss, 2015). Thus, to ensure theoretical saturation, two additional interviews were performed. In addition, theoretical sampling was

used as confirmation of the conceptual theory so as to ground the research study in the formation of PHNs' attitudes, perceptions, and behaviors toward nutrition counseling.

Furthermore, Corbin and Strauss's data collection and analysis approach described a coding or the conditional/consequential matrix in which information was put together in new ways by linking categories together to help explain actions and reactions to certain situations. According to Corbin and Strauss (2015) within a paradigm, conditions, actions-interactions, and consequences occur, in which conditions are referred to as reasons a person gives in response to why a situation has occurred and the explanation they provide for why they responded in a certain manner. Actions-interactions refer to a person's actual response to an event or situation. Action-interaction further helped to explain the meaning a person gives to a condition, problem, or an event (Corbin & Strauss, 2015). Consequences referred to the anticipated outcome of an action or interaction that the PHNs expected to happen. To further understand critical factors that influenced the attitudes, perceptions, and behaviors of PHNs' involvement in nutrition counseling and their role within the process, basic social processes needed to be explored through the utilization of the conditional/consequential matrix during the analysis process.

Although the paradigm was a helpful tool that assisted in the organization and linking of concepts, the conditional/consequential matrix was a more accurate and complex tool that assisted the researcher in filling the gaps in the analysis. While the paradigm broadly described conditions and outcomes, the matrix

looked deeper into experiential phenomena by describing broader ranges of conditions and possible outcomes. Corbin and Strauss (2015) discussed micro and macro conditions or conditions related to the individual verses those social or political conditions such as rules, regulations or policy. When applied to the analysis of data within the researcher's purview, both micro and macro perspectives to the formulated matrix served to further expand upon understanding of critical factors that influenced PHNs' attitudes, perceptions, and behaviors toward nutrition counseling.

Research Rigor

Critical attention was given to the quality of qualitative research due to the critics, mainly positioned in positivistic world-view that qualitative research was untrustworthy. Criteria for evaluating the quality, integrity, competence, and adequacy of a qualitative study often reflected rigor or its trustworthiness, which included areas of credibility, dependability, confirmability, and transferability (Guba & Lincoln, 1989).

Credibility

Within qualitative grounded theory methodology, credibility was demonstrated when a true representation of the phenomena was presented. It could be achieved through lengthy involvement with the participants to establish rapport and trust (Guba & Lincoln, 1989). In addition to the incorporation of triangulation, which involved the use of multiple methods from which to collect and interpret data, interviews continued to be conducted until theoretical saturation was achieved. Furthermore, the researcher discouraged hastening or

early termination of the interview process by spending time with the participants during the interview sessions to establish rapport and gain their trust. Moreover, member checks were implemented to ensure that the initial transcript represented the participant's views and ideas.

Dependability

Dependability represented consistency within the data and the overall stability of the research process, which is equivalent to reliability in quantitative data (Guba & Lincoln, 1989; Polit & Beck, 2012). Studies that possessed dependability were able to be repeated using similar participants, context, and conditions and with outcomes that yielded similar findings. According to Polit and Beck (2012), the association between credibility and dependability are connected in a way that one cannot be attained without the other. The researcher achieved dependability within the course of this study by keeping clear explanations of memos and reflective journal writings to provide an audit trail of theory development and obtained expert consultation with the dissertation committee members to ensure the accuracy of the data.

Confirmability

Confirmability means that the "Data, interpretations and outcomes are rooted in contexts" and that researcher's bias does not influence the research results (Guba & Lincoln, 1989, p. 243). However, researcher bias has always been acknowledged in qualitative research, and the impact on the findings was either minimized by bracketing or incorporated into the interpretive results,

analytic memo writings, and reflective journaling. Confirmability was also reached through intentionally following-up on "outliers" that did not fit into the basic social process or any underlying conceptual categories. This was achieved through using the grounded theory method that encouraged constant comparison of the emerging data. Triangulation, memo writing, and the use of an audit trail were processes that also contributed to confirmability (Lincoln & Guba, 1985; Miles & Huberman, 1994). Triangulation involved the use of multiple data sources. Throughout the study, multiple data sources were used, beginning with the incorporation of two phases of participants: Phase I or an individual participant group or and Phase II or a focus group of participants. In addition, the use of reflexivity in the form of memo writing that made biases and assumptions known and the use of an audit trail or explanation of steps taken throughout the research process contributed to the triangulation of data.

Transferability

According to positivist methodology, transferability mirrors efforts of generalizing the data (Guba & Lincoln, 1989). Transferability is described as the ability to apply the findings to different contexts. It is most often achieved according to the reader's interpretation through identifying the ability to yield similar findings within a study, if thick, rich descriptions of data was obtained and purposive sampling was used (Guba & Lincoln, 1989). However, if the data produces different results, modifications of the theory need to be made (Charmaz, 2014). Within the study, a purposive sample was used while the researcher asked follow-up questions to yield rich, thick descriptions to help develop the categories

and sub-categories to the emergence of a substantive theory. The research demonstrated theoretical transferability by linking a basic social process, of *Impacting the Health of the Public*, with related conceptual categories to an existing theory. According to Guba and Lincoln, in order to possess transferability, "The researcher must provide a complete data base" (p. 242). Thus, detailed demographics of the participants were obtained along with clear and insightful memo and reflective journal writings.

Chapter Summary

This chapter discussed the research design, sampling and setting, access and recruitment, and inclusion and exclusion criteria of the study. In addition, it discussed the ethical considerations/protection of human subjects, procedures for data collection, interview questions, and demographic data. Data analysis and research rigor comprised of credibility, dependability, conformability, and transferability were also discussed with regards to the use of Corbin and Strauss' grounded theory approach. Chapter Four will explain the findings of the inquiry.

CHAPTER FOUR

FINDINGS OF THE INQUIRY

The purpose of this qualitative grounded theory methodology was to explain the critical factors that influenced public health nurses' (PHNs') attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the PHNs' role in nutrition counseling. Public health nurses are some of the most readily accessible and trusted healthcare providers, yet they are not consistent in their engagement of patients as it relates to nutrition and nutritional concerns (Henning, 2009). Despite the fact that billions of dollars are invested in nutrition and food assistance programs annually, national statistics reported that the health of Americans continues to decline (United Health Foundation, 2018). One role assumed by PHNs is to work with population groups to reduce health risks and to promote health. Public health nurses by virtue of their contact with the public are in a prime position to influence and educate the public about nutritional health. By treating nutrition proactively, health risks may be lessened and population health may be improved.

The processes of open, axial, and selective coding were used to constantly compare and analyze the data in this study. The research study was conducted in two phases: Phase I consisted of a purposive sample of individual participant interviews (N =17), while Phase II involved a focus group interview (N = 3). The description of research participants, the results of the data collected from the individual participants, and feedback from the focus group participants will be presented in this chapter.

Overview

Utilizing the grounded theory approach of Corbin and Strauss (2015), data were collected from individual and focus group interviews toward the development of a theory that offered a description of the patterns of behavior. A core category emerged from five main categories, with each possessing sub-categories which were supported by rich, thick descriptions that helped to bring meaning and develop properties and dimensions of concepts. Phase I of the study consisted of 17 individual participants who held an active registered nurse license, provided nutrition counseling to patients, maintained current employment at a public health facility in the United States, spoke fluent English, were willing to be audio taped, and had access to a computer, Internet, telephone, and/or email. Each participant provided a pseudonym to protect their identity prior to beginning their interview. As part of the member checking process, after transcribing each interview all participants were given the opportunity to review their individual transcripts to verify that the researcher had captured their messages accurately. Phase II consisted of three PHNs who earned certifications in public health nursing, held a graduate degree in nursing, were fluent in English, and were employed in the United States. Each had access to a computer, Internet/ Skype®, telephone and email, willing to review a new theory in a focus group, and were willing to be audio taped. These experts had also published works in public health, participated on an expert panel, or presented information about nurses' involvement in nutrition counseling in a professional forum. These participants

were experts in their field and provided their knowledge and expertise to the emerging theory.

Approval from Barry University's Institutional Review Board (IRB) was obtained before any data collection commenced (Appendix A). Permission to recruit participants during Phase I of the research study was obtained from the public health departments through a letter of request for access (Appendix C) along with a recruitment flyer (Appendix E) addressed to the directors, administrators, or nurse managers of public health facilities. Institutional Review Board approval was required at two public health facilities. Although IRB documentation was not required at the other public health departments, IRB documentation was provided. Access to participants was granted at 10 different public health facilities. The sample of participants in Phase I was purposive, in that the participants and the sites were chosen to increase understanding of the research problem and to answer the research question (Creswell, 2013). Recruitment flyers and a request to access participants were sent to 180 public health facilities in South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, Wyoming, Colorado, New Jersey, Wisconsin, Arkansas, and Florida. However, this produced only 10 responses from New Jersey, Wisconsin, Arkansas, and Florida. Thus, additional recruitment flyers and a request to access participants were sent to 280 more public health facilities in Alabama, Delaware, Georgia, Idaho, Indiana, Iowa California, New York, North Carolina, Rhode Island, North Dakota, Kansas, Kentucky, Ohio, and Oregon. Participants from health departments in Kansas, Kentucky, Ohio, and

Oregon responded until saturation was achieved. Snowball sampling was utilized to obtain additional participants.

Study participants in Phase I who responded to the posting of the recruitment flyer were located throughout the United States: New Jersey, Virginia, Wisconsin, Arkansas, Florida, Kansas, Kentucky, Ohio, and Oregon. All individual interviews were conducted via telephone using a semi-structured approach. Interview format was iterative and open-ended but also allowed for further follow-up and probing questions so as to elicit each participant's interpretation of critical factors which have influenced their role, attitudes, perceptions, and behaviors in nutrition counseling. As the interviews progressed, concepts developed, categories formed, then questions were adapted to yield the formation of sub-categories. All of the individual interviews in Phase I were audio-taped and transcribed by a third-party transcriptionist (Appendix J). The transcription of each interview was reviewed by the researcher to ensure accuracy and member checks were performed. Some transcripts were received needing minor grammatical corrections and no major changes to the content or meaning of their responses were warranted; thus, after each verbatim transcript the data was reviewed, coded, and analyzed.

The data from the interviews were reviewed and analyzed using open, axial, and selective coding while incorporating a constant comparative process as described by Corbin and Strauss (2015). This process began with the first individual transcript in which open coding was used to separate the data into different categories toward the development of various concepts. Additional

individual transcripts were analyzed using the same coding process while remaining attentive to comparing similarities and differences. Emerging concepts were identified according to the characteristic and variation of the codes and categories. From the abundance of codes developed during the open coding phase, the study progressed to use axial coding which helped to form similar but more concise concepts for category creations and sub-creation. Within the axial coding process, data were dissected and disassembled and then re-examined in different ways to make connections between the categories. Relationships were further developed and identified via diagraming of the conditions and significance of each main and subcategories. Analytic tools such as the paradigm, conditional and/or consequential matrix helped to link concepts together towards theory development. Analysis of each subcategory helped to shape the development of the main categories. During selective coding five main categories emerged: *knowing*, *cultural competency*, *utilizing effective communication, engaging communities,* and *the revolving door*. Each category was anchored with subcategories which help to link together relationships and meaning. The subcategories that supported *knowing* included: *possessing a spirit of inquiry*; *accessing resources*; *counseling models*; and *possessing experience*. The subcategories for *cultural competency* included: *understanding the "culture of food;*" *cultural awareness*; and *intercultural communication*. The subcategories for *utilizing effective communication* comprised of: *role modeling*; *motivational interviewing*; and *considering strategies and processes*. *Engaging communities* included three subcategories: *networking*, *management engagement and support*,

and *community health assessment*. *The revolving door* encompassed two subcategories: *spending time* and *competing with other programs*. The categories were then all conceptually linked together to describe the basic social processes of, *Impacting the Health of the Public.*

Once saturation of the categories was achieved, the theoretical sample or Phase II of the data collection commenced. The theoretical sample was comprised of three nursing experts who earned certifications in public health, possessed a graduate degree, were willing to review the developed theory, and then participate in an audio recorded focus group, spoke fluent English, worked in the United States, had access to a computer, Internet/Skype®, telephone and email, and may have either published, participated in a discussion panel, or presented information at nursing conferences concerning the nurses' involvement in nutrition counseling. All of the focus group participants met the research study inclusion criteria. However, all were not able to discuss their responses in a group setting; thus, they were interviewed individually. The focus group participants helped to substantiate and provide recommendations for the emerging categories and subcategories from the data collection process in Phase I. This group consisted of a population that could speak to and provide relevance of each category by assisting in discussions around identification of, meaning, depth, and definition of the developed categories (Corbin & Strauss, 2015).

Throughout the research process, theoretical sensitivity was maintained through bracketing, whereby biases or preconceived assumptions were made known by means of written entries in a reflective journal. In addition, field notes

and memos were recorded per individual interview to denote thoughts and concepts concerning any linkages of developing categories. To help categorize and develop a more concise visual relationship between the categories, data was submitted into Microsoft Excel® and NVivo®. Words and concepts derived from the transcripts were analyzed for frequency and common descriptors.

Constant comparison between the developing and emerging categories were utilized throughout the data collection and analysis process until developing concepts, categories, and subcategories emerged. A conditional matrix was sketched as concepts, consequences, and properties developed. An additional sampling method involved returning to the data to amplify and uncover any additional information that may have helped to further explain and clarify the conditions surrounding the emerging categories and subcategories. Concurrent data analysis of the individual interviews, memos, field notes, and journals, helped to link categories. Saturation was achieved at the 15th interview when categories were well developed, no new relevant data emerged, and a relationship appeared between the categories. Though two more interviews were conducted to substantiate that saturation had been reached.

Corbin and Strauss's (2015) thoughts on categorical development stated, "Each category is developed in terms of its properties and dimensions" to be "integrated around a core category" (p. 8). In this research study, one core category was identified and linked each of the categories which helped to explain the basic social processes around critical factors which influence PHNs' attitudes, perceptions, and behaviors toward providing nutrition counseling; while

explicating their role in nutrition counseling. The core category of, *Impacting the Health of the Public*, emerged through refining and integrating the categories and subcategories to further explain the main theme of the research findings. The sample descriptions below provided a verbatim narrative summary of individual participants' words and impressions related to PHNs' involvement in nutrition counseling. These summaries were used in the development of the core category for the study as well as the main and subcategories.

Sample Description

Participants from two groups were interviewed for this research study. The Phase I participants or individual group and the Phase II or focus group participants. The Phase I individual participant group consisted of registered nurses employed by public health facilities whereby their jobs allowed them to provide some form of nutrition counseling. These participants became part of the research study of Phase I via their responses to flyers posted in their public health facilities that were sent to public health department directors, administrators, or nurse managers. Additional participants were obtained through snowball sampling.

Phase II focus group participants were solicited from a literature review whereby a list was developed identifying experts who had either published literature or research concerning PHNs' involvement in nutrition or were members of LinkedIn website, a professional networking site to identify experts. The focus group consisted of three participants who possessed graduate level degrees and additional certifications in public health nursing but also may have

published their own research, participated in a discussion panel, or presented information at nursing conferences concerning nurses' involvement in nutrition counseling. All participants completed an informed consent. A demographic questionnaire was completed by Phase I individual participants only since there was such a wide range of age groups, years of experience working in public health, involvement in providing nutrition counseling, and various departments within public health. Thus, identifying which specialty area or department each Phase I participant was employed provided useful information. Given that the Phase II participants were sought by the researcher and their credentials and experiences were already known, a demographic questionnaire was not extended to this group.

Phase I: Individual Interview Participants

This section provides a brief description of each individual participant in Phase I and his or her experience of providing nutrition counseling as a public health nurse. Participants were assured that identifiers such as their personal names and public health facilities would not be revealed within this study, thus they were identified by their pseudonyms of their choosing. Demographic information of the individual participants in Phase I can be found below.

Demographic Characteristics of Phase I Participants (N = 17)

Category	Descriptors	Number of Participants	Percentage
Gender	Female Male	17 0	100% 0
Age (in years)	< 21 21-40 41-60 >60	0 5 10 2	0 29% 59% 12%
Race and Ethnicity	African-American or Black White or Caucasian Hispanic or Latino	1 15 1	6% 88% 6%
Educational Level (last completed)	Associate Degree (Nursing) Bachelor's Degree (Nursing) Master's Degree (Nursing)	3 13 1	18% 76% 6%
Years of Experience Working as a Nurse	< 1 1 - 5 6 - 10 11 - 15 16 – 20 21 +	0 2 1 3 0 11	0 12% 6% 18% 0 64%
Years Working in Public Health	< 1 1 - 5 6 – 10 11 - 15 16 – 20 21 +	0 7 2 2 2 4	0 41% 12% 12% 12% 24%
Years of Involvement in Nutrition Counseling	< 1 1 - 5 6 – 10 11 - 15 16 – 20 21 +	0 5 0 5 3 4	0 29% 0 29% 18% 24%

Irena is in the 41- 60-year age range who possesses a bachelor's degree in nursing and a master's of science degree in liberal arts. She has greater than 21 years of experience working as a registered nurse and 1-5-year range of working in public health and providing nutrition counseling. She reported working in a

variety of areas within the health department. She uses screenings as a means to provide nutrition counseling to an older adult population, she communicated:

> Well, we do a lot of education right now we have a senior population that comes in, and we perform diabetes, cardiovascular, cancer screenings. We do a lot of screenings. Whenever we do screenings, we also add education and counsel them about nutrition. So, we are constantly educating patients about nutrition because it is just part of everything that we do.

Immediate Past President is in the 41-60-year age group and possesses a master's of science degree in nursing. She has greater than 21 years of experience working as a registered nurse, in public health, and providing nutrition counseling. She works in the Regional Adult Work Center and in the Women, Infant, and Children (WIC) federal program in which she is also part of the management team. She stated:

> What do I do? You know, the WIC program. I begin by asking about the baby, "Is the baby getting enough when you're breastfeeding?" We also talk to them about cooking styles, maintaining the right temperature, taking food home, how to keep it refrigerated and frozen. We teach through all age groups so, we talk about food choices about how to avoid fast foods.

Diana Prince is in the 41-60-year age group, she earned her bachelor's degree in nursing. She has over 21 years of experience working as a registered nurse and in public health. Her nutrition counseling experience falls in the range

of 11-15 years. She works in the public health division of the clinic where she cares for pediatric, gynecological, obstetrics, and adult health patients. She discussed her experience of providing nutrition counseling when there is a nutritionist available:

> We see pregnant mothers. So, even though we have a nutritionist that will go into great detail with them, I do talk to them sometimes about their diet as it relates to their nausea. If I notice they're gaining weight too fast, I will begin to ask them questions, such as, "What is tempting you right now?"….But when I go to the GYN clinic, that's a little different because they do not see a nutritionist. So, I ask them right off the bat, "How do you feel about your weight?" and that usually goes into a conversation that can lead into their diet.

Sue is in the 41-60-year age group and has a bachelor's degree in nursing. She has over 21 years of experience as a registered nurse, working in public health, and providing nutrition counseling. Sue reported working in various areas of the health department, which included, obstetrics, communicable disease, and a coalition in adult health and protection. She reported that although their clinic has a registered dietician, there are some instances in which she provided nutrition counseling on her own. She expressed:

> We work with registered dieticians and I let them do most of the nutrition counseling. I also do home and postpartum visits on my own. I see an age range from kids in high school to adults in their 40s who are pregnant, and many of them are skipping breakfast, not eating, or not making the best

> choices. I do encourage nutrition counseling at every visit which includes taking their prenatal vitamins. But I have to remind them that, "Taking prenatal vitamins doesn't mean you can just eat junk food and then take a prenatal vitamin." I just try to talk at their level and encourage nutrition counseling and inform them of food resources if food is an issue.

Watermelon is in the over 61 age group and has earned a bachelor's degree in nursing and a master's or science degree in health service management. She has over 21 years of experience working as a registered nurse, working in public health, and providing nutrition counseling. Watermelon works in various areas of the clinic in addition to making home visits to a migrant population within her area. She disclosed:

> I work a lot with TB and Hansen's disease, so we're always counseling in that particular incident that they've got to take vitamins because they have vitamin deficiencies, that's what causes a lot of the skin problems, and you just have to take the time….I'm the only Hansen nurse and I'm working with (a specific type of culture) that has migrated to my area. … a lot of my patients are diabetic, and they come from a culture that doesn't have vegetables in it.

Meadow is in the over 61-year age group and has an associate's degree in nursing. She has over 21-years of experience working as a registered nurse and providing nutrition counseling. Meadow reported working in public health between the range of 6-10 years. The section of public health in which she is employed is the pediatric clinic. Meadow explained:

> I pretty much provide nutrition counseling all day to all different ages of course. We see babies to 18 years old for physicals and that's part of the assessment that we do. We now go in the room and do an assessment, which is age appropriate, and a family history, and then we address why exactly did they come in for this physical that today. But then, after talking about vaccines, the patient usually asks a lot of questions about nutrition and dairy.

Jimbo is in the 41-60-year age range and has a bachelor's degree in nursing. She has over 21-years of experience working as a registered nurse and 11-15-year range of working in public health and providing nutrition counseling. Jimbo currently works in the adult health section of the health department. She expressed her involvement with providing nutrition counseling as part of the intake process and mentioned:

> Well, nutrition counseling is part of the intake process when I'm checking a patient in to my department. We do ask in the screening history their medical history, questions about their eating habits, and you know, their sugar intake or alcohol intake, and so that is screened when we check them in, and that's part of the history process for the visit.

Sidney is in the 41-60 age range and has earned a bachelor's degree in nursing. She has over 21-years of experience as a registered nurse and falls in the 6-10-year range of working in public health. Sidney reported providing nutrition counseling in the 16 - 20-year range. She is employed in the school health

division of public health. Sidney described her experience of providing nutrition counseling as not having enough time:

> I provide nutrition counseling to everyone at the school; the parents and children. When I work in the clinic, it was just so trying to get everything done for these patients. Nutrition counseling usually goes on the back burner….But, in my experience, there's never enough time and the emphasis to perform nutrition counseling is not there.

Sara is in the 21-40-year age range and possesses a bachelor's degree in nursing. Her experience as a registered nurse, working in public health, and providing nutrition counseling falls in the 11-15-year range. Sara is employed as the Women, Infant, and Children (WIC) coordinator, but stated that she works in all of the departments. She expressed that her experience of providing nutrition counseling began with limited knowledge but her familiarity of interacting with patients helped her gain experience in providing nutrition counseling when she stated:

> Nutrition counseling is not one of the things that I was really trained to do and when I first started in public health, I felt completely inadequate when providing nutrition counseling. This was because I didn't have a very good background and I didn't even understand the food guide. I mean, I knew what it was, but there were a lot of things that all of the sudden I was responsible for performing; tasks that I didn't feel educated in. So, in the beginning it was very hard to feel like I was doing a good job at what I was being asked to do.

Michelle is in the age range of 41-60 years and has a bachelor's degree in nursing. She has over 21-years of experience working as a registered nurse and falls in the 16-20-years range of working in public health and providing nutrition counseling. Michelle works as a diabetes health educator at her public health department. She described her experience of providing nutrition counseling as understanding her limitations of nutrition knowledge and knowing when to refer patients to seek more expertise:

> I would say most of my nutrition education came when I started as a diabetes educator in 2005 to my current time. Being a diabetic educator allowed me to learn more in depth about nutrition. But I'm very careful about knowing as a registered nurse that I'm not a dietician. I know that I can teach up to a certain point but I really still encourage patients to see the dietician for their more detailed nutritional analysis.

Ann is in the age range of 41-60 years and possesses her bachelor's degree in nursing. She reported having over 21-years of experience working as a registered nurse and is in the 16-20-year range of working in public health and providing nutrition counseling. Ann works in the Women, Infant, and Children (WIC) section of the health department. She conveyed that although she mainly works for WIC, she wears many hats as it relates to nutrition counseling. Ann stated:

> Well, providing nutrition counseling has mostly been through WIC. Although occasionally I will educate a community group; like for instance, right now I'm working with a housing facility that has more

> elderly living there, and they like having a nurse come out and perform blood pressures. Once a month I'll do that, and then they come up with some topic they would like for me to talk about. So, I've done some nutrition education that was more in a group setting. Nutrition counseling wasn't performed individually but that's really the exception rather than the rule. Primarily, my nutrition counseling would be through the WIC program.

Lucy is in the 41-60-year age range, she earned her bachelor's degree in nursing. She reported having between 11-15 years of experience working as a registered nurse and providing nutrition counseling. Lucy has worked in public health between 1-5 years and conveyed that she works in all departments of public health as a director of nursing. She expressed that she had to increase her knowledge of nutrition and nutrition counseling when she transitioned into public health:

> I worked in NICU before I was in public health, so I saw a lot with nursing moms. When I switched to public health, it's become more about whatever I'm dealing with at the time. For example, diabetes as a disease definitely stresses a lot more nutrition counseling. So, with that being said, I've had to increase my own knowledge of nutrition in order to provide the education that is required of me.

Leslie is in the 21-40 age range and has a bachelor's degree in nursing. She reports having between 1-5 years of experience working as a registered nurse, working in public health, and providing nutrition counseling. Leslie is employed

in the WIC department and visits new mothers and infants in their home. She described her experience of providing nutrition counseling as a WIC health professional:

> I am a health professional within the WIC office in which my job centers around providing nutritional guidance with supplemental foods as funded by the federal government. My experience there is sharing information that we receive and that we base on guidelines from the USDA, and advising how best to meet the daily values of each food group. We also share the best way that a parent can provide for their child, by giving them healthy food options and healthy food choices for a healthier lifestyle.

Lue is in the 41-60 age group and maintains an associate's degree in nursing. She has been working for over 21 years as a registered nurse with 1-5 years of that time in public health and providing nutrition counseling. Lue reported working in every department of public health, but in addition to working in the clinic, she would visit pregnant women and children in their homes:

> So, the age groups that I work with are pregnant women to 5 years old and I obtain a lot of information from WIC. I also obtain information from the patients' doctors. For example, if the patient does not understand something, I usually get records from their doctor's office and then I review what was talked about at the doctor's appointment or at the therapies. So, I keep records of whenever they go to any other specialties and just follow-up with, "Do you understand what this meant? What was

> the weight?" I don't provide any new teaching necessarily, but I reinforce what the specialists have already told the patients.

Jaycee is in the 21-40-year age range, she earned her associate's degree in nursing. She has between 11-15 years of experience working as a registered nurse and providing nutrition counseling. Jaycee has been working in public health between 1-5-year range. She is a coordinator in the immunization clinic and is a manager of various departments. Jaycee expressed when she provided nutrition counseling, it involved providing nutrition information that patients are interested in, in small doses as not to overwhelm them. She replied:

> When I do work with WIC, I feel like I give out information. I try to give them just little bits to not overwhelm them. I want every bit of information I can possibly find out about something, but not everybody is interested in their health or nutrition, and so I try to just give them what they want and not too much, if that makes any sense.

Rachael is in the 21-40 age range and has earned a bachelor's degree in nursing. She has been working as a registered nurse between the 6-10-year range. Rachael has been working in public health and providing nutrition counseling between 1- 5-years. She works in a clinic that caters to all ages. Her experience of educating patients about nutritional recommendations is based on their stage of life as she explained:

> Most recently in public health, my focus has been more geared toward reproductive health than nutrition counseling, so my perspective in

> nutrition counseling will come from a mother or a woman that is preparing to become pregnant, or a woman that is pregnant, or that may become pregnant, as well as her children. So, I talk with them more about what it is recommended for consumption.

Betty is in the 21-40 age range and has two bachelor's degrees, one in nursing and the other in liberal arts with a focus in communication and photography. She has 1-5 years of experience working as a registered nurse, in public health, and providing nutrition counseling. The area of public health in which she works is a clinic that caters to a variety of ages and health conditions. She discussed her experience of not having a lot of training in nutrition counseling:

> We don't have a lot of, let's say dedicated training in the programs that I work in to help supplement our nutritional knowledge. I work with another nurse who has cross-trained in our WIC program and so she obviously, for that program, has a lot of trainings and things that are required that she has to attend and stay current with in order to give the latest nutrition information to her patients. With the programs that I work in, I really don't have that same opportunity.

In summary, this section has provided an overview of the research study a written description of each participant's background and characteristics in Phase I, as well as brief descriptions of each participant's experiences involving nutrition counseling. The following section below will describe the emerging

categories as recognized through supporting accounts of the individual participants' experiences.

Emergent Categories

Five main categories emerged from the data in Phase I of data analysis: (a) *knowing:* subcategories included; *possessing a spirit of inquiry, accessing resources, counseling models,* and *possessing experience*; (b) *cultural competency:* subcategories included; *understanding the "culture of food," cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication:* subcategories comprised of; *role modeling, motivational interviewing,* and *considering strategies and processes,* (d) *engaging communities:* subcategories comprised of; *networking, management engagement and support, and community health assessment,* and (e) *the revolving door:* subcategories included; *spending time* and *competing with other programs.*

Use of an open coding process in this study revealed an abundance of codes from the collected data. Axial coding allowed for each of the codes to become more distinct and refined thereby making it easier to group similarly coded data under larger categories. The axial coding process also allowed for the exploration of relationships between categories to further provide a richer sense of interrelatedness, sub-context, or nuances. Selective coding was used to analyze linkages between the emerging categories in order to integrate the categories into a core category. Each main category was then supported with sub-categories that were well developed with rich, thick properties as well as descriptions used to connect context to meaning. A constant comparative process, which involved

"going back and forth" in the analysis of the data in order to bring forth identifying concepts, was utilized throughout the analysis process. In addition, memos, field notes, and reflective journals were reviewed to further enrich the categories and subcategories within the various coding processes. Data saturation was achieved after 15 interviews were completed with two additional interviews conducted to ensure no new information emerged.

Knowing

Knowing was represented in the data and developed as a category via participants' expressions and identifiers of learning, such as awareness, knowledge, understanding and possession of concepts of *knowing* that may influence nutrition counseling. Bolisani and Bratianu (2018) described *knowing* as more than possessing knowledge but having the capacity to be aware of the conditions that impact knowledge. Within this study, the *knowing* category was expressed by the participants as having awareness, knowledge, and understanding of concepts related to nutrition counseling. According to the Office of Disease Prevention and Health Promotion (2018), Americans need to abide by the following dietary guidelines if they want to develop and or maintain good health:

> (a) maintain healthy eating patterns, (b) limit saturated, trans fats, sodium, and sugar intake, (c) make small adjustments for successful compliance, (d) stay active with some form of physical activity, (e) portion control is key: following Choosmyplate.org could help, (f) avoid late night eating before bed, and (g) support healthy choices (p. 1-2).

