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Perception and Use of Communication Care Plans by Certified Nursing Assistants in Nursing Homes: The Role of Professional Support

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PERCEPTION AND USE OF COMMUNICATION CARE PLANS BY CERTIFIED NURSING ASSISTANTS IN NURSING HOMES: THE ROLE OF PROFESSIONAL SUPPORT

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the College of Health Sciences at the University of Kentucky

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ABSTRACT OF DISSERTATION

PERCEPTION AND USE OF COMMUNICATION CARE PLANS BY CERTIFIED NURSING ASSISTANTS IN NURSING HOMES: THE ROLE OF PROFESSIONAL SUPPORT

The majority of individuals in nursing homes have cognitive-communication impairments which impact quality of care because direct care providers, certified nursing assistants, (CNAs) are unsure how to respond to resident's communication behaviors. One intervention that facilitates staff-resident communication in nursing homes is communication plans; however, the research to date about communication plans has not specifically involved CNAs.

The purpose of this study, using a grounded theory qualitative approach, was to describe development, implementation and evaluation of communication care plans (CCPs) for residents with cognitive-communication impairments in nursing homes by CNAs who did and did not receive professional support. Communication care plans are communication plans with the addition of autobiographical information. Twenty residents and ten CNAs from two nursing homes participated in the study. Once CCPs were created, CNA participants in one facility received support each day. Following two weeks, CNAs participated in a semi-structured interview. Interviews were transcribed and analyzed using open, axial and selective coding.

Findings revealed a core category, meeting resident's needs through professional support and communication, which describes the progressive process these CNAs underwent to effectively communicate with residents in nursing homes using CCPs. Evolution of this process occurred as CNA participants became familiar with residents. An underlying component facilitating this familiarity was support during CCP implementation. Initially, these CNAs had negative views about nursing home care because they were unsure how to communicate with residents and received little support from higher levels of nursing authority. Over time and with application of CCPs, CNAs became familiar with residents and their communication behaviors. Application of specific communication strategies on CCPs required ongoing support from the investigator/speech-language pathologist which was evident by the comments between CNA participants from each facility. Participants from both facilities reported positive experiences during application of the autobiographical

information on the CCPs. This personal information coupled with increased knowledge about resident's specific communication abilities fostered the formation of a relationship between residents and CNAs. In summary, support during application of CCPs supplements CNAs' abilities to meet residents' needs.

KEY WORDS: nursing home care, certified nursing assistants, communication care plans, speech-language pathologist, support

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12/11/2015

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I wish to dedicate this dissertation to two people who have and continue to influence my life tremendously. First, to my mema, Chloe Guffey, who introduced me to nursing home care at a very young age which carved my professional passion. Second, to the man who has been my rock for so many years, my husband and best friend, John Lester Page.

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CHAPTER ONE: INTRODUCTION

Background

Approximately 1.5 million Americans reside in nursing homes. Recent survey reports (United States Department of Health and Human Services, 2009; 2013) indicate 88.3% of America's nursing home residents are 65 years of age or older and 45.2% are over the age of 85; four of five are white; most are women (69-71%), and most of the women are widows (53%). It is estimated that by the year 2040, nursing homes will house between two to three million Americans (Johnson, Toohey, & Wiener, 2007).

Older Americans enter nursing homes when physical and cognitive declines associated with aging, neurologic damage, or disease make it impossible to carry out life-sustaining basic Activities of Daily Living (ADLs) and/or no one can or is available to assist them with these tasks (Gaugler, Duval, Anderson, & Kane, 2007). Activities of daily living refer to basic self-care tasks such as feeding, toileting, grooming, bathing and dressing. Many adults in nursing homes also manifest cognitive-communication impairments associated with aging, particularly hearing loss, brain damage (stroke) and disease (dementia, Parkinson's disease). It has been estimated that cognitive-communication impairments affect 94% of residents in nursing homes (Pennington, Scott, & Magilvy, 2003). In most cases, the impairments are severe, chronic, and interact with age-associated sensory (hearing loss, vision, balance, and sensation), cognitive, and memory changes (Ryan, Meredith, & MacLean, 1995). Finally, residents in nursing homes typically present with multiple diagnoses (e.g., dementia, depression, and anxiety) rather than a single diagnosis. Not surprisingly, many residents in nursing homes are markedly restricted in their ability to socially interact and effectively communicate their

wants and needs to caregivers. Finally, many of these individuals have progressively worsening conditions such as Alzheimer's and Frontal Temporal Dementia and are not likely to respond to traditional speech and language therapy (Bourgeois, 1992).

Recently, Canadian speech-language pathologists and researchers have introduced a non-traditional approach to facilitate communication between nursing home residents with severe cognitive-communication deficits and their caregivers. This involves construction of an individualized communication plan for each resident (Genereux et al., 2004). Communication plans are one page documents that describe (1) how a resident communicates, (2) how to communicate with a resident, (3) what a resident's particular communication behaviors mean, and (4) what to avoid when communicating with a resident. Generally, the Canadian-based communication plans (Genereux et al., 2004; McGilton et al., 2011; Sorin-Peters, McGilton, & Rochon, 2010) have involved six steps. First, a speech-language pathologist conducts a speech, language, and cognitive assessment of the resident. Second, in collaboration with the speech-language pathologist, two of the resident's nurses complete a questionnaire, Montreal Evaluation of Communication Questionnaire for use in Long-Term Care (Le Dorze, 2000) to characterize the different means of communication used by residents and caregivers to exchange information. Third, the speech-language pathologist combines the evaluation materials and questionnaire data to create the communication plan. Fourth, the speech-language pathologist explains the communication plans to relevant caregivers during an in-service training. Fifth, the communication plan is placed in the medical chart as well as on the resident's care plan. Finally, nurses implement the strategies on the communication plans during daily care.

Three studies have examined the usefulness of communication plans in addressing the communication needs of residents with severe cognitive-communication deficits in nursing homes (Genereux et al., 2004; McGilton et al., 2011; Sorin-Peters et al., 2010). Genereux and colleagues (2004) investigated professional and nonprofessional caregivers' perceptions of communication plans for 10 residents with severe communication impairments caused by a stroke or dementia. After implementing the communication strategies on the communication plans for two months, responses to pre and post training questionnaires revealed (1) that use of communication plans markedly improved caregivers' confidence and knowledge of communication abilities of residents with severe aphasia and/or dementia and (2) that caregivers were able to communicate with the resident more efficiently requiring less assistance.

Sorin-Peters et al. (2010) examined learning outcomes of a training program coupled with professional support in which 18 nursing staff were taught to use communication plans. The workshop provided education about communication plans created for nine stroke survivors. As nurses implemented communication strategies on communication plans for the residents, a speech-language pathologist was available two to three hours one to two times a week for eight weeks to answer staff's questions, problem solve, and reinforce implementation of the communication plans. Following two months of implementation, responses to questionnaires indicated that (1) staff expressed satisfaction with training, (2) resident care improved requiring less effort, (3) knowledge increased following the training, but was only maintained for one month, and (4) nurses believed communication plans were very useful and easy to understand.

McGilton and colleagues (2011) extended the findings of Sorin-Peters et al. (2010). These researchers measured the amount nurses used communication plans as well as nurses' and residents' perceptions of care with use of communication plans. McGilton et al. (2011) also replaced the third section of the communication plans, 'what a resident's particular communication behaviors mean,' with a section entitled 'what client likes to discuss' that included conversational starters (hobbies, families, etc.) to facilitate the communication interactions with residents. To measure the nurses' use of the communication plans, nurse-resident dyads were observed during five to ten minute social interactions immediately after and two months after the workshop. Results revealed that during the first observation, nurses used 85% of the communication strategies on the communication plans and 76% during the second observation. To describe perceptions of communication plans, seven nurses participated in a focus group and generated four themes about communication plans. Findings indicated that nurses tended to employ communication strategies when residents demonstrated difficulties expressing their needs. Second, they were aware that communication strategies varied depending on the resident and his or her current situation. Third, nurses reported that residents were less anxious and agitated during communication with staff and easier to care for. Finally, nursing staff found communication plans helpful to new nurses when providing care because they quickly learned a resident's specific communication behaviors (McGilton et al., 2011). To describe resident's perceptions of care, they completed two scales. Results showed that residents perceived care as more interpersonal when nurses used communication plans.

In summary, the three Canadian studies revealed that nurses perceive communication plans to be useful during daily care for residents with severe cognitive-communication deficits in nursing homes (Genereux et al., 2004; McGilton et al., 2011; Sorin-Peters et al., 2010). Nurses reported increased competence identifying the correct communication strategy to apply for certain residents; however, results varied on ease of caregiving.

To date, communication plans have not been used to facilitate communication between caregivers and residents with cognitive-communication disorders in nursing homes within the United States. One reason for this is that communication plans are a non-restorative intervention and do not conform to the medical model associated with restorative approaches and fee-for-service approach promoted by the United States Health Care System. Communication plans, do however, seem well-suited for use by those advocating Life Participation Approaches (LPAA; LPAA Project Group, 2001) for the management of chronic disablements as recommended by the World Health Organization (2001). Life Participation Approaches support individuals over the long-term by emphasizing participation in a communicating society (LPAA Project Group, 2001) which is similar to the objective of communication plans in facilitating resident-staff communication in nursing homes.

The aim of this study is to describe the role of support in the development, implementation, and use of a customized version of the Canadian communication plan as viewed by Certified Nursing Assistants (CNAs) providing personal care to residents with cognitive-communication disorders in nursing homes. To make this distinction, the customized version of the communication plan will be referred to as a communication

care plan (CCP). Table 1.1 shows that the CCP contains the same segments as the Canadian communication plan, but also includes a section entitled 'resident's life.' This autobiographical section summarizes some of the resident's personal history and provides salient information related to family, friends, work, education, religious memberships, travel experiences, etc. By having this personal information available to them, CNAs will have knowledge of the resident's interests, life experiences, and other important information to facilitate communication at a personal level. Procedures for developing the CCP will be explained in Chapter 3: Methods.

Table 1.1. *Example of Communication Care Plan*

How Chloe communicates	**How to communicate with Chloe**
1. She speaks. 2. Her yes/no responses are usually reliable. 3. She uses gestures when she cannot find the word.	1. Make sure hearing aids in, glasses on. 2. Write down directions on dry erase board. 3. Look at her when you speak.
Chloe's specific behaviors	**Chloe's habits**
(occur more at night) 1. When she licks her lips she is thirsty or nervous. If you hold her hand or give her chewing gum, she will calm down.	*She likes:* 1. Reading the Bible. 2. Listening to gospel music. 3. Watching the Young and Restless. 4. Window blinds open during the day. *She dislikes:* 1. Taking showers 2. Sleeping on her left side.
Chloe's Life: Chloe was married to Estus for 53 years. She has two sons, Cornell and Stevie. Chloe has four grandchildren and five great grandchildren. She is a member of Beech Grove Baptist Church and loves singing "I'll Fly Away". Chloe graduated from high school and worked in the kitchen at the Monroe County Hospital for 20 years. She baked fried apple pies for the local BBQ. She also cross-stitched quilts for all of her grandchildren.	

Certified nursing assistants (CNAs) were selected as intervention targets because they are the front line caregivers for residents in nursing homes. These individuals provide 80 to 90% of the direct care to residents in nursing homes (Castle & Engberg, 2005; Meyer, Raffle, & Ware, 2012). This care is "hands on" and addresses functions such as bathing, dressing, feeding, and bathroom needs. Certified nursing assistants are also in an optimal position to communicate and interact socially with residents with cognitive-communication impairments. More importantly, they are likely to communicate far more frequently with residents than other nursing home staff or outside persons. Training CNAs in United States' nursing homes to use CCPs, however, poses some challenges. First, CNAs are often minimally educated and may not initially have good communication skills with residents (Probst, Baek, & Laditka, 2009). Secondly, CNAs perform taxing manual labor, work for low pay, receive few benefits, and work under stressful conditions. Third, up to 75% of CNAs resign from their jobs after a short period of time (Donoghue, 2009). Finally, some speech-language pathologists have expressed a reluctance to train CNAs because they believe CNAs are resistant to following instructions and guidelines designed to facilitate communication and promote swallowing safety of individuals with severe cognitive-communication disorders (Pelletier, 2004). Given these challenges, it is reasonable that if CNAs were to be trained to use CCPs, they would require some type of ongoing support.

For this study, support will be construed to mean face-to-face meetings between the CNA and the investigator/speech-language pathologist collaborators to develop and implement the CCP. Support from the investigator/speech-language pathologist includes, but is not limited to education, demonstration in the use of relevant communication

strategies, problem-solving to resolve communication breakdowns, and feedback. These supportive activities occur in the face-to-face meetings and in the context of communicating with the resident. Prior research examining the impact of training nursing home staff to utilize various strategies to facilitate communication in nursing homes has shown that both staff and residents benefit from professional training and support (Burgio et al., 2001; Dijkstra, Bourgeois, Burgio, & Allen, 2002; VanWeert et al. 2004; Van Weert, Van Dulmen, Spreeuwenberg, Ribbe, & Bensing, 2005). The benefits of this training will be reviewed in Chapter 2. It is important to point out, however, that to date this training has not specifically targeted CNAs.

Therefore, the problem this study will address is inefficient communication between residents and CNAs. To address this problem, support will be provided during implementation of CCPs.

Study Overview and Purpose

This qualitative study uses a grounded theory approach to describe development, implementation and evaluation of CCPs for residents with cognitive-communication deficits based on views of CNAs who did and did not receive support. The study includes resident and CNA participants from two nursing homes. Residents at both facilities completed standardized testing administered by the investigator/speech-language pathologist in order to assess speech, language, and cognitive abilities. In collaboration with the investigator/speech-language pathologist, the CNA participants completed a questionnaire about the resident's current communication behaviors. Testing and the results of the questionnaire were used to produce the CCPs. Once CCPs were created, CNA participants who received support met with the investigator/speech-

language pathologist five to six times a week over a two week period. During these personal encounters, the investigator/speech-language pathologist provided feedback, reinforcement, and demonstration of the communication strategies on the CCPs. Following two weeks of CCP use, all CNAs (supported and non-supported) participated in semi-structured interviews. Interviews were analyzed using three steps according to grounded theory methodology (Corbin & Strauss, 2008): open, axial, and selective coding. Findings reveal a story about CNAs' perceptions of support during implementation of CCPs.

Significance

This study is unique in several respects. First, it is the first investigation to examine the use of individualized communication plans in the United States health care system. Second, it specifically targets CNAs for taking a role in the facilitation of communication between themselves and residents in nursing homes with cognitive-communication deficits. Finally, and perhaps most importantly, it examines the contributions that these individuals make as "facilitators of communication" if given a modicum of professional support and evaluates how that support is perceived in the development, implementation, and evaluation of CCPs through their eyes.

This study also has high clinical relevance for the increasing number of Americans entering nursing homes as a final destination (Dijkstra et al., 2002; Pennington et al., 2003) and the front-line caregivers of these facilities. At the patient-care level, improving resident-staff communication could enhance quality of life for residents. Communication and use of language is uniquely human and essential to

preservation of personhood (Kitwood, 1997). Based on the Canadian experiments with communication plans, CCPs have the potential, by improving CNA-resident interactions, to improve general patient care because CNAs using the plans would be less likely to misunderstand or neglect a resident's communication intent, reduce their one-to-one interactions with the patient, or refer to higher levels of authority such as nurses or physicians (Hoerster, Hickey, & Bourgeois, 2001). For the front-line caregivers, particularly the CNAs who resign from nursing home positions with great frequency, successful implementation of CCPs might have the effect of increasing job satisfaction, reducing stress and possibly reduce turnover.

Research Questions

The following questions guided the research:

Grand tour question: What is the process of developing, implementing, and evaluating communication care plans (CCPs) during daily care as perceived by CNAs who did and did not receive support in nursing homes?

Research sub-questions:

1. How do CNAs describe the process of developing and implementing CPPs?
2. How do CNAs describe support during implementation of CCPs?
3. What influenced or prevented use of CCPs?
4. What were the outcomes of CCPs?
5. How did perceptions of CCPs change over time?

Table 1.2 includes the operational definitions used throughout the dissertation.

Table 1.2. *Definitions and Abbreviations of Terms*

Construct	**Definition**
Activities of Daily Living	ADLs: basic health care tasks; bathing, dressing, eating, toileting (Johnson et al., 2007).
Certified Nursing Assistant	CNA: a paraprofessional who provides basic health care needs (bathing, dressing, eating, and toileting) to residents in nursing homes (Institute for the Future of Aging Services, 2007).
Intervention	An educational or behavioral approach used to enhance communication interactions between nursing caregivers and persons with cognitive-communication impairments.
Resident with cognitive-communication impairment	Residents who display difficulties understanding or speaking to certified nursing assistants.

CHAPTER TWO: REVIEW OF THE LITERATURE

This chapter (1) overviews some of the frequently occurring communication problems of nursing home residents and factors affecting communication in these settings, and (2) describes specific programs for enhancing resident-staff communication in nursing homes.

Communication Problems of Residents in Nursing Homes

Types of Problems.

Cognitive-communication impairments affect 94% of residents in nursing homes (Pennington et al., 2003). The communication problems affecting most residents in nursing homes can be grouped into four areas: hearing loss, language, motor speech disorders, and cognitive-based deficits.

Hearing loss.

Hearing loss reflects a "deviation or change for the worse in either auditory structure or auditory function that differs significantly from normal" (ASHA, 1981, p. 293). Based on national estimates in the United States population, approximately 45% of persons 60 to 69 years of age and 89% of individuals at least 80 years old suffer from hearing loss, with the preponderance of these individuals being men (Lin, Niparko, & Ferrucci, 2011). While hearing loss can result from a number of factors, most of the residents in nursing homes have a hearing loss resulting from Presbycusis, degeneration of the inner ear and other auditory structures as a result of the normal aging process (Weinstein, 2000). It has been estimated that as many as 80% of the residents in nursing

homes facilities experience hearing loss of sufficient severity to interfere with communication abilities (Schow & Nerbonne, 1980), social participation (Pichora-Fuller, Dupuis, Reed, & Lemke, 2013) and independence (Bess, Logan, & Lichtenstein, 1989; Mulrow et al., 1990). For those adults who have sought treatment for a hearing loss before or after entering a nursing homes, hearing aids have been the intervention of choice to improve access to auditory information and increase communicative effectiveness (Weinstein, 2000). However, a number of problems arise for residents and staff relative to use of hearing aids in nursing homes. These small, but useful devices are easily misplaced, incorrectly positioned in the ear, or forgotten about and left in drawers or at the patient's home (Cohen-Mansfield & Taylor, 2004).

Aphasia.

"Aphasia is an acquired selective impairment of language modalities and functions resulting from a focal brain lesion in the language dominant hemisphere that affects the person's communication and social functioning, quality of life, and quality of life of his or her relatives and caregivers" (Papathanasiou, Coppens, & Potagas, 2013, p. xx). Stroke, a sudden disruption in the brain's blood supply (Brookshire, 2007) is the most common cause of aphasia, but other etiologies including tumors, head trauma, hydrocephalus, and brain abscesses can also cause aphasia. From a neurobehavioral perspective, aphasic language impairments occur in all language domains (phonology, morphology, syntax, semantics, and pragmatics), and across all language modalities (reading, writing, speaking and signing). From a functional perspective, aphasia is a communication impairment that masks inherent competence (Kagan, 1995). For this reason, contemporary definitions of the disorder include information from the World

Health Organization's International Classification of Functioning, Disability, and Health (ICF, WHO, 2001). These focus on the consequences aphasia has on the person's communicative and social functioning, quality of life, and the psychosocial performance (Martin, Thompson, & Worrall, 2008) in addition to the impairments impeding language function.

Motor speech disorders.

Motor speech disorders (MSDs) are a collection of speech production disturbances caused by abnormal functioning of the motor system (Freed, 1999). Virtually without exception, acquired motor speech disorders in adults are associated with diseases and/or conditions that are chronic and long term (Yorkston, Beukelman, Strand, & Bell, 1999). Motor speech disorders associated with progressive neurologic diseases (e.g., Parkinson's disease) result in a worsening of the patient's condition over time. Non-progressive motor speech disorders resulting from damage to the brain caused by a stroke or traumatic brain injury improve with treatment, but are life-long. Two MSDs are recognized by speech-language pathologists and are commonly seen in residents in nursing homes, dysarthria and apraxia of speech.

Dysarthria is a neurologic motor speech impairment that is characterized by slow, weak, imprecise, and/or uncoordinated movements of the speech musculature (Freed, 1999; Yorkston et al., 1999). Since the seminal publications of Darley, Aronson, and Brown (1969a, b), the term dysarthria has been used to refer to a *group* of motor speech disorders marked by impaired execution of the movements of speech production rather than being described by a single set of characteristics. Currently, seven types of dysarthria (flaccid, spastic, ataxic, hypokinetic, hyperkinetic, unilateral upper motor

neuron, and mixed dysarthria) are recognized in the MSD literature (Duffy, 2013). Each of these has been linked to conditions or diseases affecting the nervous system and to pathophysiological processes underlying motor speech performance (Duffy, 2013).

Apraxia of speech (AOS) is a motor speech disorder caused by a disturbance in motor planning or programming of the sequential movements needed for volitional speech production (Yorkston et al., 1999). In individuals with AOS the speech musculature and the underlying substrates supporting speech (respiration, phonation, resonance) are not impaired per se, but the individual has difficulties smoothly producing the speech producing movements of the tongue, jaw, lips, and so forth to produce the desired acoustic end product (Duffy, 2013; Freed, 1999). Apraxia of speech frequently occurs with damage to the brain's left hemisphere, most specifically to Broca's area and the insula. While AOS has been found to occur in isolation (Square-Storer, 1989), in most instances it co-occurs with aphasia (Wambaugh & Shuster, 2008; Yorkston et al., 1999).

While both AOS and the dysarthrias interfere with communication (transmission of the thoughts of the speaker to the mind of a listener) by reducing speech intelligibility so that the speaker's output fails to match his/her thought and linguistic plan, they do this for different reasons. In AOS the problem lies in creating the motor plans/programs to translate language forms into the movements needed to produce intelligible speech. Because patients with AOS do not have weakness, paralysis, or incoordination, disrupted articulation and prosody are the hallmarks of this disorder. Conversely, in the dysarthrias, the problem is one of motor execution (a complex process by which the motor plans are converted into muscle contractions) secondary to slow, weak, or uncoordinated

movements of the speech musculature. Thus, in the dysarthrias, the patient sometimes reflects impairment in all speech subsystems, respiration, phonation, resonance, articulation, and prosody.

The psychosocial consequences of MSDs for patients in nursing homes as well as other patients are similar. Psychosocial changes for individuals with MSDs involve both changes in bodily functions as well as changes to one's emotional and social networks. Individuals with MSDs described changes in self-identity, friendships, marriage, social participation, and stigmas (Dickson, Babour, Brady, Alexander, & Paton, 2008). These psychosocial consequences mask the individual's reflection of competence, cause the person to refrain from communicating with caregivers and fellow residents out of embarrassment, fear they will not be understood, and be perceived as stupid, and therefore contribute to feelings of isolation (Bose, McHugh, Schollenberger, & Buchanan, 2009; Ross & Wertz, 2003).

Cognitive-Communication disorders.

Many residents in nursing homes have cognitive-communication disorders (Pennington et al., 2003). These typically fall into three categories reflecting their etiologies: right hemisphere dysfunction, dementia, and traumatic brain injury. Patients with these disorders present with multiple complaints that reflect problems with attention, judgment, memory, orientation, perceptual abilities, and executive functions in addition to their problems with language (Johnson, George, & Hinckley, 1998).

Right hemisphere communication disorders.

Right hemisphere communication disorders result from damage to the non-language dominant hemisphere of the brain, usually the right (Owens, Mertz, & Farinella, 2011) and usually after a stroke. Right hemisphere damage (RHD) results in impairments in three broad categories: attention, communication, and cognition (Blake, Duffy, Myers, & Tompkins, 2002; Chapey, 2008; Kimbarow, 2011). Attentional deficits limit the patient's ability to concentrate on a task (sustained attention), inhibit responses to irrelevant stimuli (selective attention), and do more than one thing at a time (divided attention). A particularly troublesome attention deficit associated with RHD reported by nursing home staff is neglect of the left side of the body (limbs) and lack of awareness of stimuli presented to the left side of midline. Patients with RHD can also have visuoperceptual problems (e.g., poor visual discrimination, scanning, and tracking) that interfere with activities of daily living, and in some instances prevent them from recognizing familiar and/or unfamiliar faces (Prosopagnosia). Surface-level communication of many patients with RHD may be adequate, but many of these individuals speak in a flat, monotonous manner (dysprosody) suggesting they may be depressed when this is not the case. Most RHD patients have some difficulties with higher order language processing (e.g., topic focus, cohesion, organization of thoughts), processing of extralinguistic information (tone of voice, facial expression, and body language), and tend to interpret figurative statements literally (Chapey, 2008). Higher level cognitive deficits are also associated with RHD. Some of these include executive function problems related to organization, reasoning, judgment, and self-monitoring. Most troublesome from a management standpoint is the fact that some patients with RHD

are unaware of or deny having deficits (Anosognosia). Unfortunately, the cognitive-communicative deficits of RHD patients are variable and poorly understood. In some cases the problems of RHD patients are misinterpreted as aphasia (Johnson et al., 1998) and caregivers in nursing homes do not receive the training necessary to develop the skills to respond appropriately to RHD patients. This limits their ability to facilitate participation of RHD patients in social and recreational activities in nursing homes (Carpiac-Claver & Levy-Storms, 2007; Grosch, Medvene, & Wolcott, 2008; Lange, Mager, Greiner, & Saracino, 2011; Lubinski, 1995; Pennington et al., 2003; Sengupta, Harris-Kojetin, & Ejaz, 2010; Williams, Ilten, & Becker, 2005; Winchester, 2003).

*Dementia***.**

Dementia can occur as a consequence of several degenerative nervous system diseases, particularly those that affect older adults. Dementia is characterized by diffuse impairments in memory, intellect, and cognition; alterations in personality and behavior are often present in patients with dementia, as are physical impairments and movement disorders (Brookshire, 2007). Dementia is sometimes reversible if the patient's cognitive declines are related to depression, drug toxicity, infection, nutritional deficiencies, and other factors that can be treated pharmacologically or medically (Golper, 1998). However, dementia in most individuals in nursing homes is irreversible, progressive, and chronic. The most widely used definition of dementia in the United States comes from the *Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV;* American Psychiatric Association, 2013). According to this definition, individuals diagnosed with dementia must exhibit the following: impaired short-term memory; impaired long-term memory; and impairments in at least one of the following areas shown in parentheses

(abstract thinking, personality change, judgment, constructional abilities, language, praxis, and visual recognition).

Irreversible dementia can occur from a variety of causes including Alzheimer's, Pick's, Creutzfeld-Jacob, Huntington's, Parkinson's diseases, multiple strokes (vascular or multi-infarct dementia), Lewy Body dementia, and Progressive Supranuclear Palsy (Brookshire, 2007). Rather than present information on the various forms of dementia, information on this disorder presented will focus on the single most common cause of dementia in individuals in nursing homes, Alzheimer's disease.

Alzheimer's disease (AD) accounts for approximately 80% of all cases of dementia in the United States and is the most prevalent diagnosis in patients in nursing homes (Alzheimer's Association, 2015). Alzheimer's disease is considered to be a consequence of neuropathological changes in the brain over time. These include development of neurofibrillary tangles (twisting, tangling, clumping, and contorting of the threadlike structures found in cell bodies, dendrites, and axons), (Cummings & Benson, 1983), formation of neuritic plaques (small areas of tissue degeneration associated with granular deposits in cortical and subcortical regions of the brain), (Cummings & Benson, 1992), and granulovacuolar degeneration (creation of small fluid-filled cavities containing granular debris in nerve cells, particularly the hippocampus), (Tomlinson & Henderson, 1976). Over time, these disrupt neural communication to accelerate the patient's cognitive and physical decline (American Psychiatric Association, 2013; Kimbarow, 2011).

Presently there is no cure or treatment to prevent the evolution of AD. Persons with AD usually die of infection or aspiration pneumonia five to ten years after their disease is diagnosed (Brookshire, 2007). Clinicians responsible for the management and care of individuals with AD usually adapt their cognitive-communicative treatments of persons with AD to the stage of the disease, early, middle or late. *Early AD* is characterized by lapses in memory, poor judgment, faulty reasoning, and alterations of mood. Language is less affected than memory, intellect, and cognition in the early stages of the disease. As the person with AD moves into the *middle stages* of the disease, difficulties in communication become more apparent. Word retrieval difficulties in spontaneous speech are obvious, and the patient's success in repairing them declines. Sentence fragments and other grammatical problems appear in spontaneous speech and conversations become difficult. For most patients reading becomes impossible and is abandoned for recreational purposes. Most individuals retain a sense of when to talk and when to listen, but turn-taking violations become more apparent. Comprehension of non-literal material is markedly impaired. In the *later stages* of AD, communication in persons with AD is severely compromised. Most patients are nonfunctional conversationalists, fail to observe social conventions, and insensitive to conversational rules governing turn-taking, eye contact, topic relevance, and topic maintenance. Sometimes the patient will fixate on and even misinterpret salient personal experience of the past. In the very late states of AD, some individuals become mute and others continuously repeat what others say (echolalic speech).

Primary progressive aphasia.

Primary Progressive Aphasia (PPA) is a type of dementia associated with declines in cognition that interfere with everyday activities and is not due to another mental disorder (American Psychiatric Association, 2013). Primary progressive aphasia was recognized as a separate clinical entity over 30 years ago (Mesulam, 2001) and our understanding of this disorder has increased over time (Nickels & Croot, 2014). Primary progressive aphasia can be distinguished from other forms of dementia by the prominent symptoms that appear first. These reflect deterioration in language processing, reading, writing, or semantic knowledge, beginning between the ages of 40 to 60 (Khayum, Wieneke, Rogalski, Robinson, & O'Hara, 2012; Kimbarow, 2011). Three agreed on diagnostic criteria for PPA are (1) that the most prominent clinical feature is difficulty with language, (2) that language difficulties are the principal cause of impaired daily living activities, and (3) aphasia is the most prominent deficit at symptom onset and for the initial phases of the disease (Gorno-Tempini et al., 2011). Estimates of the prevalence of PPA are difficult to obtain because in many cases PPA is caused by Alzheimer's disease or Frontotemporal lobar degeneration, two forms of dementia (Grossman, 2014). In its later stages, neurodegeneration results in deficits in memory, attention as well as personality and behavioral changes, and patients are indistinguishable from those with dementia.

Traumatic brain injury.

In the United States, approximately 1.5 million people suffer a traumatic brain injury (TBI) each year (Langlois, Rutland-Brown, & Wald, 2006). Falls are a leading

cause of TBI in the elderly. It is estimated that one in three individuals over the age of 65 incur a fall each year, with many of these resulting in cognitive-communicative disorders (Centers for Disease Control and Prevention, 2015).

Traumatic brain injury results in impairments in cognition, language, and personality. Cognitive deficits are characterized by disorientation, reduced attention, memory and problem solving abilities. Impairments in language include speech production, word retrieval, and pragmatic abilities such as turn taking and topic maintenance. Disturbances in personality are expressed through changes in motivation, reduced impulse control, self-awareness, and changes in temperament. The severity and duration of these deficits varies from individual-to-individual, but in many cases consequences of a TBI for an elderly person results in lifelong challenges (Owens et al., 2011).

The recovery process of older adults suffering a TBI may be compromised by the neurological atrophy associated with aging. Individuals over the age of 55 years tend to remain in rehabilitation longer and reflect slower rates of improvement on functional measures which may eventually require long-term care placement (Cifu et al., 1996; Ritchie, Cameron, Ugoni, & Kaye, 2000).

This non-inclusive review has highlighted some of the symptoms and causes of the plethora of cognitive-communication problems of individuals in nursing homes. It should also be mentioned that the cognitive-communication deficits seen in individuals in nursing homes are typically more severe than those of community dwelling persons. Cognitive-communication deficits of nursing home residents are usually chronic, and in

many cases progressive ultimately destroying the individual's ability to communicate in a functional manner. Finally, while various problems besetting nursing home residents such as dementia have been presented as single diagnoses, many nursing home residents present with more than one problem.

Factors Affecting Communication in Nursing Homes

While the cognitive-communication deficits themselves limit the nursing home resident's ability to interact with staff, caregivers, family, and visitors, there are other factors that constitute barriers to communication in nursing home settings.

Loss of personal identity.

As previously stated, Americans typically require nursing home placement when they can no longer care for themselves and/or have no one to care for them. Sometimes this occurs suddenly and without warning. Gubrium (1975) cites a woman whose family apparently had her taken to a nursing home in a cab. "When they were ready to bring me, all they did was get the Handicab. It brought me here and there was nobody here. They didn't tell me" (p. 89). Regardless of the circumstances, a resident's first step or ride (if they are no longer ambulatory) represents a transition from familiar, personalized surroundings, to an unfamiliar environment that can be overwhelming. Moving, regardless of the circumstances, is a traumatic event for anyone, but individuals placed in nursing home settings do not just move, they give up control over where they live.

Lubinski (1981) has described three significant changes experienced by individuals entering a nursing homes: loss of control, lack of privacy, and perceptual disruptions. Residents in nursing homes no longer control with whom they interact,

when, what and where they eat, when they go to bed and when they wake up. If the resident enters the facility unable to provide basic care for themselves and/or their conditions deteriorate to a point where they cannot attend to their basic needs (e.g., brushing one's teeth or going to the bathroom, and bathing) they suffer further loss of control. Privacy and protection of personal space are things taken for granted, but these are often lost in the nursing homes. Residents typically share a room with a person that is a complete stranger. The opportunities to perform many basic and daily routines in privacy (toileting, dressing, showering, have a conversation with a friend or relative, reading, talking on the phone, and having a quiet moment) are severely limited. Finally, individuals in nursing homes are exposed to a barrage of auditory (noises, voices, cries of pain, and equipment noise), visual (colors, bright lights, and new faces), and olfactory (urine, feces, vomit, and body odor) stimuli that are new to them. Space limitations requiring residents to share rooms and the necessity of having common areas for most functions (e.g. dining, recreation, and exercise) of nursing homes prevent residents from bringing personal belongings and beloved artifacts into the facility and further contribute to loss of personal identity. For example, female residents may enter a nursing home without jewelry, makeup, or other grooming accessories important for their appearance. Some residents leave behind the personal artifacts that gave them pleasure. Gubrium (1975) quotes a nursing home resident "I really miss that nice little carpet I had next to my bed. I was used to that" (p. 87). The absence of the "little things that mean a lot" may result in some residents adopting a new role or self-identity.

Self-identity is defined as the various roles individuals assume during their lifespan which are influenced by environmental and innate experiences (Cohen-

Mansfield, Parpura-Gill, & Golander, 2006). Development of identities occurs through social interactions. Within these interactions, specific social contacts influence self-perceptions. For instance, roles may include identities related to family (parent, sibling, child, grandparent), religion (preacher, Sunday school teacher, member of the choir), occupations (supervisor, professor, homemaker), or leisure time (runner, hunter, cook, artist). When an individual enters a nursing home, his or her identity shifts to that of a patient (Lubinski, 1981). Consider as examples a woman who was a homemaker and had primary responsibility for care of her children or a man who had been a successful farmer. Upon entering the nursing home, the woman no longer cooks, cleans, or provides care; and the farmer no longer tends his crops or animals to support his family. These individuals may then adopt a new role, a role that results in identity shift, reduced self-worth, and loss of purpose.

Communication partners.

Communication involves partnerships. At a minimum, a communication partnership consists of a sender and receiver who actively engage in the process of information exchange. Each partner must be invested in the process to ensure adequate transmission and reception of the message. Most individuals interact with a variety of communication partners within their social network. When an individual goes to a nursing home, his or her communication partners diminish in number and familiarity. Communication with family, friends, and known service providers is no longer routine. Further, within a few weeks to months following admission, a resident's familiar social contacts (family and friends) visit less frequently and communication partners are limited to fellow residents and/or heath care providers.