Public health nurses are encouraged to understand and be aware of these guidelines in order to provide sufficient nutrition counseling. Subcategories of *knowing* include: *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*. **Rachael** described the PHNs' role as bringing an awareness to both the prevention and education of the public concerning nutrition and helping guide them to make healthier choices:

> We [PHNs] have a role, we definitely have a role in talking about nutrition, because we are more on the side of prevention and education awareness. So, I think personally, providing nutrition counseling or nutrition education really is a way that a nurse can help with making patients aware of the things that they should avoid, or the things that they should strive to be doing to help taper off some of those rates, or at least decrease them to some degree. So, I think really there is a place for nurses to provide nutrition counseling. I think currently, we do it to a degree.

Likewise, **Leslie** stated that PHNs' role is to bring awareness about unknown aspects of nutrition, "I feel like public health's role is to share with the general population things that may not be known about nutrition or things that are known but not understood as to how can we put that into action."

Lucy stated, "Our goal is to increase the health of the public, so I think our role is to absolutely educate as much as we possibly can when the strategies are in place and everything you know falls in line with it."

Jimbo understood her role to be one of providing education:

> The PHNs' role of providing nutrition counseling would be to educate the patients on, getting the proper diet and exercise and cut back on unhealthy food, especially if they have blood sugar problems. They should just cut back on the white foods and carbs and just get better exercise, drink lots of water. I just try to educate them on a few of these topics.

Lue felt that her role was to ensure that the family had their basic needs met and that the patients were safe. She did not feel that her role of providing nutrition counseling is to advise patients whether or not to eat vegetables or to discuss the nutrient value of food, she stated:

> I went to a house a while back, and the child was sitting in front of the TV eating a cold hotdog and Cheetos, and the mother was proud that she was giving him cheese every meal with Cheetos. So, when I saw those kinds of things, we had to have a discussion of, "Oh, what makes you think that the Cheetos is a cheese product?" "What if we had some real cheese?" But I don't say, "Look at the sodium content of the Cheetos" or "He needs 500 mg of calcium per day with cheese" or "We could substitute it with broccoli." You know, I don't have those kinds of conversations.

Diana Prince viewed her role as providing an introduction and assessing the patient's readiness. At her public health facility, she described how she prepared patients to see the nutritionist. Diana Prince shared:

> I think the nurse's role is to provide an introduction to the nutritionist or dietitian [if they are available at their health department] and to gauge

> where the client is nutritionally to see what they're ready to talk about. So, for some people it's, "I'm so busy with my 3 kids, I have to get to work. I'm just trying to get food on the table," so they go to McDonald's every day. Or, you know, maybe introduce a new idea of making a huge pot of soup when you have a chance. You can eat off of that all week, and make it short and sweet, like that.

Knowing was also expressed from the perspective of understanding the basics of nutrition and nutrition counseling. The concept of "basic" is relative and each participant expressed the meaning of their perspective of providing "basic nutrition counseling" as they understood it.

Michelle reported that the basic nutritional education which she provides is focused more on food groups and portion control. "I teach basic, general nutrition education based on the food groups and portion sizes while eating a variety of foods for nutritional purposes." **Meadow** expressed the importance of receiving training in nutrition. She shared:

> I think that PHNs need a lot more education. I'm not sure what kind of education is provided in the adult health area to counsel people. Public health nurses see a lot of adult diabetics. I don't know if they have training to do that, but I would like to see all of us across the board have a lot more training about nutrition and how to talk to people about it.

Leslie explicated:

> We emphasize a lot with the WIC department, but also in general with the work in the health department where I do more than just public health activities; such as, explaining My Plate and sharing the website myplate.gov, and how to really separate a plate based on the different food groups: meats, veggies, and fruits.

Sue felt that teaching diabetes went beyond her basic level of knowledge and deferred it to the nutritionist or dietician. She expressed:

> I just cover more general information and support the nutritionists or dieticians. I tell patients to make healthy choices, not poor choices, talk about not gaining too much weight during their pregnancy, and also ask about their use or avoidance of alcohol. We also talk about caffeine, because a lot of people's diets are not that great, and I work with them on trying to improve their overall diet during the whole pregnancy and hopefully that will continue on to postpartum.

Sara reported concerns about her lack of understanding of basic nutritional information and how people in our society do not understand the importance of nutrition. She communicated:

> I feel like nutritional counseling is important. I was extremely intimidated by it at first because I felt like I was teaching something that maybe I didn't know enough about. I don't like to feel dumb and I like to know what I'm doing. So, it was hard for me at first because I didn't feel like I had a good enough background to provide nutritional counseling. But

> now, I've always felt it was very important and I feel like it's costing our country lots of money because we [the public] don't have a good basis or understanding of nutrition, and it is important.

Possessing a spirit of inquiry. The first subcategory that will be discussed under the knowing category is *possessing a spirit of inquiry*. The National League of Nursing (2010, p. 36) described a spirit of inquiry as possessing "A persistent sense of curiosity that informs both learning and practice." Some participants expressed having a passion for asking questions, seeking knowledge, and pursuing creative approaches to solutions. They also shared how some PHNs colleagues with whom they have interacted were not interested in seeking new knowledge.

Jaycee reported that she enjoyed learning about nutrition because it was something that she found interesting. She narrated:

> We've done a lot of education with WIC and that's where I feel I've learned probably the most. I also took nutrition in college, that's been helpful. It's something that I enjoy and I like to learn more about, and you can never learn too much about our diets and our food and what's best for people.

Lucy stated that her spirit of inquiry is derived from personal experience with her late husband's disease and responding to patients' inquiries. She explicated:

> My late husband was a type I diabetic, so as the spouse I had to go to pretty much every class that he went to. I learned way more than I ever

> wanted to know about nutrition, and then a lot of it has been on the job and just my experience with my late husband. When someone is employed in public health, you are kind of all over the place, working in different departments so you can't possibly hold all that information in your head. Thus, when someone asks you something you immediately start researching and finding the answers.

However, **Irena** provided a different view point of PHNs spirit of inquiry:

> Well, the other nurse that I work with, she's very old fashioned to put it bluntly. She's very by-the-book. So, for her, if it's not laid out in black and white, it's not done. And if it wasn't printed back when she was learning it and it wasn't what she learned, she is very resistant to change. So, some nurses if they're not keeping up with the latest literature, such as reading current research journals, exploring it further, doing more research on their own, then they're going to be definitely hindered.

Similar to **Irena**, **Watermelon** stated, "You know, not everybody is interested in it [seeking a spirit of inquiry]. Not everybody wants to do more than what they're little job assignment is."

Accessing resources. A subcategory of knowing and a vital aspect of public health nursing involves accessing resources. Some of the major roles of public health nursing involves possessing knowledge and awareness of resources and the ability to access resources for the health of the patients. Understanding where resources are and which ones are available and accessible are the

cornerstones of public health nursing (Rosen, 1993/2015). Ransom and Olsson (2017) expressed that health care resources have been defined as, "All materials, personnel, facilities, funds, and anything else that can be used for providing health care services" (p. 320). Participants shared that possessing knowledge of access to resources influenced their overall ability to help impact the capacities of those who received nutrition counseling. **Immediate Past President** expressed the importance of having access to resources. She reported:

> Have good resources at hand so that you know where they are, so that you can hand it to patients after post-education in order for them to use it as follow-up. Also ask for their [the resources'] telephone numbers so you can use those as well for follow-up.

Irena stated:

> Oh, I've got to get patients help, but if you have the information right at hand, like, hey, have you checked out the food bank? Here is a woman with a number, you know, she's great and she helps in all temporary circumstances. Nurses can get them started right there. So once again, finding out what the community has to offer and making use of those resource is important. Church suppers, things like that are also good resources. I've worked with nursery schools to help make their menus, as well.

Leslie discussed how she used online resources. She shared:

> Well, since I do a lot in WIC and the WIC community really gathers from the United States Department of Agriculture [USDA], I go to USDA websites a lot. The Center for Disease Control [CDC] is separate, but I tell you what, with all the issues with things in our lettuce these days, I've been going there a lot too, when we think about our food consumption. But I visit the USDA sites and really just any good on-line resources, anything that I can find information on. Myplate.gov is a huge resource that I use to help myself and then I often share with my patients.

Rachael discussed the importance of knowing resources that are available. She expressed:

> I think training would also expose PHNs, not just learning some of the material that we need in order to do the counseling, but also inevitably other resources so the people that train PHNs about nutrition counseling are going to have, in my experience, other resources that they use. So, I think just working on building those connections and communicate. Not just sitting down and doing the training ourselves, reading a book, or going to class and doing it really quickly, but actually building those relationships internally and externally.

Rachael further stated, "We need education on identifying what resources are available to our community members, also to us in terms of training and information and materials and things like that."

Counseling models. Another subcategory of knowing that has been described as: focusing, reflecting, and bring attention to a person's thoughts toward changing feelings and behaviors is counseling models (Spahn, et al., 2010). There appears to be a high demand for health education and ways to encourage the implementation of change in behavior to ensure the promotion of health and the prevention of disease. There are various types of counseling models from behavioral therapy to solution-focused therapy (Riley et al., 2011). Knowledge of theories or models are tools that health care providers can use to help provide structure and guidance toward developing solutions to community health concerns.

Some individual participants emphasized knowing various models to help implement strategies toward modifying the public's thought process about their current dietary behaviors. While there were other participants that expressed not using any counseling models at all, others requested guidance of how to provide consistency and structure to help their patients. This section reveals how some areas within public health nursing has structure when providing nutrition counseling, while others are inconsistent in delivering nutrition counseling. **Ann** discussed how she gained knowledge of a strategy called the 5-As through WIC:

> We had some training when we did the 5-As, on how to establish mutual goals with nutrition. To find out what the patient's needs are, what their habits are, what their goals are, and try to work with them to establish help in the small steps that patients can make towards better nutrition.

However, **Lue** reported that she has no knowledge of models or what she refers to as a "curriculum" that she follows to provide nutrition counseling. She maintained, "I don't have any particular curriculum that has been part of my program other than just to ask about food security, food storage, or access to food and cooking."

Diana Prince stated that she was not familiar with a model, strategy, or a process of providing nutrition counseling. She revealed, "There's not a set form. I kind of feed off what the client gives back to me, if they're willing to talk about it."

Irena reported that she does not follow any model:

> I have no method to my madness. So far as structure, we do have the blood chemistry. If someone comes in and they have a vitamin D deficiency, we have literature all prepared for them. Because, let's face it, some people don't want to talk to you. They're like, "Just give me the information, I'm gone, I'm out of here." So, we have everything prepared and ready to go in case someone does that to us. Otherwise, we sit down and we talk to them, feel them out, and then take it from there. So, there is a slight method to my madness, but not much.

Possessing experience. Benner (1984) defined experiences as, "An active process of refining and changing preconceived theories, notions, and ideas when confronted with actual situations" (p. 178). It involves having multiple periods of exposure to situations in a way that increases the person's awareness surrounding

the circumstances of the situation to better know how to respond to it. Many of the participants expressed that, when providing nutrition counseling, the more experience nurses had, the easier and the more comfortable it became. The participants' expressed factors that influenced their ability to obtain or gain experience; which, intern determined if they would provide nutrition counseling. They also expressed how the lack or gain of experience influenced their confidence of providing nutrition counseling.

Irena expressed the lack of knowledge and experience that PHNs possessed is due to their fear of saying something wrong. She indicated:

> One thing that hinders PHNs is that nurses are afraid that they're going to provide nutrition counseling wrong, that they don't have enough knowledge to provide nutrition counseling. So, what they're doing is just giving the handouts and following whatever the handouts say. They're not looking into their own inner knowledge and strength and putting it all together. They do not have the confidence or the insight to make suggestions, such as, "This suggestion can't hurt and it might work." If the person can do it, why not?

Rachael discussed how she may have the training, but not necessarily the experience, which would cause her to feel less confident and hesitant to provide nutrition counseling:

> If I can sit down in a classroom or take a course that is somehow accredited by somebody to say, "You've taken the course and you've

> taken the evaluation afterwards, you've evaluated your learning, and we have given you some tools that you can use to help with providing nutrition counseling." But some nurses lack confidence and experience, and that would make me hesitant.

Leslie expressed that the more experience PHNs had in practicing nutrition counseling, the better they became at providing it:

> I think there are multiple opportunities to practice nutrition counseling. Such as an event that can get a nurse out into the community and have him or her either do a presentation or talk with patients one-on-one. Sometimes when we're available at health fairs we're just at a table, or we go to the county fair, and we're at a table for families to come by or people to come by and say, 'Is it true that this is affecting my cholesterol?' I think the more opportunities that a public health nurse has to be in the public and to help give that nutrition counseling, the better they get.

Sara reported that the majority of her knowledge came from the experience with interacting with patients, when she discussed:

> The more clients you meet, the more questions they ask. I think the majority of my experience outside of WIC literally comes through interaction with clients and just learning as I go. You kind of have to just, "wing it" and learn as you go.

The participants expressed experiences that encompassed concepts of *knowing* through the subcategories of *possessing a spirit of inquiry*, *assessing*

resources, counseling models, and *possessing experience*. *Knowing* is a major factor that influences PHNs attitudes, perceptions, and behaviors of providing nutrition counseling. The next category that will be discussed is cultural competency.

Cultural Competency

As the American society is becoming more diverse, PHNs are encouraged to enhance their knowledge of various cultures and their dietary choices and consumption (Abrishami, 2018; Garcia, 2006). When providing nutrition counseling PHNs need to consider patients who may often share the same ethnicity, common cultural and environmentally based foods, and food preparations and habits. Practicing cultural competency involves recognizing, embracing, and helping to enrich the understanding and appreciation of diverse cultures, their varied backgrounds, customs and traditions. Garcia (2006) referred to culture as "the inherited set of implicit and explicit rules guiding how a group's members view and interact with the world" (p. 21). However, cultural competency is having the ability and skill to interact with people that possess different beliefs, values, and behaviors while providing specific care to their social, cultural, and linguistic needs (Berger, 2009). However, PHNs have to be careful as to not practice stereotyping behaviors, because this could cause insult to patients as well as decrease their trust and respect for health care professionals, further preventing them from seeking needed care. Although a person may appear to be a part of a specific culture, it is important to treat them as an individual and avoid placing generalizations about them. A patient may represent

their culture in how they appear, but they might not follow the traditional customs. The subcategories that help support *cultural competency* include: understanding the "culture of food," cultural awareness, and intercultural communication.

Sue reported challenges of communicating with people from other cultures:

> We have some Hispanic clients within our community so we often use an interpreter to communicate nutrition counseling, especially since we have so much fast-food. Sometimes we have to use our interpreter or our interpreter phone-lines to encourage healthy eating and nutrition counseling. **Diana Prince** expressed that, "Public health nurses have to engage and ask people from other cultures the type of foods they eat. If you don't know and the client is not sharing with you what they eat, how are you going to provide effective nutrition counseling?"

Diana Prince further reported patients may follow vastly different dietary consumption based on the climate they live. She stated:

> People really do eat differently, and I'll give you an example. We had a nurse who is [a specific ethnic group], because we have a large [specific ethnic group] population. And she was telling us about the food in her country and how they really don't eat vegetables. It's too cold there. They have such frigid temperatures that she expressed, 'You really have to eat fatty, hearty foods to keep yourself warm.' There is a drawback to that, because a lot of people do have heart issues because of the

> cholesterol. But that nurse was like most of us, when you talk about eating vegetables, they'll look at you like 'you're crazy', with a 'why would I want to do that?' look. So, their food, and what they ate may be totally different than the kind and type of food we have here in our nation.

Watermelon expressed how understanding a population's culture helps her to identify ways of providing nutrition counseling to families as well as communities who lack appropriate essential nutrients. She reported:

> All of my clients are from a different culture and are extremely tiny people. Most of them are under 5 foot 4 and the women are about 5 foot or less. When their kids start school, they're kind of scrawny, however, once the kids enter the breakfast, lunch, and snack programs, as well as the summer feeding programs, they start growing. I am able to show the adult clients that, their 12-year-old child is now 2 inches taller than they are because they're eating. I had to convince my adult clients that just because their body is tiny doesn't mean that they need less food.

Jaycee described her lack of cultural competency due to her lack of experience with interacting with people from different cultures. She stated:

> I live in a very small area and the majority of the population share a similar culture. Concerning cultural competence, if a person comes from poverty, their perception of nutrition is going to be totally different because they are thinking of where their next meal will come from and they don't really care what it is. If people don't have a place to live,

> they're not going to care about nutrition. So, meeting people where they are is important.

Jaycee further reported:

> We have a small Indian and Filipino population, but the majority of our people are similar to me (Caucasian). We have a lot of ranchers and we just have to try to figure out what is important to the other cultures in our area concerning their dietary preferences.

Understanding the "culture of food." A subcategory of *cultural competency* that is a mindset, attitude, or a belief that describes the culture of the American diet and how people in the society have developed a position around food. There are various components to understanding the "culture of food." It is similar to consuming "low cost" and "good tasting" fast and often fried, processed foods. Due to the busy schedules of today's households, people have less time for cooking or incorporating fresh fruits and vegetables into their diets resulting in more fast food being consumes.

Understanding the "culture of food" provides a description of the way that people have embraced the eating practices of this society while allowing the sensationalized efforts of marketing to influence food choices (Williams, Crockett, Harrison, & Thomas, 2012). Another component of "culture of food" is described as being food insecure, in which food portions that are beyond the recommended allowance is favored regardless of the health benefits and is more appealing than healthy alternative, especially if it is at a lower cost (Ver Ploeg &

Ralston, 2008). The participants will describe their experience that involved understanding the "culture of food."

Meadow communicated how she understood the "culture of food" in America and the attitude surrounding the amount of food versus the quality of food. She communicated:

> Understanding the populations food culture, it is part of our teaching, and we see in our demographic that may go to WIC but socioeconomically, they're on the lower end of the spectrum, and we understand that. We understand that it's much cheaper for them to eat more unhealthy foods; such as, processed white bread, white rice, fast food, from the dollar menu. We see that a lot in our demographic. Not to mention young mothers who really don't have a clue because maybe they weren't taught.

Immediate Past President explained, "It's the 'culture of food.' So, if you're able to understand the cultural attitudes towards food of the people that you're teaching, that makes a major difference in being able to affect change or help in your choices." **Michelle** expressed that regardless of access to food, there is a food insecurity behavior that people display according to her statement below. She expressed:

> I see people with insurance, without insurance, on a fixed income, and very food insecure. In an area where you have quick convenient stores as the closest thing where people may shop all the time, you may not find the best options for them.

Lue also mentioned her rationale for how patients feel about food cost and food insecurities, when she narrated:

> Because I don't think the PHNs can compete with commercials and the marketing of the junk food, I don't think the PHNs have an impact on a head of romaine lettuce costs $3.00, but I can buy a whole great big back of cookies for $2.50. I don't think we have impact on that because, if I have to feed these kids and this is all I have and I'm looking at a head of lettuce or I'm looking at a bag of cookies, there's more in the cookies.

Sara reported that people now-a-days do not cook and prefer to eat out. However, she expressed providing patient with cooking classes that may help to resolve this issue, when she discussed:

> We have lot of people who eat out and don't like to cook and often buy frozen foods. We do see that a lot and we have provided, on a small scale, cooking classes. We try to give out recipes when we provide handouts, we include recipes. Cooking is always something that needs focus because it's one of the things that we have noticed and that people realize that there are ways to have home-cooked meals that don't' have to take you all day. For instance, patients can have quick and easy meals with natural ingredients and not processed ingredients.

***Cultural awareness*.** The second subcategory of *cultural competency* that involves being conscious of thoughts and ideas about one's own culture and identifying biases that may develop when faced with a different culture (Dudas,

2012). Exposure to diverse cultures is described as cultural and social contact to people of a different background or ethnicity (Crisp & Turner, 2011). Increased exposure to diverse cultures results in a decreased occurrence of stereotyping when specific preconditions exist as described within the Categorization-Processing-Adaptation-Generalization (CPAG) model. This model explains cognitive adaptation to the experience of social and cultural diversity.

Diana Prince expressed that cultural awareness is important; however, she feels limited in her knowledge of the various cultures in her area. She explained:

> Culture is important, and I think sometimes we feel inhibited. In the area that I reside I have seen clients from all over the world. There are countries that I had to look up, and I was like, I didn't know and was not aware that was a country.

Michelle expressed how she does not have a lot of experience with different cultures. She stated, "Well, one of the challenges I think when working with other cultures is that I don't have as much experience. I've done some work with some of the Hispanic culture though." **Irena** affirmed that she did not think about discussing nutrition counseling to a person from a different culture. She indicated:

> I never thought so much about the cultures or what different people are used to eating and how that effects them, and how to work with that type

> of diet. I mean, if they're used to beans and rice all the time, then PHNs are not going to be able to tell them to have a salad.

Leslie responded:

> Knowing how to reach a family I think has been the biggest adjustment. As PHNs, we're serving populations that may not be the same all the time. They come from different backgrounds. They can be different races, cultures, socioeconomic statuses.

***Intercultural communication*.** The third subcategory of *cultural competency* is intercultural communication. It involves exchanging information or engaging in dialogue with a person from different cultures (Xu, 2006). It also aids in the ability to identifying the most effective ways to communicate nutrition counseling concepts among diverse cultural groups.

As diverse cultures increase within the society, it is essential for PHNs to be able to understand how to effectively communicate with patients about their dietary habits through nutrition counseling. Intercultural communication is defined as the social interaction through verbal and nonverbal means to effectively communicate with a person from another culture (Okech, Pimpleton, Vannatta, & Champe, 2015). In order for nurses to understand their impact of diversity among other cultures, they must become aware of how they adapt to their experience of understanding and communicating in an effective way with another culture (Crisp & Turner, 2011). Many of the nurses discussed how they lacked experience in their ability to understand and communicate with people from another culture. Public health nurses are encouraged to utilize intercultural

communication through the exchange of verbal and nonverbal communication strategies in order to make an impact in the health of the public.

Michelle shared how she provided nutrition counseling to a Hispanic family and offered suggestions of healthier alternatives to their traditional cultural food choices. She expressed:

> When looking at the basis of the Latin culture's food plan, what they eat and what they like to eat, we have to come from that perspective. What is something that they eat generally and find out what makes up their meal planning so that we can tailor that in and then say, 'Well ok, six tortillas a day, that can be pretty hard on your blood sugar. We're going to have to back that down, and see what would you be willing to do? Can you stick with just 2 tortillas?' Decreasing the amount may also decrease their grocery bill and be an important financial factor.

Alternatively, **Meadow** expressed her experience of how Hispanic families eat lots of vegetables. She mentioned:

> I praise the Hispanic moms all the time because I feel that their diet is one of the healthiest. They eat a lot of fresh vegetables. You just have to caution them against too much lard or frying or fat, added fat to their beans, things like that if their kids are overweight.

Similar to **Michelle's** statement above, **Immediate Past President** conveyed:

> There are many people who are first generation Italian when I grew up. I'm including my grandparents when they came from Italy, so I'm second generation. Understanding culture matters, because if you try to tell an Italian who is overweight not to eat pasta, it's really not culturally sensitive to say that. Better to say have some, but this amount, or have the high protein type, or the vegetable type. **Leslie** shared, "It's so hard providing nutrition counseling to people that are just like you. It's even harder when you provide it to people that are different."

As society is becoming more diverse, PHNs are finding that *cultural competency* is a necessary component when providing nutrition counseling. Understanding the various dietary components, family structure, developing strategies to provide nutrition counseling in an attempt to avoid stereotyping cultural groups. The subcategories that helped to support *cultural competency* included: *understanding the "culture of food*," *cultural awareness*, and *intercultural communication*.

Utilizing Effective Communication

Utilizing effective communication was another category that emerged.

Communication is defined as a process in which there is an exchange of information by means of verbal and nonverbal messages from one person to another (Brooks & Heath, 1985). However, it is important to note that *utilizing effective communication* is more than a message that is sent between two people. *Utilizing effective communication* within health care is defined as, supporting

patients while demonstrating proficient interpersonal skills in addition to the ability to communicate complex and complicated information in a manner that is clear and evokes understanding from another person (Jones, 2012). It also ensures that, "critical information can be accurately communicated across the numerous interfaces involved in the delivery of care" (Jones, 2012, p. 37).

Communication is a two-way process and an important part of understanding human behavior. It involves the use of verbal, non-verbal, intentional, and non-intentional cues and messages (Tubbs & Moss, 2006). It becomes effective when stimuli purposefully initiated by the sender closely corresponds to stimuli from the receiver. Stone, Singletary, and Richmond (1999) described communication as a person giving meaning to language (spoken and unspoken) via another person or persons through the development and delivery of messages. Within nursing schools, many nursing students' express feelings of not being adequately prepared to communicate effectively with patients.

Nutrition counseling is achieved through communicative dialogue between health care provider and patients which involves interpersonal aspects of the client's environment, along with specific skills of verbal communication (Kourkouta & Papathanasiou, 2014). Tregoning (2015) reported that utilizing effective communication skills within the field of nursing is an essential part of providing safe and effective nursing care.

Within this study, the participants expressed how the utilization of effective communication is an important factor when providing nutrition counseling. *Utilizing effective communication* skills can always be improved by

incorporating the use of models and frameworks which help to provide guidance, structure, and consistency. Participants expressed how they use effective communication through the inclusion of establishing trust, building a rapport, addressing thought processes, and skills that help to lead the communication exchange between the patient and the public health nurse. Participants also reported how they used their communication skills to provide nutrition counseling through having a conversation with the patient to ensuring that the conversation addressed patients' own interests and concerns. Depending upon the approach or the environment, the PHN is charged with establishing the environment and the types of interactions which commence with patients. The following subcategories of *utilizing effective communication* will be discussed: *role modeling*, *motivational interviewing*, and *considering strategies and processes*.

Watermelon described how she *utilized effective communication* skills through first developing a rapport with patients by listening to their concerns and maintaining a calm approach. She indicated:

> It is how well I'm trusted by the family and accepted. If I go into a patient's home who is from a different culture and I'm a little preachy, they're not going to listen to a word I say. But if I'm calm and mellow and tell them jokes and we're all having a good time, they'll listen to me; or if its people that I've known for a long time, they'll listen to me. You've got to have respect. I have to gain their respect, and they are not obligated to respect me just because I got RN stuck behind my name. I have to earn that respect. So, my motto is to listen, literally. I'm not going

> to go in there and "rag" at them about anything. I'm going to work with them and just sort of coddle them and move them along.

Similarly, **Ann** described the way that she used effective communication skills in counseling her patients is via listening and engaging her patients in a conversation:

> I try and listen to the client. You can't just spew out a bunch of, "This is how many fruits and vegetables you should eat every day" and talk at them. You have to kind of engage them in a conversation. I've been using effective communication a long time, and I find that some nurses still talk at patients instead of with them.

Diana Prince reported that she provides an introduction to patients and asks them questions to begin the conversation before they see the nutritionists. She stated:

> I try to help the client not feel stressed before they see the nutritionist, so I try to go over the basics of their diet, and to tell the nutritionist about allergies and review what the patient eats. So, I try to do an introduction before they see the nutritionist, because some people believe it or not, they're extremely nervous.

Michelle described her way of utilizing effective communication skills is to center the discussion around the patient and their interest:

> I do feel like it's easier when you approach nutrition counseling from what's first and foremost on their mind and what they're wondering about.

> Because I don't feel like they're going to hear anything else that you try to talk to them about if you just approach it from a general strategy of going down the line from a predetermined list of items to discuss. I try to spend more time on the things that they are wanting and interested in getting more information about.

Role modeling. *Role modeling* is subcategory of *utilizing effective communication*. *Role modeling* as described by Bandura (1977) is a human behavior that is learned from observing others while forming ideas of how new behavior is expressed. Health professionals' knowledge of their role modeling status would make them more aware of their actions and may encourage and motivate them to continue to practice healthy behaviors (Bandura, 1977; Vinales, 2015). Issues involving modeling healthy behaviors among PHNs include following dietary recommendations and maintaining a healthy BMI. If these issues are not followed, they may affect the PHNs capacity to offer nutritional counseling while feeling comfortable in doing so.

Immediate Past President discussed how PHNs have more credibility when providing nutrition counseling if they appear to be in good physical condition:

> I do think that you have more credibility when you, yourself as a nurse, are in good shape, have a good weight ratio, hold yourself well. You're usually an example. I'm not going to be sitting there drinking a diet soda and telling somebody not to drink soda, especially diet soda. Being an example gives us the credibility. So, if you're going to be sitting there

> eating potato chips in front of your patient when you're doing the WIC program, it's usually not a good thing.

Jaycee expressed how PHNs have to follow their own advice. She stated:

> I am thinking about how we have to practice what we preach. If we're telling someone to do something that we can't do ourselves, it's really hard. If we're not a good example, then how could we expect somebody else to do things that they want to do, should do, or could do? If I am telling somebody else not to do something, that I am doing, it isn't a good way to provide nutrition counseling.

As a diabetes health educator, **Michelle** described how patients may not follow the PHNs instructions if the PHN does not appear to be following his or her own advice when she expressed:

> I feel that for some a PHN who do not have healthy eating habits and do not think about health issues, such as diabetes, I think they're going to be less likely to talk to a person that comes in about those issues. I mean, even if we're supposed to provide nutrition counseling, patients just might not relate heavily on our advice because it all goes to us being a good example, our role in the community, we should be the ones that are taking the lead in exercising and eating right.

Motivational interviewing is another subcategory within *utilizing effective communication* that involved evaluating which strategies or processes participants used in delivering their nutrition counseling to patients. Motivational

interviewing is a patient-centered approach that guides patients away from ambivalent behavior toward a motivation for change (Christie & Channon, 2014). Key components of this technique include: (a) acknowledging and accepting that the patient has no obligation to make a change and (b) a collaboration between the practitioner and the patient exists to help achieve a goal; in which the practitioner acts as a guide, using his/her knowledge and skill, while understanding that the patient makes the decisions, as it is their journey (Christie & Channon, 2014). Although some of the participants provided other related or non-related attributes of motivational interviewing when they described the models or frameworks that they used to provide nutrition counseling, only two participants, **Rachael** and **Betsy,** specifically expressed implementing motivational interviewing as a successful strategy.

Rachael stated:

> Most recently I have really started to use motivational interviewing, because I find that in the past that teaching was just strictly very one-sided where you tell the patient what they need to eat and how much. What I found was that it isn't really well received. So, I do more of a motivational interview style where I ask the patient what they want out of their diet, what their goal is, whether it's health, weight loss, or weight gain [they desire], and then ask them about their current habits because that's important.

Betty reported:

> Using some motivational interviewing involved asking targeted questions to figure out what is the issue, what areas do they need information on, and then working with them to see if the provided suggestions interests them. Also trying to give them the information, whether it's through connecting them with cooking classes or giving them a flyer, or finding some recipes for them. I think it's kind of like a team process. When you're counseling patients or clients, you want to give them what they're looking for instead of just preaching to them. Allowing the conversation to be two-sided, so that they can get to where they want to be with their nutrition.