Resident-resident communication.

Gubrium (1975) points out that residents typically converse with each other during mealtimes and recreational activities and that these conversations are often related to recent visitors, meals, and/or gossip related to the facility. Two types of resident-to-resident communication groups are predominant in nursing homes: cognizant cliques and resident helpers. Cognizant cliques include residents who converse with other residents of similar cognitive-communication abilities, and tend to refrain from interacting with residents of a different cognitive status. Resident helpers are ambulatory residents who assist less mobile residents at meal time and scheduled activities, and perform helpful chores such as delivering a newspaper or finding a nurse when the resident needs help.

A resident in a nursing home typically has a few fellow residents that they have become friends with, share mutual interests, may have known in the past, or have mutual acquaintances. Because of these connections, these people may be preferred communication partners. Unfortunately, within a nursing home, self-care and mobility issues affecting efficiency of care may override communication and restrict preferred communication partners from communicating with one another (Gubrium, 1975; Lubinski, 1981). For example, those needing assistance at mealtime may have assigned seats in the dining room away from preferred partners. In the worst-case scenario, a resident may be seated with others they do not wish to engage in conversation.

Isolation also limits resident-to-resident communication particularly for less mobile residents. Following meals and activities, residents that cannot ambulate or propel a wheelchair independently are usually transported to a place where they will be

parked “out of harm’s way.” Typically, this is their room. Opportunities to communicate are dramatically limited in the patient’s room. Lubinski (1986) describes a solution to this problem for Wanda, a nursing home resident with severe aphasia. Because Wanda was social, Lubinski sought to portray her as a viable communicator by conducting her therapy sessions in the hall where passersby could interact with Wanda socially and vice versa.

Nursing homes are also congested, cluttered places and conditions are not always conducive to facilitating communication amongst residents. For example, hallways are often too overcrowded with medical supplies, cleaning equipment, or linen to allow residents adequate access to fellow communication partners with ease. Opportunities to communicate with a preferred partner across the hallway or while sitting at the nurses’ station may be confounded by dim lighting and background noise such as nurses’ chatter. In essence, residents eventually feel isolated with limited access to preferred communication partners.

Resident-staff communication.

Communication between residents and staff can be confounded by age-biased perceptions of older adults. The Communication Predicament of Aging model describes the attitudes toward communicating with elderly often adopted by health care providers. This model suggests that communication partners of older adults display age-biased interpretations and adjust communication styles to a patronizing manner (Ryan, Hummert, & Boich, 1995). The communication adjustment occurs in two steps. Initially, speakers notice the negative age cues associated with residents in nursing homes. Negative age cues include residing in a nursing home, age, hearing loss, mobility and/or

cognitive impairments, as well as assuming the care recipient role (Ryan et al., 1995). These cues enhance stereotypical expectations of older adults which shapes intergenerational communication. Communication partners perceive older adults in nursing homes as withdrawn isolated human beings, dependent, and severely impaired (Perry, Galloway, Buttorff, & Nixon, 2005; Ryan et al., 1995).

The second step within the Communication Predicament of Aging model is the communication adjustment in which the speaker's communication evolves into a patronizing style. Patronizing communication is characterized by condescending verbal and nonverbal communication with the following traits: superior tone, elevated pitch, terms of endearment (dear, sweetie), short, simple speech, overuse of plural pronouns (we), (Perry et al., 2005; Williams, Kemper, & Hummert, 2003), facial expressions (rolling eyes), touch (patting shoulder) (Ryan et al., 1995), frequent requests and commands, as well as excessive questioning (Bourgeois, 1992). These communication behaviors create dependency as well as decreased self-esteem for the residents (Perry et al., 2005; Williams et al., 2003). As a result, residents reduce communication attempts which in turn diminishes a resident's quality of life (Morse & Intrieri, 1997).

Staff-resident communication is also impacted by the occupational responsibilities of the staff members, time constraints, and the need to deal with the unexpected. Gubrium (1975) distinguishes two primary levels of staff: top staff who oversee administrative tasks (administrators, heads of various departments) and floor staff who provide direct patient care (nurses, certified nursing assistants). Each level serves different resident responsibilities and communication roles. Top staff's engagement with residents involves administrative duties such as ensuring organization and staffing of the

facility. They are more commonly referred to as office staff. Floor staff include nursing staff who ensure residents receive medication, meals, and "bed and body care" (Gurbrium, 1975, p.124). They are commonly referred to as the direct care providers.

Office staff.

Little information is available about the conversational interactions between residents and administrative staff most likely because top staff communicate with residents indirectly. Nurses communicate with top staff relaying medical information about the residents.

Nurses.

Content of conversations

Nurses (registered and licensed practical) communicate with residents during medication distribution or specific medical care. These communication interactions tend to be neutral or negative in nature (Burgio et al., 2001) and related to health care (Carpiac-Claver & Levy-Storms, 2007; Le Dorze, Julien, Brassard, Durocher, & Boivin, 1994; Perry et al., 2005). Typically, nurses discuss four general topics with residents: activities of daily living (toileting, bathing, dressing, eating), nursing assessment (medical status), technical matters (skilled care tasks, vital signs, therapy), and personal-social issues (greetings, humor, feelings, reminiscence) (Le Dorze et al., 1994; Williams, Ilten, & Bower, 2005). Of the four general topics, nurses discuss activities of daily living and technical issues of care more frequently than personal and social topics. Moreover, the personal-social interactions were described as superficial and did not relate to the individualized needs of residents (Williams et al., 2005). However, Le Dorze et al. (1994) found that nurses discuss health related and personal-social topics equally.

Content depends on resident's communication abilities

Caregivers communicate differently with residents based on their communication abilities (Pelletier, 2004). Caregivers tend to use more affective communication with verbal and less cognitively impaired residents and more instrumental, task-oriented communication with residents who have more cognitive-communication impairments (Allen & Turner, 1991; Carpiac-Claver & Levy-Storms, 2014; Le Dorze et al., 1994; Pelletier, 2004). This may relate to the reduced amount of effort required to attend to daily routine allowing more time to discuss feelings or affective communication. Also, resident's communication impairments and caregivers' limited experience conversing with residents about family and past experiences restricted the amount of affective communication.

Content depends on type of caregiver

The content variation within staff-resident communication may be related to the health care roles caregivers play in the lives of residents as well as their familiarity with residents. Williams et al. (2005) described the content of communication between residents and three types of staff: housekeeping, CNAs, and nurses. Findings revealed that conversational topics between housekeeping staff and residents addressed more personal-social issues compared to nurses and CNAs whose topics related to ADLs (Williams et al., 2005).

Le Dorze et al. (1994) also found communication differences between residents and five types of communication partners: nurses, orderlies, students (orderlies), volunteers, and professionals (therapists). Nurses discussed health care and personal-

social topics equally. Professionals and students produced more health care statements. Volunteers and orderlies produced more personal-social matters.

Nursing staff provide medical care and thus talk about the resident's health status. On the contrary, housekeeping staff serve social roles for residents. Possibly, residents are more familiar with the work of housekeeping staff and more comfortable communicating about personal-social topics. Also, housekeeping staff portray a positive association with residents who clean their rooms compared to nurses who provide ill-tasting medication or pain-inducing needle sticks.

Certified nursing assistants (CNAs).

The caregivers who spend the most time with residents are certified nursing assistants (CNAs). Certified nursing assistants are the most accessible communication partners for residents of nursing homes. However, communication interactions between CNAs and residents are limited (Morse & Intrieri, 1997) secondary to staff's intense time demands and reluctance to communicate with residents. Certified nursing assistants may be too busy to engage in social interactions, and conversing with residents requires increased time and patience (Lubinski, 1981). Actually, CNAs exchange verbal information with residents less than 30 minutes during their work shift (Perry, Galloway, Bottorff, & Nixon, 2005). Interactions with each resident last about five minutes (Williams et al., 2005). Topics of conversations between CNAs and residents are similar to those of nurses, task-oriented with minimal emphasis on psychosocial information.

The reduced quantity and quality of CNA-resident communication encounters stems from caregivers' reduced knowledge of communicating with residents. Current state-mandated nursing assistant training curriculum have not been updated to meet the

needs of aging America who have more complex medical and cognitive impairments compared to residents in years past (Sengupta et al., 2010). Training programs lack sufficient and consistent education about dementia care and communicating with residents (Lerner et al., 2010; Pelletier, 2004) which hinders CNAs' comfort and ease conversing with residents and contributes to a lack of communication opportunities for residents.

Reduced information about residents' communication behaviors impacts CNAs' ability to sufficiently interpret their wants and needs contributing to an increase in aggressive behaviors (McCallion, Toseland, Lacey, & Banks, 1999). CNAs reported that over the course of two weeks, they experienced either physical, verbal, and/or sexual aggression while providing bed and body care (Lachs et al., 2012). Training health care providers (CNAs and nurses) how to appropriately respond to resident's communication behaviors is related to a reduction in resident's level of anxiety and aggressiveness (Burgio et al., 2001; Hoerster et al., 2001).

Programs Designed to Facilitate Staff-Resident Communication

Lubinski (1981) suggested that for an older individual to continue contributing to society, they must be able to communicate because "society cares about the individual insofar as he or she can communicate effectively and efficiently" (Lubinski, 1981, p. 89). There is a growing body of literature aimed to facilitate communication between residents and staff within the nursing home society. Previous findings suggest effective interactions between health care providers and residents in nursing homes impact residents' quality of care and life (Burgio et al., 2001; Caris-Verhallen, Kerkstra,

Bensing, & Grypdonck, 2000; Lubinski, 1995; Perry et al., 2005; Ripich, Wykle, & Niles, 1995). The following paragraphs describe eight interventions aimed to facilitate communication between health care providers and residents in nursing homes: *Communicate*, FOCUSED, Snoezelen, communication strategies to reduce Elder speak, video interaction analysis, communication strategies, memory aides, and communication plans.

Communicate is a one-day training program for health care providers that describes caregivers' current communication skills, the social obstacles of residents' communication impairments, and strategies intended to overcome the communication obstacles (Bryan, Axelrod, Maxim, Bell, & Jordan, 2002). Twenty-four control and 118 trained participants completed a questionnaire about knowledge of communication difficulties and strategies to use with individuals who have communication deficits. Responses revealed significant improvements in knowledge and perception of communication competence for participants who received training and no change was found for the control group.

Ripich (1994) and colleagues (Ripich et al., 1995) used the acronym FOCUSED (face-to-face orientation, continuity, unsticking, structure, exchanges, and direct, Ripich, 1994, p. 105) to highlight a training program to facilitate communication between nursing home residents with AD and their caregivers. Seventeen nursing assistants completed six, two-hour training modules. Modules one through five provided information on AD and its impact on communication. Module six provided the participants with communication strategies to use with individuals with AD. Participants completed questionnaires before and after each module to assess changes in their knowledge of and attitudes about AD.

Responses revealed that participants increased their knowledge about AD and were more satisfied in terms of their communicative interactions with persons with AD after the training.

Snoezelen was developed in the Netherlands and is a multi-sensory stimulation approach which fosters communication in a relaxed environment/room using a resident's favorite music, light, smells, textured objects, and foods (Chilsey, Haight, & Jones, 2002). Minimal cognitive demand is associated with communication through snoezelen making it appropriate for residents with severe dementia (Chilsey et al., 2002). Van Weert et al. (2004) developed an extensive four-part training program for 80 caregivers, 59 of whom were CNAs. Participants attended four training sessions a week as well as a study group to develop a snoezelen plan for residents. Then, participants used the snoezelen plan during daily care for 18 months and attended a follow-up meeting to discuss outcomes. At the end of snoezelen training, participants reported on a questionnaire that the training was informative and applicable to daily care contributing to more relaxed, resident-oriented care in which residents were more responsive and less aggressive. To measure the effects of snoezelen on the actual communicative behavior of 55 CNAs and residents, Van Weert et al. (2005) video-recorded nonverbal and verbal communication during morning care. Results revealed that CNAs increased the amount of time they devoted to socially communicating with residents. They also made better eye contact with residents and used touch to supplement communication. In response to CNAs change in communicative behavior, residents sustained eye contact and began to smile more frequently.

Elder speak connotes a communication style resembling "baby talk" that is sometimes used by health care providers in communicating with elderly individuals in nursing homes. Users of elder speak use a slow rate, repeat themselves, simplify their vocabulary, exaggerate intonation, and use diminutives (Kemper, Vandepute, Rice, Cheung, & Gubarchuk, 1995; Williams, 2006; Williams et al., 2005; Williams et al., 2003). Some writers consider the use of elder speak with nursing home residents to be inappropriate and condescending and that its use could potentially compromise self-esteem and independence (Ryan et al., 1995; Williams, 2006; Williams et al., 2006; Williams et al., 2003). Williams et al. (2003) developed a three-session training program designed to reduce the use of elder speak by CNAs working in nursing homes. To evaluate the effects of the training, interactions between CNAs and residents were audiotaped before and after training. Results revealed that CNAs dramatically reduced their use of elder speak most noticeable by using fewer diminutives, collective pronouns, and by increasing utterance length. On the average, post-training conversations amongst participants were rated as being more respectful and less controlling that pre-training conversations.

Video Interaction Analysis is a behavior modification approach in which visual feedback enhances awareness of a specific behavior and fosters adjustments of that behavior. Caris-Verhallen et al. (2000) evaluated the effects of a two-day communication training using Video Interaction Analysis on the interaction between 40 nurses and residents. Results indicated no statistically significant differences from pre to post-training on nurses' verbal and nonverbal communication or the amount of information residents share with nurses.

Three studies examined the effects of *memory books* on conversational exchanges between residents and staff (Burgio et al., 2001; Dijkstra et al., 2002; Hoerster et al., 2001). Memory books provide personal semantic content including biographical (wedding or family), orientation (their CNA, other residents), written steps for activities of daily living (bathing), solutions for behavioral problems (wandering, aggression, repetitive questions) and/or information about their daily schedule. Photographs accompanied by a short phrase or sentence related to the picture are used in memory books.

Dijkstra et al. (2002) combined communication facilitation techniques and memory aides with staff training in order to improve discourse between 33 persons with dementia and 40 CNA caregivers. Following three phases of training, five-minute conversations between the same resident-staff dyads were audio and videotaped during daily care. Results showed that residents enhanced topic maintenance and reduced use of empty speech and indefinite terms. CNAs provided more information and words of encouragement to keep the conversation going.

Hoerster et al. (2001) used a multiple baseline design to determine the effects of a memory aid on the conversational behaviors of four residents with severe dementia and their caregivers. After CNAs received training about memory books, they participated in five minute conversations with a resident participant once a week for six to seven weeks. Results revealed that residents used more on-topic utterances and fewer unintelligible statements. CNAs used less non-facilitative behaviors (requests and assertions).

Burgio et al. (2001) examined the effects of memory book training and a staff motivational system on memory book availability, CNAs' communication skills, licensed

practical nurses' (LPNs) supervisory accuracy, and resident-staff behaviors. Participants completed a two-hour in-service training about memory books and received hands-on training once per day. As a component of the staff motivational system, LPNs and Registered Nurses (RNs) attended an additional hour of training, observed each of the CNAs once per week during 15-minute samples of care routines with residents, and recorded CNAs' use of communication strategies. Results showed that memory books were available 70-81% of the observed time, the majority of CNAs (92%) applied communication strategies correctly, and all LPNs in the study provided verbal feedback to CNAs about communication skill performance. Following training and at a two month follow-up, CNAs applied more communication strategies and memory aides compared to baseline. Specifically, CNAs used more positive statements and provided single, one-step instructions directed toward the resident.

As discussed in chapter 1, communication plans have been successfully used in Canada to facilitate communication between residents in NURSING HOMES and their caregivers (Genereux, et al., 2004; McGilton et al., 2011; Sorin-Peters et al., 2010). This research was reviewed in the introductory chapter and will not be reviewed in this chapter. In Chapter 1, it was suggested that were communication plans to ever be used in nursing homes in the United States, two things were necessary. First, it would be prudent to target CNAs for training in the use of communication plans because they provide the overwhelming majority of hands-on care for residents in nursing homes. The second was that CNAs would benefit from support from the speech-language pathologist if they were to be successful in the use of communication plans.

In this study, we used a slightly different term to designate the intervention used to facilitate communication between caregivers and residents in nursing homes in the United States. Rather than use the term communication plan, as is done in Canada, we opted to use the term *communication care plan* (CCP) as introduced in Chapter 1. The impetus to do this came from the alteration in the Canadian communication plans by McGilton et al. (2011) with the relabeling of the segment entitled "what behaviors mean" to a more personalized one of "what the client likes to discuss." We further expanded this notion by adding a fifth section to our CCP called "resident's life." This segment consisted of a short personal autobiographical sketch specific to the resident. This emphasizes personhood, a process of engaging the individual resident in meaningful, individualized communication based on an understanding of their interests and life (Kitwood, 1997). The inclusion of this information seemed important for three reasons, (1) to provide CNAs conversational starters to facilitate communication with residents (2) to move the focus of CNA-resident communication away from the typical topics of health care (Carpiac-Claver & Levy-Storms, 2007; Le Dorze et al., 1994; Pelletier, 2004; Perry et al., 2005) toward personal topics research has shown they prefer to talk about (Le Dorze et al., 1994).

Research shows that focus on personally relevant information is likely to be preserved in older individuals (Donix et al., 2010; Drag & Bieliauskas, 2010) because personal information has emotional relevance (Charles, Mather, & Carstensen 2003; Donix et al., 2010; Mather, 2007; Nashiro, Sakaki, & Mather, 2012), multimodal neurological representations (Donix et al., 2010; Gauthier, Skudlarski, Gore, &

Anderson, 2000; Giovannetti et al., 2006) and is processed at a deep level enabling retrieval (Craik & Lockhart, 1972; Viskontas, Quian Quiroga, & Fried, 2009).

Highlighting resident's autobiographical information is also related to the culture-change movement in nursing homes. Initiated in 1997 and recently gaining momentum, the aim of the culture-change movement is to enhance the residents' quality of life by fostering more resident-centered care and home-like environments (Rahman & Schnelle, 2008). The caregivers who provide the majority of hands-on care to residents in nursing homes, CNAs, will have salient information about a resident's life history to facilitate meaningful resident-staff communication directed toward resident-centered care.