Although some participants did not mention *motivational interviewing* by name, they described attributes of *motivational interviewing* that they used when providing nutrition counseling. One attribute of *motivational interviewing* is decreasing ambivalence through helping to guide patients toward healthier choices through inviting them to consider their own situations and to find their own solutions.

Jaycee helped to identify the patient's own interests to further help guide her patients toward choosing healthier foods, when she discussed:

> Nutrition counseling means giving people, or our clients, information that they're interested in. Well also, something that they need for their health. Maybe they have diabetes and they're needing some information, but also if they don't want it then trying to figure out a way to get them interested in nutrition because if you give somebody a whole bunch of pamphlets or

> try to talk to them, say a low-fat diet, and they say 'I don't really care about that I'm going to eat whatever I want,' then you've got to figure out a way to get them interested without just throwing stuff at them that they're going to get rid of.

Michelle expressed how she motivates her patients to research information for themselves to help them determine if what she is suggesting would be beneficial for them. Thus, allowing the patients to make their own decisions about their health. She stated:

> If PHNs trying to give patients some information according to what you've learned and what you know is based on research and proven and they don't take that for truth or accept that, you can't really have any control over people's beliefs or perceptions. So, they need to determine that evidenced-based nutrition information for themselves. I always encourage them to look that information up, read about that, and determine for yourself is that something good for you?

Motivational interviewing strategies are important aspect of *utilizing effective communication* by avoiding ambivalent behavior and providing guidance toward a motivation for change. The strategy engages patients by allowing the conversation to be patient-centered and focused on the patient's interests. The next subcategory that will be discussed within *utilizing effective communication* is *considering strategies and processes*.

Considering strategies and processes. This subcategory involves incorporating strategies or processes that can help provide structure or a framework to assist with communicating more effectively. Some participants expressed how they have considered the use of a specific strategy or process to help communicate nutrition counseling more effectively. While, other participants reported not considering the use any type of framework, but endeavored to discuss the patients' concerns to the best of their ability. One specific strategy or process that the participants considered was evaluating the patients' readiness to change, through incorporated the stages of change model. The participants either discussed the stages of change model directly, indirectly described aspects of the model, or expressed a different process or strategy to evaluate their willingness to change. The stages of change model is used as a strategy to increase understanding of how prepared, eager, and willing a patient is toward modifying a learned behavior (Prochaska & Di Clemente, 1984). The use of the model has evolved in its application to various circumstances within multiple settings. The core constructs of this model include: The stages of change, the processes of change, decisional balance, and self-efficacy (Prochaska & Di Clemente, 1984). Participants provided examples/descriptions as to how they assessed the public's readiness to change along with the processes accompanying utilizing effective communication with their patients.

Although many participants discussed attributes surrounding the stages of change model and used some the strategies, **Leslie** specifically identified it as one strategy that she uses, as she explained:

> I can't change if a person accepts or rejects changing a lifestyle, but that's something that going forward I can definitely be more aware of. Asking myself questions such as, "Is this family understanding what I'm saying or what is their literacy level?" Also asking, "What stage of readiness are they in, contemplation or pre-contemplation?" It could be something that while I can't change where the community is, or where the families are, I can deal with where the person is, on their readiness. I can't change their willingness to receive my counseling, advice, or my education; but, I can be aware and then hopefully take that awareness to address how I provide my nutritional counseling better.

Leslie further described the importance of understanding patient's readiness. She shared:

> Being more of a provider, a nurse being more open and understanding of the community's readiness, also being self-aware as a public health nurse and how you're going to respond to that readiness and that ability could help prepare PHNs toward providing nutrition counseling.

Diana Prince described how patients were closed and did not want to discuss any aspect of their health. She stated:

> I think a problem of providing nutrition counseling is if the client is closed and you get that idea that they do not want to talk about food, their weight… nothing at all. I think you just have to gracefully 'bow out'. But

> sometimes that's a problem, especially if you know it's a needed conversation.

Diana Prince further expressed how she assesses patient's readiness, as she replied:

> It is important to meet the client with, 'How do you feel about your diet?' And what I have found is, like I told you in the previous statement, is that, people will tell you right off whether it's a closed conversation, 'I don't want to talk about it right now' or they'll say, 'Well, I don't really eat right, you know'.

Ann described how patients' engagement and receptivity to information makes a big difference in their readiness to change. She expressed:

> If patients were really interested in getting the information and really interested and motivated to make some changes, I think that would make a big difference. I think some people know that they need to make some changes, but they are very sensitive about it too. It is a sensitive topic and they maybe don't want to hear it. They're just at their appointment because they have to be.

Rachael expressed the importance of being understanding and communicating with patients that it is okay if they are not ready to discuss nutrition counselling. She mentioned:

> Sometimes a person is not open to change and that's fine, but I think maybe just opening the door to say, 'if you want to'. I don't think people

> get that enough. I like that I have the ability to do that. For instance, I would initiate, 'Well, I see that you wrote this and this down. Are you interested at all or is that something that you would like to change?' Yes, I love it! I love any chance that I get to open that door for the patient. This is what drives me!

Lucy expressed:

> The first thing I do with anybody and with any education or counseling is that I assess where the patients are, in terms of their readiness. If I have somebody that is eating 4,000 calories a day and not getting any exercise, then obviously I'm not going to be as stringent with the nutrition or physical health education advice. It is going to take baby steps versus somebody that is pretty much already committed to the idea of changing and is starting the process. Then I'm going to give them more specific steps. I think that assessment in the beginning is crucial just in trying to figure out how to provide nutrition counseling, how that person learns, and what they're capable of committing to.

Utilizing effective communication involved learning how to approach patients, setting the conversational tone, listening to them, and providing an appropriate introduction which will engage patients in dialogue around the subject of nutrition. The subcategories discussed were: *role modeling, motivational interviewing*, and *considering strategies and processes*. All of the subcategories discussed in this research study serve to explain the ramifications as to how nutrition counseling is delivered around *utilizing effective communication* and

how it influences PHNs own attitudes, perceptions, and behaviors in the development of their role in providing nutrition counseling. The next category that will be discussed is *engaging communities*.

Engaging Communities

Engaging communities involves engaging with or connecting with the community. Billings, Kowalski, and Clearly (2010) described it as "developing professional links across organizations and working on projects with identified outcomes collaboratively" (p. 344). It involves forming partnerships in order to build the community in various areas, such as health, education, scholarship, policy regulation, and research. *Engaging communities* requires planning, evaluation of the community's needs, networking, communicating, and marketing skills. The subcategories that support *engaging communities* include, *networking*, *management engagement and support*, and *community health assessment*.

Immediate Past President discussed her experience of *networking* and *engaging communities* to encourage good health practices through nutrition counseling. She expressed:

> I am organizing a health fair right now, and we have nutritionists and dietitians there for adults and WIC for the pediatric group. For the school age children, we have our school nurses who are all certified school nurses, and they always provide nutritional counseling. Whenever I find something good to share with schools, I order it, especially if it's free and drop it off to maintain a good relationship with them.

Sidney reported about a program that she was involved in that helped to promote healthy eating. She described:

> I was involved in, kind of the pioneer group called 5210 Program that targets children in the third and fourth grade. I am really excited about it because we are getting the information out there to promote health, not just healthy eating, but healthy lifestyles for children. So hopefully they can take this with them. It originated from the program out of Maine called 5210 Let's Go. It involves 5 fruits and vegetables daily, 2 hours or less of screen time, 1 hour of physical activity, and promoting 0 sugary drinks.

Sidney would like to see more networking between public health and other community and private organizations. She further expressed, "I would like to see more collaboration between public health and specialties like diabetes and cardiac organizations. Some top educators in the area such as the diabetes coalition, to collaborate with."

Ann reported useful collaborations with WIC and the hospital dietician. She mentioned:

> We found useful resources through our WIC providers who reviews our charts, care plans, and provides suggestions. In addition, the hospital dietitians can be a valuable resource. If there are other programs in the community, like wellness bridges that include physicians who were on a board to provide a whole program on nutrition counseling and exercise.

These kinds of valuable partnerships help to obtain additional resources, tips, and ideas.

Betty expressed the benefit of networking with other organizations. She conveyed:

> I think we need to develop better partnerships with our community hospitals to do more outreach and classes so that we can have more of those classes available for people to make it easier for them to access. There are grocery store chains that have an in-house dietician, if we were to partner with them in some way, because some of their services are free. I think most of the time their classes are free, but if we could sort of partner with the hospital and the grocery store chain, just kind of think outside the box a little bit. In addition, given the fact that our budgets are tight, we don't have the staffing, but we've got the resources in the community, I think we could make some strides in this area if we reach out and just throw the idea out to some of these partners.

Leslie encouraged collaborations with physicians and registered dieticians to help develop more support for the community. She voiced:

> I think that if there is a registered dietitian in town or a physician to work together with the public health nurses, I think that collaboration would help improve nutrition counseling. I think it is all interconnected, and that nutrition is one of our core issues that we have. For instance, one thing we're trying to do in our community is have the main dietitian at our

> hospital to work with us. For instance, we did a diabetes expo last weekend, with the help of the dietitian.

Leslie emphasized consistency in providing information as she further stated:

> If the dietician is providing the same information across town then the people can come to multiple places for help for the same question. If we collaborated with physicians, then that starts tying it back to the root issue, and if nutrition becomes addressed with us and the health district, and with the dietitian, and with a physician, then hopefully we're preventing problems from developing in the future.

As it relates to community health assessment, **Michelle** reported that patients are not cooking anymore, leading to them eating more processed, fried, or fast foods. She stated:

> There are not many people cooking meals anymore. I hear it from a lot of people that they eat out quite a bit more or they use quick meals, because they don't want to have to go through the process of cooking and then have that food left over.

***Networking*.** This is a subcategory that emerged to describe the collaboration that occurred between the PHN and the community, other organizations, and individual patients. According to Robeson (2009), networks are "relational organizational forms that involve interconnected individuals, groups or organizations that interact with each other to achieve a common goal" (p. 8). It is a useful way of exchanging knowledge, information, and resources.

Since all of the participants viewed nutritionists and registered dieticians as nutritional experts and as important networking resources, the participant's voices reflected their collaboration with these professions first. The participants also discussed the importance of networking with a variety of community resources that they felt were needed to help impact the health of the public.

Lucy stated:

> I don't think PHNs should be the know-all end-all by any means concerning nutrition. We know just enough about basic nutrition information to get someone started and help them, but we're not the experts on it by any means. That's what the dieticians are for.

Lucy further reported the benefit of networking with a registered dietician as a public health department, "Well, obviously collaborating with dieticians is one of the early steps. They are a little more familiar with what the problems are in the hospital population."

Although, PHNs felt that they played a role in providing basic or general nutrition counseling **Jaycee** also felt that they were not the experts in the field. She reported, "PHNs can give patients more general information, but dieticians can definitely better explain components of a diet specific to a client and better for that individual. They have a lot more training than we do in this area." **Betty** discussed how she sought counsel from registered dieticians to obtain a better understanding of their focus so that PHNs could have the most up-to-date recommendations, as she shared:

> I think that PHNs could start talking to the dieticians at the hospital and ask them what type of counseling they are providing to patients with cardiovascular disease. Or maybe seek advice from dieticians about the type of advice to give to older adult patients in other areas of the hospital, because they know what the recommended diets are and what goals are indicated for their diets. So, I think if we could get that knowledge from WIC and maybe our hospital dieticians, we would have a better understanding on what their targets are so that when we have people come into the clinic, we can all be on the same page with the education we provide.

Jimbo reported already possessing a partnership with a registered dietician. She expressed:

> Well fortunately for me, I do have some people available to me, the dietician in the hospital. We [PHNs] have a connection with them at our facility, so I think we're pretty good.

Sara reported her experience of networking with a teacher at one of her local schools who wanted to develop a community garden. She communicated:

> We do have a teacher at one of our schools who wants to start an orchard and a garden at the school. So, we discussed possibly applying for some funding and maybe partnering with the schools to help kids to learn more about nutritious food; and then, explain to students about the process of

> growing food, and the choices they can make from within the food they have grown.

Sue discussed her experience with collaborating with WIC and extension programs, as she explicated:

> Many of our clients don't know how to cook from scratch, so providing recipes is very beneficial. We also work with extension agencies in our office. People who work in the food extension offices visit our WIC clinics so, they provide recipes and good handouts. As PHNs, we should explain to patients that food doesn't have to come from a package or a box. The Women, Infants and Children (WIC) program and extension agencies both do a great job with providing recipes and discussing helpful hints about growing your own food. We also have one registered dietician who works with the [Aging and Disability Resource Centers] ADRC and goes out and talks about nutrition to the senior sites in our county.

Watermelon identified extension agencies, restaurants and schools as useful resources in the community, when she echoed:

> The university extension agency is a collaborative effort that was developed over several years. We need to be able to work with local restaurants and federal or university research programs. The schools are fabulous and I think that's probably where the success rate is going to come from. Teach them when they're little what they're supposed to eat and when they're older, that's what they'll eat.

Meadow stated that the federal WIC program is a great resource, as she reverberated:

> Thank God for WIC! I communicate with WIC a lot about certain families and babies that have problems with formula, and with vouchers. The mother of a baby that receive WIC vouchers may be complaining about the baby not getting enough milk. That is probably the most difficult thing, when people don't have the resources to buy what they need to feed their family.

Management engagement and support is another subcategory that is discussed within *engaging communities*. It expresses the perspective support from management of public health departments and their engagement with the participants' involvement in providing nutrition counseling. It also includes support through funding or financial assistance or the lack there of. Holt-Lunstad, Robles, and Sbarra (2017) described social connection between individuals as a demonstration that a person could socially connect to others; either through physical, behavioral, social, cognitive, or emotional channels. According to Schmalenberg and Kramer (2009) management engagement and support is empowering staff by listening to their ideas and concerns, advocating for staff when needed, and promoting collegial relationships amongst group members. Participants described their experiences with their management team, which involved both engagement and support as well as the lack of support concerning, ideas, resources, and funding requests surrounding their involvement in nutrition counseling.

Diana Prince provided a description of her experience with receiving managerial engagement and support, she expressed:

> To give you background, I approached my management team about providing a general update on nutrition. And they said, "well that's not your expertise." In the beginning I was kind of offended, because I know that I'm not a registered dietitian and I wasn't asking to actually counsel a person through the whole carbohydrate counting process. They just totally dismissed the idea. Public health nurses have a responsibility to help management understand that nutritional updates for PHNs are needed. This is not a small matter. Look at the health and dietary statistics within the United States, people don't eat the way that they're supposed to.

However, her state health department did support **Diana Prince** in purchasing tools to assist with nutrition counseling and she explained:

> If PHNs don't have the tools to help patients, that can be a hindrance. Thus, we asked our supervisors for pictures of food because we felt that people have different literacy levels; and if they can see a picture of food, we felt that may help. So that is one thing that management did provide.

Sara explicated her frustration of lack of management engagement and support when she declared:

> I think funding is a bit of an issue because we can't just take more classes and we can't always provide the very best because it's hard to become a

> professional or an expert at something without money. So, I think lack of money is an issue, and of course lack of time is an issue.

Betty expressed how PHNs follow the manager's request for certain health initiative to be promoted. She reported:

> If your bosses are not putting enough emphasis on nutritional counseling and they want us to focus on other things with the clients, then PHNs will follow their lead and will not be as invested in it either.

Immediate Past President discussed the management engagement and support by means of funding to obtain access to needed resources. She revealed:

> The state used to give us money every year for public health priority funding to buy educational pamphlets in different languages. Well, everything got cut out and we don't have the needed funding. So, for the last 10 years we haven't had public health priority. I've had to research information on the internet and then print it out. Thank God we have a copy machine.

Community health assessment is the final subcategory within *engaging communities*. It involves evaluating health outcomes provided by a public health department which assesses the community's health needs. Community health assessment is defined as "a state, tribal, local, or territorial health assessment that identifies key health needs and issues through systematic, comprehensive data collection and analysis" (CDC, 2015a; Rosenbaum, 2013, p. 1). Participants

discussed their involvement with community health assessment and the extent to which such engagement occurred within their facility.

Lucy stated that from a community health assessment perspective, her health department looked at the data reflecting the population's health. She reported:

> We look at our statistics, with the top three health related problems are heart disease, diabetes, and obesity. We look at the health-related problems and we then figure out which one we're going to evaluate first. We then start developing strategies beginning with; what type of counseling will be provided, identify the most affected population, and evaluate how to reach the population in order to provide the needed counseling that we would want to provide.

Rachael reflected on looking at data that reflects the health of the community, which also helps to direct the nature of her nutritional conversations with patients. She expressed:

> I would think that the data that many health departments obtain would definitely influence their response to what the community's needs are. I think the data has already influenced the direction our clinic is moving and has helped to determine what our target is or what are we working on to improve the state of health of the community. It is all about the data for us.

Rachael further discussed an improvement plan that her health department has implemented. She expressed:

> In public health it's really easy to make a link between patient outcomes or the prevalence of a disease, such as, obesity, heart disease, hypertension, or diabetes type II. We can, as PHNs look at those numbers in our community and see the strong links between what food sources are in this area, what diseases are on the rise, and how much of that is because of food deserts. We are constantly surveying and monitoring these links. If we see trends, then we meet and discuss what needs to be done and implement a quality improvement program, and evaluate fluctuations and if anything is affecting these trends.

Sara discussed how their health department just installed a new program that gives them the ability to be outcome driven:

> All of our software is built around evaluating health in the community, so we actually are able to evaluate outcomes. We just started that a couple of years ago, and we're actually able to feel like we focus on diabetes management. Let's say we did that for a few patients and we really looked at what interventions we're providing and what outcomes we're seeing. Having that ability to be outcome driven is huge because I think anyone who can see reward in their work is more likely to do a better job, or if you see a lack of outcome, you know that you need to change something.

Watermelon reported that her health department assesses the community's needs and strives to address them:

> I work with a cultural group that has a lot of people with diabetes and hypertension. This population is extremely poor, so they qualify for a federally-funded clinic called the (clinic name) where they do diabetic and hypertension counseling. Thus, we strive to cater to the needs of the population.

Engaging communities was a category that emerged from the transcribed data that illustrated the collaborative efforts of developing partnerships and evaluating the health of the community through *networking*, *management engagement and support*, and *community health assessment*. The next category that will be discussed is the *revolving door*.

The Revolving Door

The revolving door is the last category that emerged from the transcribed interviews as intrinsic to attitudes, perceptions, and behaviors of PHNs toward nutrition counseling. The Robert Wood Johnson Foundation (RWJF) released a report in 2010, *The Revolving Door: A Report on U.S. Hospital Readmissions*, that reflected *the revolving door* as patients' returning to healthcare providers or facilities to seek additional care shortly after receiving care from a healthcare provider (Blair, 2013). It was described by the participants as having a busy public health clinic and efficiently moving the patients in and then sending them out repeatedly to ensure that patients were seen and treated by a health care

professional. The characteristic subcategories within *the revolving door* category included factors such as, *spending time* and *competing with other programs*

In addition, *the revolving door* represents concerns of competing organizations that fund the public health departments ensuring that their initiatives are discussed and promoted, while decreasing preventative and health promotion processes from being discussed that are not always funded. These situations often result in patients returning to the health departments to seek guidance concerning health promotion and disease prevention conditions, such as nutrition.

Betty reported her experience of not being able to spend time with her patients to discuss nutrition information at the detention centers. She stated:

> When I am working at the detention center. If I have a lot of kids who put in a medical alert, then I don't always get to spend as much time with the kids that maybe have a med alert with a nutrition question, or they have some issue with their diet that they want to discuss.

Jimbo mentioned that spending time with patients to provide nutrition counseling is very important, but there is not often enough time. She expressed:

> I feel that nurses' involvement in nutrition is very important, but, to counsel or educate our patients, is not often done. We are so busy just getting through physical and medical concerns that the patient needs, that sometimes we don't always get to counsel our patients as much as we would like to about nutrition.

Lue stressed that families have more urgent needs resulting in nutrition being less of a concern. However, nutrition related chronic diseases eventually develop from lack of proper nutrition counseling being provided. She stated:

> Public health nurses are often trying to keep families from being homeless or abused. Parents are often in survival mode and they're not really focused on what we talked about with nutrition. A lot of times parents are not even aware of what's going on with their kid. The mom may be trying to figure out how to keep the lights on and dad may be in jail again. Then nutrition often times is down the list to be discussed. Later chronic diseases and illnesses often associated with nutrition become a concern. It is a lot of work to focus on nutrition. **Sara** felt that nutrition counseling was hindered by time and money. She expressed, "I think lack of time is a big issue, as well as lack of funding."

Spending time. This subcategory describes the limited amount of time that the study participants expressed about their capacities to provide nutrition counseling in such busy clinics. According to Danish philosopher, Niels Thomassen, people experience and exist in a phenomenon of a condition called time that we cannot escape but can relate to. The phenomenon of time is related to two concepts: (a) world time that is measured by a clock and (b) personal time, that describes how people see time from a human perspective of experiences that occur in the past, present, and future (Thomassen, 1999). Every person has to balance both concepts of how they experienced world and personal time. Dalgaard and Delmar (2008) evaluated the connection between time and the

quality of care that nurses provide. In relation to nurses' inability to spend time, by stating, "The dominance of clock time over nursing staff members' personal time may adversely affect professional development as the lack of clock time has a detrimental effect on the concrete care encounter and the nursing staff members" (p. 473).

Due to limited time and the busyness at their local clinics, the study participants only had enough time to discuss essential information with patients versus information that would be nice to know. In addition, sometimes the essential information is limited to one recommendation due to either time constrains or the PHNs does not have sufficient knowledge of the essential nutrition information that the patient requires.

Irena described her experience concerning the inability of being able to spend time around nutritional concerns due to the busy-ness of the clinic. She mentioned:

> You have to provide PHNs with time. On so many occasions nurses are rushed because now and again we have screenings, one right after the other, and there's not time built into it to allow us to sit there and talk to a person. **Sidney** expressed how time limitations are an obstacle to providing quality nutrition counseling. "I think that's a big obstacle, the time factor and trying to get all the patients' needs met.'

Watermelon expressed that the limited time affected her ability to provide sufficient nutritional counseling:

> I think it would help if we had the time. Those patients are just pushed through clinics so quickly nowadays. I wish we had the time to devote to them, I'm talking about outside of WIC. It is hard to find the time to do more than the service that the client is presenting you with.

Betty reported how she glosses over information or only provides nutrition information that the patient needs to know due to lack of time:

> Sometimes it's important to address the more pressing issue first. If we have a lot of people in the waiting room that need to be seen and maybe I have a client that asks about nutrition or asks about what they can do to change their diet to lower blood pressure, I'll hit the high points with the patient I am speaking with, but that might only be a few minutes and they may have more questions. I can't always spend the time that I would like with the clients because we have to get people in and make sure that we're not having the other clients waiting too long.

Competing with other programs is the final subcategory within *the revolving door*, a category that addresses competing with mandated, well-funded programs versus less well-funded programs that often involve health promotional education such as nutrition counseling. Rivers and Glover (2008) stated that navigating through competing issues within health care involves using funding, the quality of care, innovation, top-quality products or service to contend with another organization, business, product, or service. Goddard (2015) reported that there was a difference between competing in the private and public sectors of healthcare. Within the private sector, competing is viewed from an economic

perspective that an exchange occurs between the buyer and seller that centers around buying or selling the best product based on the cost and quality. While competing among community health considers that the seller receiving the best outcome.

Various companies provide funding to organizations to ensure that these organizations promote the company's initiatives **(**The United States of Health and Human Services, 2016). Whereas, other needed health related information that is not funded but need to be discussed is briefly reviewed or often not discussed at all. Organizations that provide funding to public health to promote their initiatives require verification in the form of documentation to warrant continued funding. These initiatives are often enforced by administrators to ensure that various health programs are promoted and documented during patient appointments. Examples include childhood immunizations and smoking cessation campaigns. This situation often results in public health patients returning to the public health departments to address the needed health information that was not thoroughly discussed such as health concerns related to nutrition.

Betty explicated the bureaucracy of what is required to be reviewed with patients based on sources of funding, as she shared:

> I think the focus on prevention and teaching people what a healthy diet is should be a target that we need to be hitting, and it's not currently. I think part of that is related to our funding. Monitoring blood pressures has been a major concern for PHNs to ensure it is discussed and documented. One

> of the reasons is that we have received, I think it is called a Million Hearts grant, to encourage blood pressure reduction. So, a lot of it is based on where the money is coming from.

Rachael reported:

> Of course, another concern is lack of money. Are we educating the public about something that we are passionate about? Yes. Is it something that we would like to do? Yes. Do we have money to do this to take this on? Maybe. It depends upon where the money source is coming from.

Michelle offered:

> Certainly, what comes down from our administrative regulators determine what PHNs need to discuss. Within public health, the administrators will usually give you stipulations on taking these steps, 'Here, this is what you've got to cover when someone comes in with this', and so I feel like they can have some influence on what they want to see done because we have to have specific information charted in a certain way. Otherwise, what we have discussed with patients will be revealed if we're audited for some of those programs. It comes down to their regulations and rules as far as what they want done to keep the funding.

Lucy described her experience of not being able to provide nutrition counseling due to other health concerns that were determined more critical:

> It depends on where upper management's focus is at the time. If my State Health Department Commissioner tells me he wants to focus on smoking,

> then it's hard for me to rally the troops to provide nutrition counseling or education, versus if that is our focus, then I can typically get some really good events going and some good education pieces going. But it is greatly influenced by funding.

The study participants discussed characteristics and factors influencing *the revolving door* that impacted their ability to provide nutrition counseling. Factors that often influenced PHNs' behaviors and attitudes in the provision of nutrition counseling were expressed as, spending time and the competing with other programs.

Formulation of a Theory

This section will describe a schematic of the developing theory. Through the back and forth process of reviewing the data, categories began to emerge and form the individual participants' collective interviews. The overall tone from the study participants concerned wanting to impact the health of the public began to develop. There was an undertone of feeling insufficiently prepared when providing nutrition counseling that resulted in a strong desire for each participant to seek more information, become more competent when working with other cultures, express how to provide the information, understand ways of identifying resources, engaging communities, and the business and lack of time they possessed. Thus, through the participants' thick, rich descriptions of critical factors that influence their attitudes, perceptions, and behaviors of providing nutrition counseling and explaining their role in nutrition counseling; the main and subcategories of *(a) knowing:* subcategories included; *possessing a spirit of*

inquiry, accessing resources, counseling models, and *possessing experience; (b) cultural competency:* subcategories included; *understanding the "culture of food," cultural awareness,* and *intercultural communication; (c) utilizing effective communication:* subcategories comprised of; *role modeling, motivational interviewing,* and *considering strategies and processes, (d) engaging communities:* subcategories comprised of; *networking, management engagement and support,* and *community health assessment, and (e) the revolving door:* subcategories included; *spending time* and *competing with other programs*, emerged as components that led to the core category of *Impacting the Health of the Public*. The core category is the basic social process that underlies PHNs attitudes, perceptions, and behaviors in their provision of nutrition counseling.

The process began with the main category of *knowing*, which described what nutrition information and influential factors that PHN needed to know, become aware of, and understand in order to provide effective nutrition counseling. It involves having the capacity to be aware and understand conditions that impact knowledge. Subcategories that supported this category include: (a) *possessing a spirit of inquiry*, (b) *accessing resources*, (c) *counseling models*, and (d) *possessing experience*.

Cultural competency incorporates the cultural aspects of providing nutrition counseling to diverse populations. It goes beyond only considering culture or religious aspects of specific cultural groups, it involves the perspectives and mindsets of the American society and how food and nutrition is viewed. This category follows *knowing* because it helps to explain environmental,

socioeconomic, or societal perspectives to consider before approaching patients through *utilizing effective communication* to offer nutrition counseling. The subcategories include: (a) *understanding the "culture of food*," (b) *cultural awareness*, and (c) *intercultural communication*.

Utilizing effective communication represented how PHNs provide *knowing* in order to make an impact in the health of the public. *Knowing* and cultural competency precedes utilizing effective communication because knowing provides 'what' needs to be understood and cultural competency considers perspectives of how to approach patients before communication commences. *Utilizing effective communication* provides concepts of 'how' the information will be delivered once *knowing* and *cultural competency* are considered. The subcategories that supported this section included: (a) *role modeling* (b) *motivational interviewing*, and (c) *considering strategies and processes*.

The next category, *engaging communities* emphasized support, collaboration, and connectivity among various groups and organizations as well as the public. *Engaging communities* surrounded the core category of *Impacting the Health of the Public*, because it described how PHNs connected with community resources, management, and health assessment of the population to demonstrate links between these entities and the community's health. It further evaluated programs that were set in place to assist PHNs toward helping the public. This category was supported by subcategories: (a) *networking,* (b) *management engagement and support*, and (c) *community health assessment*.

Lastly, *the revolving door* appeared to be one of the largest barriers to PHNs. It also surrounded the core category of *Impacting the Health of the Public* as it related to, (a) *spending* limited *time* with the public and (b) *competing with* initiatives from funded *programs*, such as heart healthy, childhood immunizations, and smoking prevention. Further limiting PHNs time to talk with patients about nutrition counseling and compelled patients to return to the public health facility to address nutrition related health concerns that they did not receive in prior visits. All of these factors are associated with *the revolving door*, making it a challenge to impact the health of the public.

The core category of *Impacting the Health of the Public* is positioned in the middle, surrounded by the other main categories. The categories are identified as critical factors that influence PHNs attitudes, perceptions, and behaviors toward nutrition counseling and focuses on one core issue of how they all relate. As the PHNs become engaged with *knowing, cultural competency, utilizing effective communication, engaging communities,* and *the revolving door*, their perception and approach to nutrition counseling is expected to expand and grow into new concepts and ways of thinking. Thus, the critical factors that influence PHNs role and their involvement in nutrition counseling, as described and supported by the words of the participants are affected by their ability to *Impact the Health of the Public*.

Phase II: Focus Group Participants

Phase II focus group participants comprised of three ($n = 3$) participants as part of the theoretical sample. The focus group consisted of nursing experts all of

whom possessed a graduate degree, a certification in public health nursing; willing to review a new theory and discuss it in an audio-recorded session with other focus group members; employed in the United States; spoke fluent English; had access to a computer, Internet/Skype®, telephone and email; and have either published, participated in a discussion panel, or presented information at nursing conferences where nurse involvement in nutrition counseling was emphasized. Before the interview commenced each participant was provided a description of the research and signed an informed consent via DocuSign.com. The emerging theory along with the interview questions were sent to each participant to review via email. Before the interview commenced, the participants were thanked for their willingness to participate and informed that they could leave the interview at any time.

The three focus group participants were not all able to meet at a mutually agreeable time; thus, the interviews were conducted separately. One member of the focus group held her interview via telephone, while the other two interviews were conducted via Skype®. A demographic questionnaire was not used as their identification via the foundational literature review used to elicit study participants rendered their demographic information already known. Below is a brief description of each participant's individual characteristics. All participants were assured that identifiers such as personal names and public health facilities would not be revealed within this study; therefore, they were identified by their selected pseudonyms.