CHAPTER THREE: METHODS

Study Design

The aim of this study was to describe the role of support during the process of development, implementation, and evaluation of CCPs based on the views of CNAs in nursing homes. The study used a grounded theory design (Corbin & Strauss, 2008) to allow a theory to emerge that was grounded in the actual words of the participants. Grounded theory design involves theory construction through ongoing inductive data collection and analysis (Silverman, 2011). This process comprises breaking data (words of the participants) into codes, combining codes to form categories, and developing a core category which describes the data as a whole. Then, a theory or theoretical model emerges that is grounded in participants' views. This exploratory qualitative approach was selected to give credibility to the CNAs' voice as well as provide rich descriptions of their perceptions of the role of support during development, implementation, and evaluation of CCPs.

Research Questions

The research was guided by a grand tour question and five sub-questions.

Grand tour question: What is the process of developing, implementing, and evaluating CCPs during daily care as perceived by CNAs who did and did not receive support from the investigator/speech-language pathologist in nursing homes?

Research sub-questions:

1. How do CNAs describe the process of developing and implementing CPPs?

2. How do CNAs describe support during implementation of CCPs?
3. What influenced or prevented use of CCPs?
4. What were the outcomes of CCPs?
5. How did perceptions of CCPs change over time?

Sites

The study took place in two, for-profit nursing homes, site A and site B, in the state of Kentucky. Site A has 65 beds and site B has 85 beds. These facilities were chosen because the author had worked in both facilities as a speech-language pathologist, was familiar with the settings, and had access to the facilities.

Study Participants

Participants included both CNAs and residents in the nursing homes. The selection of specific participants occurred through convenience sampling. We selected available, willing participants from the two nursing homes who met the following inclusion criteria.

CNA:

1. Currently worked full-time or part-time in the participating nursing home as a CNA.
2. Had worked in the participating nursing home for a minimum of three months
3. Worked during the day shift (7:00 AM to 3:00 PM) or afternoon shift (3:00 PM to 11:00 PM)
4. Was at least 18 years of age or older

5. Was a native speaker of English

Resident:

1. Had been in the participating nursing home for a minimum of three months
2. Was not receiving skilled speech-language treatment services at the time of the study
3. Was a native speaker of English

CNA participant recruitment.

To recruit CNAs to participate in the study, the investigator contacted the administrator of each facility in person or by phone to obtain permission and support to conduct the study. The investigator then scheduled an in-service training for the CNAs from each facility on the same day as the facility's regular monthly in-service meetings attended by all CNAs. During these meetings she explained the purposes, goals, and advantages of using CCPs, the purposes and goals of the research project, and provided information about the development and application of CCPs. There was low attendance at the scheduled in-service trainings; therefore, additional in-service trainings were held before and/or after work shifts. Certified nursing assistants attending the meeting were then invited to participate in the study.

Following the in-service meetings, 10 CNAs, five working at site A and five working at site B were eligible and willing to participate in the study. The decision to provide support for CNA participants in facility A was based on convenience.

Resident participant recruitment.

Following recruitment of the CNA participants, as required by the IRB, flyers describing the research study were posted in the facility giving each resident the option to participate

(see Appendix A). No one responded to the flyers posted throughout the facility. Each of the 10 CNAs volunteering to participate in the study was asked to select two nursing home residents who they worked with daily and who might benefit from a CCP based on how the CNA perceived the residents' cognitive-communication difficulties. The residents and/or their legally authorized representatives chosen by the CNA participants were contacted by phone or in-person in order to obtain permission for research participation. The purposes of the study and its procedures were explained to each of the residents and their authorized legal representatives. One resident served as her own power of attorney and agreed to participate in the study. Nineteen residents' legally authorized representatives agreed for the residents to participate in the study. Consent forms were placed in individual folders with the social worker at the front office and at the nurses' station in facility A and B respectively. The resident's legally authorized representative was instructed to read over the consent form and if in agreement to sign (Appendices B and C). Assent forms were completed and signed by the residents (see Appendix D). Demographic characteristics of participants are described in Chapter 4: Findings.

Research Procedures and Data Collection

The intervention phase of the study was carried out in five, two-week blocks. During each two-week block, the investigator/speech-language pathologist (1) worked with one CNA from facility A (supported) and one CNA from facility B (non-supported) to develop and implement an individualized CCP for each of their two residents, (2) met face-to-face with the CNA at facility A to provide support, and (3) conducted semi-

structured interviews with each of the involved CNAs at the end of the two-week block. This procedure was repeated until all 10 CNAs were interviewed.

Communication care plan production.

To obtain the information to develop each CCP, the investigator (1) assessed the residents' cognitive and communication abilities with the Short Portable Mental Status Questionnaire (SPMSQ; Pfeiffer, 1975) and the Aphasia Language Performance Scales (ALPS; Keenan & Brassell, 1975) respectively; (2) completed, in collaboration with the CNA taking care of the resident, the Montreal Evaluation of Communication Questionnaire for use in Long-Term Care (MECQ-LTC; Le Dorze et al., 2000), and (3) interviewed each resident, a family member or reviewed the social services portion of the medical chart to obtain personal information about each resident to write a short biographical sketch for the CNA to use when interacting with the resident.

The Short Portable Mental Status Questionnaire (SPMSQ; Pfeiffer, 1975) is a ten item cognitive screening test assessing temporal and spatial orientation, memory, and attention. Scores on the SPMSQ are weighted for race and education and have been used to provide an estimate of an individual's cognitive functioning and/or to indicate a need for further assessment. Non-impaired individuals typically make fewer that two errors on the SPMSQ. Persons with mild, moderate, and severe cognitive impairment make 3-4, 5-7, and 8 or more errors respectively.

The Aphasia Language Performance Scales (APLS; Keenan & Brassell, 1975) contains four 10-item subtests assessing reading, writing, listening, and talking. Each 10-item subtest begins with the easiest item, with each successive item being more difficult. Scores range from zero to ten for each item. Participants receive a score of one if they

answer the item correctly or self-correct independently. If participants require a prompt (repeating the stimulus), they receive a score of ½ for that item. Participants who answer incorrectly score zero for the test item. Participants' scores on the SPMSQ and ALPS are described in Chapter 4: Findings.

The Montreal Evaluation of Communication Questionnaire for use in Long-term Care (MECQ-LTC; Le Dorze et al., 2000) was specifically designed for individuals with cognitive-communication deficits in nursing homes. Residents in nursing homes often have degenerative diseases creating challenges for speech-language pathologists to restore communication abilities. Therefore, it is often more beneficial to train caregivers how to effectively respond to resident's communication behaviors. Prior to training caregivers, an assessment tool was needed to better understand the means of communication used by residents and caregivers to exchange information (Le Dorze et al., 2000) giving rise to the MECQ-LTC.

The MECQ-LTC contains two parts. The first section determines the frequency of different means of communication used by caregivers and residents to communicate and part two calculates the amount of effort required to communicate with residents about basic health care, social, and emotional topics. For this study, only section one was administered due to time constraints of CNA participants (see Appendix E). CNAs collaborated with the investigator to complete the MECQ-LTC. The investigator reviewed each section of the questionnaire, answered questions about the MECQ-LTC, and/or recorded relevant information expressed while completing the MECQ-LTC. A MECQ-LTC was completed for all resident participants.

Table 3.1 depicts how assessment data and MECQ-LTC information were used to develop a CCP for a 78-year old woman, Chloe, who happens to be the investigator's grandmother. Appendix E shows a completed MECQ-LTC questionnaire for Chloe. Chloe has a diagnosis of dementia. She wears glasses and has hearing aids. Table 3.1 shows how information in the first section of the CCP, "how Chloe communicates" was based on ALPS results as well as component one of the MECQ-LTC, "means of communication used by Chloe". Scores from the ALPS indicated that Chloe's speech was intelligible at the phrase level with some noticeable word retrieval difficulty and that she understood yes/no questions. Responses to section one of the MECQ-LTC indicated that Chloe answered yes/no questions verbally and by head movement, and used speech and gestures to communicate a message.

The next section of the CCP "how to communicate with Chloe" included results of the ALPS and SPMSQ as well as the second and third portions of the MECQ-LTC, "means of communication used by caregivers to understand Chloe's message" and "means of communication used by caregivers to transmit a message to Chloe". Results from SPMSQ revealed deficits in attention and memory. As indicated in the ALPS, Chloe followed two-step directions and read short passages of information. In order to understand Chloe (section two of the MECQ-LTC), the caregiver asked yes/no questions, verified information, waited for a response, and gave choices. The means of communication the caregiver used to transmit a message (section three of the MECQ-LTC) included obtaining Chloe's attention, speaking loudly and slowly in short sentences, checking if she has understood, and repeating information. The caregiver added that she sometimes had to shout because Chloe was hard of hearing.

The third section of the CCP "Chloe's specific behaviors", comprised responses from the first part of the MECQ-LTC, "how Chloe communicates". The caregiver indicated that at night, Chloe became more confused and exhibited a specific behavior that carried particular meaning: when she licked her lips she was thirsty or nervous. When she was nervous, the caregiver held her hand or gave her a piece of chewing gum.

The fourth section of the CCP "Chloe's habits" described her preferences in relation to specific hobbies or care. This information was collected from section one of the MECQ-LTC, "means of communication used by Chloe", interview with family member, and/or informal conversations with residents. The family and resident indicated that Chloe liked to read her Bible, enjoyed listening to gospel music and watched the "The Young and The Restless" soap opera, and preferred that window blinds be open during the day because she liked watching people. She disliked taking showers and sleeping on her left side.

To complete the final section "Chloe's life", the investigator requested autobiographical information (family, friends, previous job(s), education, travel experience, hobbies, church membership, specific communication behaviors, and any amusing facts about the resident's life) from the resident, the resident's family member, social services portion of the medical chart, and/or recreational therapist. Chloe supplied the autobiographical information. Chloe was married to Estus for 53 years. She had two sons, Cornell and Stevie. Chloe had four grandchildren and five great grandchildren. She was a member of Beech Grove Baptist Church and loved singing "I'll Fly Away". Chloe graduated from high school and worked in the kitchen at the Monroe County Hospital for

20 years. She baked fried apple pies for the local BBQ. She also cross-stitched quilts for all of her grandchildren.

Information from the ALPS, SPMSQ, MECQ-LTC, medical chart, Chloe and her family was combined to create a CCP. The full CCP can be viewed in Table 1.1. Table 3.1 summarizes the source of each aspect of the CCP.

After the CCP was typed on 8.5" x 11" colored paper to increase visibility, it was reviewed for accuracy and completeness by the investigator and the responsible CNA. The CCP was then posted in the resident's room in a visible location (bathroom door, above the resident's bed). Copies of the CCP were also put in the resident's medical chart, and CNAs' daily care plan book.

Table 3.1. *Summary of the Development of the Communication Care Plan for Chloe*

How Chloe communicates	**How to communicate with Chloe**
1. She speaks • Results of ALPs (talking) and section one of MECQ-LTC 2. Her yes/no responses are usually reliable • Results of ALPs (listening) and section one of MECQ-LTC 3. She uses gestures when she cannot find the word • Section one of MECQ-LTC	1. Make sure hearing aids in, glasses on • Observations, medical chart 2. Write down directions on dry erase board • Results of SPMSQ (attention and memory), ALPs (reading), section three of MECQ-LTC (CNA indicated she has to shout sometimes, repeating, verifying information) 3. Look at her when you speak. • Section three of MECQ-LTC (obtain her attention) 4. Speak loudly and slowly • Section three of MECQ-LTC 5. Use short, simple speech • Section three of MECQ-LTC
Chloe's specific behaviors	**Chloe's habits**
(occur more at night) 1. When she licks her lips she is thirsty or nervous. If you hold her hand or give her a piece of chewing gum, she will calm down. • Section one of MECQ-LTC (behaviors that carry specific meaning)	*She likes:* 1. Reading the Bible. 2. Listening to gospel music. 3. Watching the Young and Restless. 4. Window blinds open during the day. *She dislikes:* 3. Taking showers 4. Sleeping on her left side. • Family report
Chloe's Life: Chloe was married to Estus for 53 years. She has two sons, Cornell and Stevie. Chloe has four grandchildren and five great grandchildren. She is a member of Beech Grove Baptist Church and loves singing "I'll Fly Away". Chloe graduated from high school and worked in the kitchen at the Monroe County Hospital for 20 years. She baked fried apple pies for the local BBQ. She also cross-stitched quilts for all of her grandchildren. • Resident report	

Support.

While all ten CNAs in both facilities collaborated with the speech-language pathologist/investigator in the development of the CCPs, support for the CNAs was only provided to the five CNAs at facility A. Support was defined as a face-to-face meeting between the CNA caring for the resident and the investigator/speech-language pathologist over the two week period of CCP implementation. These meetings lasted from 5-to-10 minutes and were scheduled up to six times per week. These meetings were held at different times because of the variability of the CNAs' work schedules. Representative examples included break times for the CNAs, while the CNA was providing bed and body care for the resident, and other convenient times. At these meetings the investigator/speech-language pathologist answered questions and addressed problems and issues related to using communication strategies listed on the CCPs. She also provided rationale for use of particular strategies, demonstrated strategy usage, modified strategies that were not working at the suggestion of the CNAs and reinforced CNAs for strategy usage. Interactions were semi-structured, meaning that the investigator/speech-language pathologist followed a protocol (How is Ms. Chloe doing? Tell me how the CCP is working with Ms. Chloe? Does anything need to change on the CCP?), but allowed participants to expand on questions as appropriate. If CNAs suggested modifications to the CCP, revisions were made during the support visit. Each encounter with the CNA was hand-written and reviewed as a component of data collection. Chapter 4: Findings includes the frequency and details of support visits.

Interview.

Data were collected from the CNAs through semi-structured interviews. One-to-one interviews were conducted with the CNAs that did and did not receive support by the investigator/speech-language pathologist. Interviews took place in quiet rooms within the facility at times of convenience for the CNA. Interviews typically lasted from 20 to 40 minutes. Questions on the interview protocol are shown in Appendix F. While the protocol questions were used to guide the interview, CNA participants were free to ask questions, expand on questions, and to give specific examples of their own. In addition, the investigator/speech-language pathologist asked additional probe questions based on the CNA's responses to the questions from the protocol. All interviews with the participating CNAs were audio-recorded. Observations of the CNA's affect, non-verbal communication, and the interview environment were noted on the interview observation sheet and used as field notes.

The investigator/speech-language pathologist immediately transcribed each interview verbatim from the audio-recordings. After completing each transcription, the investigator/speech-language pathologist wrote memos to herself summarizing themes of each interview and/or her own thoughts and general ideas related to prior interviews. Two undergraduate students in the Communication Sciences and Disorders Program also listened to the audio-recordings to verify their accuracy and correct any mistakes. Data collection ceased after ten interviews. Following the seventh interview, a high reoccurrence of themes emerged indicating data saturation. Saturation occurred when no new information to support a category surfaced from the interviews (Creswell, 2007). Interviews continued with three CNA participants because the final interview was with

Sharon, the most experienced CNA participant which may have yielded new themes. However, no new themes surfaced during the final interview.

Data Analysis

Data collection and data analysis occurred simultaneously to allow constant comparison (Corbin & Strauss, 2008). The constant comparative procedure permitted comparison of all interviews in order to group similar data, develop theory, and drive theoretical sampling. For instance, codes from interview two were compared to those of interview one. Based on any similarities between responses to interview questions or new, relevant issues, modifications were made during the following interview consistent with grounded theory methodology (Corbin & Strauss, 2008). For instance, the first participant described CNA training in response to a question about communication confidence; therefore, a question was added to the interviews, "Tell me about your CNA training. How much information did you receive about communicating with residents?" If a new question surfaced during a later interview, it was addressed during the follow-up interviews.

The investigator/speech-language pathologist analyzed data using the grounded theory approach described by Corbin and Strauss (2008). There are three systematic steps to this approach: open, axial, and selective coding. Within this inductive procedure, data (participants' words) is labeled into codes, codes are grouped into categories, categories are defined, and a core category emerges to describe the data as a whole. The goal of analysis is to develop a theory or model that describes the participants' views related to the phenomenon of interest which in this study was support

during CCP development and implementation. To further define and form relationships among the data, the investigator used the method described by Scott (2004), and Scott and Howell (2008). During all phases of data analysis, the investigator strived to use *in vivo* codes in which codes represented the words expressed by the participants. The coding process and findings are described in more detail in Chapter 4: Findings.

Analysis of support.

During the interviews, it was noted that participants in facility A (supported) responded to questions about application of CCPs differently than participants in facility B (non-supported). Memos were generated regarding these differences and after arranging the codes into categories, the data from each facility was compared. Quotes from participants in each facility were divided to document any differences within the categories, application and effectiveness of CCPs. More information about the differences noted between facilities can be found within the *whole lot smoother* portion of selective coding in Chapter 4: Findings.

Examining the Investigator's Biases

As a speech-language pathologist familiar with the two participating nursing homes, I was worried that my own experiences would interfere with accurate data collection and analysis. Therefore, I immersed myself in the process of reflexive bracketing. Reflexive bracketing is self-awareness and continual examination of particular opinions about the phenomenon of interest and the ability to separate those beliefs in order to honestly and accurately portray the participants' viewpoints (Ahern, 1999; Finlay, 2002).

Reflexive bracketing was completed prior to and during the research process in order to identify potential biases (Ahern, 1999). Prior to the research process, I identified biases of my own work experiences in long-term care and examined my motivations and assumptions in a journal. As a student, I am motivated to complete the dissertation project while at the same time I am determined to make an impact in the lives of residents and CNAs of nursing homes. This desire led to assumptions that CCPs coupled with support would make work less stressful and time-consuming for CNA participants because residents would respond better when CNAs applied strategies on CCPs. As I began to bracket my biases, I was able to continue the research process with an open-mind.

During data collection, I became an advocate for CNAs. If CNAs voiced a concern, I immediately looked for a solution. In doing this, I dedicated a considerable amount of time consulting rehabilitation managers and creating communication systems for residents who were not participating in the study which blurred the differentiation between speech-language pathologist and researcher. Also, during interviews, to break uncomfortable silences and overcome the imbalance between researcher and participant, I noticed that I began to add closed, yes/no questions. After this occurred two times, I met with a mentor and revised the questions.

During the data analysis phase of the study, I continued to bracket my own biases and research assumptions. I reviewed the interview transcriptions, definitions and supporting quotes of codes and categories multiple times to ensure the story line supported participants' views. Two undergraduate students also reviewed the transcripts and analysis to ensure codes and categories supported participant's views.

Through the process of ongoing reflexive bracketing with journaling, multiple coders, and using quotes from each participants, it is my belief that the findings from this study more accurately reflect participants' views about the role of support during development, implementation and evaluation of CCPs.

Trustworthiness

In addition to reflexive bracketing, study rigor included several verification procedures. To increase dependability of findings, member checking was used to allow participants to review the final data analysis. Through member checking, respondents were granted the right to modify any data entries to ensure all of their views were expressed accurately. All participants who participated in member checking agreed to the final story line making no adjustments. In addition, a second person compared all ten interview transcriptions to the audiotapes. If any discrepancies were found, revisions were made. An audit trail was created to ensure an accurate record of the presence and number of codes and categories. Verification of data collection and analysis was confirmed through the use of field notes, *in vivo* quotes, and multiple coders. Two undergraduate students generated codes for four interviews which were compared to the codes the investigator created for the same interviews. The investigator and students also collaborated during axial and selective coding. During axial coding, each student was responsible for inserting a defined amount of codes into the conditional relationship table. Then, the investigator and students reviewed the conditional relationship table to ensure accurate placement of codes. Therefore, three individuals reviewed the data several times individually and collaboratively. Triangulation of data occurred by conducting a second interview with nine of the ten participants, collecting field notes, keeping a journal, and

observing participants implementation of CPs. Transferability was confirmed through rich, thick descriptions of participants, setting, and research procedures.

Summary

Ten CNAs and twenty residents from two nursing homes participated in a grounded theory study to explore CNAs' perceptions of professional support during development, implementation, and evaluation of CCPs. Data was collected through semi-structured interviews and analyzed using open, axial, and selective coding to arrive at an emerging theory. Verification of data collection and analysis occurred through the use of participants' quotes, multiple coders, member checks, and conducting a second interview with participants.

CHAPTER FOUR: FINDINGS

Participants' Demographic Information

Table 4.1 summarizes demographic information for the CNA participants at facility A (supported) and facility B (non-supported). Pseudonyms are used to protect the identities of the CNAs using the Name Voyager program (www.babynamewizard.com). Table 4.1 indicates that all CNAs with the exception of Justin at facility B were female; all worked full-time with the exception of Rachel and Taylor from facility A, and all worked the first and/or second shifts. Three CNAs at facility A, Megan, Rachel, and Taylor, were substantially younger than the other CNAs. One CNA, Sharon, was significantly older at age 60. On average, CNAs at facility A were younger (mean age = 29 years; range 17-60 years) and had less experience (mean years of experience = 7.2 years; range 0.3-20 years) than CNAs in facility B who had a mean age of 39.3 years (range 31-48 years) and an average of 10.2 years of experience (range = 0.3-20 years).

Table 4.2 summarizes demographic, diagnostic, and test information for the residents at facilities A and B again using pseudonyms. These data show that all residents at both facilities were female with the exception of Robert at facility B. Residents from facility A ranged in age from 76 to 96 years (mean = 82.6 years) and had between 6 and 16 years of education (mean = 10.75 years). Residents from facility B ranged in age from 78 to 95 years (mean = 87.8 years) and had from 5 to 14 years of education (mean = 10.75 years). While the resident participants in facilities A and B were relatively equivalent in terms of age and years of education, those in facility A had been nursing home residents from a minimum of .5 years to 4.5 years (mean = 2.30 years) and all had primary diagnoses of either stroke or a form of Dementia. In contrast,

residents in facility B had been in nursing homes for a minimum of 2.1 years to 9.2 years (mean = 4.41 years) and presented with a wide range of diagnoses.

Table 4.1. *Characteristics of CNA Participants*

Name	Age (years)	Gender	Work Shift	Type of Employment	Years of Experience
Facility A					
Jessica	29	F	1	FT	15
Megan	19	F	1	FT	1
Rachel	17	F	2	PT	0.3
Sharon	60	F	1	FT	20
Taylor	21	F	1	PT	0.9
Mean	29				7.2
Range	17 - 60				0.3 - 20
Facility B					
Justin	32	M	2	FT	10
Michelle	31	F	1,2	FT	0.3
Nicole	40	F	1	FT	17
Pamela	47	F	1,2	FT	20
Sandra	48	F	1	FT	5
Mean	39.3				10.2
Range	31 - 48				0.3 - 20

Note: CNA = Certified Nursing Assistant; F = female, M = male; Work shift: 1 = first shift, 2 = second shift; Type of employment: PT = part-time, FT = full-time.

Communication Care Plan Development

The resident participants participated in speech, language, and cognitive assessments in order to develop the CCP (described in chapter 3). The investigator completed all testing in the resident's room, quiet dining room, or therapy gym. Residents were greeted and the purpose of testing was explained.

Table 4.2 also shows the overall scores for the ALPS (Keenan & Brassall, 1975), a language test and the SPMSQ (Pfeiffer, 1975), a cognitive screening test for the residents from each facility. The ALPS, as discussed previously contains four 10-item

subtests assessing listening, reading, writing, and talking. A maximum score of 10 is attainable on each subtest. The maximum score attainable on the ALPS is 40. Performance on the 10-item SPMSQ is quantified in terms of the number of errors, thus low scores are preferable. Overall, ALPS and SPMSQ scores shown in Table 4.2 indicated that many of the residents, in both facilities, had severe cognitive-communication impairments. In some cases, residents' disablements made it impossible to perform a relevant assessment resulting in a score of zero. For example, Doris (facility A), Dorothy, Nancy, and Shirley (facility B) could not do the writing tests of the ALPS due to arthritis. Carol and Virginia (facility A) could not complete reading or writing subtests of the ALPS due to visual limitations. Only three residents, Lillian (facility A), Margaret, and Betty (facility B) completed all of the ALPS subtests. Table 4.2 clearly indicates the residents in facility B had less severe cognitive-communication impairments than those in facility A. On the average overall ALPS scores for residents in facility A ranged from 1 to 35 (mean = 13.5) and overall SPMSQ scores ranged from 3 to 10 (mean = 7). In contrast, ALPS scores for residents in facility B ranged from 7 to 36 (mean = 24) and overall SPMSQ scores ranged from zero to 10 (mean = 5.6).

Table 4.2. *Characteristics of Resident Participants*

Name	Age (years)	Length of Stay (years)	Diagnosis	Education (years)	ALPS Score	SPMSQ score
Facility A						
Barbara	80	2.11	1	12	1	10
Carol	81	4	2	6	5	3
Doris	86	1.3	2	16	17	6
Joan	76	4.5	1	12	7.5	10
Joyce	85	2.1	2	10	25	5
Lillian	96	0.5	2	12	35	2
Linda	79	3.11	2	12.5	9.5	8
Mary	88	1.4	1	16	29	6
Susan	79	0.9	1	9	1	10
Virginia	76	3.1	2	12	5	10
Mean	82.6	2.30		10.75	13.5	7
Range	76 – 96	.5 – 4.5		6 – 16	1 - 35	3 - 10
Facility B						
Anna	95	9.2	2	12	22	9
Betty	80	2.9	2	12	36	5
Dorothy	92	4	2	12	22	6
Margaret	90	1.1	3	6	33	5
Mildred	87	3	1	12	7	10
Nancy	88	3.1	3	10	26	0
Patricia	86	3.2	1	12	25	9
Robert	78	7.4	2	5	10	8
Ruth	92	8.1	2	14	31	0
Shirley	90	2.1	3	12	28	4
Mean	87.8	4.41		10.7	24	5.6
Range	78 – 95	2.1 – 9.2		5 - 14	7 - 36	0 - 10

Note: Diagnosis: 1 = form of dementia, 2 = stroke, 3 = other diagnosis; ALPS = Aphasia Language Performance Scales; SPMSQ = Short Portable Mental Status Questionnaire

Montreal evaluation of communication questionnaire for use in long-term care.

Table 4.3 summarizes the frequency of the means of communication used by residents, the means of communication used by CNAs to understand residents, and the means of communication used by CNAs to transmit a message to residents. The number of responses should equal 10 for each facility (five CNAs x two residents). However, Sharon and Jessica in facility A as well as Sandra in facility B did not respond to all questions asked on the MECQ-LTC.

The data for section one of the MECQ-LTC indicates that residents used multiple modalities to communicate with caregivers. The most frequently occurring mean of communication was speech in both facilities. Residents in facility A also communicated by answering yes/no questions verbally. Certified nursing assistants reported that residents in facility A used writing or drawing the least and residents in facility B used a communication board the least. Certified nursing assistants utilized various means of communication to *understand* residents as indicated on section two of the MECQ-LTC. Certified nursing assistants in facility A knew resident's routine most frequently and guessed, requested help from a familiar person, or gave choices the least. In facility B, CNAs asked yes/no questions the most and requested assistance from a more familiar person the least. As reported in section three of the MECQ-LTC, means of communication used by CNAs to *transmit* a message to residents, CNAs in facility A frequently repeated information and used short speech, but rarely asked a resident to read their lips. In facility B, CNAs frequently used speech and rarely asked a resident to read their lips.

Each resident's performance on the ALPs, SPMSQ, frequently occurring communication acts on the questionnaire, and the autobiographical information can be found in Appendices G-Z as well as their CCP. Pseudonyms for family members are used to protect the participant's identity.

In summary, resident participants were primarily female, 76 to 96 years of age who experienced a stroke or have a progressive neurological disease and varying level of cognitive-communication impairments. The majority of residents (n = 14) graduated high school. Certified nursing assistant participants were primarily female, 17 to 60 years of age with five months to 9.2 years of experience in nursing homes. The majority of CNA participants worked full-time during the day shift.

Table 4.3. *CNAs' Responses to MECQ-LTC* *Facility A* *Facility B*

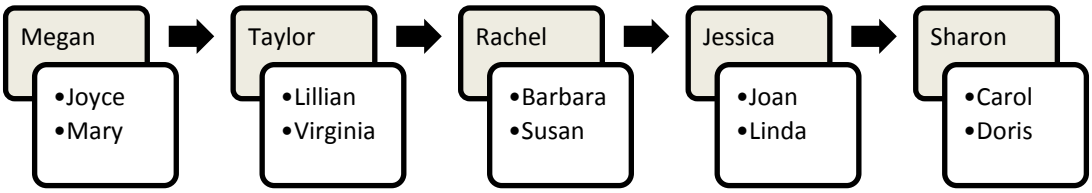
Means of communication used by resident	Freq.	Some	Never	Freq.	Some	Never
Yes and no indicated by head movement	3	6	1	7	1	2
Facial expressions	6	2	2	4	4	2
Speech	7	2	1	8	2	0
Body movements	4	3	3	4	2	4
Yes and no verbally	7	1	2	5	3	2
Attitudes/behaviors that carry meaning	4	4	2	3	4	3
Pointing	3	3	4	3	6	1
Gestures	2	4	4	2	6	2
A code that needs to be interpreted	0	1	9	0	2	8
Writing/drawing	0	2	8	1	3	6
Yes and no indicated by pointing	1	1	8	1	3	6
Communication Board	0	1	9	1	1	8
Means of communication used by CNA to *understand* resident						
Asking yes/no questions	7	2	1	7	2	1
Verifying (Repeating or Do you mean?)	6	3	1	5	4	1
Waiting	4	4	2	4	4	2
Giving a choice of responses	2	3	5	6	3	1
Guessing	3	7	0	5	3	2
Knowing the resident's routines	9	1	0	6	3	1
Being very attentive	7	2	1	4	5	1
Calming the resident	6	3	1	3	4	3
Asking help from a more familiar person	4	0	6	2	2	6
Means of communication used by CNA to *transmit* a message						
Speech	7	3	0	10	0	0
Simplifying your sentences (short)	9	2	0	6	4	0
Gesturing	3	2	5	3	4	3
Checking if the resident has understood	6	3	1	8	2	0
Repeating	9	0	1	6	4	0
Re-stating differently	4	5	1	4	6	0
Demonstrating	1	4	5	0	5	5
Asking the resident to read your lips	0	1	9	0	0	10
Asking help from a more familiar person	1	4	5	0	3	7
Using writing or drawing	0	2	8	0	2	8
Obtaining the resident's attention	4	3	3	2	6	2
Asking the resident to repeat	0	5	4	3	5	2
Speaking loudly	6	3	1	6	4	0
Speaking slowly	7	1	2	5	5	0

Note. CNA = Certified Nursing Assistant; MECQ-LTC = Montreal Evaluation of Communication Questionnaire for Use in Long-term Care; Freq. = frequently; Some = sometimes.

Support of CNAs in Facility A

After the CCPs were written, the CNAs in facility A received professional support from the investigator/speech-language pathologist five to six days a week for two weeks. Each meeting was semi-structured and included explanation, demonstration or modification of communication strategies on CCPs as well as reinforcement for CNAs' application of CCPs. The CNAs also provided examples of implementation of CCPs during daily care and resident's responses to application of CCPs. Figure 4.1 depicts the order support was provided for CNAs as well as the names of residents who received a CCP. Megan received support first and Sharon received support during the final two weeks of the research project.

Figure 4.1. *Order of support for CNAs*



CNA: Megan Residents: Joyce and Mary

Megan received support five times. These meetings occurred in the break room, resident's room, dining room, and outside smoking area. At the first meeting, Megan reported that she was very busy and did not apply the communication strategies on the CCP. Megan did not ask any questions about the CCPs. At the second support meeting, Megan presented application examples, "With Mary, it helps to speak slowly, if you hear just a little bit of what she says it helps. Will you take me? And I say where do you want me to take you?" Following this feedback, the communication strategy of 'restate what she says' was added to Mary's CCP. During the third meeting, the investigator/speech-language pathologist explained that writing choices would augment Mary's understanding because the visual information would facilitate memory. At the fourth meeting, wait time and asking yes/no questions were demonstrated to facilitate the residents' comprehension of a message. During the fifth meeting, Megan indicated that she always introduces herself when she enters the residents' rooms. This strategy was added to the CCPs.

CNA: Taylor Residents: Lillian and Virginia

Taylor received support five times. These meetings occurred in the break room, resident's room, and in the dining room during meals. During the first meeting, the investigator/speech-language pathologist demonstrated asking yes/no questions, obtaining full attention, writing down two-step directions, and allowing enough wait time for a response. During the second support meeting, Taylor presented examples of applying the communication strategies on the CCPs for both of her responsible residents, "With Virginia, I used short sentences and waited for her to respond. While working with

Lillian, I try not to talk to [roommate's name], but full attention doesn't work because Lillian starts talking to [roommate's name]." At the third meeting, while feeding Virginia, Taylor applied strategies of giving one-step directions and asking yes/no questions which was praised. During the fourth support meeting, Virginia changed rooms and was no longer on Taylor's list of resident assignments. She was encouraged to explain the CCP to the new CNA. When asked how she would explain the CCP, Taylor responded, "Go by CCP, new CNA knows about it because we talked about it one day." Taylor also indicated that she and the new CNA will complete their tasks together. Taylor provided an example of applying the CCP with Virginia when she said: "She is difficult to stand up, gives up sometimes." The investigator/speech-language pathologist suggested telling Virginia that her husband/daughter wants her to stand up. Taylor indicated that when she provides this technique, Virginia responds, "My daughter can do it on her own." During the final support meeting, Taylor expressed that Lillian recently experienced a family tragedy and was feeling depressed. Taylor applied the personal component on the CCP in hopes of shifting her mood: "tell me how to do cross-stitching and she seemed okay."

CNA: Rachel Residents: Barbara and Susan

Rachel received support six times. These meetings occurred in the dining room after the evening meal, lounge area during a break, and resident's room. Following further discussion of the residents during the first support meeting, one habit was added to Susan's CCP: 'listens to music, in top drawer' and a personal component was added to Barbara's CCP: 'Barbara liked to wear red cowboy boots'. During subsequent meetings, Rachel provided examples of the resident's response to application of CCPs. At the

second meeting, “I said Barbara’s son’s name to her and she looked up with bright eyes.” With Susan, “I talked real slow; didn’t rush her when taking off clothes and she didn’t fight. She looked at me.” During the third meeting, Rachel explained that Barbara was “very, very talkative, more that I have ever seen; saying little words. Mentioned her son’s name, eyes got big. She would tell me something, but I didn’t understand what she was saying.” For Susan, “I said daughter’s name and she would look at me. Said husband’s name and asked if she loved husband and she said yes. In pain today, did back arch thing. Still aggressive, tried everything.” At the last meeting, Rachel presented an example of applying the CCP: “Today, Mary responded to yes/no questions with head nod.” The investigator/speech-language pathologist explained the rationale for allowing sufficient time for the resident to respond to a direction. Following each meeting, the investigator/speech-language pathologist reinforced correct application of CCPs.

CNA: Jessica Residents: Joan and Linda

Jessica received support five times. These meetings occurred in the hallway while delivering meal trays, resident’s room during bed and body care, and dining room during meals. During the first support meeting, Jessica reported that she was not solely responsible for the care of Linda on that day. She alerted the responsible CNA of the CCP, but Jessica indicated that the other CNA did not implement the strategies; consequently, Linda became upset. For Joan, the investigator/speech-language pathologist recommended she write “get up” prior to transfers in order to reduce Joan’s fear and aggressive behaviors. During the second support meeting, Jessica made the following comments about applying the CCP for Joan: “Responds better with one-step directions. When she is aggressive, I hold her hand and say calm down.” The CCP was

modified to include a specific behavior of, 'hold her hand' during transfers. Jessica attempted to use pictures with Linda, but Linda refused to look at them. During the third meeting, the investigator/speech-language pathologist observed Jessica implementing the strategies on the CCP while getting Joan dressed. Jessica introduced each task, gave one-step directions and asked simple questions. At the fourth meeting, Jessica indicated that Joan "responds to yes/ no questions more. She is talking to me more than she used to." Jessica specified that she asks Linda yes/no questions as well. During the sixth meeting, Jessica indicated that she and Linda watch crochet and K.E.T. shows together. "Linda showed me the yarn and with a facial expression and gesture (moving arms) she said I can't do it." Jessica reported that the activities' director asked Joan yes/no questions and she responded well.