Dr. Julia Jones obtained her bachelor of science, master of science, and doctor of philosophy in the field of nursing. She is a board-certified community/public health clinical nurse specialist. Her nursing experience is primarily in community and public health nursing, with a special interest in school nursing. She provided classroom-based nutrition education for elementary school children which included nutrition counseling at an afterschool program tailored to children at risk for obesity. There, she worked with children in the provision of nutrition education and their families.

Dr. Jones' research interests address the care of vulnerable populations, access to healthcare, and obesity prevention. Her dissertation research studied the impact of the work environment on long-haul truck drivers and their risk of obesity. She is currently researching the effects of community gardens on participants as an extension of her involvement with the elementary school program. Her experiences of service include, a member of Sigma Theta Tau International Honor Society of Nursing, College Faculty Counselor and acting as Nominations Committee Chair for the Association of Community Nurse Educators. She has been a contributor and ancillary author to multiple public health publications with articles published around the topic of obesity, community gardens, and health status of school children.

Naomi has earned her doctor of philosophy in the field of nursing and is a certified public health nurse. Her experiences as a public health nurse have been directed towards systems at the organizational level; she demonstrates this whole

system focus via her work with clinics and public health departments helping them to make systematic changes which encourage staff to address nutrition with every patient interaction. Naomi has helped public health departments install a standardized charting system as a part of an electronic health record known as the Omaha System. This system employs the use of uniform taxonomy in charting medical records. She used the Omaha System as a means to develop a nutrition section as an adjunct to documenting outcomes of patients' health. The Omaha System is based on a book called *Omaha System: A Key to Practice Documentation Information* (Martin, Bowles, Elfrink, & Monsen, 2005).

Naomi's position at her state public health department is that of a Healthcare Initiative Coordinator. As a PartnerSHIP 4 Health and Healthcare Initiative Coordinator, Naomi participated in the "*I Can Prevent Diabetes (ICPD) Class*." This initiative developed a support group of people for those who were overweight and had not experienced diabetes. With guidance, education, and encouragement, the members of this group were motivated to make healthier food choices for themselves and their families. Naomi has authored multiple publications addressing PHNs' involvement in nutrition and obesity. She has also presented at nursing conferences that focused on nutrition that specifically involved transforming evidence-based obesity guidelines into clinical practice. Furthermore, Naomi has also published research in journals and presented information at nursing conferences on the Omaha System and its benefits to the community.

Lifestyle earned her doctor of philosophy in the field of nursing and is a certified public health nurse. She has been practicing as a public health nurse for nearly 40 years in the role of an administrator and is currently a director of a public health department in the United States. Lifestyle has partnered with a local university's school of nursing and has been a key player in the collaborative effort to bolster the evidence-based research to the Omaha System so that it more accurately depicts and assesses the nutritional status of the clients who visit health departments. As a key leader and advocate for nutritional health education, Lifestyle has assisted in expanding the use of the Omaha System with her health department. Through this process, she helped to develop the ability to identify signs and symptoms within population groups that impacted their nutritional health, that also included tobacco use and physical activity. In addition, she has developed and implemented ways to incorporate the aforementioned identifiers or assessors as part of the overall patient care plans. Furthermore, the Omaha System is used for clinical practice, community assessments, and program management within various departments (family planning, tuberculosis, chronic health conditions) at her public health facility. She has authored multiple publications which address the topics of obesity, nutrition, and public health and has also developed and presented posters related to the evaluation of PHN interventions and the impact on nutritional outcomes.

In summary, this section has provided a written description of each participants' background in Phase II, as well as a brief description of each participant's experiences involving nutrition counseling. All three are qualified to

speak to the subject matter of PHNs involvement in nutrition counseling. The following section will describe the confirmation of categories and subcategories as recognized through supporting accounts of the Phase II focus group participants' expertise and experiences.

Confirmation of Categories, Subcategories, and Theory

The focus group members provided constructive feedback concerning the emerging categories, subcategories, and the social process elicited from the interviews. All of the focus group members were experts in the field of nursing and could speak to PHNs' involvement in nutrition counseling. Alternatively, they all possessed a certification in public health nursing, a graduate degree, and have published or presented information as it related to nutrition and the PHNs' involvement in nutrition counseling. Each focus group participant contributed beneficial feedback with insight as to the relationship of each of the components to the emerging theory. The following section will reveal the feedback each focus group participant provided relating to the main categories and subcategories. Additionally, focus group participants provided feedback on the core category, indicating how closely the categories and subcategories "fit" in relation to their understanding of nutrition counseling amongst PHNs. The schematic can be found after the focus group participants' comments in Figure 3.

After the informed consent was obtained and signed, each focus group member was emailed a copy of the categories, subcategories and the emerging theory and given a list of interview questions to review prior to the focus group interview. The emerging theory diagram illustrated main categories,

subcategories, and the core category of the critical factors that influence PHNs toward providing nutrition counseling. Each focus group member's interview was conducted separately, one via telephone and the other two via Skype®. Before each interview commenced, the focus group participants were each thanked for their willingness to participate. The purpose of the interview was reviewed and each participant was reminded that the interview would be audio recorded and that they could leave the interview at any time. Each interview lasted no more than 70 minutes. **Dr. Julia Jones** provided feedback on all of the main categories:

> Looking at the constructs of each category, I think those capture what goes into looking at the attitudes, perceptions, and behaviors as far as general categories. I thought they were appropriate.

Knowing

Each focus group participant confirmed and agreed that the concept of knowing is a critical factor that influences PHNs' confidence level of possessing the sufficient knowledge of nutrition in order to feel comfortable and well-informed about providing nutrition counseling. They each shared their expertise about the categories, subcategories, and the developing theory.

Lifestyle stated:

> So, let's talk about the first one, and that's *knowing*. That was kind of the first thing that came up from our staff as we embarked on this journey of saying we need to address concepts of *knowing.* The public health nursing

> staff wanted to feel comfortable in knowing basic nutritional information in terms of the number of servings per day and types of things, so our dietitian helped with getting that information to them. I believe we had a screening tool, it's the 5-3-2-2-5 or something like that. So, we created that tool for the staff to use with their clients so that they could use that as their teaching tool in terms of assessing, but also teaching to say these are the recommendations. We really do not address or provide them much information about other fad diets, the DASH diet, or anything like that. We were really just sticking with the food pyramid and the number of serving sizes, and types of foods recommended.

Dr. Julia Jones spoke about accessing resources, stating, **"**So as far as critical factors that would influence a public health nurse's role in counseling, I would say it would be access to resources and providing them." **Naomi** replied, "I think that possessing a spirit of inquiry is good there [in knowing] and what you said is good too, but I think also knowing referral resources is important to include." **Lifestyles** commented on the subcategory of *knowing*, possessing a spirit of inquiry, "I think that *possessing a spirit of inquiry* is a part of *knowing.*"

Lifestyle provides an example of another subcategory of *knowing*, which is *accessing resources*. She expressed:

> As a health department, we also looked at what were the resources, as to where they could go, where could we refer people to, to access resources? We also believe because of the population we deal with that finances do take a part in that nutrition category. So, then we connect into our

> community resources such as the WIC program, community food shelves, and that kind of thing where they can get fresh fruits and vegetables, but we often see that clients tend to pick the can goods because that's oftentimes what you find at food shelves.

Naomi mentioned the importance of *counseling models*. A subcategory of *knowing*. She expressed:

> I would look at the five As a lot because if you are discussing nutrition or not, you have to have the same basic framework to build your behavior change. So, when we work with other public health nurses and system changes, we use the five As, which you'd have to have some of these things in place within the five As, like the second five A is advising them of the current status and the risks of maintaining it, and the benefits of changing which is your knowing.

Dr. Julia Jones discussed the importance of knowing *counseling models*. She stated:

> It is important to say something about understanding all different models of health behavior, such as The Transtheoretical Model, or Health Behavior Model. I know that is something that I talk to my students about, in the public health course. But if that's something that you're looking at in utilizing effective communication, then having that knowledge base about how to assess readiness to change or understanding

patient's readiness to change, and then utilizing effective communication might be the actual assessment of readiness to change and adapting.

Dr. Julia Jones further suggested:

> One other note that I had put along with my notes on utilizing effective communication, and I don't know if it would go in that area or under knowing, but, I think, for some nurses they don't even attempt to do any type of nutritional counseling because they don't have the confidence within themselves. I could see that being tied back from an educator's standpoint if I was looking at this and applying this to students. Giving them thoughtful opportunities to practice that in clinical or simulation opportunities which increase their confidence and experience.

Cultural Competency

Lifestyle replied:

> Culture certainly is a factor and one that I naively did not consider 20 years ago when I thought that it was not something that we needed to worry about, because we're very white, Caucasian, European culture in our area and we know how people eat. That way of thinking has changed dramatically in our area in that we are now seeing more cultural diversity and our staff is being exposed to other cultures and diets that are common to other cultures. Culture does play a role, no matter what culture you are.

Lifestyle further discussed the "culture of food" by mentioning common food preferences. She stated:

> I think even within our prominent American culture is, when someone comes to visit you, they don't serve them a platter of vegetables, you have a wonderful dessert. When you go to conferences, if evaluation says, "They shouldn't serve the deserts" then the other 50% will say, "We missed desserts." So, dessert just seems to be a real part of everyone's lifestyle, which we all know is mostly empty calories.

Dr. Julia Jones added how the American culture awarded children with food and how she guided teachers to avoid that practice. She voiced "With the after-school program that I worked in, some of the parents were involved with that. I work with some of the teachers and encouraged them not to use food as rewards in the classroom."

Dr. Julia Jones expressed the importance of cultural awareness:

> I would certainly agree the awareness of culture is important because nutrition is such a culturally heavy concept to begin with. What you're eating is a big part of your culture, so I think that cultural definitely needs to be included there.

Naomi expressed her view of the subcategory intercultural communication among nurses. She shared:

> I was involved in some grants, the state wanted us to address obesity, and of course some elements that happen with obesity and nutrition, and physical activity they impact obesity, and my role was to work with organizations so that the staff there, including nurses, would be better able

> to handle those conversations, better supported. So, we helped make system environmental policy changes to support the nurses' ability to communicate more effectively with the culturally diverse populations.

Dr. Julia Jones noted that before nurses could discuss nutrition counseling with clients, they had to develop a sense of trust. She voiced:

> I think for some nurses they don't even attempt to do any type of nutrition counseling because they don't have the confidence in themselves. It could also be just experience in talking about nutrition to other cultures, and different interests and topics, and also developing that relationship with the clients and developing that trust between them. Because again, I think that goes back to the setting of who you're working with and how long are you working with this person. If it's a one-time interaction, it's going to be a very different conversation than if you're seeing the same person over multiple days, or weeks, or months.

Utilizing Effective Communication

All of the focus group study participants confirmed and agreed that the concept of *utilizing effective communication* is a critical factor that influences PHNs' as it relates to nutrition counseling. Communicating effectively is what PHNs utilize in order to disseminate information to the public. The focus group participants will discuss the subcategories as well as the category of *utilizing effective communication.*

Naomi talked about the subcategory of role modeling, as she mentioned:

> We utilize a site called, Worksite Wellness with our public health departments. It is something that is used by organizations and businesses to help their employees become healthier. Because if there are healthy employees then they're less sick, experience fewer sick days for them and their kids, and fewer insurance payments. But we're encouraging that for public health care departments to become aware of and utilize this website. So, you're talking about what can you do to help people eat healthier and move more? Walking breaks, walking meetings. Let's take a look at what we're bringing to feed everybody. Do we have to have treats, or if we have treats what can they bring for my birthday? I brought in steamed broccoli, no steamed Brussel sprouts.

Dr. Julia Jones added:

> Well, I'm not sure why role modeling stood out to me other than hearing you explain it. Maybe it is putting more into that attitude of being comfortable in counseling someone, that it's not just that knowledge, you have to put actions behind it. Personally, when I teach about nutrition to students, it sometimes has a reverse effect of telling them they should be doing this, but yet I'm going and buying the fast food. So, sometimes it motivates me too. I'm saying to do this and do that, and then not doing it myself. So, I think it has strength both ways.

Lifestyle suggested:

> We have tried modeling the healthy behaviors within our own department. We jokingly had the file cabinet that was known as the "food trough" and instead became known as "the healthy eating counter." So, we encouraged people when they were bringing in treats or different things that they bring in healthier choices for our staff so that we can practice what we were preaching with our clients as well as with ourselves.

Naomi discussed the importance of the subcategory, motivational interviewing:

> There are studies that have shown that if you do use motivational interviewing and you use it correctly, you will actually get more information from your client in a shorter time. So maybe that can be a time saver.

Lifestyle expressed how their nurses receive training in motivational interviewing:

> We require our nurses within the first year of being hired within our agency to take motivational interviewing training to help them with their effective communication skills….The feedback that I have received from nursing staff is that is the best training that we can send staff to, helping them to better develop skills of engagement with their clients instead of being a person saying, 'you should'. It's being a person asking, 'what would it take?' and then letting the client establish their own goals; and then, our job is to support them [the client] in the goals they have established.

Naomi suggested:

> In the behavior change, of course, it's very reflective of the nursing process because if you don't know how to perform the screening, understand where the patient is in regards to their readiness, then implementation and evaluation will be difficult. I utilize the five As; where you ask, assess, or advise and so on. That's kind of the model we use. Motivation fits in there, but it's a whole strategy. And it's used a lot in tobacco. Actually, there's a short version that you can use for tobacco now too where they just ask, and advise, and refer. As health professionals, we have to communicate with patients what to expect, this is where this is going to lead you, and then you just refer.

Lifestyle shared her thoughts about the subcategory, considering strategies and processes as it relates to assessing a client's readiness to change. She expressed:

> I think you're right in that the readiness to change is a strategy and it does influence patients because (a) it helps you to understand how to approach the conversation of what the PHN wants to communicate, (b) how to communicate the information, and (c) determine the best way to cater to the patient's interest in order to engage them in the conversation. So, it really takes different approaches in order to apply it. So, I think what you've got is utilizing the effective communication skills, but then it is important to understand the patient's perspective, and maybe it's not understanding the patient's readiness to change but understanding the

> patient's perception and perspective of their readiness. Then your strategy is readiness to change.

Dr. Julia Jones reported on her thought about the subcategory, considering strategies and processes. She expressed:

> I think maybe addressing or incorporating, I am trying to think of the right word. I think it [readiness to change or processes and strategies] is more than understanding, I think it is utilizing or considering, or catering to the education concerning the person's readiness to change.

Lifestyle reported on considering strategies and processes. She explicated:

> We also did some training with the staff on Prochaskas Readiness to Change Scale, and we have that as a tool that we now use, where the client can say where they feel they are on the scale. So, we know if this is something that people want to address or not. Because if they do not want to address it, we do not want to keep badgering with them on something that they are not ready to change. I think that readiness to change is a strategy and can be used as a strategy.

Engaging Communities

Each of the focus group study participants confirmed and agreed that the concept of *engaging communities* is a critical factor that influences PHNs' as it relates to nutrition counseling. **Naomi** discussed the importance of two subcategories: *networking* and *community health assessment*. She expressed:

> There's another intervention category called Case Management. So, I would need to know about community resources. I would need to know about the dietitians and the nutritionists, and the Food Shelf. I would need to know that to be able to do that intervention. Then there's an intervention category called surveillance where a nurse has to go in and do the assessment.

Lifestyle stated:

> I think under engaging communities is where I see the PHNs engaging with the community and establishing policy and system, and environmental changes. So, it's not just with the individual one-on-one client. If we are really going to make the 'biggest bang for your buck', we need to think bigger and broader. I would keep resources and maybe engaging communities is another category. Because connecting with the community as a nurse I need to know what those resources are in my community; so that, is why you have to identify resources, and then you can begin to partner with them, such as: various local, state, and federal agencies, and include engaging communities, policy and system changes.

Agreeing with **Lifestyle**, **Naomi** suggested:

> Under engaging communities, each one of them actually could broaden from the individual level to a community level for each of those categories, while keeping those same categories. Such as developing a System level of engaging communities.

Naomi added:

> I think what you present within the categories is good and what you said is good too, but I think also knowing about referral resources is important. Because often, local public health departments have a dietitian on staff or there are local community resources, so if the PHN has information about what their referral resources are either internally or externally in the community, it would help to benefit the community. I think PHNs don't have as much knowledge as dietitians would or other people, but they might have the knowledge of where to refer them so when a person wants to go beyond what is on MyPlate or the DASH or other diets, what do they do? So, if they know where to refer and they're trustworthy referrals, or if they know the Food Shelf, they know the Food Shelf offers healthy foods. That's good referral resources.

Lifestyle explicated the importance of *management engagement and support*. She reported:

> It is important to explain to administrative support that nutrition counseling needs to be addressed, that includes having the staffing needed that is available to allow them to be able to have the time to imbed that into their practice, and then ultimately the funding available to help support that need for the amount of staffing that you have. So that we can train the staff, and the staff have the time to do that with their clients.

A discussion about what was suggested concerning *engaging communities* was developed with **Dr. Julia Jones**. She replied:

> I think that engaging communities captures who we need to talk to and who is influencing what we're doing, so I like that. One thing that came up for me, under engaging communities is, and I don't know where it would go, but the engaging communities and maybe, identifying community resources made me think about what teaching resources are available to that nurse who is performing nutrition counseling. I think that could impact health and determine whether or not and the level or depth of education that occurs. Whether it's absolutely nothing and you're [as the PHN] just saying go to this website or have a brochure the PHN could hand and review or have actual food models to discuss portion sizes with the client. I thought of it within that engaging communities category because it looks like that's where your perspective is; looking more at programing and personality resources rather than teaching resources.

Naomi discussed using referrals at a systems level as a way of utilizing *engaging communities*:

> Some people think it can make patients defensive, but if you train PHNs how to have that conversation with the knowledge about resources so they can refer patients if it gets beyond their area of expertise, then you have a way to document the referral and show that PHNs are making a difference. That would be a system level where you've got that system in place so you can pull up some quantitative data, and then if you have the leadership

> support that's saying, you need to do this, yes thank you for doing this, yes you're making a difference by doing this. **Naomi** replied to funding, she added, "They have to get the work done that funds their programs, so we need to embed that in nutrition counseling."

The Revolving Door

All focus group study participants confirmed and agreed that the concept of *the revolving door* is a critical factor that influences PHNs' as it relates to nutrition counseling. Lifestyle emphasized the importance of competition between programs around nutrition counseling which includes funding sources since so many pay for their initiatives to be promoted, unlike nutrition.

Lifestyle mentioned how the subcategory *spending time* is conveyed among PHN. She expressed:

> I think that limited time is the biggest barrier that PHNs keep hearing. Because for both the family health program and the long-term care program, there are so many specific requirements of what need to be addressed and covered as apart of those visits. That when you get done with that visit, to get through all of the stuff, it could be anywhere from an hour, to an hour and a half, to two hours. So, adding much time for discussion on just nutrition, it really needs to be short and sweet, unless the person wants additional help, and then that could be the focus of an ongoing visit. Again, allowing the client to help PHNs with what is it that

> they need to know versus, what we in health care go on and on about the nice to know, and we lose the patient in that conversation.

Naomi suggested changing the name of the revolving door:

> I think concepts surrounding the revolving door are still critical factors. I mean, you call it the revolving door, which is a cute name, but you could rename it as "time" or" time management." Because the other ones are so concrete. I think I'd be a little more concrete with that name. You do have engaging communities, utilizing effective communication, thus I would have 2 (two) words for the other ones too.

Alternately, **Dr. Julia Jones** reported:

> The revolving door is catchy, but you don't have a little catch phrase for the other categories. But I don't' know if, 'time management captures it, as well as the "revolving door" does. Because if you named the category "managing time", it doesn't take into account those outlier factors that are really happening. It is not just how well the nurse is able to manage their workload and time, it's also what the systems expectations are.

Naomi mentioned how the subcategory, *competing with other programs* hinders nutrition counseling due to funded programs. She expressed:

> If there's leadership support, if the director of the public health agency calls it out as important, no matter what program, like, public health nurses are driven by their grants and based on the programs

The Fit of the Core Category

Lifestyle discussed the fit between the main categories and the core category, stating:

> I think the emerging theory represents what we've tried to implement within our agency, so your study validates that my idea was good. So, I think you are right on with the different categories because those are the approaches that we used.

Lifestyle further stated:

> I think it's a good fit, you have organized it where it's kind of the nature of constructs, that go into whether or not the public health nurse is going to be involved with or is already attempting to do nutrition counseling. So, I like it…You have addressed the knowing piece, the behaviors, and communication. I think that the attitude could come out more, but it has been kind of included in there as far as the role modeling and networking. So, I would say, as far as critical factors that would influence a public health nurse's role in counseling, I would say that clarity is an expectation of what they are doing, as part of their role.

Naomi replied to the fit of the emerging theory:

> It will certainly impact the public health clients, if all these things are in place. It'll impact the clients….. I would think too, you put the role modeling, I mean, if all PHNs are all modeling healthy behaviors, that's gonna impact themselves and their families as well, as well as their

> practice. I know it is easier said than done, but you can show evidence. I have lots of research studies that show that if the health care professionals' model healthy behaviors, they are more apt to address it with their clients and in their practice, with their families, and with their communities. So, if you can get that to happen, I think you'll really impact the public's health.

Naomi further added:

> Assuming that the public health nurse is taking the time to address nutrition with each of her clients, then you would impact the public's health. If it's just a hit or miss, or did you ask anybody, do you even address nutrition with your clients? I mean, I don't know that PHNs are providing nutrition counseling unless they are mandated by a program requirement or if their director mandates it. That's what our director did, she made a policy that you had to do that [required you to perform nutrition counseling]….And it's not just for nurses either, it's for anybody working with people, but nutrition is one of the important sections within the framework that we use; they call it an Omaha System problem, which really means an Omaha System concern, so it is one element that's critical to health, and then it is documented in such a way that you can track it.

Dr. Julia Jones replied:

> I think it's a good fit. I think you have organized it where, it's kind of the major constructs that determines whether or not a public health nurse is

going to be involved with or is already attempting to provide nutrition counseling. So yeah, I like it.

Incorporation of Phase II Participant Recommendations

After the final focus group interview commenced, constant comparison of the data, memos, field notes were reviewed. In addition to the focus group participants' suggestions, after revisiting the data, additional subcategories were included to provide more support of the main categories. No new interviews were needed as the sub-categories remained saturated. In Figure 3 below, it illustrates the schematic of the emerging theory following the focus group participants' recommendations and the committee chair advisor's suggestions. The schematic of the emerging theory found in Figure 3 displays main categories supported by subcategories that addresses the PHNs' provision of nutrition counseling on an individual, organizational, or system level. The structure incorporates five main categories along with their subcategories: (a) *knowing*: subcategories included; *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*; (b) *cultural competency*: subcategories included: *understanding the "food culture*," *cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication*: subcategories comprised of; *role modeling*, *motivational interviewing*, and *considering strategies and processes*; (d) *engaging communities*: subcategories comprised of; *networking*, *management engagement and support*, and *community health assessment*; and (e) *the revolving door*: subcategories included; *spending time* and *competing with other programs*. The main categories surround the core category of, *Impacting the*

Health of the Public, which is placed in the middle of the schema as the central focal point that illustrate factors that influence PHNs attitudes, perceptions, and behaviors toward nutrition counseling.

Figure 3. Impacting the health of the public model: Following theoretical sample recommendations (Wynn, 2018).

The voices of the participants in Phase I addressed knowledge and *access to resources* as well as counseling models. **Dr. Julia Jones** expressed the importance of the voices within the *knowing* category. Both **Dr. Julia Jones** and **Lifestyle** suggested that nutrition was such an important cultural concept that it needed to be included within the study. *Cultural competency* was supported by *understanding the "culture of food", cultural awareness,* and *intercultural communication* as subcategories. **Lifestyle** expressed that PHNs needed to know that models existed and how the patient perceived their readiness to change before the strategy could be applied. Thus, the subcategory, *counseling models* represented examples of readiness models. Furthermore, **Dr. Julia Jones** suggested including possessing confidence and experience within knowing. As these are two different concepts, only *possessing experience* was addressed as a subcategory with the concept of confidence being supported by the participants' voices.

Within the *utilizing effective communication* category, **Naomi** recommended the need for PHNs to learn how to have conversations about nutrition counseling with patients. *Considering strategies and processes* incorporated readiness to change models, and other strategies or processes to help explain that PHNs had the tools to effectively communicate with patients and identify their needs. **Dr. Julia Jones** suggested using the word 'utilizing,' 'considering,' or 'catering to' the education concerning the person's 'readiness to change' or utilizing strategies or processes. Though, the phrasing of the subcategory, *considering strategies and processes,* **Lifestyle** suggested that

strategy for 'readiness to change' should be addressed in *utilizing effective communication*. Thus, this is addressed within the subcategory of *considering strategies and processes*. *Motivational interviewing* is a subcategory since many of the participants used concepts surrounding this technique *to utilizing effectively communicate* with patients.

Within the categories of *engaging communities* and the *revolving door*, **Lifestyle** and **Naomi** recommended that PHNs needed to have knowledge of resources in knowing, but to take it a step further they need to connect with the resources. This is expressed within the *networking* subcategory of *engaging communities*. Moreover, they both expressed that some sort of policy involvement is addressed, which is communicated within the *engaging communities* category. In addition, to ensure that the model does not only reflect individual PHNs, but address more of the community, the subcategory, *management engagement and support* and *community health assessment* both address these concerns. **Dr. Julia Jones** emphasized that the availability of teaching resources is expressed, it has been conveyed within the category of *engaging communities.* Though specifically discussed within the subcategory of *management engagement and support*.

Funding for health prevention measures such as nutrition counseling is a major concern. Per **Lifestyle's** suggestion to discuss funding is found in *competing with other programs*, a subcategory within *the revolving door*. The name, *the revolving door* also remained to encompassed more than the issue of time, as suggested by **Dr. Julia Jones**. **Dr. Jones** recommended to maintain the

name, because it captured the meaning of all aspects of what *the revolving door* represented, which involved the PHNs inability to discuss nutrition counseling due to various supporting factors such as: the business of the clinic, lack of time, competition with other programs, and funding. **Naomi** mentioned to ensure that the importance of including funding issues within public health for prevention were discussed. The voices from the participants reflect discussion within *engaging communities* and *the revolving door* in the subcategories of *management engagement and support*, *community health assessment*, and *competing with other programs*, respectively. **Naomi** suggested that the categories are broadened to reflect more of a system's level approach. There are aspects of each category that reflect a systems level approach. An example is the category of *engaging communities*; it incorporates *management engagement and support*, which is an important aspect when striving to influence policy and structural change from a systems level approach. Another example is *accessing resources* within the *knowing* category, to increase community, agency, and other organizational involvement. *Intercultural communication* subcategory within *cultural competency* helps to broaden PHNs perspective of how to transfer information to various cultures within the community. The confirmation and suggestions that the focus group participants provided were reviewed to confirm the practical use and fit of the developed theory.

The Basic Social Process: Impacting the Health of the Public

Through the data collection and ongoing analysis process used within this research study, five conceptual categories and subcategories led to the emergence

of one core category, *impacting the health of the public,* related to the premise of influential factors that affect PHNs attitudes, perceptions, and behaviors toward nutrition counseling. A process described by Corbin and Strauss (2015) is an adaptive change in response to a change in condition that affects one's action-interaction approach. Within this research study, the PHNs ability to *impact the health of the public* is determined by critical factors that influence their knowledge, awareness, approach, and confidence. This involves various micro (related to the individual) and macro (relating to outside the individual) conditions that surround PHNs' ability to impact the public's health. Example of micro conditions includes, a population's culture or a PHNs' experience level. From the PHNs' perspective, a micro condition is his or her ability to effectively communicate or possessing confidence to engage the community, and network. Macro conditions include the revolving door, such as time constraints, lack of funding, competing with other programs, and the patient's socioeconomic conditions, food deserts, or lack of resources. These micro and macro conditions are associated with factors that influence the PHNs' action-interaction process toward *impacting the health of the public*.

This interactive process that occurs between PHNs and the public offers PHNs both choice and opportunity in moving from traditional techniques or strategies of communication around nutrition that included, but not limited to dictating to patients about nutrition, towards the adoption of more patient-centered techniques including implementation of utilizing effective communication, motivational interviewing, or considering strategies and

processes. The process incorporates understanding various viewpoints and cultural aspects of how to approach nutrition counseling with a variety of diverse populations. In addition to providing a framework to integrate engaging communities both within and outside of the organization. Lastly, it considers the time aspect as it relates to funding and competing influences of other programs. *Impacting the health of the public* involves ensuring that the main categories are engaged and working in unison in order to cause a powerful force to occur, or an impact. Impacting health through nutrition counseling involves identifying ways to influence behavior, which has been reported to be a challenging way to promote health and prevent disease (Frieden, 2010). However, influencing behavioral changes through nutrition counseling has been extensively studied and successfully accomplished (Ball et al., 2013; Sacerdote et al., 2006; Stotland et al., 2010). If the main categories of *knowing* with subcategories of *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*; c*ultural competency* that include subcategories of *understanding the "culture of food*", *cultural awareness*, and *intercultural communication*; *utilizing effective communication* with subcategories of *role modeling*, *motivational interviewing*, and *considering strategies and processes*; *engaging communities* with supportive subcategories of *networking*, *management engagement and support*, and *community health assessment*; and lastly *the revolving door* with subcategories of *spending time* and *competing with other programs*, work in unison to incorporate nutrition counseling to impact health, it needs to go beyond working with individual patients. In order to make an *impact to the health of the*

public, it needs to influence populations groups by implementing structural changes to policy and procedures within each health department and within public health as a system.

The main category of *knowing* helps PHNs understand and become aware of the knowledge and circumstances that surround the issue of how to impact the health of the public. The subcategories of *knowing* are *possessing a spirit of inquiry*, *accessing resources* and, *counseling models*. Possessing a desire to gain knowledge and information, as well as how to organize and use it, strengthens the PHNs ability to not only provide useful, relevant, and up-to-date information, but to make an *impact in the health of the public* by sharing new knowledge and information. Public health nurses are more willing to provide nutrition counseling if they are comfortable, confident, and proficient with the message they are providing. Thus, the last subcategory of *possessing experience* aids in the process of *impacting the health of the public* if PHNs possess the experience in health promotion strategies such as providing nutrition counseling. The main category of *knowing* is the strategic planning stage of how PHNs will implement ways of *impacting the health of the public*.

Culture is closely connected to food, food preparation, and dietary habits. Possessing *cultural competency* and an awareness of a cultural population's values, norms, and customs surrounding food and their dietary habits helps PHNs understanding how to influence healthier choices toward impacting their health. Cultural groups tend to feel more comfortable receiving advice from people who understand and respect their background, beliefs, and practices (Crisp & Turner,

2011; Garcia, 2006). The subcategories of *cultural competency*, include *understanding the "culture of food"*, *cultural awareness*, and *intercultural communication*, which all help PHNs approach and understanding of how to impact their health.