CNA: Sharon Residents: Carol and Doris

Sharon received support six times. These meetings occurred in the hallway while delivering meal trays, resident's room during bed and body care, and outside smoke area. She indicated that she does not provide care for Carol as frequently as she does Doris. During the first meeting, Sharon provided feedback regarding general strategies to enhance care, "If you ask Doris to do things, she will do it. If you push her, she gets mad." During the second meeting, the investigator/speech-language pathologist explained the importance of wait time when giving directions to Carol and Doris. At the third meeting, Sharon provided examples of applying the communication strategies on the CCPs for Doris, "Would you like to take a nice, hot shower? I wait a few seconds. She responds, yeah, I would." During the fourth meeting, the investigator/speech-language pathologist explained the rationale for reducing distractions during care due to

decreased attention to task and hearing loss. Sharon also presented another example of applying the CCPs with Carol, "She got upset today and she won't do anything. I applied one-step directions and placed hearing aids. She did not respond or help do anything." Sharon applied the communication strategy of giving choices with Doris. During the fifth meeting, Jessica (another CNA participant) joined the discussion about Doris. Jessica indicated that Doris was rude to her this morning. Sharon said that Doris is never ill toward her, "I changed her this morning and she did fine." During the final meeting, Sharon specified that Doris responded well to giving choices.

Analysis and Findings

During data collection and analysis, memos and field notes were generated to ensure the emerging theory supported participants' views. Table 4.4 includes examples of memos generated about specific codes. During open and axial coding, memos were made regarding the relationship among codes. During or after the interview, field notes were also recorded to express the researcher's thoughts about codes and categories. For example, "CCPs give residents a choice or more independence in communicating by offering CNAs knowledge of communication behaviors. Interesting that this CNA was very familiar with residents but benefited from CCPs." The coding process and results are described in more detail below.

Table 4.4. *Memos about Codes*

Code	Memo
Abilities	Residents are dependent on the care CNAs provide.
ADLs	CNAs take ownership of tasks (my shower) or this may reflect a relationship with the residents.
Change in residents over the years	May be related to therapy
CNA communication	Interesting that Michelle believes nurses get annoyed with questions.
Content of resident-staff communication	Residents initiate conversations.
Correct field for you	Also related to work experience
Get-up list	Neither CNAs nor residents have any input into the procedures, lack of person-centered care.
Limited time to talk socially	A lot of CNAs said sit and talk, interesting that they don't feel like they really 'talk' while providing care.
Location of communication	Interesting that no one said dining room.
Pampering	Time impacts the amount of pampering.
Who uses CCPs	Limited use by anyone else may be because CNAs are so busy that they don't pay attention to what others are doing.

Note: ADLs = Activities of Daily Living; CNA = Certified Nursing Assistant; CCPs = Communication Care Plans.

As discussed in chapter 3: Methods, the investigator analyzed data using the grounded theory approach described by Corbin and Strauss (2008). There are three systematic steps to this approach, open, axial, and selective coding.

Open coding.

Open coding involved identification of *in vivo* codes from interview transcriptions. *In vivo* codes are the actual words of the participants. Initially, the

investigator/speech-language pathologist scanned each line of the interview transcription and highlighted meaningful words, phrases or sentences. Similar words, phrases, or sentences were labeled and grouped together serving as a code, the basic level of data analysis. For example, one participant, Megan was asked how often she used the strategies on the CCP. From her response, the words in bold were coded as 'application of CCPs'. "**Every time**, yeah I do. For Mary, I **speak loudly and clearly**. With Joyce, I do like the **pointing**."

Another CNA participant, Taylor, responded to a question about the frequent visits from the investigator/speech-language pathologist. The words in bold received the code 'benefits of support'. "It **helped a lot** because it **reminded me** that hey CCP is **here to make my life a little easier in this hectic job."**

The codes 'application of CCPs' and 'benefits of support' were used for all ten interviews. A total of 231 codes emerged, which were further organized into 22 categories. Table 4.5 comprises the names of the categories, corresponding codes, participants who mentioned, and significant quotes. For example, one of the 22 categories was 'effectiveness of communication plans' which surfaced from eight codes expressed by nine CNA participants. A supporting quote for this category was expressed by Sharon,

"It makes your life easier if you know what she likes and what she doesn't like. She doesn't have to get upset."

Table 4.5. *How the Categories Emerged*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Abilities	Abilities Carry on a conversation Change in residents over years Cognitive abilities Communication behaviors Comprehension Confused Dependence Diagnosis Don't ask for much Feeders Hearing abilities Know what they want Means of communication Repeating self Scattered Talk to me nonstop Tries to tell you	Jessica, Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"We will talk and carry on a conversation" (Justin) "Her right side doesn't really work" (Megan) "She's talking but it doesn't amount to anything" (Pamela) "Cannot hear well. She's not ignoring you or being stubborn" (Sandra) "It's easier with Lillian because she is more alert and aware" (Taylor)
Administering Care	Characteristics of care as perceived by residents Comfortable Immediately Poor care Privacy Viewing job negatively	Justin, Megan, Pamela, Sandra, Sharon	"I can go into (room) and provide her privacy and care while I am cleaning her up" (Justin) "Makes her feel more comfortable, feel at ease" (Sandra) "As long as you provide privacy and warmth" (Sharon)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Application of Communication Care Plans	Being louder Giving her attention Going to stand up Pointing Pulling the curtain Putting on shirt Short and to the point Speak loudly and clearly Talking about her family Use short speech	Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor,	"Look at her when you speak. If I am in the room and I try to communicate with her, and she doesn't understand I go around in front of her and sometimes I even kind of bend over into her and I ask her, but you have to get close to her ear sometimes." (Sandra) "I would pull the curtain when I would go in there to do something with her so I could give her the attention she wanted." (Taylor)
CNA School	Abuse CNA certification CNA school Communication education Communication training Dementia education Hands-on training Length of CNA school Life's Experiences Location of CNA school New hire requirements On-Site training Suggestions for C.N.A. Training Training Supervision	Jessica, Justin, Megan, Michelle, Nicole, Rachel, Sandra, Sharon, Taylor	"They don't talk about dementia. They don't give you hands-on experience." (Justin) "My schooling it was from the book and obviously it is different here from the book." (Megan) "It was through high school so I have college credit already, and I just did everything the way a normal CNA class goes." (Rachel) "First go through CNA class then take a state test. Then I actually started here, make sure I was with each resident 2-3 days a week before I could actually be on my own that took a couple months." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Characteristics of CNAs	Characteristics of CNAs Correct field for you Experience level First job Future career plans Job choice Public's perceptions of CNAs Work experience	Jessica, Justin, Michelle, Nicole, Pamela, Sandra, Sharon,	"I talk fast and forget that I do that." (Michelle) "I have never done anything like this. I always said I was not going to be a CNA because CNAs wipe poop. Well, I decided I wanted to go into nursing and it was a requirement for the nursing program." (Taylor)
CNA – Nurse Communication	Concerned Days off Guidance Hang in there Know about them New resident CNA-Nurse communication Nurses response to resident complaints Nurses won't help us People need to know	Jessica, Michelle, Pamela, Rachel, Sandra, Sharon, Taylor	"If they (resident) do have something going on, I'll bring it up again regardless if they say well I've already told them (nurses), I will tell them (nurses) again still to see if they follow-through with it." (Michelle) "They (Director of Nursing) are all the time saying, just hang in there it will get better. It's (staffing) not gotten better, it has gotten worse." (Sandra)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Depends on facility	Characteristics of other health care facilities Depends on facility Facility characteristics Facility rules Marketing Training at other jobs Wages	Jessica, Justin, Pamela, Sandra, Sharon	"Hospitals and home health are more laid back." (Justin) "Pay more here." (Pamela) "I don't think they will let you have a personal cat." (Sharon)
Depends on how agitated	Aggression Attempts to decrease aggression Depends on how agitated Duration of aggression Frequency of aggression Frustrated Time of aggression	Megan, Pamela, Sandra, Sharon, Taylor	"It just depends on her mood. Like woke up on the wrong side of bed. She's in good mood and bad moods. Like this morning she was in a bad mood but she is fine now." (Megan) "You go in to change her, she is you know fighting, trying to kick. Try to get her up, she's beating you to death. Try to give her a shower and oh Lord, sometimes it takes 3 people to give her a shower. One to bathe, one to hold her hands, one to hold her feet." (Pamela) "Depends on how agitated he is to how well you can understand what he is saying." (Sandra) "A lot of the aides get frustrated because they can't understand them." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Effectiveness of Communication Care Plans T	Benefits of Communication Care Plans Easier to communicate Effectiveness of Communication Care Plans Makes my job a lot easier Resident benefit from communication care plans Who benefits from communication care plans Who does not need communication care plans Whole lot smoother	Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"They would be easy especially for new hires or the employees that are here and not familiar." (Justin) "I think it's a good idea. It does work and like for people that don't know it tells them a little bit about their life." (Megan) "It helped me know what they need better." (Rachel) "Robert he doesn't seem as frustrated when I try to understand him." (Sandra)
Effort to communicate	Bargaining Difficulty with residents Effort to communicate Family involvement Language barrier Refusal of care Residents are time-consuming Staff's communication abilities	Jessica, Michelle, Nicole, Pamela, Sandra, Sharon, Taylor	"She won't take a shower. You have to wait until the daughter is here before she does that." (Nicole) "The residents are more time-consuming. They have declined. It takes a little longer to change him. Ruth used to be able to help do a whole lot but not now." (Pamela)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Getting it done	ADLs-dependent Assignments Continuity of care Daily changes Differences between shifts Get-up list Getting it done Never know what resident is going to be like Perceptions of job Procedures Resident differences Role of nurses Routine tasks Shift preferences Start a shift Time management Transferring procedures Work shift	Jessica, Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"I have the same people every day." (Jessica) "I walk in, go to the nurses' station and find out which hall I have." (Michelle) "On 3:00 PM to 11:00 PM you might have to answer one or two lights depending on what hall you are on. They are usually all laid down and you just have to get them back up for supper. You don't start that until like 4:15. So from 3:00 to 4:15 you could have your showers done if they utilize their time." (Pamela) "You don't know what you are going to get; don't know what [resident's] attitude is going to be that day." (Rachel) "Nurses don't do that much. They go in and give them their medicine if they need something on their leg, which is very seldom. We're the ones that communicate with them the most. We are around them the most. We do the most for them and get them what they need the most." (Sandra)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
I am satisfied	I am satisfied Initial perceptions of communication care plans Negative aspects of communication care plans Perceptions of communication care plans Questionnaires Suggestions for communication care plans	Jessica, Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"How in the world are we going to do this? Things are kind of crazy." (Michelle) "It is self-explanatory. All you got to do is just glance at it for a minute. I like the way they are set up. They are easy to figure out and understand. I like the way it is short. It's short and to the point. I like the way it is grouped out." (Nicole) It (questionnaires) made me think about how I get my point across to them (residents), and the way I talk to them, what I do with them. (Rachel) "The negative is sometimes like Virginia doesn't always go by that She just goes off onto something random. Take her a minute to get back. The positive is that it makes my job a lot easier. Other aides or nurses would follow that it would be easier for them." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
It takes time	Change Familiarity It takes time New CNA Unfamiliarity	Jessica, Justin, Megan, Michelle, Nicole, Rachel, Sandra, Sharon, Taylor,	"They (new CNAs) will learn; it (how to communicate) takes time." (Jessica) "Residents get set in their ways. They get used to people and they don't want to accept someone new. They want everything to stay the same everyday; they don't like change. Somebody might come in and not do it the same way as somebody else. That mixes them up and they don't like that." (Sandra)
Learn about their life	Application of personal component Background Learn about their life Lit up New information on communication care plan Person they were Previous appearance	Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"It describes who they were before they were here. The person they were. Like Mary she used to be a nurse. So I ask you miss being a nurse. She is like sometimes but not really." (Megan) "I knew a lot about her already. Well, about her kids and stuff and what she did for a living. I didn't know she traveled until I seen this." (Nicole) "You can make conversations so you don't feel awkward and they don't feel awkward." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Makes their day a lot better	Amount of resident-staff communication Communication is number one key Communication partners Content of resident-staff communication Duration of resident-staff communication Everyone needs communication Initiation Intent to leave Getting your point across Location of communication Makes their day a lot better Reasons for staff resignation Resident communication influences staff Resident-resident communication Residents understand CNAs are busy Talk to all of them That's your job Time of communication	Jessica, Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"I try to talk to them a little bit because I know they are lonely. So. I spend a lot of time talking to them." (Megan) "Just going in and doing what you have to do and just leaving, not actually getting to talk to them or their family member. You feel like if you are talking to them you are being rushed, you are like okay I have a light going off." (Michelle) "She (resident) will say they (CNAs) were rough with me, she jerked me. That is one of the reasons that *staff* left; she was a good aid but because Ruth told her that she was rough with her." (Pamela) "Communication is probably a key thing. You have to know what they want and what their needs are." (Rachel) "I ask them if they want to lay down or ask if they want to go to the bathroom. She has talked to me about how to make peanut butter fudge easy, with two ingredients." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Resident behavior	At home CNA response to resident complaint Complaining Don't want to be here Emotions Isolation Loneliness Mood Motivation Patience Resident behavior Stubborn	Jessica, Justin, Michelle, Pamela, Sandra, Sharon, Taylor	"We have a complainer down on one hall. I don't care what you do she is never satisfied." (Pamela) "Anna will be screaming she has to go to the bathroom. You will go in with the lift and she knows that the lift is used to transport her to the bathroom. So she knows that's what you are doing but she will holler anyway, the whole time." (Sandra) "Resident will talk to me nonstop if I could just sit there and talk to her. A lot of them don't want to be here and they are like we are just here just because it makes their day a lot better when you just sit and talk for a few seconds." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Rounding with leaving CNAs	CNA Communication Face-to-face resident updates Get somebody else Nurse-nurse daily report Suggestions to improve communication between staff	Jessica, Justin, Michelle, Nicole, Rachel, Sandra, Sharon	"I was like if you just talk to her (resident) because she (another CNA) was waiting on somebody else to help her." (Jessica) "Whoever had that hall previous, we will do a walk-through of everybody; what's going on, how their day has been, anything major going on." (Michelle) "We are never together. Seriously, the only time we are ever together is if you run in and help pull somebody up or if it's two assist to get up, we help get um up. Other than that, I wouldn't have a clue if they are using anything. And they don't really talk to me about it. It has been so bad here; you don't talk to each other really. (Sandra)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Stressful work environment	Daily routine Easy tasks Emotionally taxing Job demands Job stability Rushed Staffing Stressful work environment Struggles Time demands Visitor's perceptions Workload	Justin, Michelle, Nicole, Pamela, Sandra, Taylor	"In a nursing home, it is jump, jump, jump." (Justin) "There's a lot of days there are just three of us so you have twice as many almost to take care of as you normally do." (Sandra) "The sad part is we can't stand in there continually because she can't remember. So everybody that comes to visit anybody or anybody new in here thinks that we are not taking her to the bathroom and that's not true." (Sandra) "It changes day to day. On a normal day, I have the same seven residents." (Taylor)
Supporting CNAs	Benefits of support First perceptions of speech therapy Interdisciplinary support Perceptions of speech therapist Staff-speech therapist communication Support from therapists	Jessica, Justin, Michelle, Pamela, Rachel, Sandra, Sharon, Taylor	"It (support) made me think about the communication plan more." (Rachel) "The dry erase board which I didn't know where it was. I knew that you told me that you were putting one in there and I seen it right before I left and then when I came back I didn't see it anymore." (Sandra) "We need support from nurses and therapists." (Taylor)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Treats me like family	Like family Limited time to talk socially Love of job More time with residents Relationships with residents	Jessica, Justin, Megan, Michelle, Pamela, Sandra, Taylor	"She treats me like family. She tells me about her family all the time." (Justin) "Getting close to them and eventually them passing. That would probably be the hardest." (Megan) "They are like family. You treat them the way you would treat your own family." (Pamela) "She (friend) talked me into applying here and I was just like alright why not make some money and I fell in love with it. I love it here." (Rachel) "You are pretty much in and out as quick as you can, moving on to the next one. I don't like that either. I like to spend a little time with them." (Sandra)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
Treat them like a person	Access to personal items Ask permission Feel better Meeting residents' needs Pampering Person-centered care Personal items Pictures in their room Preferences Treat them like a person	Jessica, Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"I would do their makeup, put some curl in their hair. It makes them feel good. They want to look good. They have always looked good. But I don't have the extra 10 minutes to put the makeup on. She hasn't had hair and makeup in years, but I used to do it every day. It just makes them feel better. I mean we do it." (Pamela) "When you are in the room it's more of like you are with that person like you are not thinking about your other residents, it is just their time to get up, what they need." (Rachel) "Robert wants me to give him a shower during the day." (Sandra) "I try to communicate with them the way I would want to be communicated with. I try to treat them like a person; like I would want to be treated. If they want something I do my best to get it." (Sharon)

Table 4.5. *How the Categories Emerged (continued)*

Major Category	Corresponding Codes	Participants who Mentioned	Supporting Quotations
You have to know	Adjusting style of communication Assistive communication devices Attention to residents Catch her off guard Clarifying resident's statements Communication confidence Communication strategies Depends on resident Elder speak Independence Individuality Introduce yourself Listen to resident Purpose of visit Response to limited communication abilities Shocked me Specific behaviors Touch Why she's here You have to know	Justin, Megan, Michelle, Nicole, Pamela, Rachel, Sandra, Sharon, Taylor	"Sometimes, they will be like I just want a hug so I will give them a hug." (Megan) "They all have their different ways." (Rachel) "They have to know what you are doing or what you need to do and you need to know what they need. If they are needing anything." (Sandra) "If I ask her if she would like a cup of coffee, it changes her whole attitude." (Sandra) "You need to listen to the resident." (Sharon) "If you know a little about something, you are more confident in presenting it than you are if you just go on blind at it." (Sharon)

Axial coding.