The process of impacting the health of the public involves *utilizing effective communication* such as *role modeling* or examples of how a person should act, behave, or present themselves. Communicating through nonverbal practices such as role modeling contributes to the social process of *impacting the health of the public*, because it demonstrates integrity and shows that nutrition can contribute to healthy living if it is followed. The other subcategories, *motivational interviewing* and *considering strategies and processes*, are approaches that help to increase the effectiveness of communication. Strategic approaches such as these help to provide structure during interactions involving nutritional counseling to make impacting the public's health more effective (Christie & Channon, 2014; Prochaska & Di Clemente, 1984).

Engaging communities is the foundation of public health nursing. One community organization cannot successfully impact the health of the public alone, it involves *networking* with other community members, organizations, and facilities to provide the needed resources to the public. Without *management engagement and support* the implementation of policy that encourages health promotional activities such as nutrition counseling become more challenging and the effectiveness of impacting the health of the public decreases. In order to *impact the health of the public*, it is essential to assess the health of the

community and understand the community's health needs. C*ommunity health assessment* provides this function and it is the last subcategory within this section.

The revolving door is a process that affects the PHNs ability to effectively *impact the health of the public* by having limited time to spend with patients and *completing with other programs*. The PHNs' efforts to impact the health of the public strongly depends upon the time spent with patients to discuss various aspects of nutrition counseling (Dalgaard & Delmar, 2008; Geense, van de Glind, Visscher, & van Achterberg, 2013). The basic social process of *impacting the health of the public* necessitates that PHNs consider how they approach nutrition counseling and how it should be incorporated when advising patients about health promotion and disease prevention. It is a process to help guide PHNs in the presence of social, economic, and cultural variances to influence, motivate, encourage, and guide the public toward better nutritional health.

Restatement of the Research Questions

Three research questions guided this study to explain the critical factors that influenced PHNs' attitudes, perceptions, and behaviors, around their role in nutrition counseling. As the meaning derived from the participants began to develop, five main categories emerged: *knowing*, supported by subcategories*: possessing a spirit of inquiry, access to resources, counseling models, possessing experience; cultural competence* with subcategories*: understanding the "culture of food*," *cultural awareness,* and *intercultural communication; utilizing effective communication* was supported by subcategories: *role modeling, motivational interviewing*, and *considering strategies and processes*; *engaging communities*

subcategories included: *networking*, *management engagement and support*, and *community health assessment*; and *the revolving door's* subcategories were: *spending time* and *competing with other programs.* All categories helped to define the basic social process of impacting the health of the public. The overarching research questions that guided this study were:

1. What are the critical factors that influence public health nurses' attitudes, perceptions, and behaviors of their role in nutrition counseling?
2. What process do public health nurses' use to provide nutrition counseling?
3. How do public health nurses become aware of the process of providing nutrition counseling?

Each question asked of the study participants contributed to the development of data while enriching meaning to each of the developed categories, emerging themes, and the core category. The first research question, "What are the critical factors that influence PHNs' attitudes, perceptions, and behaviors of their role in nutrition counseling?" The critical factors that the data has produced are reflected in the main categories that have emerged and have been verified by experts in the field, of *knowing, cultural competency, utilizing effective communication, engaging communities*, and the *revolving door,* with the support of subcategories that help to give each area meaning. The subcategories provided rich, thick descriptions to help support the main categories. The second question, "What process do PHNs use to provide nutrition counseling?" Processes used to

provide nutrition counseling have not yet been officially standardized within public health. Some public health participants have mentioned using tools such as the five As or Division of Responsibilities. However, described by both individual and focus group participants, examples of successful strategies and techniques used to provide nutrition counseling include, *motivational interviewing* and *considering strategies and processes* through evaluating the public's readiness to change via strategies such as, the Prochaskas Stages of Change Model. The voices of the participants suggested that various strategies and techniques were inconsistently used among public health facilities to effectively communicate information about achieving and maintaining optimal nutritional health. Further necessitating a theory is developed to help provide structure and consistency involving health promotion and disease prevention education through nutrition counseling. The third and final question, "How do PHNs become aware of the process of providing nutrition counseling?" Public health nurses become aware of various processes of providing nutrition counseling through *possessing a spirit of inquiry to*: (a) research various *counseling models* and frameworks that could help incorporate the use of nutrition counseling, (b) *utilize effective communication* through *networking* with other public health facilities, and (c) *engage communities*. Many health departments are not structurally or financially capable of providing knowledge and awareness of nutrition counseling to their staff. **Lifestyle** mentioned, that as an administrator, she was able to develop a policy to address nutrition by incorporating a nutrition counseling tool. Within the policy, she further required every new PHN to take a motivational

interviewing course. This is to help their PHNs better understand how to *utilize effective communication* to provide nutrition counseling and to cater to the health needs of their population. **Naomi** stated that their PHNs are offered nutrition education to share with their patients. Registered nurses who work with the WIC department are sent to nutrition counseling training. However, not every health department had the funding, structure, or staffing to help their PHNs gain new knowledge or processes of providing nutrition counseling. Through the *spirit of inquiry*, PHNs often acquired knowledge on their own through various nutrition or health websites or discussed strategies with their local WIC nurses or dieticians. Therefore, the processes that PHNs use to provide nutrition and the way that PHNs becomes aware of how to provide nutrition counseling is not consistent. This is a reflection of funding, policy, and *management engagement and support* among the different public health facilities and the public health system as a whole. A developed theory surrounding nutrition counseling could help to provide more structure and consistency to help impact the health of the public.

Social Process of Impacting the Health of the Public

The major factors involved in *impacting the health of the public* were identified as *knowing, cultural competency, utilizing effective communication, engaging communities,* and *the revolving door*. Nutrition plays a large role in the life and the health of people within the society. It has changed from a concept of ensuring that enough food is provided to maintain the proper nutrients to limiting certain dietary intake to prevent diseases. The interaction between public health

nurses and the community begins with possessing knowledge, awareness, and understanding of an area of need. The social process describes knowledge, strategies, and networking skills that are beneficial for public health nurses in order to be effective in *Impacting the Health of the Public*.

The next area that affects the social process of impacting health, involves being aware of cultural aspects of the population. *Cultural competency* plays a large part of how much of an impact public health nurses (PHNs) will make based on their awareness and understanding of various cultures within their community. A history of tradition, customs, values, and beliefs are difficulty to modify; thus, possessing an awareness of a person's cultural background helps to understand their perspectives, reasoning, and motivations surrounding their nutritional health behaviors. *Utilizing effective communication* describes how PHNs effectively communicate in order to make an impact in the health of the public. However, effective communication is more than a verbal exchange between people, it involves skills that incorporate internal and external factors such as body language, listening skills, motivational strategies and models.

Another important aspect of the social process of impacting the health of the public involves participating in *engaging communities*. This involves networking with other agencies, organizations, and businesses to better serve the public and influence access to health-related support and interventions. Lastly, *the revolving door* is a major concern within public health nursing, as it relates to the limited time and the competition with other programs that prevent health promotional activities such as nutrition counseling from occurring. *The revolving*

door is largely associated with funding, staffing, and the structure and policy of public health facilities.

The concept of utilizing nutrition counseling to impact the health of the public is rooted in social behavior and lifestyle modification. Thus, inspiring and empowering PHNs to utilize various components, represented by the main categories to influence behavior, involves all of the components working simultaneously to make a difference in the health of the public. If all of the categories were utilized in a consistent way among public health nurses, it could greatly influence the social process of PHNs ability to *impact the health of the public.*

Chapter Summary

The chapter discussed the results of the inquiry from participants in Phase I or the individual participant group and Phase II or the focus group. Sample descriptions from each group's interviews was provided with demographic information only presented in Phase I. A description of the emerging categories and subcategories that include: (a) *knowing*: subcategories included; *possessing a spirit of inquiry, accessing resources, counseling model*s, and *possessing experience*; (b) *cultural competency*: subcategories included: *understanding the "culture of food," cultural awareness,* and *intercultural communication*; (c) *utilizing effective communication*: subcategories included; *role modeling, motivational interviewing,* and *considering strategies and processes*, (d) *engaging communities*: subcategories included; *networking, management engagement and*

support, and *community health assessment*, and (e) *the revolving door*: subcategories included; *spending time* and *competing with other program*.

CHAPTER FIVE

DISCUSSION AND CONCLUSION OF THE INQUIRY

The purpose of this qualitative study using grounded theory methodology was to clarify the critical factors that influence public health nurses' (PHNs') attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory that explains the PHNs' role in nutrition counseling. As one of the most accessible and trusted public healthcare providers, PHNs do not regularly engage their patients in discussions about nutrition (Henning, 2009). Despite the fact that billions of dollars are invested in nutrition and food assistance programs annually, national statistics report that the health of Americans continues to decline. Public health nurses are in an advantageous position to influence and educate the public about nutritional health since they work with population groups to reduce health risks and promote health. By treating the dissemination of nutritional information proactively and engaging in the delivery and provision of nutrition counseling, overall patient health risks may be lessened while working to improve upon the population.

Summary of Findings

This study investigated critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling. Following individual and focus group interviews of PHNs who met the inclusion criteria, the result of the findings that surrounded the core category of *Impacting the Health of the Public* included: (a) *knowing*: subcategories included; *possessing a spirit of inquiry*,

accessing resources, *counseling models*, and *possessing experience*; (b) *cultural competency*: subcategories included; *understanding the "culture of food*," *cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication*: subcategories included; *role modeling*, *motivational interviewing*, and *considering strategies and processes*, (d) *engaging communities*: subcategories included; *networking*, *management engagement and support*, and *community health assessment*, and (e) *the revolving door*: subcategories included; *spending tim*e and *competing with other programs.*

The answer to the second and third research questions, "What process do public health nurses' use to provide nutrition counseling?" and "How do public health nurses become aware of the process of providing nutrition counseling?" expressed inconsistent results. This was revealed through voices of the participants as they described *counseling models* within the *knowing* category, as well as the inconsistency of *considering strategies and processes* within *utilizing effective communication* category. Their responses varied when discussing various processes used to provide nutrition counseling. One reason is that it depended upon the department of the public health facility that the participant worked. It appeared that PHNs who worked in the federal organization Women, Infant, and Children (WIC) utilized a consistent structural framework as it related to the processes that PHNs used within that department. In addition, this program provided consistent education to the PHNs so that the information shared is cohesive and evidenced-based.

In addition, some PHNs become aware of how to provide nutrition counseling through trainings and workshops that their management team funds. While others public health institutions' lack of funding and staffing prevented their PHNs from participating in educational processes to understand how to provide nutrition counseling. Thus, there is inconsistency and a lack of structure relating to (a) the processes public health nurses' use to provide nutrition counseling and (b) how public health nurses become aware of the process of providing nutrition counseling.

Exploration of Meaning of the Study

This grounded theory study was based in the interpretivist /constructivist paradigm with philosophical underpinnings in pragmatism and symbolic interactionism. Pragmatism goes beyond describing meaning; it explains the usefulness of the theory and allows for flexibility and practicality in the expansion of that utility. Blumer (1969) provided three assumptions specific to symbolic interactionism that included (a) a human being's reaction towards an object based on the meaning they attribute to it; (b) that meaning is created through the interactions of others; and (c) meaning is modified as people interact with others in order to make sense of their social world. All the voices of the study participants were considered as they expressed their own interpretation of the meaning of critical factors influencing attitudes, perceptions, and behaviors related to their role as PHNs in providing nutrition counseling. Meaning was conveyed through the use of communication in combination with the participants' experience of their interaction with their environment. Categories of their

experiences formed concepts and further combined with other concepts toward the development of meaning.

Stemming from the utilization of language and verbal interaction, symbols signifying spoken concepts represented social entities used by the participants to communicate their understanding and interpretation of processes. Public health nurses were able to describe their perspective of their role in providing nutrition counseling as well as critical factors that influence their attitude, perception, and behaviors in order to express their ability to impact the health of the public. The grounded theory methodology which was used to help guide this research study, was Corbin and Strauss (2015), an interpretivist approach that utilized the action/interaction process. Rich, thick descriptions from the participants supported the properties and dimensions of each subcategory; especially as they related to the concept of engaging with the community. Through the use of the data collection and analytic process of open, axial, and selective coding, five main categories emerged: *knowing*, *cultural competency*, *utilizing effective communication*, *engaging communities*, and *the revolving door*, which contributed to a core category or basic social process of *impacting the health of the public*. The subcategories are as follows: (a) *knowing*: subcategories included; *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*; (b) *cultural competency*: subcategories included; *understanding the "culture of food*," *cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication*: subcategories included; *role modeling*, *motivational interviewing*, and *considering strategies and*

processes, (d) *engaging communities*: subcategories included; *networking*, *management engagement and support*, and *community health assessment*, and (e) *the revolving door*: subcategories included; *spending time* and *competing with other programs*. The five main categories captured the social processes of the PHNs experience as they related to critical factors that influenced their attitudes, perceptions, and behaviors in the provisions of nutrition counseling. The practical utility of this theory is reflected by the "fit" and the applicability of each component to the shared experiences expressed by the study participants that are relevant to enriching each element of the theoretical model.

The theoretical model of *Impacting the Health of the Public*, is supported by the Social Ecology Model. This is a behavior change model that was developed by Urie Bronfenbrenner to emphasize the impact of changing the social environment through systems and policy transformations (Bronfenbrenner, 1977). This model is a multifaceted approach that identifies personal environmental factors from an individual to organizational view point that affects and influences behaviors through the utilization and provision of health promotion. The Social Ecology Model is an ongoing process that requires healthcare professionals to network and utilize effective processes and strategies to educate the population about preventive measures and promoting health (CDC, 2019). Five different levels of the model (individual, relationship or interpersonal, institutional or organizational, community, and policy or socio political) are identified to help explain the social aspect of how each area can be used toward promoting health and preventing disease prevention (McLeroy, Bibeau, Strickler, & Glanz, 1988;

Simplican, Leader, Kosiulek, & Leahy, 2015). This model can help PHNs understand a range of factors that put people at numerous potential health risks by identifying various social influences and evaluating how each level can impact the health behaviors of the population. It also provides structure toward developing strategies of health promotion through a gradual process beginning from the individual to a systems approach that describe influences from policy. The model has been used in many different health promotional situations, from smoking cessation to childhood obesity prevention.

The first level evaluates characteristics of an individual that influences behavioral change such as how knowledge is obtained, their developmental history, values attitude, and beliefs. The second level examines relationships and the social support system that influences behaviors. Examples include, a person's family, friends, coworkers, or religious community. Following is the third level, which is the organizational or institutional level, that includes informal and formal social networks such as families or employment settings, respectively. Organizational conditions for the informal networks involve families, their socioeconomic status or culture. While conditions for formal networks include organizational networks such as churches or schools that influence behavior. The fourth level is community, in which relationships among municipal systems that are evaluated, such as community organizations and leaders, food and transportation networks, financial institutions, and various businesses. It also explores areas such as neighborhoods, schools, workplaces; settings that in which social relationships and interactions occur. The final level is policy or socio

political, that include local, state, national, and global laws. It examines how changes in the political climate can influence behavior and societal norms.

These perspectives and models could be used to incorporate strategies to express basic social processes involving nutrition counseling. Incorporating the developed basic social process of *Impacting the Health of the Public*, could be integrated on all the levels of the social ecology model. Each main category (*knowing, cultural competency, utilizing effective communication, engaging communities, and the revolving door*) can be addressed from an individual, interpersonal or relationship, organizational, community, and social political perspective of the social ecology framework to help PHNs impact the health of the public.

Public health is a network that is encompassed by federal, state, and local entities that provide education and health services to both municipal and private health entities. Thus, public health nursing remains the core of public health service delivery and is therefore a powerful division of nursing that can be used to impact and influence the health of the public on various levels. Public health nursing provides care to populations of people through health promotion and disease prevention strategies. Utilizing nutrition counseling to impact the health of the public involves strategies and processes that seek to change behavior. Since behavior is influenced by a multitude of factors, *impacting the health of the pubic* requires various methods that surround the issue of nutrition counseling from different positions and perspectives in order to influence and maintain

changes in behavior. All of the main categories must be utilized in order for that impact to occur.

Interpretive Analysis of the Findings

In Chapters One and Two, the purpose, background, and literature review of this research study was described. Chapter One reviewed: (a) the historical background of nurses' transitional involvement in nutrition, (b) the evolution of nutritional care and counseling that has traditionally been offered; from nursing to dietetics, to present day nursing roles in dietary regimen, (c) the development of the nutritional educational requirements for nursing students, and (d) how these all contribute to the structure of public health nursing. Within Chapter Two, the literature review refined and sequenced the development of historical content, within the addition of two categories; nutrition counseling and the present-day PHNs' approach toward health promotional behaviors. In addition, no theoretical framework emerged from the literature review which addressed PHNs' role and the critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling.

To help address the research questions surrounding this study, data was collected from individual study participants which met the inclusion criteria. Data were then analyzed using coding techniques and the constant comparative process to be a useful function as information was placed into categories. After reaching data saturation, five main categories emerged to provide depth and meaning of the critical factors that influence PHNs' involvement in nutrition; they include: (a) *knowing*: subcategories included; *possessing a spirit of inquiry, accessing*

resources, counseling models, and *possessing experience*; (b) *cultural competency*: subcategories included; *understanding the "culture of food," cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication*: subcategories included; *role modeling, motivational interviewing,* and *considering strategies and processes*, (d) *engaging communities*: subcategories included; *networking, management engagement and support*, and *community health assessment*, and (e) *the revolving door*: subcategories included; *spending time* and *competing with other programs.* Supported by the main categories, the core category, *impacting the health of the public* emerged. In the following section, each of the categories will be discussed and supported by literature.

Knowing

Knowing is a category supported by the participants that described knowledge, awareness, understanding and possessing concepts surrounding nutrition counseling. Bolisani and Bratianu (2018) described *knowing* as a specific human process that results in knowledge. Hansen (2004) described *knowing* as a process or an epistemology that explains the nature and justification of human knowledge and how knowledge is gained. Hansen further expressed knowing through the transition from modernist to a postmodernist perspective. From the modernist perspective, knowing was described as, "an actual reality, with particular enduring properties and exists independently from those who observe it" (Erwin, 1999; Hansen, 2004, p. 131). Though the general assumption of postmodernist view is that knowing is a combination of the observer and the

observed understanding of their interactions with their environment and discourse with each other toward the creation of meaning.

The process of *knowing* has been studied from many different perspectives. Barbara Carper (1978) discusses patterns of knowing: empirical, esthetic, personal and ethical, which are often discussed within nursing science and is considered to be a foundational part of nursing knowledge. It often serves as a rationale within the practice of nursing as a way to think about phenomena to help broaden the understanding of knowledge development from diverse approaches. Belenky, Clinchy, Goldberger, and Tarule (1986) developed a theory of knowledge describing women's ways of knowing. It studied the process of cognitive development amongst women, resulting in five perspectives: silence, received knowledge, subjective knowledge, procedural knowledge, and constructed knowledge, to explain how women viewed their relationship with knowledge and how they cultivated ways of knowing in the presence of a dominant intellectual environment.

Nutrition counseling involves assessing and analyzing the dietary needs of people while helping them set achievable health goals and ways to maintain them (Kahan & Manson, 2017). Three categories of nutrition-related knowledge have been identified to help bring meaning to what basic nutrition means: (a) possessing awareness of how diet is related to disease; (b) possessing knowledge of dietary principles such as, being able to identify foods that possess protein, calcium, fiber, saturated fats or cholesterol; and (c) describing how to select various foods based on the person's nutritional desire; such as how to read a food

label to select foods that are low in sodium (Guthrie, Derby, & Levy, 2006; Rogers, 1983). The category of knowing was developed by the voices of some of the participants below. *Knowing* is supported by the subcategories of: *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*.

Leslie discussed what her view of providing basic nutrition looked like, from both a PHNs' and WIC nurse perspective. She reported:

> Sharing knowledge and information on our basic nutritional needs as humans, and how to best provide ourselves with that nutrition such as getting the mother knowledge about her infant's formula or breast milk, and sharing how she can give that to her child, is important. It could be a community that's trying to prevent type 2 diabetes, telling them what factors influence the disease, how to prevent it, and then actually giving them the tools to do so.

However, **Rachael** reported that basic nutritional information included the provisions of information related to diabetes education. She also expressed knowing at what point she needed to seek more information. She mentioned:

> My knowledge is limited to just what I've learned. So, if it was something beyond just an uncomplicated discussion, such as, "Let's talk about how you can prevent diabetes" or "Let's talk about what a diabetic diet looks like or what a DASH diet looks like or what sort of Mediterranean diet or low carb diet, or how much of this and that you should be eating." If we

> go into, “Well I have Crohn’s disease and I really want to do dieting.” I would probably need to do more research.

In addition, **Lucy** described how she includes diabetes education within her counseling. She expressed:

> I tend to teach more from the health aspect of diabetes for instance. I teach more of, “This is what diabetes is doing to you and what your future is going to be with it.” I also discuss the actual anatomy of it and how nutrition ties into that

***Possessing a spirit of inquiry*.** Melnyk, Fineout-Overholt, Stillwell, and Williamson (2009) investigated how nurses can build the knowledge and skills they need in order to implement them within evidenced-base practice. They defined spirit of inquiry as “possessing an ongoing curiosity” (p. 49).

Diana Prince stated that she researches nutrition information on her own time because she finds nutrition interesting and important. She mentioned:

> When I was in nursing school, this was probably maybe 8 years ago, I took a refresher course just because I wanted to, on nutrition, and sometimes at work they’ll have a small in-service on nutrition. I wish we had a lot more, but that’s where I’ve had my education about nutrition. So, I think performing nutrition counseling yourself and finding out how to talk to people is important to learn. You have to do research, you can’t get around it. So that’s what I do personally, and like I said, that’s probably because I find nutrition so important.

Betty stated that she tries to keep current with nutrition information to share with her clients and expressed the following:

> I do try to stay up-to-date. The articles on Medscape tend to be interesting related to nutrition. I try to read those and other journal articles when I have time. I try to apply nutrition information that I have learned to conversations I might have with clients or when clients question me.

Lifestyle expressed:

> I think we want to help people understand the importance of decisions that they make and the impact it will have later on in life, whether it relates to eating and nutrition it leads to a discussion about the new knowledge that we know about, such as adverse childhood experiences and how that can play on having an impact on chronic disease development. Having that new knowledge is helpful as we work with the public.

Michelle stated, "As health care providers we need continued training. I think it's good to keep up-to-date on the recommendations and what information that we can provide."

***Accessing resources*.** Gulliford et al. (2002) expressed that access to resources involves helping people to seek services that allow preservation or improvement of health. Availability of resources depended upon the availability and sufficient supply of the resources and the "financial, organizational and social, or cultural barriers that [may] limit the utilization of services" (Gulliford et al., 2002, p. 186). The availability of resources is an important component

especially when it depends on the patient's socio-economic status, if they live in a remote or rural area with comorbidities or multiple chronic diseases. In many situations the availability of services for patients who experience chronic diseases varies based upon the patient's socio-economic status (Wu and Jian, 2015). Those with a lower-economic status often receive limited access to resources, although they had a higher need. In addition, Mossabir, et al. (2015) reviewed the adoption of a methodological framework that linked people from healthcare settings to a variety of community organizations. This review further identified the health care professional's involvement in linking referral services to patients, identified the role of the intervention facilitators, and discussed how vital the intervention facilitator's involvement pertained to the result of the interventions. Peek et al. (2014) discussed the disparities among people with chronic diseases such as diabetes and the challenges they face with accessing health care. It was suggested that the health care provider actively collaborate with community partners in order to make the transition for the patient easier. They stated, "In order to fully integrate healthcare and community components, we believe that it is important to go beyond merely referring patients to existing community resources, to actively collaborating with community partners to provide education and outreach outside of the healthcare setting" (Peek et al., 2014, p 8).

Michelle suggested the importance of having knowledge of accessible and affordable food resources in the area:

> Public health nurses have to think about what's accessible to the public. In my region that I cover, most of everybody have about the same foods

> accessible to them as far as variety**.** I encourage them to look at things that are in season, because they're going to be better priced. I encourage the use of a farmer's markets because I think it's great to support local businesses and for the public to get fresh fruits and vegetables.

Watermelon indicated:

> We need to help people understand why they need to eat a balanced meal and how they can obtain that balanced meal, and also to understand that a lot of people don't have the resources to buy the food that is oftentimes recommended. I mean, guiding them into food banks where they can find some fresh produce and helping them with vouchers to go to a farmer's market in the spring and summer and fall are good resources.

Jaycee discussed how she accesses online resources:

> Women, infant and children (WIC) has so many awesome things that we have access to. There are online resources that we can use through WIC. There are also nutrition education modules that we can use. In addition, the USDA have great resources and our extension offices work with our facility through Food Hero, so we also get some information and some education for ourselves and our clients.

Dr. Julia Jones reported, "Critical factors that influence a public health nurse's role in providing nutrition counseling include having access to resources and providing them." **Leslie** stated:

> Public health nurses need to keep the community healthy by giving people opportunities for good lifestyle habits, exercise, and also sharing resources on things like the farmer's market, or ways that they could get healthy foods in an accessible way.

Counseling models were discussed within the developed theory. Glanz, Rimer, and Viswanath (2008) discussed the importance of being aware of and utilizing counseling models and frameworks. They reported that when a health promotion or education program is guided by health behavior models, it provides the most benefit to the participants and their communities. Utilization of counseling models help to provide structure for implementing interventions and a means to evaluate various processes (Jones, Smith, & Llewellyn, 2013; Kaufman, Cornish, Zimmerman, & Johnson, 2014). Implementation of models such as the 5 (five) As model has been used to help provide a strategy for smoking cessation, weight loss, nutrition, and many other behavior modifications (Papadakis et al., 2016; Pollak, et al., 2016). Possessing knowledge of counseling models and implementing them within their facilities ensured that the PHNs were prepared to address nutrition counseling and that they had a plan in place of how to deliver the knowledge. Many PHNs were not aware of an did not express utilizing counseling models to help guide how they provide nutrition counseling.

Sara discussed how WIC provided a model that is evidenced-based:

> Well, I feel like the model used in WIC is more effective than a lot of the other strategies because we are teaching things that are evidence-based and they're proven to work, like the "Division of Responsibilities" with

> eating. It is very evidenced-based and it's been used with certain age groups, with the age groups that I am meeting with. So, I have those resources and I have been taught how to use them.

Naomi described how the health department utilizes a model called the five As. she reported:

> It's known as the five As using that for individual behavior change and that's the strategy we use. Motivation fits in there, but it's a whole strategy that is used a lot in tobacco. Actually, there's a short version that nurses can use, where they just ask, and advise, and refer. Public health nurses need to determine where the patient is nutritionally then as health professionals, advise them and if needed, this could lead you to refer them.

Dr. Julia Jones reported that many nurses are unfamiliar with various counseling models, "counseling models such as motivational interviewing I think is something that a lot of nurses aren't really taught how to do."

Jimbo did not utilize counseling models. She replied:

> The structure that I would first evaluate the patient's body mass index (BMI), and if they have a high BMI, we do have a dietician available at the local county hospital, I can send out a consult to give further advice to see our patient.

Possessing experience. Benner (1984) described possessing experience as the refinement of predetermined ideas and actions by contending with many actual and practical situations. Those with less experiences such as novices and

advanced beginners have to concentrate on remembering the rules they have been taught that surround the event and thus are less able to handle a situation as efficiently. Possessing experience relates to PHNs confidence, comfort level, and familiarity of their sense of knowing with the information they provide to the public.

Lucy expressed:

> Every nurse has trouble when they first get into public health with understanding that you're no longer in the clinical hospital setting. They are no longer at the bedside, and public health is an entirely different world. And then, they are told that they have to add nutrition into the education that they provide. This kind of throws them for a loop. The more experienced public health nurses possess the better they become at their job. However, unfortunately there's a big turn over in public health**.**

Sue described her experience of sharing nutritional information:

> I don't bring a lot of science or detail of any more than just the basic stuff of more fruits and veggies, and less fast, processed, and junk food. I talk about calcium and iron rich foods and protein containing foods, and so, it is pretty basic stuff and many of them do switch to a healthier diet when they're pregnant. And I try to stay up-to-date on diabetes and that kind of stuff, but I am not qualified to really teach about that. I don't feel comfortable teaching or working one-on-one on weight loss or anything like that. That I would refer to the dieticians.

Ann described differences between her experience of providing basic nutrition counseling as a PHN versus what a registered dietician would provide. Due to PHNs' experience, she felt that PHNs look at patients or clients more holistically and would catch something that a dietician would miss:

> We [PHNs] counsel patients on eating more fruits and vegetables and drinking water for thirst and that kind of thing. I think we look at the patient more holistically; than a dietitian would. For instance, I worked with a dietitian and she might miss something about the child that the nurse would pick-up, because she was focused on the diet. But I definitely think there are certain things that they're the expert with, and maybe the nurses don't go into as much detail about nutrition. Like I said, we as PHNs look at the patient as a whole more so than the dietitian would.

Dr. Julia Jones replied:

> As far as critical factors that would influence a public health nurse's role in counseling, I would say it would be, giving them training and experience in providing the counseling.

Cultural Competency

Public health nurses are often more exposed to diverse cultures and require understanding of how to relate to and communicate with people within their community that may possess different beliefs, values, and customs about their dietary habits. Culture is defined as a learned behavior from a group of people that share, customs, beliefs, and habits that are passed from generation to

generation (Kittler & Sucher, 1989; Kulkarni, 2004). Arif, Cryder, Mazan, Quin˜ones-Boex, and Cyganska (2017) and Rasmussen and Sieck (2015) described *cultural competency* as possessing knowledge, understanding, and the ability to effectively communicate the constructs of cultural awareness. Cultural competency was expressed by the participants as understanding various customs, beliefs, and values that impact their relationship with nutrition. The subcategories that support cultural competency include: *Understanding the "culture of food*," *cultural awareness*, and *intercultural communication*.

Sara suggested that she does not have a good understanding of culture awareness because she does not live in a very diverse area:

> I lack a lot of understanding of ethnic components. We don't have a very diverse ethnic community. So, sometimes I run into issues when I'm trying to understand why maybe a certain group of people eats one way. I feel like I'm lacking in that area some.

Immediate Past President reported:

> Culture has a lot to do with people's food choices. The nurse's cultural background influences his/her ability to want to communicate or to feel comfortable talking with people one-on-one or in large groups. The public health nurse's confidence level of communicating with diverse cultures come from being continually educated. **Lifestyle**, one of the focus group participants conveyed, "I think culture is important for PHNs to have an understanding of."

Immediate Past President reported how culture impacts nutrition counseling:

> Parties, religious events, everything, it's all circling around food. Certain foods for certain days, like, hot cross buns on St. Joseph's Day. I mean, there's all kinds of things that you serve on certain days. Culture has a lot to do with it.

Understanding the "culture of food" Shannon (2014) discussed how food deserts are governing obesity in what he calls the neoliberal cities. He reveals how food deserts are in specific geographical areas and describes how they combine health problems within low-income communities; resulting in, specific socio-economic groups of people possessing poor access to more nutritious quality of food. Therefore, creating a culture of how people within these areas lack the association between food choices and their health and how the impact of health is associated with the quality and access to more nutritious food.

Loring and Gerlach (2015) research helped to explain why people were food insecure and how this phenomenon affects behavior of people living in North America. They argue that food insecurity in the United States is mostly a social and political issues; in that the problem is not that healthy food is not available to people, it is that people do not have consistent or reliable access to the healthier options. Ng, Popkin, and Slining (2014) expressed that dietary trends were related to economic effects or behavioral shifts of the people living in the United States.

Understanding the "culture of food" involves the perceived cost of healthy foods that further influence food choices. American house-holds who cook and

prepare meals are decreasing. According to Monsvais, Aggarwal, and Drewnowski (2014), this is most often due to lack of time. Although cooking meals at home have been associated with a healthier diet (Tiwari, Aggarwal, Tang & Drewnowski, 2017; Wolfson & Bleich, 2014). Darmon and Drewnowski (2015) investigated food prices and diet costs to evaluate how they both contribute to socioeconomic disparities in the quality of the diet and the population's health.

The foods of many mainstream cultures have been adopted into the American culture; fast food items such as pizza, tacos, burritos, fried rice, and eggrolls are now staples of the American diet (Kittler & Sucher, 1989; Kulkarni, 2004). Socioeconomic status, education and health literacy levels, health beliefs, societal family structure and support, and food availability have played major roles in the food choices and behaviors of people living in the American culture. **Michelle** stated that patients have a perception that healthy food costs too much:

> And they just may have a lot of hurdles to jump over when you're talking about that because I think a lot of people's belief is that, "Well, eating healthy is going to cost money and I don't have that in my budget." I say, "Well that's a misconception. There are definitely lots of healthy things out there that will fit in your budget, and I can assure you, they are a lot better than some of these unhealthy foods that are going to you know, just cause you to have more medical problems later in life."

Sue communicated that PHNs have to consider that patients may not know how to cook from scratch:

> The problem is that a lot of patients don't know how to cook from scratch. They eat like how they were brought up. The struggle is getting people to cook from scratch or learn to cook from recipes instead of eating fast food or packaged foods.

Leslie indicated that only half of the population she serves cooks meals, with the following statement:

> Within the WIC supplemental nutritional program, I do probably see 50% of the families mark that they don't cook at home but they mostly buy food out. That is actually one of our questions on our health histories. My feelings on that, is that it is disappointing. I think we're doing everything we can to stay ahead of the game, or stay on top of the game with life, and I don't think families know the importance of nutrition. The importance of nutrition has gone by the wayside and they don't recognize how big of a role that plays in our health.

Betty expressed that patients feel that healthy food is expensive, and they do not know how to cook:

> With some of our clients, I would say people think that to eat healthy it's expensive. A lot of people don't grow up learning how to cook nowadays, and so they feel that nurses might feel a little hesitant about what they do not know. Clients may feel intimidated by nurses and say, "Oh I'm not giving the right info" or "I don't know as much about this as I'd like." I think clients feel that way about trying new foods and trying foods that

might be healthier for them because they simply don't know how to prepare them.

Cultural awareness. According to the United States Census Bureau (2011) in 2012 12.9 % of the population was not born in America, while 33.1% spoke a language other than English in their homes. In order for nurses to be effective at communicating, educating, and advising patients about their nutritional health, they must demonstrate cultural awareness. When practicing cultural awareness, PHNs need to be aware of their tendency to label and make false assumptions about groups of people. Garcia (2006) stated that healthcare providers must be careful when making generalizations about people from a different culture because it may lead to stereotyping and patient labeling. Before nurses can understand their impact of diversity among other cultures, they must become aware and evaluate how they adapt to their experience of understanding and communicating in an effective way with another culture (Crisp & Turner, 2011). Stankova and Vassenska (2015) encouraged the use of festival tourism and celebrations toward helping diverse populations increase their awareness of cultural traditions by others. This strategy not only emphasized fun and excitement, but it helped to share the cultural and social development of the region and aid in passing on traditional customs to the younger generation and people who are unfamiliar with various cultures.

Being exposed to different cultures is the key to increasing awareness (Sahin, Gurbuz, & Köksal, 2014). A study conducted by Sarraj, Bene, Li, and Burley (2015) discovered that if elementary students were exposed to various

cultures within their curriculum, then it would help to prepare teachers and students for the exposure to various cultures differences. Through conducting a purposeful discourse about various cultures, students displayed behaviors of curiosity for the different culture, empathy, the harshness of preconceiving another culture negatively due their differences, and awarenees of bullying and its negative effect toward cultural awareness. While Mareno and Hart (2014) expressed the importance of providing opportunities for students to practice cultural skills and gain comfort and confidence through their encounters. Within their study, an independent sample t-tests was used to compare differences in undergraduate and graduate students' cultural awareness, knowledge, skills, and comfort when encountering a patient from a different culture. Low score relating to cultural awareness were reported and the nurses expressed that there was very little effective diversity training within the workplace. Thus, health care providers must understand culture; however, practice regarding people from different cultures as individuals who may not follow the same customs or beliefs as their culture.

Rachael warned about prejudging patients based on their culture or ethnicity. She emphasized ensuring that PHNs treat people from a different culture as an individual, as they may not practice the same customs as their family:

> I think just really becoming aware that, number one, it doesn't matter how much we learn about one specific culture, everyone is still going to be an individual and they're still going to have their own subculture that they belong to, so not making assumptions that, "Well, you're this type of

> person so that means you like this." Like for me, for example, I'm Hispanic and people are like, "Well I'm going to assume that you eat tortillas and beans." Well, that's probably true, but don't approach me as though that is already predetermined and that's just a fact. I think learning cultures is helpful, but I think going into it and thinking, "Well, I've studied up on Buddhists and so I know how to approach it," that's wrong. So, I think just becoming educated and just like self-awareness.

Watermelon expressed that having an understanding of age within a specific culture helped her to understand how to approach the nutrition education:

> If I'm going into a home [of a specific culture] and there are older people in the home; and in their culture 50 is old, I know that I have diabetics. About half the population are diabetics by the time they're 40. So, trying to figure out who's cooking the meal in this house is important within this culture. Because if it is the oldest woman in the house, you're really up against a hard wall because it is very difficult for them to change from their traditional diet. But if there's not a lot of older people in the home and they're mostly in their 30s and 40s, it is easier to change their nutritional behavior.

Jaycee was asked about cultural awareness and she expressed, "So, culture is something that is kind of hard here in my area, because we live in such a very small area and the majority of us share a similar culture." **Diana Prince** expressed how culture has influenced her, "I know culture does come into play a lot, and the nurse has to be respectful of where that person is coming from."

***Intercultural communication*.** Xu's (2006) research study indicated that there was a positive correlation between cultural sensitivity and effective intercultural communication. As well as a negative correlation between axiety and intercultural communication effectiveness. Lastly, the study revealed another negative correlation, this time between health care providers' cultural sensitivity and levels of anxiety. Understanding how to communicate with people from various cultures is an important aspect of providing nutrition counseling. Maneze et al. (2015) reported that barriers to communication among health professionals was due to difficulty understanding various culture's accents. Claramita and Susilo's (2014) research indicated that health care providers need to use more core communication skills when interacting with patients from another culture. Healthcare professionals and patients have a clearer understanding of each other if more emphasis was placed on using core communication skills; such as utilizing effective listening and paying attention to subtle non-verbal cues. Claramita and Susilo (2014) further suggested that providing effective intercultural communication could be accomplished by encouraging culturally sensitive educational trainings to staff and integrating clinical, legal, ethical skills with a focus on advocacy to help enhance communication skills. Lastly, understanding cultural hierarchical views is essential when communicating with patients from different cultures and hopefully will lead to improved health outcomes.

Rachael explained that when she considers culture, she can better understand how to advise the patients when providing nutrition counseling. She revealed:

> It is important to talk to clients about culture considerations for what types of food they eat and what types of food they don't eat. I find that if I do that more, I get a better understanding of what they are currently doing, what they're willing to do, and what they might not be able to do, but might want to do. I would like to encourage that second part and focus on their willingness, whether it's letting them know about the food pantry or the farmer's market is having a special program or something like that.

Watermelon expressed:

> Well, sometimes people just agree with you to get you out of their face. However, I try to talk to them. You can't just walk into somebody and say, "This is how you want to eat" and hand them a piece of paper about their diet and walk away. It takes a lot of going back over the same stuff over and over again and showing interest and reinforcing what you taught every time you see them.

Lifestyle reported hiring a staff member that represented the culture seen in the community to increase intercultural communication between the health department and the community:

> We've recently added a community health worker to our agency who represents some of the other cultures that we see in our community. She is very interested in working with patients about their lifestyle and teaching about diet with her population, because she sees obesity as something that is common in her culture. She would like to have the tools that she needs

> to work with her community to help them learn how might we do things differently, so that our people can be healthier as well.

Immediate Past President shared:

> No matter what language they speak, treat patients as an individual. So that way, nutrition counseling is culturally sensitive. Ask them what they eat, because you can't assume what they eat because they're Spanish, that they always eat rice and beans.

Utilizing Effective Communication

Utilizing effective communication is an important factor when providing nutrition counseling. Many nurses are unaware of how to utilize communication skills effectively. Shafakhah, Zarshenas, Sharif, and Sarvestani (2015) found that most nursing students required improvement in their communication skills as it related to clinical communication behaviors and treatment communication ability. It is imperative for nurses to establish effective communication skills within nursing school. Sheldon and Hilaire (2015) reported that nursing students always felt confident communicating with patients and families only 27% of the time. While feeling confident communicating with the interdisciplinary staff only 23.5% of the time and only 44.5% of the time always feeling comfortable asking colleagues for assistance with challenging situations.

Not only is important to evaluate nurses' communication skills, but it is imperative to the health of the patients that they ensure that they seek assistance with leaerning how to utilize effective communication skills. A study performed

by Skär and Söderberg (2018) reported that patients felt that effective communication is greatly influenced by the health care provider's attitude and professionalism. They were disappointed by most health care personnel's unprofessionalism; thus, decreasing the patient's willingness to discuss what they felt as embarrassing but important health information with them.

The quality of *utilizing effective communication* skills between nurses and the patient has a major influence on patient outcomes. Evidence has demonstrated that it is possible to develop and enhance effective communication skills with training and guidance (Connolly et al., 2014; Wilkinson et al., 2008). Health care professionals' ability to communicate has also been part of hospital surveys such as Hospital Consumer Assessment of Healthcare Providers and Systems (HCAPS), which measuring patients' perceptions of their hospital experience (Centers for Medicare and Medicaid Services, 2017). There have been tends reported that patients are concerned with complications of lack or inconsistency of effective communication and attitudes of staff (Harrison, 2016; Lancaster, Kolakowsky-Hayner, Kovacich, & Greer-Williams, 2015). Although Bramhall (2014) expressed that nurses' communication skills are learned from clinical practice through the observation of peers and senior staff, who may have received little to no training themselves. Bramhall further conveyed that nurses lack of providing effective communication skills is a result of inadequate structured and consistent communication training for both nursing students as well as practicing registered nurses.

O'Hagan et al. (2014) identified four major themes related to nurse–patient communication: how a nurse approaches a patients and patient care, such as being sensitive to the emotional state of the patient or their readiness to receive and discuss health care information. Their manner towards patients, for example, how engaged, distant, withdrawn, friendly, and respectful they were with patients. The nurse's use of effective communication techniques when interacting with patients, which included: the types of questions that were asked, introducing him/herself, informing, explaining or paraphrasing information to the patient, checking that the patient understood the information, providing opportunities for the patient to talk and ask questions, and to listen and clarifying that the information was received correctly. Lastly, the use of generic aspects of communication for example, being able to recognized and use verbal and nonverbal means of communication.

Irena emphasized listening to the patients and following the patients' cues:

> Listening, possessing strong listening skills is important, to hear what patients are actually saying. So many times, people will talk around something or they won't come straight out and just admit it right out, but they will give you cues in what they're saying. Cues such as, "Well, you know my family mentioned …" Well, that's usually a cue that they're doing something that they want to tell you about, but they don't want to tell you right out.

Leslie stated that patients are often in a difficult situation when they are not able to comply with dietary recommendations. Thus, she emphasized when providing

nutrition counseling she sets the tone by ensuring that she judges the situation not the patient:

> So, if a factor influencing nutrition counseling is that your target audience doesn't understand what you're saying, then the nurse should be well aware of that in order to decrease the illiteracy level of that conversation or to be able to provide information for them to be able to better understand the nurse's point. Be open to understand what their level of comprehension is. I don't know how to say this best, it's something that I'm working on and I think we all strive to work on judging the situation but not judging the family in the situation.

Jaycee reported her counseling experiences as a new nurse began on the job. Despite the fact that she possessed a lot of knowledge, she felt that she did not know how to effectively communicate or apply her knowledge:

> Well, I think you learn nutrition counseling as you grow as a nurse. Because when you start out as a brand-new nurse you have a lot of knowledge that you don't necessarily know what to do with. So, just how you approach people, how to work with different people, you learn some things. Some people aren't going to listen to you at all, but maybe a different nurse that they've already developed a relationship with, they can give that same information to them and they'll listen. You just develop different styles as you grow as a nurse and understand how you can teach patients.

Three specific strategies were prominent as components of *utilizing effective communication* and were also emphasized within the theoretical sample of this research study. They included *role modeling, incorporating motivational* interviewing (MI) and evaluating the publics' readiness to change through *considering strategies and processes* such as the Transtheoretical Model (TTM) Stages of Change Model. The voices of the participants are reflected in each subcategory.

Role modeling has been an effective strategy to help demonstrate favorable behavior. Morgenroth, Peters, and Ryan (2015) reported that role modeling is demonstrating favorable attributes and behaviors in order to motivate individuals to practice these behaviors to establish more ambitious goals toward making correct decisions. The person role modeling the desired behavior has to ensure that the attributes that they are demonstrating represent the quality and skill desired.

Ann worries about having credibility with patients when providing nutrition counseling in WIC through role modeling, considering her weight. She explained:

> It's difficult because I am overweight myself, and I know what to do. You know, but it's easier said than done. I worry about having some kind of credibility with a person when you're trying to counsel them and you are overweight. I struggle with my weight every day but you can provide information to patients, "Here are some things that I've tried that have led

> me to improve my nutrition in the past." Inform patients that it's an ongoing process.

Meadow suggested, "Well I think we should be much more involved and I truly think we should be a role model. I think we of all people should have a BMI less than 24."

Irena reported how her supervisor acted as a role model to help influence others by explicating:

> I worked per diem in a health department and my supervisor was strong on nutrition and everything she did she had to make, like healthy shakes to show people how to do it. She was really into it. It was a lot of headache and trouble to make those shakes but people loved them and they expressed an interest in the it. It showed me that doing a little bit more and sticking to it, gets people involved.

Jimbo stated:

> Concerning my own personal habits, I would try not to encourage any bad habits that I have with my patients. Such as, not eating, cheating, thinking about what I eat at a party, like consuming too much salt. I would not want to share any of my own personal behavior with my patients. **Sidney** reported, "I think that our patients do look to us for information and as nurses, I think we need to be role models."

Motivational interviewing is used to engage patients by exploring and resolving ambivalence. It centers attention around the motivational process within the patient, involving the patients' interest, values, and beliefs to increase compliance as well as encouraging them to implement a plan. It is described as a "person-centered counselling approach that focuses on collaboratively eliciting, and subsequently strengthening, an individual's motivation to change" ("What Would Your Future Self Say", 2015, p. 118). Developed by William R. Miller in 1983 in his experience of helping to treat problem drinkers, motivational interviewing is a strategy that avoids focusing on failures or the past, while emphasizes a person's strengths, the future, and what the person wants to change.

Motivational interviewing (MI) has been successfully utilized to inspire change within nursing when striving to impact the public's behavior. Day, Gould, and Hazelby (2017) reported utilizing MI and described incorporating the OARS framework as developed by David Rosengren to encourage patients to articulate their ambivalence (Rosengren, 2009). The acronym OARS represent: Open questions, Affirmation, Reflective listening, and Summary reflections. Östlund, Wadensten, Kristofferzon, and Häggström (2015) reported primary care nurses' experiences using MI, in which the main finding of the study revealed that nurses felt that MI helped to effectively develop their work responsibilities.

Sidney reported:

> I think we, as PHNs have to be open and nonjudgmental when counseling patients. Public health nurses can express to patients the importance of eating healthier. If they express ambivalence, ask, "Where can we

> compromise?" Public health nurses have to be creative, listen to patients and hear them out. Try to understand what is keeping them from trying a new vegetable or using less salt, or eating less fat. Public health nurses have to delve a little bit deeper and not just throw the information at patients and say, "Well, your blood pressure is going to continue to be high if you don't change your diet."

Diana Prince utilizes aspects of motivational interviewing by asking patients reflective questions: "Engage patients in conversation and asking, "What do you feel like is inhibiting you?" Or questions like, "So what way do you think you can change your diet?", or "What are you willing to do?"

Naomi, a focus group participant, described how nurses at her public health facility incorporates motivational interviewing skills into their counseling:

> In the Omaha System, if we identify the issue as nutrition then there's four categories of my intervention, and one intervention that I could do with a client, is called teaching, guiding, and counseling. So, to do that category of intervention, teaching, guiding, and counseling, I would need those motivational interviewing skills. I would need that knowledge base to do that. **Lifestyle**, one of the focus group participants stated, "Motivational interviewing needs to be a core component of nursing education, and then basic care planning has to incorporate nutrition and physical activity."

Considering strategies and processes. Multiple other strategies and processes help healthcare providers assess, evaluate, and approach nutrition

counseling. To assess the patient's readiness to receive the nutrition counseling needed, participants discussed aspects of various strategies, models, processes, and frameworks. An example of one of the strategies that the participants described the most involved concepts of the Stages of Change Model. The Stages of Change Model was developed by Prochaska and DiClemente in the late 1970s. The core constructs of this model include: The stages of change, the processes of change, decisional balance, and self-efficacy. The Stages of change Model was derived from, The Transtheoretical Model (TTM). It was developed by Prochaska, DiClemente, and Norcorss (1992) a seminal study that originally examined self-initiated and "professionally assisted changes of addictive behaviors" (p. 1102). The seminal work conducted by Prochaska and DiClement (1984) was to understand why some smokers were capable of ceasing to smoke on their own, while others required further treatment. The results of their studied indicated that people experience different phases in order to reach change. The first being *precontemplation*, in which the person does not have any willingness to change and is unaware that a problem exists. The second stage is *contemplation*, having an awareness that a problem exists. The third stage is *preparation,* in which the person is intending to act on their problem. *Action* is the last stage wherein the person begins to modify or change their environment, behavior, or experiences in order to change their behavior. If utilizing the strategy of the Stages of Change Model, PHNs pays close attention to those patients that are in the first two stages of precontemplation and contemplation in

an effort to move and sustain them toward the third stage of *preparation* and the last stage of *Action*.

A pretest-posttest, controlled, semi-experimental study performed by Baysal and Hacialioglu (2017) reported receiving positive effects of the TTM when assessing change in behavior of overweight women. Thus, evaluating patients' readiness for change through utilizing strategies such as the Stages of Change Model has been reported to be an effective strategy by the study participants. It allowed PHNs to effectively communicate and utilize the best approach that would speak to the patient where they are in their readiness to change while keeping the lines of communication open.

Sidney's way of incorporating motivational interviewing was by making the counseling session patient-centered. She reported that she does not assume anything about her patients; she asks questions, possesses a positive attitude, and helps the patient guide his or her own journey. She explained:

> The first thing I do is that I don't assume anything. I don't assume that patients know what vitamins or the nutritional value of certain foods are. I then try to get a baseline of their knowledge by asking them questions about what they know. And then, there's a lot of myths out there, so I talk with them to try to see where they're coming from first….I try to concentrate on the positives of what they reported that they eat.

Leslie described her process or strategy of provides nutrition counseling:

> When I do nutrition counseling in the WIC office, I have a few set forms I follow, and I really just go point by point. My streamline way that I go

> through it is check their measurements, go through their objective information, and then I ask questions based off of that. Then I will provide nutritional education on those points. To sum it up I really just go through subjective and objective data from that parents or from the participant, and then I educate on where they sit on the national average based on that data, 50% for height or weight or what have you. Then I also just add points on top of it, such as recommendations based on FDA guidelines, things of that matter.

Jaycee expressed how the public's readiness to what she was saying influenced her attitude and behavior in the provision of nutrition counseling. She maintained:

> My behavior when giving nutrition counseling to a family is going to come a lot from their behavior in receiving it. It's going to come a lot from how interested the patient seems to be, how much time the patient seems to want to devote….I don't want to say that I'm stereotyping or being judgmental, but if I have a family that comes in and doesn't seem to have interest in any points that I'm sharing with them, it becomes harder for me to empathize with them rather than give the best information each time. So, a lot of times my behavior is in response to the family's behavior. **Lifestyle** replied:

What PHNs find challenging is when clients say things like, "It costs too much to eat healthy, to buy fruits and vegetables." They understand that although it may

very well be financial, however, it may also be a sign that patients are not really ready to change.

Engaging Communities

The development of engaging communities refers to the capacity to collaborate with people or organizations to better expand the realm of resources and service connections (Billings et al., 2010). When public health nurses are allowed to engage communities the health of the community is significantly impacted. Kaiser and Farris (2009) reported that increased involvement of public and community health nursing revealed a decreased need for nursing care while improving health behaviors. Koniak-Griffin, et al. (2015) discovered that dietary habits improved, waist circumferences decreased and physical activity increased when public health care workers were more involved in the lives of low-income Latinas who faced a cardiovascular risk and had limited access to health care. The community health workers' purposive engagement helped to increase retention rates and support behavior changes.

Stuhlmiller and Tolchard (2015) encouraged the use of student-led community health initiatives to not only increase nursing students' involvement in the community, but to improve the over-all health of disadvantaged communities. Zandee, Bossenbroek, Slager, and Gordon's (2013) study revealed that public or community health workers' engagement with the community increased their awareness of community resources within their area, increased access to dental care, increased use of a health center closes to their community, and increased the percentage of people participating in blood pressure screenings, while decreasing

use of emergency room visits. *Engaging communities* involves forming internal and external relationships with various community resources, evaluating support with management, and various specters of the larger health system in order to improve upon the health of the population from the work being done within the health department. The subcategories include: *networking*, *management engagement and support*, and *community health assessment*.

Sidney expressed:

> There are a lot of community meetings that take place out there. If PHNs participate more in the community it would help to close that gap of the public's increase need for health care and lack of resources. I know there are some community meetings where there are members of the community who come to find out more information about what's going on in the community. But I think that PHNs could engage with other healthcare organizations as well as people in the community to to start a diabetes coalition, or something of that sort.

Immediate Past President communicated:

> Sometimes you have access to a CHES, the Community Health Education Specialist, in your health department, and they're usually very good. Many of them were dietitians or are dietitians. And if your public health office has hired one, utilize it. look at your community resources. You can also utilize your hospitals, where you can do more outreach, and they're usually happy to help. They help advertise various events when

you collaborate with them, and that is a way to get more people from hospitals to volunteer.

Rachael conveyed:

I think engaging external partners would also be important, because communicating with more people out in the community would really benefit both, the people that we're serving and then also the partners. As a result, the partners would get more exposure and maybe more known. Some organizations or businesses that PHNs have the opportunity to engage are like real hidden gems, and there are so many of them. However, sometimes you don't find out about them until it's too late or the opportunity has passed.

Lucy expressed:

I think community engagement and collaboration is the key when it comes to public health. There may be a clinic trying to provide a specific kind of education while the hospital is providing the same type of education. Let's say there are 20 different small education sessions going on in the community and there's no coordination between them. You're never going to see any overall improvement; versus, if PHNs could engage the community and get that collaboration going, while actually getting everybody working on the same page with the health department being the hub of that. As a whole, we could actually make a difference.

Networking involves collaborating with people, organizations, businesses, or communities to share resources. Networking enhances partnerships by creating

opportunities for different organizations, businesses, educational systems, etc. to identify mutual benefits as a result of networking (Sharma & Zodpey, 2013). As a result of networking, PHNs help to build stronger communities through improving health provisions (Grills, Kumar, Philip, & Porter, 2014). Public health nurses specifically discussed the importance of collaborating with nutritionists and dieticians since they were experts in the field of nutrition. However, they did mention other organizations, businesses, as well as local, state, and federal agencies.

Irena stated that she would consult registered dieticians who were available to the public to obtain information concerning her patients, "I utilize dieticians at stores, because there is a dietician in every store [of this specific store chain]. They're great! You want insight, you want help, you want someone to just answer a question, then I go to her."

Michelle discussed the need for public health departments to collaborate with registered dieticians. She explained:

> If public health facilities don't have a registered dietician on staff, because you need to have at least someone to refer to, a class that you can get them into where they will get more specific information, or more individual information for themselves that is all about the individual and contains very specific patient information, then they need to be referred outpatient.

Jaycee identified resources such as Head Start and the Department of Human Services as partners to network with to combine their collective efforts toward helping the community as a whole. She discussed:

> So, I think as PHNs we need to work with the other resources that are already in our community. For example, we have Head Start and the Department of Human Services (DHS), all of these organizations are trying to work on little pieces of the same thing. Instead of compartmentalizing their services, such as, "DHS does this and Family First does this, and the Health Department does that." If we can use all of our resources to help the person as a whole, team up, and work together, it would be the best way to provide education to our communities.

Lucy reported that PHNs currently collaborate with pharmacies and would like to add gyms and fitness centers to their network contact list. However, finding the resources and collaborating with them is a deterrence. She suggested:

> The local gyms and fitness centers are great places to network with patients. We do a lot with the pharmacies, or try to, to get the pharmacies involved in inserting educational information with diabetic and blood pressure medications. I think all those things are there to help patients, but it's picking them out that typically can be daunting to try to find all those resources and use them to their fullest ability.

A resource that **Rachael** identified were grocery stores. She stated that they provide a great deal of nutritional information. Rachael further explained:

> There are grocery stores that actually do quite a bit in terms of nutritional education; cooking classes, and how to cook healthier. I think if we had a linkage to things like that, the community might find it more fun and less like a doctor's visit. I think that we could put our foot in the door to actually reach out to more people.

Sara expressed:

> We have an agency in our state that focuses on prevention. So, exercise, nutrition, that kind of thing. Agencies like that I think are hugely important, because there is usually someone within them who is a nutrition expert. In addition, partnering on the local level with the universities is extremely useful. **Meadow** conveyed:

> I'd like to see a partnership with a food kitchen that provides food, or some sort of service related to food and supplies that PHNs could collaborate and work together with. We could profile healthy ways of eating rather than just filling up their stomach with bread or something.

Management engagement and support. Identifying strategies to engage management about public health concerns could increase support for resources and funding. Public health nurses' engagement with management may help influence policy change if ideas are evidenced-based and presented in a way that considers funding, structural changes within the facility, and benefited both the health department as well as the needs of the community. Managers or nurse leaders are responsible for creating a sense of community and are influential at developing shared values and setting the tone of the facility (Twigg &

McCollough, 2014). Furthermore, they are responsible for staffing and obtaining needed resources for their department, facility, or staff. Participants described their experiences with their management team, which involved both engagement and support as well as the lack of support concerning, ideas, resources, and funding requests surrounding their involvement in nutrition counseling. Laschinger, Borgogni, Consiglio, and Read (2015), discussed how authentic leadership behaviors, characterizes as being "Positive, transformational, and moral leaders who are true to themselves and aim to bring out the best in themselves and others" (p. 3), play a role in creating positive outcomes for new graduate nurses and help to lower levels of burnout. Nursing managers and leader are encouraged to be transformational leaders, who help to create an environment for nurses to work at their fullest potential thus improving the organization's performance (Roberts-Turner, et al., 2014).

Lucy further reported on the importance of initiating an improvement plan to receive support from management. She highlighted:

> If PHNs' requests are not in your strategic plan or your community health improvement plan, then you're just kind of going off on your own and teaching something that the Health Department will not support you in. I think that in order for the nurses to be effective, that community health improvement plan has to really back them up, and that way they can get collaboration from other entities so that it's not just a nurse in an office trying to pull this off on her own.

Lifestyle, an administrator within a public health facility, supported the idea of engaging the staff and supporting them in order to help them cater to the public. She explicated:

> The resources of administrative support are needed to address staffing needs to allow them to be able to have the time to imbed nutrition counseling into their practice; and then ultimately the funding available to help support that need for the amount of staffing that you have so that the staff can be trained and have the time to provide nutrition counseling with their clients.

Sidney expressed:

> Management has to support that you do need that extra 5 or 10 minutes. Public health nurses shouldn't be penalized for that, it needs to be part of the plan of care. I feel that everything is such a time crunch.

Rachael reported that management would determine what was important to discuss with patients at the time and what was not. She stated:

> If PHNs have the support of their supervisors or their administrators, I think that is probably the biggest thing, to have them in agreement that it is a priority. I think that would greatly influence that the PHN's concerns are becoming an important issue. For obvious reasons, they're your boss and they tell you this is important, and this is not, and this is part of your job or this is not.

Leslie reported the need for management support in a way of funding for essential resources:

> I have a heart for public health, but I also experience sadness and disappointment when I think that public health does not get everything we could possibly use when it comes to funding a program. I think that when it comes to an individual nurses' ability to provide that nutrition counseling to a family, we need all of the resources in order to be better prepared to provide that counseling. We need the time and we need the money to help us get that information.

Community health assessment. According to the Public Health Information Network (n.d.) community health assessment, also known as health information systems, includes, "An integrated effort to collect, process, report, and use health information and knowledge to influence policy and decision-making program action, individual and public health outcomes, and research" (p. 1). In order to modify existing policy, health information data needs to be collected, analyzed, and discussed in a way to influence change. Community health assessment looks at assessing and evaluating systems of health to measure outcomes around public health facility's capacity to determine if the public health status is reflective of the impacts and improvements within the larger population. Therefore, it evaluates how the outcomes of the public health facility reflect the work that they are doing. Häggman-Laitila, Mattila, and Melender (2017) expressed that system-level outcomes that involve community health assessments were reported to be an influential aspect of providing efficient and effective

patient care. Similar results were reported by Erickson, Attleson, and Thorson (2013).