The next step of data analysis was axial coding in which the categories were thoroughly defined and connections among categories were recognized. Axial coding defined the conditional relationships of the categories that emerged during open coding, by answering the questions what, when, where, why, how, and with what consequence (Corbin & Strauss, 2008; Scott, 2004) using codes established during the open coding process. According to Scott (2004), a specific carrier word can be added to each of these questions to help form the answer.

What is [the category]?

When does [the category] occur? ([category] occurred "during . . .")

Where does [the category] occur? ([category] occurred "in . . .")

Why does [the category] occur? ([category] occurred "because . . .")

How does [the category] occur? ([category] "by . . .")

With what consequence does [the category] occur or is [the category] understood?

(Scott, 2004, p. 204).

These were arranged into a Conditional Relationship Table. Table 4.6 includes one section of the Conditional Relationship Table for the category, effectiveness of CCPs. The remainder of the Conditional Relationship Table can be found in Appendix AA. The process of creating the Conditional Relationship Table for the category 'effectiveness of communication care plans (CCPs)' will be described. The first question of 'what' was answered by defining the category, 'changes in care or residents' behaviors

with application of CCPs'. The second question was 'when were the CCPs effective?' CCPs were effective during ADLs, daily changes, face to face resident updates, routine tasks, communication, work shift, and when residents refused care. The third question was 'where were the CCPs effective?' CCPs were effective in a stressful work environment. The fourth question was 'why were the CCPs effective?' The CCPs were effective because of residents' abilities and emotionally taxing tasks. In addition, CNAs paid attention to residents, learned about resident's background and communication behaviors, addressed needs of residents who were complaining, and because communication is key. The next question was 'how were the CCPs effective?' CCPs were effective by CNAs adjusting communication style, applying CCPs, asking permission, clarifying resident's statements, providing person-centered care, treating a resident like a person, understanding resident's preferences, receiving support and guidance, and reviewing CCPs. The CNAs' experience level, communication training, and resident's response to CCPs also contributed to the effectiveness of CCPs. The fifth question was 'what is the consequence of effective CCPs?' CNAs reported that CCPs changed the amount and content of resident-staff communication as well as CNA communication, made residents comfortable, enhanced continuity of care, made it easier to communicate with more communication confidence, and daily tasks went a whole lot smoother. This analytic process was completed for all 22 categories. The final question (what is the consequence) generated a list of 84 consequences that connected all the data and became the focus of the remaining coding process.

Table 4.6. *Conditional Relationship Table for one Category, Effectiveness of Communication Care Plans*

Category	What (definition)	When (during)	Where (in)	Why (because)	How (by)	Consequence
Effectiveness of Communication Care Plans (CCPs)	Changes in care or residents' behaviors with application of CCPs	• ADLs • Catch her off guard • Change in resident over years • Daily changes • Face to face resident updates • Routine tasks • Refusal of care • Time of communication • Work shift	Stressful work environment	• Abilities • Attention to residents • Background • Characteristic of CNAs • Cognitive abilities • Communication behaviors • Communication is number one key • Complaining • Comprehension • Confused • Content on CCPs • Dependence • Depends on facility • Depends on how agitated • Depends on resident • Diagnosis • Difficulty with residents	• Adjusting style of communication • Application of CCPs • Application of personal component • Assistive communication devices • Ask permission • Attempts to decrease aggression • Bargaining • Clarifying resident's statements • CNA response to resident complaint • Benefits of support • Communication training • Communication strategies • Creating CCPs • Dementia education • Experience level • Family involvement • Guidance • Habit of looking at it • Interdisciplinary support	• Amount of resident-staff communication • Carry on a conversation • CNA communication • Comfortable • Communication confidence • Communication partners • Content of resident-staff communication • Continuity of care • Co-workers perceptions of CCPs • Duration of aggression • Easier to communicate • Effort to communicate • Familiarity • Feel better • Getting your point across

Table 4.6. *Conditional Relationship Table for one Category, Effectiveness of Communication Care Plans* (continued)

Category	What (definition)	When (during)	Where (in)	Why (because)	How (by)	Consequence
				• Don't ask for much • Emotionally taxing • Emotions • Everyone needs communication • Facility characteristics • Facility rules • Feeders • Hearing abilities • Know what they want • Repeating self • Resident behavior • Resident differences • Time demands • Tries to tell you • Unfamiliarity • Viewing job negatively • Who benefits from CCPs • Who uses CCPs • You have to know	• It takes time • Location of CCPs • Meeting resident's needs • Motivation • Person centered care • Pictures in their room • Preferences • Procedures • Resident's response to CCPs • Response to limited communication abilities • Reviewing CCPs • Specific behaviors • Strategies on CCPs • Support • Talk to all of them • Time management • Touch • Treat them like a person • Who does not need CCPs	• Know about them • Lit up • Makes my job a lot easier • More time with residents • Residents benefit from CCPs • Suggestions for CCPs • Whole lot smoother

The 84 consequences were further defined using a reflective coding matrix (Table 4.7) in order to form a core category which represented all of the categories and described the data as a whole (Scott & Howell, 2008). The reflective coding matrix included five areas as described by Corbin and Strauss (2008): processes, properties, dimensions, contexts, and modes for understanding the consequences. Again, the matrix was constructed using *in vivo* participant codes. Construction began by examining the consequences column from the conditional relationship table. Those that were mentioned most frequently (12 to 17 times) became a process. The four processes were 'viewing the job negatively', 'familiarity with residents', 'whole lot smoother', and 'amount of resident-staff communication'. These processes represented the main actions of the participants (Scott & Howell, 2008). The remaining 80 consequences were used throughout the table. Properties serve as the process' main character (Corbin & Strauss, 2008). For the process 'viewing job negatively,' the property is "CNA-nurse communication." The main reason these CNA participants viewed their jobs negatively was based on the reduced support and communication from nurses. Dimensions are the characteristics of the process. For the process 'familiarity with residents,' some of the dimensions include "application of personal component, attempts to decrease aggression, comfortable, it takes time, know about them, and learn about their life." Context is the environment in which the process occurred. For the process 'whole lot smoother,' the context is "effectiveness of communication care plans." CNAs expressed that their jobs go a whole lot smoother when applying communication care plans. Modes for understanding consequences are the result of the consequences. For the process 'amount of resident-staff communication,' the result is "relationships with residents."

After reviewing and re-arranging the data multiple times, a core category emerged. Each component of the core category was mentioned frequently within the codes, conditional relationship table (Table 4.6) as well as the reflective coding matrix (Table 4.7). The core category is meeting residents' needs through professional support and communication. As a whole CNAs strived to meet the needs of residents and indicated that updated information about a residents' communication abilities and medical status from both therapists and nurses was key to achieving this goal. A component of support from therapists was described as receiving information about resident's communication and previous life history available on the CCPs. Also, frequent support from the therapist enhanced habitual application of communication strategies on CCPs during daily care. Both support and communication facilitated meeting resident's needs by creating the foundation for a relationship between CNAs and residents.

Table 4.7. *Reflective Coding Matrix*

Core Category: Meeting residents' needs through support and communication

Process	Viewing the job negatively	Familiarity with residents	Whole lot smoother	Amount of resident-staff communication
Properties	CNA-Nurse Communication	CNAs treat residents like a person	Benefits of CCPs and support	Communication partners
Dimensions	CNA communication	It takes time	Application of CCPs	Communication confidence
	Assignments	Know about them	Content of CCPs	Adjusting style of communication
	Emotionally taxing	Learn about their life	Strategies on CCPs	Communication strategies
	Resident behavior	Attempts to decrease aggression	Resident response to CCPs	Assistive communication devices
	Residents are time-consuming	Application of personal component of CCPs	Resident benefits of CCPs	Talk to all of them
	Refusal of care	Comfortable	Who benefits from CCPs	Talk to me nonstop
	Staffing	Characteristics of care as perceived by residents	Staff-ST communication	Content of resident-staff communication
	Workload	Duration of aggression	Easier to communicate	Getting your point across
	Rushed	Frequency of aggression		Shocked me
	Limited time to talk socially			Lit up
				Love of job
Contexts	Stressful work environment	Person centered care	Effectiveness of CCPs	Carry on a conversation
Modes of understanding consequences	Continuity of care	More time with residents	Makes my job a lot easier	Relationships with residents

Note: CNA = Certified Nursing Assistant; CCP = Communication Care Plan; ST = speech therapist

Selective coding.

The selective coding process related the categories, consequences, and processes to form a sequential story. The data was arranged and rearranged multiple times to arrive at a story that fit the data. The story line described an emerging theory of the progressive process these CNAs underwent to effectively communicate with residents in nursing homes using CCPs. Evolution of this process occurred as CNA participants became familiar with residents. An underlying component facilitating this familiarity was professional support from the investigator/speech-language pathologist during CCP implementation. This story is described below using the reflective coding matrix, which is read from the left top corner to the right bottom corner. The story is supported by verbatim quotations.

Viewing job negatively.

Initially, CNAs felt ill-equipped to effectively communicate with residents and *viewed their jobs negatively* mainly due to reduced communication with nurses. CNAs' negative perceptions were described by their assignments, reduced communication with fellow CNAs, the physically and emotionally taxing nature of their jobs brought about by resident's behavior, refusal of care, limited staffing, workload, being rushed and reduced time to talk socially with residents. This all occurred within the context of a stressful work environment which negatively impacted continuity of care. Several participants described the stressful work environment.

"If you have been gone, two days off and come back, it is important to know. When I come back I am clueless. There was a new resident that came in. I didn't

know. Nobody told me anything this morning. If I do get a new resident you just kind of find out on your own. I didn't know until breakfast that we even had a new resident." (Taylor)

"They don't tell you nothing here. The nurses don't communicate with the workers half the time, and I think that's important. I think we should get a report everyday on everybody." (Jessica)

Sandra and Sharon shared their views about communication with other CNAs between shifts.

"Half the time if you can find them. Most of the time I communicate with [another CNA]. I will walk through and tell him about everybody. He has the same hallway that I have every day. Sometimes you gotta take over your hall and you can't find them. Sometimes they are working short, they are working with one to do the whole side over here. It is just ridiculous. The director of nursing is all the time saying, just hang in there it will get better. It's not gotten better, it has gotten worse. I go home, get out of my car, and I have to walk from here to that red car to get to my house and I can barely walk. I'm limping, I'm hurting. It is just ridiculous." (Sandra)

"You know for the other shift to tell you because you don't know squat. At least you would know what they're attitude was that day, what kind of mood they were in, what happened that day." (Sharon)

Participants in facility B attributed the stress and reduced communication between staff to limited staffing.

"We are so rushed with all the chaos and then people wanting us here, wanting us there." (Michelle)

"Working 16 hour shifts. We only had three aides. So I had 3-hall. I had to help with Billy which is like an hour and David is an hour. I just didn't have the time to do it in 8 hours. Billy's shower day is like an hour and a half. That is just getting the shower. Then you have to go back in the afternoon and spend 45 minutes getting him up and 30-45 minutes getting him back in the bed. David is an hour to give a shower. When you got both of them on the same day, there's three hours of eight hours. So you only got five hours to spend with the rest of them. Then you have to go back and repeat everything for two of those residents. So, somebody's not getting the time they deserve. I think that is why we get so aggravated." (Pamela)

Another component of the negative working environment centered on reduced knowledge about how to communicate with residents in nursing homes, specifically those with dementia. Several participants described the amount of communication training they received.

"Back then, none. I don't know if it's any different. I don't remember a part being on communication. I don't know if they are any better now or not." (Sharon)

"I have pretty much learned that on my own." (Nicole)

"A lot of the aides get frustrated because they can't understand them and just let it be." (Taylor)

One of the ten participants (Rachel) who recently completed training supplied a different view of the communication training she received.

> "Tons, tons of it. Communication is probably a key thing." (Rachel)

Familiarity with residents.

Over time, CNAs familiarized themselves with the residents and learned how to respond to their communication behaviors by treating residents like people instead of tasks. Familiarity was achieved by knowing about the resident's medical condition, learning about their life, attempting to reduce aggression, and applying the personal component of the CCP. Residents became comfortable with care which impacted the amount and duration of aggression. Familiarity occurred during person-centered caregiving which resulted in more time with residents.

> "One of the workers (nurses) said well some of them (CNAs) don't know how to communicate with them. Joan will stand right up if you just say it. That is why Joan gets scared when two people come at her. She will kind of just freeze and not want to stand up. It (communication) is important. You just got to know what to do with each resident." (Jessica)
>
> "Having trouble communicating with you the first time. Communication is number one key but sometimes if a patient can't communicate, you have to find a common ground" (Justin)
>
> "I didn't know that she couldn't really hear that well. So it was easier for me to communicate when I was being louder. The ones that have more experience, that

have been here longer compared to new ones. They will learn; it takes time." (Megan)

"Worked with them since I have been here so I understand if they are doing something what they want." (Taylor)

"I asked her a few of the questions (about her life), and she looked at me like I had two heads. She actually when I walked in one day, she said Hello there. I was like Hello there. She shocked me because usually she doesn't do that. I will say hey Mildred how are you. She will give you that look and talk really low. It kind of took me by surprise." (Michelle)

After I had found out (about her life from CCPs) and was asking her about it, she started communicating a whole lot better about that." (Nicole)

Several participants commented on the amount of physical and verbal aggression they experience while providing bed and body care as well as the impact of communication on aggressive behaviors.

"Well, with Patricia pretty much have to fight with her no matter what you do. We tried to tell her, she fights against you. Everything you do. It is constantly. You go in to change her, she is you know fighting, trying to kick. Try to get her up, she's beating you to death. Try to give her a shower and oh Lord, sometimes it takes three people to give her a shower. One to bathe, one to hold her hands, one to hold her feet." (Pamela)

"She (Anna) stuck her nails in, she can get mean." (Sandra)

"Some of them (residents) just knocked the crap out of you just because. First night I was here there was a black man. I was helping change him, I worked third shift. And he was a big man too. And he punched me right here (stomach) full force. His mother was white and they said he didn't like white women." (Sharon)

"CCPs makes it easier if you can communicate with them so they don't get agitated." (Sharon)

"When you use short speech with her she doesn't get as upset." (Taylor)

"Robert doesn't seem as frustrated when I try to understand him." (Sandra)

Whole lot smoother.

As CNAs became familiar with residents, they reported that tasks became a *whole lot smoother* through benefits of CCPs and support. The reduced effort to complete ADLs was described by application, strategies, and content of CCPs, resident's response to CCPs, as well as the individuals who benefited from CCPs (residents, familiar and unfamiliar CNAs, visitors), communication between staff and the speech therapist, and ease of communication which revealed the effectiveness of CCPs resulting in an easier job for CNAs.

CNAs from each facility expressed different overall experiences with CCPs which was attributed to support. CNAs from facility A, who received support commented on application of specific communication strategies on the CCPs without it being visible, but participants in facility B made general comments and needed to review the CCP during the interview. In general, participants in facility B reported less application of the communication strategies on the CCPs, but some application of the section 'Resident's

Life' of CCPs. Table 4.8 includes quotes from supported (Facility A) and non-supported (Facility B) CNAs describing examples of application of CCPs.

Table 4.8. *Examples of Application of CCPs at Each Facility*

Facility A	*Facility B*
• Hold her hand • Speak loudly and clearly • Pointing • Ask yes/no questions • Simple, short speech • You like being a nurse? • She lit up when I started talking about the school. • I talk about her sons. • Heard you liked to cross-stitch.	• Ask yes/no questions • I tell her to hold herself over while I am changing her. • I don't know where it (dry erase board) is. • You know I heard you had a son. • Ask her a few questions (about life). • Yes, she loves to go to the beach.

The following quotes will be divided into two sections: comments about applying CCPs in each facility and comments about support.

Application of CCPs.

CNA participants from facility A made the following comments about CCPs.

"When she gets upset, and she starts hissing. That lets me know that something's bothering her or she's not comfortable so I try in my way to make her comfortable; I hold her hand. I might give her a hug. I try to make her happy again. I try to make her comfortable in that situation." (Jessica)

"Used CCPs for Joyce a lot because she is just kind of hard to understand so it's easier if you know what the care plan says and to follow it. It is easier to

communicate with her. I can talk to Joyce because I can understand what she is saying now. I just listen to the letters around [the words]." (Megan)

"For Mary, I speak loudly and clearly. With Joyce, I do the pointing." (Megan)

"I ask her yes/no questions. It is always a head nod or it's always no. Sometimes she is talkative to me but she has to be in the mood. Everytime she sees me, her eyes just get a little brighter. She goes hahaha (laughs)." (Rachel)

"If you know a little but about something, you are more confident in presenting it than you are if you go in blind. It (CCP) makes it easier if you can communicate with them so they don't get agitated which makes things a whole lot smoother if you know what they want and how they want it." (Sharon)

"During meals it really helps, like getting her out of bed it was helpful. It makes our job easier. You don't have to fight with the residents or have confrontations. I would do the simple, short speech. Tell her I am putting your shirt on, hey I am putting your pants on, we are going to stand up." (Taylor)

"When you use short speech with her she doesn't get as upset about something she does like when you are taking her to the shower, just tell her we are going to the shower and she will be like okay. Short sweet and to the point it goes a lot easier." (Taylor)

CNA participants from facility B made the following comments about applying communication strategies on CCPs. Justin indicated that he was not able to apply the

communication strategies on the CCPs because he did not provide care for his chosen resident participants during the study.

"I ask her yes/no questions." (Michelle)

"It is just time-consuming. It's like if you've got the time to read it, to look at it, to be able to do the things. You really ain't got a lot of time to do a lot of stuff you want to like this right here. But you try your best." (Nicole)

"I would go in and I'd tell Ruth you have to hold yourself over while I am changing you and if you roll her toward the wall, she will grab the rail and hold herself while you change her. Then, when you are done, she'll say I want turned off on my side. So I will tell her, hold yourself over and I will put something underneath you. Ruth is really easy. It didn't matter on Patricia. You put the gait belt around her. She is screaming, yelling. You are killing me." (Pamela)

"At the time I was doing it, I was working 16 hour shifts. We only had three aides." (Pamela)

"I didn't know where it (dry erase board) went. I didn't know about that (picture book for Robert)." (Sandra)

Support.