Lifestyle, a focus group participant reported her view about community health assessment, “I think that community health assessment is a key part of what public health is. Identifying what our resources in our community are and evaluate how do we connect people to them.”

Diana Prince provided insight into the need for community health assessment resulting from conversations she had with a friend. She expressed:

> I had a friend who shared with me about her experience at the hospital following her mom’s heart attack. When the hospital was ready to discharge her mom, the daughter mentioned that her mom hasn’t seen a registered dietitian, and asked, “is someone going to talk to her about her diet?” The daughter expressed that the nurse looked at her like she was crazy, and replied, “no they were not”, The daughter replied, “I’m pretty sure that her condition is because of her diet.” The daughter was very frustrated, that no one even considered or even thought of referring her mother to see as dietician or nutritionist.

Leslie expressed:

> When we know that there are people that would be interested in an event that we are providing, such as, information about diabetes or a healthy lifestyle; then, that really encourages us to want to be able to put something together for the community. So, I think that we cater to the

> community's desires and needs, especially if they are willing and able to improve their dietary behavior. It positively influences us to provide that nutrition counseling.

Sara reported:

> I think PHNs need to be better about some of the grant opportunities from our taxpayer dollars. They probably need to be utilized a little better, such as using them more within the local health departments. You can reach everyone in the country if you can reach your local health department, because we literally, cater to everyone in the county and every county has one and it's a good way to reach people in need.

The Revolving Door

All of the study participants described their experiences with *the revolving door* category as being an intrinsic part of the provisions of nutrition counseling. The revolving door is observed as a by-product of the business of an overpacked clinic, represented through a lack of time with patients and an inability to address nutrition counseling during the course of new intakes and/or regular and repeated appointments. Ball et al., (2014) reported on how lack of time decreased the nurses' ability to complete health related and necessary tasks. Likewise, Visschere et al.'s, (2015) study reported that nurses expressed concerns of having lack of time when caring for the patients' basic needs of providing oral hygiene to patients in the nursing home setting. Aboueid, Bourgeault and Giroux (2018) discussed how the lack of time and increased patient multi-morbidities

(hypertension, diabetes, and obesity) decreased the time health care professionals spent with their patients.

The issue of possessing an over-crowded clinic with decreased amount of time is not new. Unfortunately, this issue has been an ongoing concern for many years, and now patients are living with multiple-morbidities, suggesting that the time nurses spend with patients need to increase. There are programs that could be implemented to help decrease readmission to hospitals, improve health outcome of the community, and reduce healthcare expenditures without restricting access of care (Rantz et al., 2017). Additional studies conducted by Ingber et al. (2017) and McKee, Miller, Cuthbertson, Scullin, and Scott (2016) revealed that implementing strategies that increase communication and collaboration between inter-professionals have produced significant results to decrease or prevent the revolving door of unnecessarily readmitting patients to the hospital.

Irena expressed:

> We have to provide patients with time, because so many times nurses are rushed with screenings one right after the other and there's not that time built into it just to sit there and really talk to a person about nutrition or other issues. **Immediate Past President** conveyed:
>
> There are workplaces in public health nursing where you don't have enough time to do what you need to do. You just have time to do the hemoglobin, height, weight, and blood pressure, and that's your biometric assessment. As the PHN, you're not telling patients, "You need vitamin C

> rich foods when you're taking an iron pill because your hemoglobin is still 8." I think the ratio of nurse to patient is an issue. The workplace should make sure that there's time allotted for continuing education.

Diana Prince articulated:

> The facilities are scheduling way too many clients in a short amount of time. It's almost like brining clients in and immediately sending them out. Although the client's main reason for being seen is not nutrition, but as the PHN, you're expected to talk about it.

Leslie communicated:

> Unfortunately, in public health there's things in our daily jobs that we have to get done, we have to cover, and a lot of that includes Medicaid reimbursement from the logistics and housekeeping items of reporting things to our health board. So, I feel like having the time to train staff adequately, as well as money, and having the ability to send someone, or give someone that one-on-one information to help introduce them to public health and how to provide nutritional counseling is lacking.

Spending time. Public health nurses are not provided the sufficient amount of time to provide education or nutrition counseling to their patients. Barriers to providing health promotion information with limited time being a reoccurring theme was reported by Geense, van de Glind, Visscher, and van Achterberg (2013). Wolf et al. (2015) reported that nurses have many concerns that caused moral distress. One of these concerns involved feeling overwhelmed

due to the number of tasks they have to perform within a limited amount of time. Possessing limited amount of time significantly affects nurses' moral distress, it also effects the omission of effective care that could have been provided. Cho, et al. (2015) reported that effective nursing care was compromised by decreased nurse staffing ratios. Nurses working in units that possessed a high-staffing area had a significant lower score of missed care that could have been provided than those in low-staffing units. Studies are now being investigated to show that the care provided by nurses are influencing hospital readmissions. This includes the time nurses spend with patients, staffing ratios, and their work environment have all been linked to hospital readmissions (Carthon, Lasater, Sloane, & Kutney-Lee, 2015). A measure of PHNs' ability to deliver nutrition counseling reflects the business of the clinic, staff ratio, the environment and structure of the clinic, priority initiatives and funding.

Immediate Past President stated:

> I am at a workplace that has a high patient-to-nurse ratio, when you really don't have time to communicate. Where the work force that is not bilingual, or at least able to communicate clearly with the population you're serving or have access to telephone translator. And these factors will always affect the time nurses can spend with their patients. **Sara** reported, "I try to spend as much time with my patient's as they need, but I think all of us in public health are pretty scant on time and money."

Diana Prince discussed how she provides nutritional information sound-bites. She reported:

> You can't tell a client everything about nutrition in a 15-minute session, so, I give them sound bites to go on. Because it's a process to learn about food and what's best for you and what's best for your family, changing little bits at a time.

Betty responded:

> Time and definitely how many clients are in the waiting room influence my ability to provide effective nutritional counseling. The nursing clinic and STD clinic that I work in is a walk-in situation, so we don't have set appointments. If we don't have a lot of people, then we can sometimes spend more time one on one with that client, but if I know that we've got a lot of people waiting, sometimes we just kind of gloss over that nutrition information.

Michelle described experiences at her busy clinic, especially her inability of spending time with patients to discuss nutrition information:

> Public health nurses are given plenty of things to access, to ask about, and information that we're required to review with patients. On many occasions we are short on time while we have a full clinic and the patient is also short on time and needing to get through to complete their appointment. We have so many patients that we may not take as much time as needed on nutritional aspects.

Michelle further stated:

> Time is certainly a factor in those visits, because if you're saying you've got 15 minutes, or you've got 30 minutes at the most with someone, and depending on what you're seeing them for, you've got a lot to cover, and then probably the issues among all the health care facilities with that.

Leslie described how she shared:

> I have certain points I have to cover. I have other points that I would like to cover. You know, there's "need to know" info and "nice to know" info, and I do my best to get it all across, but between logistics and the family sitting in front of me, there's a lot of things that take part in how I'm going to give that information. I've got to get people in, and out, get appointments done, and get charts finished. So, a lot of times unfortunately it's the daily grind that is influencing a lot of how I interact with my families and the things that I share or don't share, the items I touch upon, or the nutritional points I'm able to cover.

Competing with other programs. The study participants also discussed the complexity of how providing non-funded, preventative health education such as nutrition counseling compete with other well-funded and mandated health programs. These funded programs include: immunizations, tobacco, cancer prevention, hypertension, all of which hold precedent and long-standing positions within public health departments' and may provide some aspect of nutritional care advice. Pallas et al. (2013) identified 23 enabling factors and 15 barriers to sustaining community health programs. Based on Pallas et al.'s (2013) findings,

in order for community health facilities to sustain community health programs, they required effective program design and management that includes, sufficient training, management and direction, inspiration and motivation, support, and funding; the community's acceptance of the program and how well it fits; and acquiring national and state governmental and administrative support for the programs from political and other health care leaders. De Jesus (2010) supported the discussion of how institutional barriers such as insufficient program funding affected health promotion strategies within public health. Other barriers that he discussed included: restrictive policies and lack of cultural resources.

According to The Funding Distribution Fund, The United States Department of Health and Human Services (2016) reported that in 2016, the chronic disease and self-management program, which houses nutrition counseling allocated $8 million, whereas, the Office of Immunizations allocated $300 million and the Office of Smoking and Health allocated $126 million. Funding continues to be a major concern in preventative care. Networking and using collaborative efforts among community, state, and federal organizations may help public health nurses continue to provide preventative care while coordinating funding through other organizations. Bilinski et al. (2017) reported that due to limited resources, funding cannot be allocated to include all health services. Thus, as a result, legislators and researchers have recommended prioritizing cost-effective interventions. Frieden (2014) expressed that many public health programs do not achieve their potential impact due to limited funding, lack of assessment and evaluation track performance, and insufficient political support. While other

programs within public health often succeed in improving health outcomes due to legislative support and funding.

The agendas of these funded programs are often viewed as priority and placed ahead of preventative measures such as nutrition counseling. Therefore, patients return to the clinic or health department with nutrition related disorders which could have been able to be addressed during previous visits. Unfortunately, preventative measures such as nutrition counseling are not a primary concern when compared to other programs, leaving health care providers with hard choices to make concerning how much time to spend with each patient to discuss various types of health promotion information. In addition, Pallas et al. (2013), expressed how internal program competition within health departments serves as barriers to provisions of other types of health promotion information.

Leslie discussed the topics that management wanted PHNs to discuss based on the time of year, such as immunization programs for back to school. She reported:

> When it is time for children to return to school, immunization programs pose more of a priority in the communities to get children vaccinated. Basically, as PHN's we're able to provide more opportunities to immunize children because public health departments are provided funding, although I feel that the priority should be on nutrition or nutrition counseling.

One of the focus group participants, **Naomi,** discussed system support as it relates to prevention and the lack of funding. She maintained:

> It's very hard to put prevention into practice because prevention isn't funded. But public health right now is also engaged to help clinics in health care settings flip the paradigm and address prevention. So, why aren't we doing that with ourselves? Why isn't there time for prevention? You aren't getting paid for prevention. So, you're asking administrators to go outside their budget, and most public health departments depend on county boards that ask them, "Where's your funding stream coming from, what are you doing for every minute, is that person's work getting reimbursed, and if not, should we be doing it?"

Sara added:

> We focus a lot on breastfeeding. We have tons of information, intensive teaching opportunities, learning opportunities. So, we're all so well educated in that now. Maybe if we had some of that focus on a larger scale from the top with some of those programs, then we would be able to provide a little bit better nutrition care, nutrition education.

Lifestyle stated: "It is also the competition of the funding source that's driving the visit. Unfortunately, you know, as a country our funding is still at treating the major, major issues, and not paying for prevention."

Impacting the Health of the Public

The basic social process of *Impacting the Health of the Public* reflects the PHNs expressed factors that influenced their attitudes, perceptions, and behaviors toward nutrition counseling. Five main categories are supported by rich, thick

descriptions and surround the process of *impacting the health of the public*. The main categories and subcategories include: (a) *knowing*: subcategories included; *possessing a spirit of inquiry, accessing resources, counseling models,* and *possessing experience*; (b) *cultural competency*: subcategories included; *understanding the "culture of food", cultural awareness,* and *intercultural communication*; (c) *utilizing effective communication*: subcategories included; *role modeling, motivational interviewing,* and *considering strategies and processes*; (d) *engaging communities*: subcategories included; *networking, management engagement and support,* and *community health assessment*; and (e) *the revolving door*: subcategories included; *spending time* and *competing with other programs.*

The conversation involving nutrition counseling and its association with health promotion is related to implementing behavior change. The health system infrastructure is designed in a way that promotes treating illness over providing preventative and health promotion measures. Impacting the health of the public through incorporating nutrition counseling requires uniform changes within the policy and procedures of public health systems to provide more attention on prevention services. It requires a level of consistency, while allowing flexibility to cater to different geographic, cultural and socioeconomic populations.

Frieden (2010) discussed a framework for public health action. The model reflects a 5-tier pyramid that describes the impact of different types of public health interventions to improve health. The top of the pyramid is where counseling and education is placed, followed by clinical interventions, long-

lasting protective interventions, changing the context to make individual's default decisions healthy, and socioeconomic factors. Frieden (2010) suggested that, "Interventions at the top tiers are designed to help individuals rather than entire populations, but they could theoretically have a large population impact if it was universally and effectively applied to address interventions such as nutrition" (p. 591). If public health facilities could organize and structure policy to reflect a comprehensive system of providing nutrition counseling, that also offers flexibility and caters to unique cultural and socioeconmic populations, then the process of *impacting the health of the public* could greatly enhance the health status of society.

Naomi stated:

> If local public health systems, leadership, and the protocols for addressing nutrition are in place, then *impacting the health of the public* will fall into place much easier. If those systems are not in place and leadership support isn't there, then *impacting the health of the public* is not going to happen.

Increased health related interactions and assessments of the community by health care professionals, led to a reduction in emergency calls, lower visits to the hospital, and a decrease in hypertension (Agarwal et al., 2017). There is value found when addressing illness through the implementation of nutrition related initiatives of promoting health, encouraging farmer's markets at healthcare facilities such as hospitals, and working with the community for the development of a community garden. George et al. (2014) found that communities that

possessed hospital associated farmer's market had a significantly lower obesity rate (27%) than hospitals that were not associated with farmer's markets (34%, $P < 0.001$). Furthermore, collaborations between health educators that promoted nutritional health and health care institutions can greatly benefit from the development of innovative programs that focus attention around farmer's markets and community gardens.

Public health workers need the help of other agencies, organizations, and businesses in order to affect large populations. **Lifestyle**, a focus group participant, expressed the importance of community gardens and collaborating with community agencies. She communicated:

> Our staff is working on the nutrition aspect from the perspective of making community gardens more available in different communities and getting those started, promoting farmers markets, developing the ability for farmers markets to be able to accept the food stamp/EBT cards at them, working with restaurants for labeling so that the labeling can either identify calories. This year, we're working on programming with the locally-owned, family-owned restaurants that don't have access to the franchise information like your chain operations to help them look at their menus, potentially modify their menus, and then if they do that and it meets the FDA regulations and requirements, I think we're putting an apple by that on the menu.

Mason (2016) addressed how advocating for enhancement of healthier communities is a moral imperative of the profession of nursing. Nursing

education continues to focus efforts toward acute care in spite of the requests to shift efforts toward a more community/public health-based curriculum that focuses on health promotion experiences of the community (Mason, 2016). Although the importance of nutrition is being taught within most nursing programs, more emphasis should be placed on the application of preventative health measures. Public health nurses have a moral commitment to address factors that limit their ability to make an impact in the health of the public. They need to be equipped with tools and provided support to help them achieve their obligation to the health of the public.

Lifestyle reported:

> I encourage our health department to adopt a policy that our staff would address nutrition, physical activity, and tobacco use as a part of all of their individual client assessments. We also then worked to find some tools that were available that we could put in the hands of the nurses that they could use for teaching tools. The My Plate is a good example of that showing portion sizes both for children as well as for adults. Possessing tools to explain various nutritional concepts are important.

Acquiring knowledge, understanding how to communicate the knowledge, possessing an understanding of culture, and providing sufficient amount of time, also plays an integral part in *impacting the health of the public*. Katigback, Van Devanter, Islam, and Trinh-Shevrin (2015) expressed that the processes that PHNs use to communicate the adoption of healthy behaviors are poorly understood.

Rachael reported how knowledge, communication, culture, and time constraints affect her ability to impact the health of the public. She conveyed:

> As PHNs, we get into a pattern of just saying, well, "Here's what you need to do, here's what the book says," and, "Here's how this needs to play out." We really don't try to make that linked between what they need and how to get it. We're telling them what they need and not offering them another solution. Or culturally, this person's family dynamic involves the head of household is not someone that we would consider traditional. So, really, you need to be talking to another person. So, I think first and foremost we have to address how we are approaching how we dialogue with people, because right now, it tends to fall by the wayside due to lack of knowledge and time constraints. It tends to be like, "I'm going to tell you what you need to and you just need to say yes you're going to do this." I think it needs to change to, "Well, tell me about what you do now and tell me how we can try this into the way you want it to be."

Impacting the Health of the Public helps to clarifies PHNs role as they strive to implement health promotion strategies that focus on nutrition counseling. The utilizing of *knowing, cultural competency, utilizing effective communication, engaging communities,* and *the revolving door* provides a structural framework that offers guidance to the profession of nursing and the field of public health.

Summary of the Findings

This study found that PHNs' attitudes, perceptions, and behaviors are significantly influenced by various factors that affect their involvement in nutrition counseling. Public health nurses can play a prominent role in *Impacting the Health of the Public* if these factors are considered. The factors that developed from the voices of the individual participants and substantiated by the focus group participants included: (a) *knowing*: subcategories included; *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*; (b) *cultural competency*: subcategories included; *understanding the "culture of food*", *cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication*: subcategories included; *role modeling*, *motivational interviewing*, and *considering strategies and processes*; (d) *engaging communities*: subcategories included; *networking*, *management engagement and support*, and *community health assessment*; and (e) *the revolving door*: subcategories included; *spending time* and *competing with other programs*. Although nutrition counseling is a vital component surrounding the prevention and maintenance of chronic diseases that should be addressed within public health.

This study revealed that the provision of nutrition counseling is not uniform across all county, state, and federal public health departments. There is an inconsistency of providing nutrition counseling among public health nurses (PHNs) across the nation. The health departments that provided a structured form of nutrition counseling were first required to change their policies and procedures by mandating that PHNs follow a nutrition tool as a guide and to incorporate it as

part of their care plan. While other health departments lacked organizational structure of processes and strategies as to how they would integrate nutrition counseling within their health promotion and disease prevention process. The lack of cohesion not only among public health facilities, but among public health nurses' involvement in nutrition counseling causes concern for their ability to *Impacting the Health of the Public*; especially with lack of a framework. On the other hand, some public health nurses felt very comfortable discussing basic nutrition information as well as providing diabetes counseling, while others expressed some difficulty. **Naomi** mentioned, "PHNs need to know at what point should they refer patients to registered dieticians or nutritionists."

Culture plays a large role in nutrition counseling. The participants emphasized the fact that more people from diverse cultures are entering the United States. Public health nurses expressed how cultural competency is an essential aspect that greatly influences their involvement in nutrition counseling. However, it is interesting to note that a majority of the PHNs expressed concerns about not having a well-developed understanding of diverse cultures. It needs to be taken into consideration that many of the PHNs who participated in the research study were Caucasian and from rural parts of the United States. Majority of the participants expressed the need to learn more about the various cultural groups within their community. If PHNs are unfamiliar with the dietary needs of their community, it is very unlikely that they would feel comfortable or confident providing effective nutrition counseling to the population. As the diversity of society increases, so should nurses' awareness of understanding diverse cultures,

their food combinations, and nutrition. Though, a significant point that the participants expressed involved the importance of not stereotyping patients based on their culture and understanding that a person who is a part of a specific culture may not practice the same dietary practices of that culture. Thus, the participants suggested to communicate with people in a way that does not generalize their dietary habits and to treat each patient as an individual who may be a part of this cultural group, but may not practice the same cultural customs. Although it was expressed to keep in mind the types of foods each culture consumes, in general.

The participants also discussed the "culture of food" or the patient's perception of food and nutrition in todays society. In the present day, people appear busier than they were 50 years ago and are less likely to cook healthy meals using fruits and vegetable and are more likely to eat at restaurants or fast food eateries. The consumption of processed, fast, and fried foods has increased over the past 20 to 30-years. Patients' perception of fast or processed food is that it appears to be more accessible and cheaper in cost, although there are local farmer's markets and community gardens that are striving to make fresh fruits and vegetables more accessible to the public. In addition, food insecurity plays a large role in patients' decisions to refuse to follow the recommended daily requirements of consuming the suggested amount of fruits and vegetables, due to the perception of low cost and availability of fast, processed, or fried foods. Participants expressed that if they do not feel that they would be successful in making a difference in the dietary behaviors of patients, then they are more likely to not provide nutrition counseling.

Utilizing effective communication is another important component when providing nutrition counseling. However, there are various processes and strategies that involve being able to communicate effectively. The participants expressed how their health behaviors, which in turn, affected their appearance, greatly influenced their attitudes, perceptions, and behaviors toward providing nutrition counseling. Some participants expressed an interesting viewpoint, in which patients believed that health care professionals possessed the needed nutritional knowledge about food choices and thus did not share the same dietary struggles as patients. Although knowledge of nutrition is an important component of following dietary standards, it is not the driving force to help change behaviors. There are other elements that help to promote the implementation of following these guidelines. These elements include motivation, support, access to healthy foods, and the time and ability to cook and prepare healthy meals.

The participants discussed engaging communities and collaborations with different organizations, businesses, or agencies that could help improve the health of their patients. All of the participants expressed the importance of collaborating with registered dieticians and nutritionists who are experts in the field of nutrition. Other networking ventures included collaborating with Women, Infant, and Children (WIC) offices, since nutritionists and dieticians often worked within that organization; grocery stores, fitness centers, schools, exchange agencies, and pharmacies. The purpose of networking with these organizations, businesses, and agencies would be to increase PHNs ability to reach a larger population to provide nutrition counseling, as well as to help impact the health of the public.

The participants expressed the need to engage with people in the community to perform health needs assessment of that population by identifying what the health needs were in that area. In order to impact the health of the public, the participants discussed the importance of assessing various aspects of the community, such as: (a) investigate the incidence of chronic diseases within the community that resulted in mortality, (b) identify the community's ability to access healthy food option, such as farmer's markets, and (c) assess the community's nutrition literacy levels. Once these areas were identified, the participants expressed the need to develop and implement a plan of action in order to improve the health conditions of the public.

The focus group participants emphasized that *Impacting the Health of The Public* will be difficult to implement if structural, organizational, and systematic changes that affect policy and procedure were not in place to allow the incorporation of nutrition counseling. Policy changes largely depend upon management's engagement and support that cater to the structural, financial, and organizational composition of a whole system change. The Social Ecology Model emphasizes social and environmental impacts of changes via systems and policy transformations (Bronfenbrenner, 1977). Thus, in order to create social change within a whole organization, a modification in policy must first occur, which in turn may influence community, organizational, interpersonal, and then individual policy changes. The Social Ecology Model addresses the structural component of what impacts change from broader communal based organization, policy, or systems perspectives. Influencing policy makers, directors, and nursing managers

who control communal public health delivery and administration of whole system organization must occur before the social ecology within the organization can change.

Although the participants thoroughly discussed factors that influenced their attitudes, perceptions, and behaviors toward nutrition counseling, **Lifestyle**, one of the focus group participants suggested that PHNs' attitude could have been developed more. This is a valid point, because although participants mentioned factors that influenced their attitude when discussing modeling behaviors, it could have been discussed more within the other categories. Attitude is a way of thinking or feeling about someone or something or possessing an understanding of how people perceive issues and processes (Price, 2015). The subcategories that addressed the expansion of this area included, *understanding the "culture of food*" within the *cultural competency* category. *Understanding the "culture of food*" and even the whole *cultural competency* category involves expanding PHNs' feelings about other's perceptions concerning food and nutrition, which could also be described as having empathy. Once PHNs can understand another's perception, it begins to affect their perception or attitude about the issue or situation.

The core component of this study centered on interviewing individual PHNs concerning their perspective of what factors influenced their attitudes, perceptions, and behaviors toward nutrition counseling. Although the individual participants in Phase I expressed their personal experience and understanding related to factors that influenced their perspective of providing nutrition

counseling, a concern was expressed by **Naomi**, one of the focus group participants. Her concern was that the emerging theory was from an individual perspective and not a systematic or organizational approach to address local health departments leadership, policy, or protocols. There are areas of the developed theory that could affect policy and protocol. The first is incorporating *cultural competency* that could be achieved in a variety of ways. One way is to implement various cultural assessment tools and regularly encouraging reassessment. Numerous agencies provide a number of cultural competency tools, such as the National Center for Biotechnology Information (NCBI, n.d.). The second area that could affect policy and protocol involves *counseling models* as a way to incorporate a systems approach through integrating a behavior model or strategies and processes such as motivational interviewing or the stages of change model, to help formulate policy and procedure surrounding providing nutrition counseling. The last area that could affect policy and protocol involves incorporating *networking* strategies, a *community health assessment* tool (CDC, 2015b), and embracing *management engagement and support* to help incorporate policy and identify ways to increase funding for nutrition counseling.

Funding appears to be another major aspect that influences PHNs' ability to provide nutrition counseling. **Naomi** mentioned that, "Prevention in public health is not funded" and nutrition counseling falls within the area of prevention. Although funding could have been a broader category, it is discussed within two areas: *management engagement and support* and *competing with other programs*. Time, staffing, and funding are common concerns that influence PHNs' ability to

discuss nutrition counseling amongst the public. Once a theory is developed to help initiate a more structured framework, it may begin to help public health facilities make a greater and more consistent impact when providing nutrition counseling.

Significance of the Study

The significance of this grounded theory study was that it served to address the gaps in the literature involving PHNs involvement in nutrition counseling. The purpose addressed the main categories, subcategories, and developed theory that included: (a) *knowing*: subcategories included; *possessing a spirit of inquiry*, *accessing resources*, *counseling models*, and *possessing experience*; (b) *cultural competency*: subcategories included; *understanding the "food culture*", *cultural awareness*, and *intercultural communication*; (c) *utilizing effective communication*: subcategories comprised of; *role modeling*, *motivational interviewi*ng, and *considering strategies and processes*; (d) *engaging communities*: subcategories comprised of; *networking*, *management engagement and support*, and *community health assessment*; and (e) *the revolving door*: subcategories included; *spending time* and *competing with other programs*. The main categories surround the core category of *Impacting the Health of the Public*.

Significance to Nursing

As a division of nursing, public health nurses serve a major role in providing health education to entire populations to help promote health and prevent the incidence or decrease the prevalence of diseases. To help PHNs continue to promote their role in health promotion and disease prevention, this

study serves to bring clarity to the field of public health nursing and to the roles, responsibilities, and functions of PHNs involvement in nutrition. Nutrition continues to play a significant part in the health of the public and to individual patients. It should be addressed by health care providers especially for those patients who are experiencing nutrition-related diseases such as obesity, diabetes, and heart disorders. These diseases continue to be significant indicators for nutritional health concerns amongst the public.

This study investigated critical factors that act as influencers to PHNs when they provide nutrition counseling. The developed theory provides PHNs with understanding of numerous factors that could help promote the implementation of various community health assessment tools, strategies, and processes, as well as ways to maintain cultural competency in a society that is becoming more diverse. Obtaining adequate education, training, and resources by which to deliver services as an integral part of public health, this study may help PHNs become more organized and efficient in the way they provide nutrition counseling. Thus, understanding critical factors of public health nurse' attitudes, perception, and behaviors play a significant role in how PHNs can be utilized to further impact the health of the public through the provision of nutrition counseling.

Implications for Nursing Education

Nursing students often report that they receive insufficient nutrition education in nursing school, leaving many nurses working in the field unsure of how to integrate nutritional education into health promotion activities (Henning,

2009). Although nutrition education is required for most nursing programs, many nursing schools often do not provide practical use of basic knowledge of nutrition or have nurses practice or role play nutrition counseling interactions. Nursing students should work more closely with experts in the field of nutrition in order to better understand the process, subject matter, and depth of nutrition and nutrition counseling. Knowledge, awareness, and understanding of nutrition counseling is often obtained through hands on interactive experiences with patients. Altering the curriculum to encourage collaborations between schools of dietetics and schools of nursing, thus urging nursing schools to become more actively involved with nutritionists or registered dieticians during their training have been reported to improve nurses' experiences, knowledge, and confidence around nutrition and providing nutrition counseling (Cadman & Findlay, 2005). Thus, the theory generated from this research study can influence nursing educators and heads of curricula in nursing schools to become more aware of the critical factors that influence and direct nurses' involvement in nutritional counseling. The theory could also help the continuing education programs that frequently expose nursing students to processes involving *knowing, cultural competency, utilizing effective communication, engaging communities*, and *the revolving door*.

Implications for Nursing Practice

This study intends to bring awareness to nursing that a concern among PHNs involving nutrition counseling exists, and that public health nursing could play an essential role in improving the health of the public through providing this health promotional support. Using the developed research theory may prove

beneficial to public health nursing departments and organizations as it allows them to optimize PHNs' knowledge, communication, resources, and time in the provisions of nutrition counseling. As PHNs are directly involved in patient's care to promote health and prevent disease, this study could assist with the development of additional strategies and processes to address the *Healthy People 2020* initiatives of increasing fruits and vegetables intake with patients at every visit. Nursing practice could be greatly enhanced by developing additional strategies and processes to provide counseling, such as motivational interviewing and the stages to change model, increasing PHNs' communication skills.

Additionally, it brings attention to the issue of time, staffing, and funding within the public health organization and how PHNs have an opportunity to influence policy and procedures within their facility to include nutrition counseling when providing health promotion and disease prevention guidance. Bolstering public health nursing's knowledge, understanding, and awareness of nutrition information by offering continued and repeated training sessions as well as collaborating with registered dieticians and nutritionists may help PHNs increase the likelihood that nutritional counseling will be discussed among individual patients, their families, and the community.

Implications for Nursing Research

This study adds to the body of knowledge to clarify the role and meaning of nutrition counseling among PHNs. It brings attention to the field of nursing, its involvement in nutrition counseling, and revealing known and unknown influential factors that play a role in affecting PHNs' involvement in nutrition

counseling. It is incumbent upon the nursing profession to consistently identify influential factors which affect PHNs' involvement in health promotion and disease prevention processes. National nutritional standards are re-evaluated every 5 years by the United States Department of Health and Human Services and the United States Department of Agriculture, to ensure that the standards provided address the health concerns of the public. Thus, continued research of PHNs' knowledge and use of this nutritional information should be evaluated within the same timeframe of the national nutritional standards (Bejerrum et al., 2011).

The United States is viewed as a melting pot of various cultures and religious groups that encompass an array of diverse dietary foods and restrictions. Since food and nutrition is closely related to culture, this study brings attention to the need for continued research between nursing's involvement in nutrition counseling and culture. With that being said, the culture of the population often changes resulting in the need for new research to be performed, as well as PHNs' cultural competency to continually be evaluated. Documentation of nutrition counseling is vital in order to obtain sufficient data that could be further assessed and analyzed. Strategies and processes, such as motivational interviewing and stages of change models, are current approaches that could be used to assess communicating and behavioral changes. However, they could also be incorporated within the practice of providing nutrition counseling to further evaluate if changes need to be implemented. Thus, the usefulness and effectiveness of these models, strategies, and processes need to be evaluated among PHNs for its research rigor.

Few studies provide information about PHNs involvement in nutrition; thus, the research study's findings are foundational to further explore more studies focusing on nutrition counseling and its integration into nursing. As more models, strategies, and processes are developed and used, they could be added to the generated theory to help society better address nutrition related diseases and to find a more permanent role for nutrition and nutrition counseling within the domains of public health nursing.

Implications for Health and Public Policy

A large part of the nutrition-related diseases that are affecting the health of the public can be addressed through policy, management support, and community health assessment of the public health facilities. Public health nurses' involvement in nutrition counseling will not commence until the policy and procedure of the facilities are modified. This study addressed aspects of the importance of implementing policy, management support, and engaging communities around nutrition in public health departments in order to expand domains of nursing professionals and also to impact the health of the public.

The areas of the developed theory that could affect policy and protocol include (a) incorporating cultural competency by implementing cultural assessment tools on a regular and consistent basis, (b) accessing behavioral models, such as motivational interviewing coupled with readiness to change models to be integrated within the structural framework of public health facilities, (c) collaborating with management engagement and support to help identify ways

to increase funding for nutrition counseling, and (d) incorporating a community health assessment tool to assist in the assessment of the community's health while developing plans to promote the health of the public.

The following objectives from *Healthy People 2020* could be implemented among PHNs: increasing the proportion of nutrition counseling within each health visit, maintaining healthy weight, and increasing total vegetable intake per person, focusing on dark green, orange, red vegetables, beans, and peas. Public health nurses are encouraged to identify ways to implementing nutrition counseling within the structure of public health in order to help decrease or manage nutrition related disorders. They are in a position to influence the health of the community; however, a structural process guided by policy need to be implemented.

Strengths and Limitations of the Study

The strengths of the study include gathering and analyzing data from participants from a variety of public health facilities within the United States. In addition, the participants represented a wide range of expertise and experience within the field of nursing and within public health nursing with some having used nutritional education and counseling in their practices. Furthermore, the study participants' experiences of using nutrition counseling in the health department varied; either their attempts were more infrequent or not at all. All of these factors provided a more diverse understanding of PHNs' perspective of nutrition counseling to strengthen the results of the study.

Limitations of the study included the researcher's inexperience with research, the grounded theory method, and Corbin and Strauss's approach, as previously stated. The choice to use the Corbin and Strauss' approach of grounded theory serves as a limitation because other approaches could have been used, but due to structural guidelines that help to guide data analysis, this approach is often more appealing to many novice researchers. The choice to use grounded theory as a methodology is complex, time-consuming, and heavily relies on the researcher's ability to understand, categorize, and analyze the data.

As a qualitative study, there is potential for participants to exaggerate their involvement in nutrition counseling as well as researcher's bias. As a former public health nurse, the researcher's personal beliefs and experiences can also bias research findings. In addition, there were no male participants who volunteered for the study, decreasing the chance to receive a perspective from an alternate point of view. Furthermore, extended time was needed to reach saturation and could serve as a limitation. Only three focus group participants' input was obtained as a theoretical sample to speak to the emerging theory. These participants were also unable to discuss the findings of the emerging theory within a focus group setting, decreasing the rich, thick discussion that could have been obtained.

Recommendations for Future Study

Recommendations for future studies include using a different foundational approach other than Corbin and Strauss to analyze the data. Although this method is useful at collecting and analyzing data by novice researchers, other analytic

approaches may help expand upon the development of the theory, with different constructs. An example of an alternate approach is a descriptive analysis study, that helps express the various processes PHNs use to provide nutrition counseling. Another alternative approach is a quantitative correlation analysis study, that evaluates the various nutrition counseling methods among public health facilities and the outcomes of the health assessment results of the community. It is recommended to seek alternate recruitment strategies since the public health nursing websites were not willing or able to post recruitment flyers. Therefore, other recruitment recommendations include attending public health nursing conferences and joining public health organizations to increase recruitment opportunities.

While there are some health departments that have implemented structural frameworks and policies that encourage and require their PHNs attend health promotion trainings and conferences to build their knowledge and skill of providing nutrition counseling; unfortunately, a number of health departments have not implemented any structural direction to their PHNs concerning this issue. There continues to be inconsistency among various PHNs' knowledge and skill level toward the provision of nutrition counseling. Thus, more research could be beneficial to provide clarity as to the lack of guidance.

Based on the outcomes of this study, other research studies that may complement further investigation of nutrition counseling in public health nursing include: (a) evaluating the various structural frameworks and policies that administrators have implemented to impact the health of the public through

nutrition counseling, (b) investigating the various networking and collaborative partnerships that have helped to impact the health of the community, and (c) exploring the correlation between how nutrition counseling is delivered and the type of behavioral change that occur amongst the public. (d) Lastly, culture plays a vital role in food and nutrition counseling. Food is expressed within various families by the traditional customs they practice, their environment, and geographical locations. Thus, investigating PHNs' understanding of the diverse cultures within their community and how they utilize cultural competency to provide nutrition counseling is a vital component for PHNs to utilize in order to make an impact in the health of the population.

Conclusion

This study investigated the critical factors that influence PHNs' attitudes, perceptions, and behaviors toward nutrition counseling and explicated the PHNs role in providing nutrition counseling. Five main categories emerged: *knowing, cultural competency, utilizing effective communication, engaging communities,* and *the revolving door*, with the core category of *Impacting the Health of the Public*. Public health nursing has the ability to impact the health of the public if they understand various factors that influence their role, attitudes, perceptions, and behaviors toward providing nutrition counseling.

The process of how PHNs come to know how to provide nutrition counseling and the various strategies and processes used to provide nutrition counseling are not consistent or uniform among PHNs or public health facilities and need to continue to be explored. However, management engagement and

support are needed to help establish policy changes that encourages PHNs to obtain the training needed in order to know how to provide nutrition counseling. In addition, researching various strategies and process and networking with other public health facilities to evaluate how they incorporate nutrition counseling, are strategies to help bring consistency to providing nutrition counseling among public health as a system.

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APPENDIX A

IRB APPROVAL LETTER

Barry University
Division of Academic Affairs

Institutional Review Board
11300 NE 2nd Avenue
Miami, FL 33161
P: 305.899.3020 or 1.800.756.6000, ext. 3020
F: 305.899.3026
www.barry.edu

Research with Human Subjects
Protocol Review

Date:	October 10, 2017
Protocol Number:	170805
Title:	The Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behavior toward Nutrition Counseling
Meeting Date:	September 2017
Researcher Name:	Ms. Keesha Wynn
Address:	[redacted]
Sponsor:	Dr. Jessie Carlin

Dear Ms. Wynn:

On behalf of the Barry University Institutional Review Board (IRB), I have verified that the specific changes requested by the convened IRB on September 2017 have been made.

It is the IRB's judgment that the rights and welfare of the individuals who may be asked to participate in this study will be respected; that the proposed research, including the process of obtaining informed consent, will be conducted in a manner consistent with requirements and that the potential benefits to participants and to others warrant the risks participants may choose to incur. You may, therefore, proceed with data collection.

As principal investigator of this protocol, it is your responsibility to make sure that this study is conducted as approved by the IRB. Any modifications to the protocol or consent form, initiated by you or by the sponsor, will require prior approval, which you may request by completing a protocol modification form.

It is a condition of this approval that you report promptly to the IRB any serious, unanticipated adverse events experienced by participants in the course of this research, whether or not they are directly related to the study protocol. These adverse events

include, but may not be limited to, any experience that is fatal or immediately life-threatening, is permanently disabling, requires (or prolongs) inpatient hospitalization, or is a congenital anomaly cancer or overdose.

The approval granted expires on August 31, 2018. Should you wish to maintain this protocol in an active status beyond that date, you will need to provide the IRB with and IRB Application for Continuing Review (Progress Report) summarizing study results to date. The IRB will request a progress report from you approximately three months before the anniversary date of your current approval.

If you have questions about these procedures, or need any additional assistance from the IRB, please call the IRB point of contact, Mrs. Jasmine Trana at [redacted] or send an e-mail to [redacted]. Finally, please review your professional liability insurance to make sure your coverage includes the activities in this study.

Sincerely,

David M. Feldman, PhD
Chair, Institutional Review Board
Barry University
11300 NE 2nd Avenue
Miami Shores, FL 33161

Note: The investigator will be solely responsible and strictly accountable for any deviation from or failure to follow the research protocol as approved and will hold Barry University harmless from all claims against it arising from said deviation or failure.

Approved by Barry University IRB
Date: 1/16/16
Signature:

APPENDIX B
Phase I Informed Consent
Phase II Informed Consent

PHASE I: INFORMED CONSENT
Barry University
Phase I: Purposive Sample Informed Consent Form
For use with Skype

Your participation in a research study is requested. The title of the study is **Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling.** The research is being conducted by Keesha Wynn, a doctoral student in the College of Nursing and Health Sciences at Barry University, and is seeking information that will be useful in the field of nursing. The aim of the research study is to generate a middle range theory that explicates critical factors that influence public health nurses' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the public health nurses' role in nutrition counseling. In accordance with the aim, the following procedures will be used for the Phase I (purposive sample) individual interviews: A semi-structured interview will be audiotaped via Skype® or telephone and a demographic questionnaire will be completed. The researcher anticipates the total number of participants in the purposive sample interviews to be 45.

Inclusion criteria for Phase I include:

- Public health nurses who possess an active RN license;
- Registered nurses working in public health facilities
- Provide nutrition information to clients;
- Employed in the United States;
- Willing to be audiotaped;
- Fluent in English;
- Access to a computer, Internet, Skype®, telephones and email.

If you decide to participate in this research, you will be asked to do the following: (a) complete an informed consent form via internet secured site called DocuCare.com (b) complete a demographic questionnaire which should take 10 minutes (c) participate in an individual interview with the principle investigator via Skype® or telephone that will be audio recorded. The interview should last no more than 60 minutes. The transcript of the interview will be emailed to you within two weeks to confirm its accuracy. A follow-up telephone interview to confirm the accuracy of the transcript should last no longer than 20 minutes. The total time commitment for participation in the study is 90 minutes.

Your consent to be a research participant is strictly voluntary and you may withdraw at any time during the study. In addition, you have the right to refuse to answer any question(s) without penalty. You will receive a $25 Visa gift card as a token of appreciation after signing the informed consent. The gift card is yours to keep, regardless of whether or not you withdraw from the study. There are no known risks to you as the participant in this study. Although there are no direct benefits to you, your participation in this study may help to understand public health nurses' role in nutrition counseling.

As a research participant, the information you provide will be kept confidential. Data will be stored on a password protected computer in the researcher's home office; and hard copy data will be kept in a locked file in the researcher's home office. The initial interview will be transcribed verbatim by a third-party transcriptionist who has signed a confidentiality agreement. The researcher will destroy the recording after the second interview, when you have confirmed or clarified the transcript.

This project may involve the use of Skype®. To prevent others from eavesdropping on communications and to prevent impersonation or loss of personal information, Skype® will issue each focus group participant a "digital certificate" which is an electronic credential that can be used to establish identity of a Skype® user, wherever that user may be located. Furthermore, Skype® uses well-known standard-based encryption algorithms to protect Skype® users' communications from falling into the hands of hackers and criminals. Skype® helps ensure user's privacy as well as the integrity of the data being sent from one user to another. If you have further concerns regarding Skype's® privacy, please consult the Skype® privacy policy. The researcher will establish a separate Skype® account for this research project only to ensure confidentiality. After each interview is completed, communication data will be deleted from the conversation history. Once this is done, the conversation cannot be obtained or recovered. The audio portion of the Skype® communication will be recorded using a separate recording device.

Any published results of the research will be reported in the aggregate or using the pseudonym chosen by you. The audiotapes will also be identified using the pseudonym. Digital identifying information such as the electronic signed informed consents will be kept in a password protected file on a computer in the researcher's home office. All data will be destroyed five years after completion of this study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Keesha Wynn, [redacted] or email at [redacted]. You may contact my supervisor, Dr. Jessie M. Colin at [redacted] email at [redacted]. The Barry University Institute Review Board point of contact is Jasmine Trana, she can be reached at [redacted] email at [redacted]. If you are satisfied with

the information provided and are willing to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by Keesha Wynn and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent to participate in this experiment.

_____ _____

Signature of Participant *Date*

_____ _____

Researcher *Date*

Approved by Barry University IRB
Date: 1/16/13
Signature:

PHASE II: INFORMED CONSENT FORM

Barry University

Phase II: Focus Group Informed Consent Form

For use with Skype

Your participation in a focus group interview for a research study is requested. The title of the study is, **The Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling.** The research is being conducted by Keesha Wynn, a PhD student in the College of Nursing and Human Sciences at Barry University, and is seeking information that will be useful in the field of Nursing. The aim of the research study is to generate a middle range theory that explicates critical factors that influence public health nurses' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the public health nurses' role in nutrition counseling. In accordance with the aim, the following procedures will be used for the theoretical or focus sample interviews: Review of the proposed theory and digital audiotaped recording of the semi-structured focus group interview using Skype®. The anticipated total number of participants in the focus group interviews is nine (9).

Inclusion criteria for Phase II include:

- Public health nurses who possess certification in public health nursing (APHN-BC or PHNA-BC);
- Certified public health nurses who have published, participated in an expert panel, or presented on nurses' role in nutrition counseling at nursing conferences;
- Possess a graduate degree (Master's, DNP, PhD, or EdD);
- Willing to review a new theory on public health nurses role in providing nutrition counseling;
- Willing to participate in a recorded, focus group interview;
- Fluent in English;
- Access to computer, Internet, Skype®, telephone, and email;
- Employed in the United States

If you agree to participate in this research, you will be asked to do the following: (a) complete a consent form via internet secured site called DocuCare.com (b) review an electronic copy of the initial draft of the theory generated by this study (which is anticipated to take no more than 60 minutes), and (c) after reviewing the initial draft of the theory, you will be asked to meet with the principal investigator and eight other nurse experts to discuss the critical factors that influence public health nurses' attitudes, perceptions, and behaviors as it relates to their role in nutrition counseling, as part of an audiotaped focus group interview via Skype® for no more than 90 minutes. Your total time commitment for participation in the study is 160 minutes. The meeting will be scheduled at a

mutually agreed upon date and time that will be convenient for all participants.

The purpose of the focus group interview is to explore the relevance of the theoretical model generated from the study and its "fit" toward explaining critical factors that influence public health nurses' attitudes, perceptions, and behaviors of their role toward nutrition counseling. This is a confidential study your consent to be a research participant is strictly voluntary and you may withdraw at any time during the study. In addition, you have the right to refuse to answer any question(s) without penalty. There will be no adverse effects on your employment and no known direct risks or benefits to you as the participant within this study. However, your participation may help the profession of nursing understand public health nurses' role in nutrition counseling. In appreciation for your time, you will receive a $25 Visa gift card for your willingness to participate in the study, whether or not you choose to complete the interview.

As a research participant, information you provide will be kept confidential. You will provide a pseudonym to the researcher to maintain your confidentiality within the study. Any published results of the research will be reported in the aggregate or using the pseudonym chosen by you. However, due to the nature of the Skype® group interview process, there is no guarantee that confidentiality will be maintained among the focus group interview. Audio-recordings of the focus group interview will have no identifiers and will be kept in a separate password protected electronic file in a different computer in the researcher's home office. The electronic signed informed consents will be stored in an alternate password-protected computer in the researcher's home office. Hard-copy data will be kept in a locked cabinet in the researcher's home office. All data from Phase II will be kept for the required five years after the conclusion of the study, and then destroyed.

This project may involve the use of Skype®, to prevent others from eavesdropping on communications and to prevent impersonation or loss of personal information, Skype® will issue each focus group participant a "digital certificate" which is an electronic credential that can be used to establish the identity of a Skype® user, wherever that user may be located. Furthermore, Skype® uses well-known standard-based encryption algorithms to protect Skype® users' communications from falling into the hands of hackers and criminals. Skype® helps ensure user's privacy as well as the integrity of the data being sent from one user to another. If you have further concerns regarding Skype's® privacy, please consult the Skype® privacy policy. The researcher will establish a separate Skype® account for this research project only to ensure confidentiality. After the focus group interview is completed, communication data will be deleted from the conversation history. Once this is done, the conversation cannot be obtained or recovered. The audio portion of the Skype® communication will be recorded using a separate recording device. The audiotaped recording will be transcribed by a transcriptionist who will sign confidentiality agreement to protect the participants' confidentiality.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Keesha Wynn, at [redacted] or email at [redacted] You may contact my supervisor, Dr.

Jessie M. Colin at [redacted] or email at j[redacted]. The Barry University Institute Review Board point of contact is Jasmine Trana, she can be reached at [redacted]1 or email at j[redacted]. If you are satisfied with the information provided and are willing to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by Keesha Wynn and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent to participate in this experiment.

_____ _____

Signature of Participant *Date*

_____ _____

Researcher *Date*

APPENDIX C

PHASE I: LETTER OF REQUEST FOR ACCESS

Date
Name and Address of Nursing Director, Manager, or Administrator,

Dear_____;

I am a doctoral nursing student at Barry University conducting a study entitled, "Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling." The study is being conducted for my dissertation which is part of the PhD requirement. The purpose of the research study is to generate a middle range theory that explicates critical factors that influence public health nurses' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the public health nurses' role in nutrition counseling.

I am writing today to ask for permission and assistance in gaining access to public health nurses in your facility upon IRB approval. This involves posting flyers in an area where nurses will see them as well as emailing nurses an electronic version of the flyer. I am seeking two groups of participants, however the participants I am requesting from your facility will be part of the first group. The participants must be: (a) a registered nurse working in a public health facility, (b) employed at public health facilities in the United States, (c) willing to be audiotaped, (d) speak fluent English, (e) nurses who provide health promotion counseling to patients, and (f) who have access to a computer, Internet, Skype®, telephone, and email. This group will be asked to participate in individual interviews (via Skype® or telephone) for a maximum of one hour and will be digitally audio-recorded.

If you agree, I have taken the liberty of drafting a letter of approval for access, which is attached. Please sign and return a scanned copy to [redacted]. Thank you for your consideration in allowing me access to recruit volunteers for the study. Please contact me, Keesha Wynn at [redacted] or [redacted] if you have any questions or concerns. You may also contact my faculty sponsor, Dr. Jessie M. Colin [redacted] or email at [redacted]. The Barry University Institute Review Board point of contact is Jasmine Trana, she can be reached at [redacted] or email at [redacted]. I look forward to your response at your earliest convenience.

Sincerely,

Keesha Wynn MSN, RN
Barry University, PhD Student

LETTER OF APPROVAL FOR ACCESS

Date:_____

Dear Keesha Wynn,

It is my understanding that Keesha Wynn will be conducting a research study at _____ entitled, "Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling." Mrs. Wynn has informed me of the design of the study as well as the targeted population.

I support this effort and will provide any assistance necessary for the successful implementation of this study, which include posting flyers in areas where the nursing staff will see them and emailing an electronic copy of the flyer to the nursing staff. If you have any questions, please do not hesitate to call (Please provide your phone number here).

Sincerely,

Name of Person-in-charge
Title, name of agency/center/etc.

APPENDIX D

PHASE II: REQUEST TO POST FLYER

Date

Name and Address of organization

Dear_____,

I am a PhD nursing student at Barry University conducting a study entitled, "Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling." The study is being conducted for my dissertation which is part of the PhD requirement. The purpose of the research study is to generate a middle range theory that explicates critical factors that influence public health nurses' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the public health nurses' role in nutrition counseling. I am writing today to request that the attached flyer is posted on your website in hopes of recruiting more participants. The study will be divided into two phases in which participants that I am seeking through your website will be part of the second phase. They will be part of a focus group and will serve to verify categories, similarities, and differences revealed through analysis of individual interviews consistent with grounded theory methods via Skype®.

As mentioned above, I have taken the liberty of attaching the recruitment flyer if you agree to post it on your website. Thank you for your consideration in allowing me access and recruit volunteers for this study. If you have any questions or concerns, please contact me, Keesha Wynn at [redacted] or [redacted]. You may also contact my faculty sponsor, Dr. Jessie M. Colin [redacted] or email at [redacted]. The Barry University Institute Review Board point of contact is Jasmine Trana, she can be reached at [redacted] or email at [redacted]. I look forward to your response at your earliest convenience.

Sincerely,

Keesha Wynn MSN, RN
Barry University
PhD Student

Barry University

APPENDIX E

PHASE I: RECRUITMENT FLYER

$25 Visa Gift Card for your particpation

Total time commitment for participating: 90 minutes

Title of Study:

CRITICAL FACTORS INFLUENCING PUBLIC HEALTH NURSES' ATTITUDES, PERCEPTIONS, AND BEHAVIORS TOWARD NUTRITION COUNSELING

~Participants are needed~

Eligibility Criteria

- Public health nurses who possess an active RN license;
- Registered nurse working in a public health facility
- Provide nutrition information to clients;
- Employed in the United States;
- Willing to be audiotaped;
- Fluent in English;
- Access to a computer, Internet/Skype®, telephone, and email.

A maximum of 45 participants are needed

Primary Investigator: Keesha Wynn, RN, MSN [redacted]

Barry University Faculty Sponsor-Dr. Jessie M. Colin [redacted]

The Barry University's Institutional Review Board point of contact-Jasmine Trana, she can be reached at [redacted] or email at [redacted].

If you are interested in participating, please contact Keesha Wynn

Barry University

APPENDIX F

PHASE II: RECRUITMENT FLYER

$25 Visa Gift Card for your particpation

Total time commitment for participating: 150 minutes

Title of Study:

CRITICAL FACTORS INFLUENCING PUBLIC HEALTH NURSES' ATTITUDES, PERCEPTIONS, AND BEHAVIORS TOWARD NUTRITION COUNSELING

~Participants are needed~

Eligibility Criteria

- Public health nurses who possess certification in public health nursing (APHN-BC or PHNA-BC);
- Certified public health nurses who have published, participated in an expert panel, or presented on nurses' role in nutrition counseling at nursing conferences;
- Possess a graduate degree (Master's, DNP, PhD, or EdD);
- Willing to review a new theory on public health nurses' attitudes, perceptions, behaviors and their role in providing nutrition counseling;
- Willing to participate in an audio recorded, focus group interview;
- Fluent in English;
- Access to computer, Internet/Skype®, telephone, and email;
- Employed in the United States

A maximum of 9 participants are needed

Primary Investigator: Keesha Wynn, RN, MSN [redacted]

Barry University Faculty Sponsor- Dr. Jessie M. Colin [redacted]

The Barry University's Institutional Review Board point of contact- Jasmine Trana, she can be reached at [redacted] or email at [redacted].

If you are interested in participating, please contact Keesha Wynn

APPENDIX G

PHASE II: INVITATION TO PARTICPATE

Dear Participant,

I invite you to participate in a research study entitled, "Critical Factors Influencing Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling." I am currently enrolled in the PhD in Nursing Program at Barry University in Miami, FL and in the process of writing my dissertation. The purpose of the research study is to generate a middle range theory that explicates critical factors that influence public health nurses' attitudes, perceptions, and behaviors toward nutrition counseling and to generate a substantive theory explicating the public health nurses' role in nutrition counseling. Based on your expertise in the subject of nutrition and your scholarly accomplishments, your participation in this research study is requested.

The research study has two phases, and I am requesting your assistance in the second phase. The participants within this phase will consist of certified public health nurses who possess a graduate degree (Master's, DNP, PhD, or EdD) and who have published, participated as an expert panel, or presented information about nurses' involvement in nutrition counseling at nursing conferences. You will be requested to review the developed theory, and then meet with the principal investigator and a maximum of 8 other participants in a focus group via Skype to verify categories, similarities, and differences revealed through analysis of individual interviews from the first phase, consistent with grounded theory methods.

Your participation in this research project is completely voluntary. You may decline altogether, or leave blank any questions you don't wish to answer. There are no known risks and no direct benefits to you. This is a confidential study, your responses will not be shared with anyone. Data from this research will be kept in a password secure computer or under lock and key and reported only as a collective combined total. No one other than the researchers will know your identity. In appreciation for your time, you will receive a $25 Visa gift card for your willingness to participate in the study.

If you agree to participate or have any questions or concerns, please contact the principle investigator, Keesha Wynn, RN, MSN at [redacted] or email [redacted]. You may also contact my faculty sponsor, Dr. Jessie M. Colin [redacted] or email at [redacted] The Barry University Institute Review Board point of contact is Jasmine Trana, she can be reached at [redacted] or email at [redacted].

Thank you for your assistance in this important endeavor.

Sincerely,

Keesha Wynn MSN, RN
Barry University, PhD Student

APPENDIX H

PHASE I: INTERVIEW QUESTIONS

PHASE II: INTERVIEW QUESTIONS

PHASE I: INTERVEIW QUESTIONS

Initial Open-ended Questions:

1.Tell me about your experience with providing nutrition counseling as a nursing professional?

2. How would you describe PHNs' involvement in nutrition counseling?

3.What do you feel is the public health nurses' role in nutrition counseling?

4.How do you develop or come to know how to provide nutrition counseling?

5.What is your attitude and perception about nutrition counseling?

6. What factors influence your behavior when providing nutrition counseling?

7.What do you feel are influential factors that influence PHNs ability to provide nutrition counseling?

8.What are your thoughts on what influences your ability to provide nutrition counseling?

9.Describe influential factors that might help or hinder a nurse's involvement in nutrition counseling?

10. What problems might you encounter when providing nutrition counseling? What are suggestions of how to decrease these occurrences

11. What resources do you think are needed for PHNs to provide effective nutrition counseling?

12. What collaborative partnerships do you feel PHNs need to develop to provide education about nutrition to the community?

Intermediate Questions:

1.What does nutrition counseling mean to you?

2.What process do you use to provide nutrition counseling?

3.Where did you learn how to provide nutrition counseling to your patients?

4.Tell me about the current resources you seek to educate yourself and your patients about nutrition?

5.Can you describe processes and strategies you use when providing nutrition counseling to a patient?

6.Where do you obtain your nutrition information?

7.Tell me how you feel about nurses' involvement nutrition counseling?

Ending Questions

1.Is there anything else you think I should know to better understand about PHNs' role in providing nutrition counseling or factors that influence their perception of providing nutrition counseling?

2.Is there anything that you would like to add?

PHASE II: INTERVEIW QUESTIONS

1.What is your experience with nutrition counseling as a nursing professional?

2.What are your thoughts concerning the constructs identified in the theory?

3.How closely does the theoretical framework that emerged from the purposive sample interview resonate or "fit" with your understanding of nutrition counseling amongst PHNs?

Intermediate Questions:

1.How would you describe critical factors that influence PHNs' role in nutrition counseling?

2.How would you describe PHNs attitudes, perceptions, and behaviors toward nutrition counseling?

3.What are your thought on various factors that influence PHNs involvement in nutrition counseling?

Ending Questions

1.What are your thoughts regarding the usefulness to nursing practice of the theory of nutrition counseling generated from this study? What about the usefulness to nursing education, nursing research and policy?

2.Is there anything you would like to add?

APPENDIX I

PHASE I: PURPOSIVE PARTICPANT DEMOGRAPHIC QUESTIONNAIRE

1.Gender
- M
- F
- I identify as___

2.Age (in years)
- Less than 21
- 21 to 40
- 41 to 60
- Over 61

3.Years of experience working as a nurse
- < 1
- 1-5
- 6-10
- 11 -15
- 16 -20
- 21 +

4.Years working in public health
- < 1
- 1 - 5
- 6 - 10
- 11 – 15
- 16 - 20
- 21 +

5.Years of involvement in nutrition counseling
- < 1
- 1 - 5
- 6 - 10
- 11-15
- 16 - 20
- 21 +

6.List the section of public health employed

- _____

7.Racial background and Ethnicity
- African-American or Black
- American Indian or Alaskan Native

- White or Caucasian
- Asian or Pacific Islander
- Hispanic or Latino
- Two or more races
- Other (Specify) _____

8. **Educational Level (last completed)** (Select all that apply; if other please specify)

- Associate Degree-Nursing
- Associate Degree- Other: _____
- Bachelors Degree- Nursing
- Bachelors Degree- Other: _____
- Masters Degree Nursing
- Masters Degree- Other:_____

APPENDIX J

THIRD-PARTY CONFIDENTIALITY AGREEMENT
TRANSCRIBER CONFIDENTIALITY AGREEMENT

As a member of the research team studying, Critical Factors that influence Public Health Nurses' Attitudes, Perceptions, and Behaviors toward Nutrition Counseling, I understand that I have access to study participants' confidential information. By signing this agreement, I am indicating my understanding of my obligation to maintain confidentiality and agree to the following below:

I, [name of transcriber], agree to transcribe data for this study. I agree that I will:

1. Keep all research information shared with me confidential by not discussing or sharing the information in any form or format (e.g., disks, tapes, transcripts) with anyone other than Keesha Wynn, the researcher on this study;
2. Not to divulge, publish, or otherwise make known to unauthorized person or to the public any information obtained in the course of this research project that could identify the persons who participated in the study;
3. Keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession. This includes:
    - using closed headphones when transcribing audio-taped interviews;
    - keeping all transcript documents and digitized interviews in computer password-protected files;
    - closing any transcription programs and documents when temporarily away from the computer;
    - keeping any printed transcripts in a secure location such as a locked file cabinet; and
    - permanently deleting any e-mail communication containing the data;
4. Give all research information in any form or format (e.g., disks, tapes, transcripts) to the primary investigator when I have completed the research tasks;
5. Erase or destroy all research information in any form or format that is not returnable to the primary investigator (e.g., information stored on my computer hard drive) upon completion of the research tasks;
6. Notify my supervisor immediately should I become aware of an actual breach of confidentiality or situation which could potentially result in a breach, whether this be on my part or on the part of another person.

_____	_____	_____
Signature of transcriber	Date	Printed Name
_____	_____	_____
Signature of transcriber	Date	Print Name

APPENDIX K

Curriculum Vita

EDUCATION

1998 – 2000	BSN, RN, University of Florida Gainesville, FL
2010-2012	MSN in Education, Walden University Minneapolis, MN
2013 – 2018	PhD Barry University 11300 NE Second Ave Miami Shores

EXPERIENCE

2015 to current	Assistant Professor, ADN & BSN Programs Indian River State College, Fort Pierce
2015	Nursing Instructor, ADN Program Eastern Florida State College, Palm Bay
2012 - 2015	Nursing Instructor, LPN & ADN Programs Fortis Institute, Port St. Lucie, FL
2004 - 2012	Senior Community Health Nurse Indian River County Health Department
2000 - 2004	Staff Nurse/ Charge Nurse Indian River Medical Center, Vero Beach

CERTIFICATIONS — Registered Nurse, FL- RN 9169385
Basic Life Support (BSL), FL

SERVICE — Volunteer at various health fairs and churches to provide blood pressure screenings and distribute health promotion information for various ages.

PROFESSIONAL ORGANIZATIONS — American Nurses Association, Member
Florida Nurses Association, Member

SOCIAL & SERVICE ORGANZIATIONS

Zeta Phi Beta, Sorority Incorporated,
Lambda Beta Zeta Chapter, Sister Circle
Cooking Class - Chair

Black Nurses Association (BNA)
Treasure Coast Council of BNA,
Treasurer