The following quotes are from CNA participants in facility A regarding views of professional support from the investigator/speech-language pathologist. Rachel specified her initial perceptions of the CCPs and how they evolved throughout the process of support during application of CCPs. She learned through a support visit, that Susan could count which was related to her previous occupation as a cigar roller.

"I didn't think this was going to work. I didn't think that it was going to be anything like it is. I didn't think that I would actually use it. Because now, I go into their room and I think about it. But it is only Barbara and Susan that I think about it which is so weird just because I think that those are the two I have been talking about the most. But I never thought that I would actually use it. And I am with my partner, most of the time with Barbara or Susan. And the other day I started counting with Susan, but she wouldn't count back with me. It is just weird that I use this stuff. I never thought I would. I didn't think it would be anything to think about when I am in a rush but I still do." (Rachel)

"Reminded me to look for different things that maybe I am not used to." (Jessica)

"It (support) made you aware that communication is very important. Important to the residents and it's important to you because you know what's going on, you know about um how to deal with things." (Sharon)

"It (support) helped a lot because it reminded me that is there to make my life a little easier in this hectic job. Reminded me that everyone communicates differently. With the two certain residents that I had to implement, I could understand them and know what they want. Honestly, I would have forgotten about it." (Taylor)

Several CNAs believed that a variety of individuals would benefit from CCPs including visitors, family members, as well as familiar and unfamiliar CNAs.

"Employees that are here but not familiar (with residents)." (Justin)

"We all kind of do, and family members. You can know about everybody not just certain ones." (Michelle)

"Residents and the staff; every resident should get one because they have their own little things." (Rachel)

"Someone that doesn't know the residents. This is best for people coming in that don't have a clue about anybody that they are taking care of. Residents benefit the most, equal, benefits everybody but the CNA and resident more." (Sharon)

Amount of resident-staff communication.

Finally, as CNAs became more familiar with residents and their communication behaviors through application of CCPs, the *amount of resident-staff communication* changed because CNAs were more confident and efficient communication partners. This was reflected by adjusting communication styles, use of assistive communication devices and strategies, talking to all residents about meaningful information, getting your point across, and being shocked by resident's response to increased communication (lit up) which developed into a positive perception of their job (love of job). This occurred by being able to carry on a conversation and established the foundation for genuine relationships with residents

"I talk to all of them but Ruth she'll carry on a conversation with me. Then, at the same time you are talking to Ruth, her roommate is involved. So you are talking to both of them." (Pamela)

> "I think aides or nurses need to just take two seconds to talk to them about anything; I think it makes their day a little bit better. A lot of them don't want to be here and they are like we are just here. It makes their day a lot better when you just sit and talk for a few seconds. When she is feeling down, if you just sit and talk to her a few minutes she feels better. She doesn't want you to leave." (Taylor)

Another finding indicated that CCPs fostered more meaningful communication between residents with different levels of cognitive-communication abilities and staff of varying years of experience. For instance, Rachel who has three months experience as a CNA indicated that Barbara who has severe cognitive-communication impairments "lit up" and "smiled" with reference to the personal information on the CCP. Also, Sharon who has twenty years of experience as a CNA specified that "CCP makes your life easier. If you know what she likes and what she doesn't like" and that Doris who has moderate cognitive-communication impairments "does great if you give choices." Taylor described how Lillian who has mild cognitive-communication impairments benefited from application of CCPs, "When she is feeling down, if you just sit and talk to her a few minutes she feels better. She doesn't want you to leave."

The personal component on the CCPs aided in establishing these relationships.

> "When I was reading it off to her, you could just see her emotions fluctuate you know as I was reading it to her. Linda lit up when I started talking about the school." (Jessica)

"It (CCP) kind of describes who they were before they were here. Describes the person they were. Like Mary she used to be a nurse. So be like you miss being a nurse. She is like sometimes but not really." (Megan)

"It (support) made me think about the communication plan more. It made me think about those two girls more. It (CCPs) made me feel honestly closer to them because I knew family and like what they wanted and how they talked to you. It is just easier. It feels like I have known them their whole life now. I feel like I am closer to them because of the communication plans. I feel like it makes them feel like we really care about them because we talk to them about stuff like that." (Rachel)

"Lillian had been saying she was feeling (bad) since her [family tragedy]. So I just ask her about cross-stitching and what it was. She just looked at me like she was shocked. I heard you like to cross-stitch and I was wondering what it was. She looked at me like you know that, okay." (Taylor)

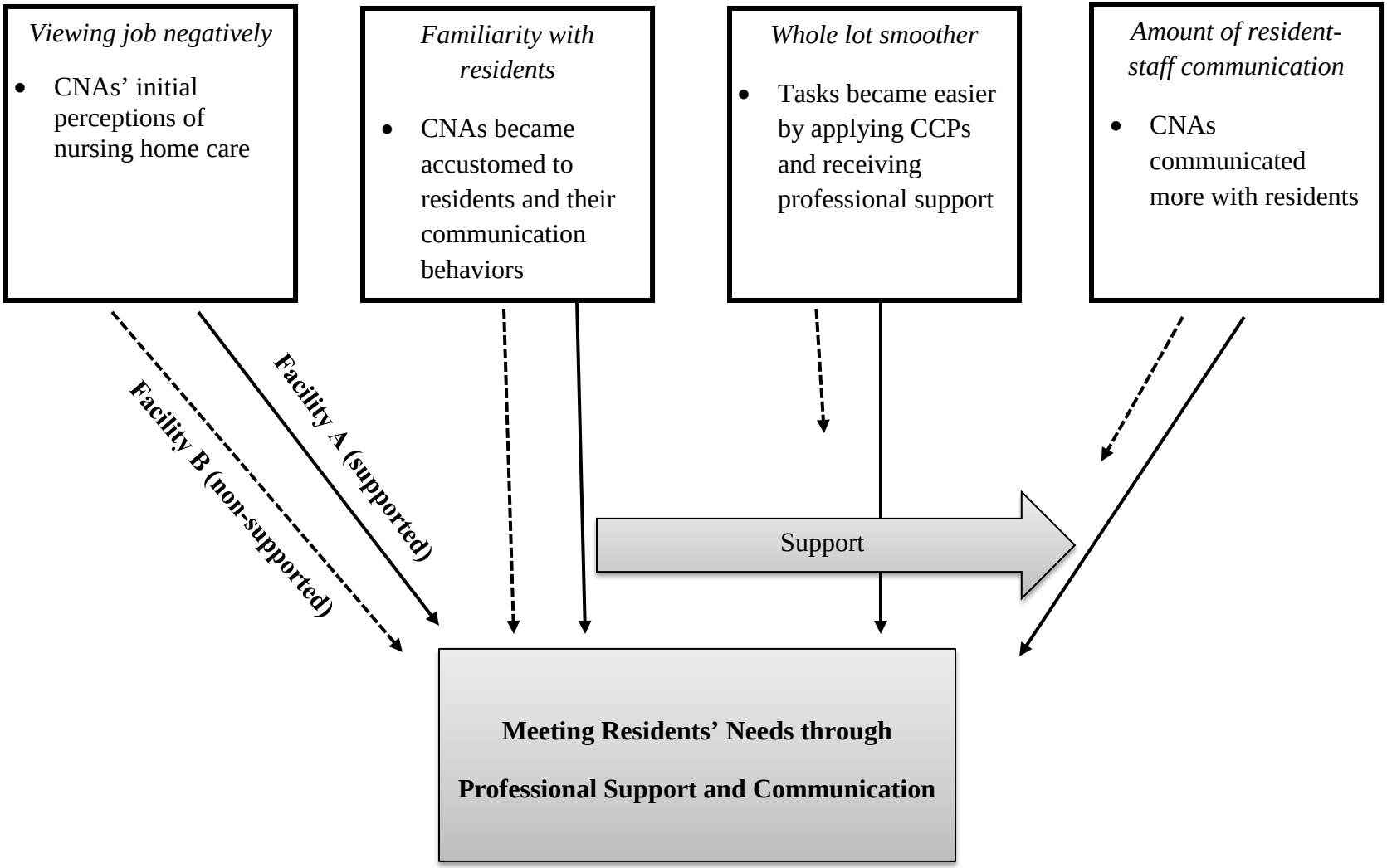
In summary, the process of meeting resident's needs in nursing homes was grounded in professional support and communication. Initially, these CNAs had negative views about nursing homes because they were unsure how to communicate with residents and received little information about resident's status from higher levels of nursing authority. Over time and through application of CCPs, CNAs became familiar with residents and their communication behaviors making tasks easier. Application of communication strategies on CCPs required ongoing support from the investigator/speech-language pathologist which was evident by the comments between

CNA participants from each facility. Participants from both facilities reported positive experiences during application of the autobiographical information on the CCPs. This personal information fostered the formation of a relationship between residents and CNAs which is linked to enhanced quality of care. In summary, professional support from the investigator/speech-language pathologist during application of CCPs supplemented CNAs' abilities to meet residents' needs.

After completing the reflective coding matrix, a theory in the form of a visual model is offered to explain the phenomenon of interest in this study which is professional support for CNAs during CCP development and implementation. The theory demonstrates the evolving nature of CNAs' experiences during CCP development and implementation and describes how the conditions or categories (conditional relationship table, Table 4.6 and Appendix AA) led to actions and interactions or processes (reflective coding matrix, Table 4.7). The flowchart in Figure 4.2 represents the CNAs' progression through each process. The boxes include the name and definition of each process. The solid line represents CNA participants from facility A who received professional support. The dashed line depicts the CNA participants from facility B who did not receive professional support. The shaded arrow represents professional support for CNAs in facility A. The large grey box includes the core category, meeting residents' needs through professional support and communication. In the first box, CNAs from each facility perceive nursing home care negatively. As CNAs move to the next box, they become more familiar with residents and their communication behaviors. Within the third box, CNAs from facility A learn to apply the CCPs through professional support which positively impacts completing daily tasks. Certified nursing assistants in facility B

represented by the short dashed line did not report specific examples of applying CCPs, but did report that if they applied CCPs, tasks would be easier. Finally, in the last box, CNAs from facility A begin to establish relationships with residents through resident-staff communication which enhances their quality of care. Certified nursing assistants in facility B reported application of the personal component of CCPs, but did not specify a change in perceptions of their job or relating to residents. Each arrow points to the meeting residents' needs through professional support and communication.

Figure 4.2. *Flowchart explaining the process of developing, implementing, and evaluating communication care plans (CCPs) over time during daily care as perceived by CNAs who did and did not receive professional support in nursing homes.*



CHAPTER FIVE: DISCUSSION

Overview of Findings

This study aimed to describe the process of developing, implementing and evaluating CCPs over time by CNAs who did and did not receive professional support in nursing homes. Findings revealed a core category, meeting resident's needs through professional support and communication, which depicts the progressive process these CNAs who did and did not receive support underwent to effectively communicate with residents in nursing homes using CCPs. Initially, CNAs expressed negative views of nursing homes due to the taxing nature of their job as well as reduced communication with nurses. Over time and by applying CCPs, CNAs became familiar with residents. By implementing specific communication strategies and autobiographical information on CCPs during daily care, tasks became less effortful and CNAs described more instances of relating to residents. Evolution of the process CNAs underwent to effectively communicate with residents using CCPs occurred through support during CCP implementation.

The discussion of the findings from this study that follows is organized into four sections: (1) analysis of flow chart and link to literature, (2) clinical implications, (3) limitations and challenges, and (4) future research.

Analysis of Flow Chart and Link to Literature

Each section of the flow chart will be discussed as well as its relation to the storyline described in Chapter 4. The flow chart (Figure 4.2) represents the progressive process these CNAs who did and did not receive support underwent to effectively

communicate with residents using CCPs. Each box within the flow chart, identified during selective coding, depicts the progression of learning how to effectively communicate with residents.

The first box symbolizes viewing their job negatively which represents CNAs' initial perceptions of nursing homes. At this time, CNAs are not receiving support. Within the storyline, CNAs described limited education about communicating with residents in nursing homes as well as reduced communication with higher levels of nursing authority. As CNAs go to the next box, they become familiar with residents. In the storyline, CNAs discussed that with time and by applying CCPs, they learned more about resident's communication behaviors. Support for participants in facility A enhanced application of CCPs. The third box signifies a whole lot smoother which represents tasks becoming less effortful. Within the storyline, since CNAs were more familiar with residents and their communication behaviors, tasks required less time and were completed with more ease. In the fourth box, resident-staff communication occurred more frequently and included more personal topics which enhanced relationships between CNAs and residents. In the storyline, CNAs in facility A described more instances of communicating with residents because they were more confident and efficient communication partners. All four of these boxes represent the central category of meeting residents' needs through professional support and communication. During the interviews, CNAs described that with updated information about a resident's medical condition and through CCPs combined with ongoing support from the speech-language pathologist, they felt better-equipped to meet residents' needs.

Many of the concepts that emerged in the findings were established in previous research literature. First, the emerging theory of the progressive process these CNAs who did and did not receive support underwent to effectively communicate with residents using CCPs will be connected to previous literature investigating collaboration and conversational partner training followed by a connection between the processes (viewing care negatively, familiarity with residents, whole lot smoother, and amount of resident-staff communication) explained within the selective coding section to previous literature.

Collaboration.

Collaboration includes individuals working together to achieve a common goal (D'Amour, Ferrada-Videla, Rodriguez, & Beaulieu, 2005). In our study, the speech-language pathologist and CNA collaborated to enhance resident-staff communication and quality of care for residents in nursing homes. Collaboration occurred during development of CCPs but more so during support encounters between the speech-language pathologist and CNAs. This form of collective communication facilitated a deeper understanding and appreciation of each discipline's responsibilities. In this study, CNAs understood residents' specific communication behaviors through CCPs and the speech-language pathologist recognized and respected the stressful working conditions of CNAs.

Conversational partner training.

Certified nursing assistants became more confident and knowledgeable communication partners for residents through support and CCPs facilitating resident-staff communication interactions which relates to the goal of conversational partner training.

"Conversational partner training aims to increase the communication access for persons with aphasia by enhancing the communication partner's ability to reveal communication competence of the person with aphasia" (Turner & Whitworth, 2006, p. 484). Although some of the resident participants had aphasia, all residents in the study, no matter the type or severity of the cognitive-communication impairment, benefited from a trained communication partner by using the CCP.

The most frequent communication partners for residents in nursing homes are CNAs and CCPs with support serve as the conversational training program. Previous research examining conversational partner training found that participants included available volunteers and family members of persons with mild to severe aphasia and occurred in a therapy clinic or person's home (Booth & Swabey, 1999; Cunningham & Ward, 2003; Hopper, Holland, & Rewenga, 2002; Kagan, Black, Duchan, Simmons-Mackie, & Square, 2001; Lyon et al., 1997; Raynor & Marshall, 2003; Simmons, Kearns, & Potechin, 1987; Wilkinson et al., 1998). Outcomes showed that participants acknowledged and revealed communication competence of persons with aphasia, implemented multi-modality communication, and encouraged persons with aphasia to participate in selecting meaningful activities (Turner & Whitworth, 2006). In this study, CCPs and support facilitated meaningful conversations between residents and CNAs within the nursing home context because CNAs expressed awareness and knowledge of residents' cognitive-communication abilities. Based on our findings, CCPs with ongoing professional support for CNAs in nursing homes would serve as another dimension of conversational partner training.

Perceptions of all CNA Participants

The next section will include a comparison of the major processes described within selective coding (viewing care negatively, familiarity with residents, tasks becoming a whole lot smoother, and amount of resident-staff communication) by all CNA participants to findings from previous research studies.

Viewing job negatively.

Our study found that CNA participants' initial negative perceptions of their job formed through limited training about communicating with residents and lack of updated information about residents from nurses. In regards to training, participants reported reduced hands-on education about communicating with residents in nursing homes impacting the amount and content of resident-staff communication. Previous studies noted that current CNA training requirements are not adequate to meet the complex medical needs of the aging population (Institute of Medicine, 2000). Within the training, CNAs receive limited information about residents' communication and behavioral symptomology (Grosch et al., 2008). This adds to the physical and mental demands in providing bed and body care for each resident and reduces the amount of resident-staff communication (Le Dorze et al., 1994).

Another component of CNAs in this study viewing their job negatively involved reduced communication with nurses and other CNAs. Participants specified that they received limited information from staff about resident's initial or modifications to their medical status creating challenges in providing optimal care. Previous studies are in agreement that reduced communication between staff (Page & Rowles, in press*)* as well

as supervisory support (Donoghue, 2009; Parsons et al., 2003) occurs in nursing homes and results in a negative working environment (Pennington et al., 2003; Wiener et al., 2009), decreased job satisfaction (Choi & Johantgen, 2012; Decker, Harris-Kojetin, & Bercovitz, 2009), and job tenure (Meyer et al., 2012). In health care service delivery, the goal is for the same CNAs to provide services to the same residents each time he or she works which allows caregivers to become familiar with the resident's condition and needs (Fitzpatrick, 2002). However, continuity of care is lacking in nursing homes which negatively impacts a resident's quality of care and quality of life. Our study found that providing care for different residents each day disrupted continuity of care which interfered with application of CCPs and becoming familiar with residents.

Familiarity with residents.

Application of CCPs fostered this familiarity in the face of limited continuity of care. Several participants from facility A indicated that they explained the CCP to a new or unfamiliar CNA. McGilton et al. (2011) also reported that inexperienced CNAs quickly learned the intent of a resident's expression by implementing communication strategies on communication plans. On the other hand, our study found that CNA participants who were accustomed to the specific communication behaviors of resident participants benefited from the autobiographical information on the CCPs because it enhanced social conversations. Genereux et al. (2004) reported that both familiar and unfamiliar caregivers benefited from communication plans.

Familiarity with residents' specific communication behaviors was linked to reduced aggressive behaviors for some residents. Participants reported that as they

became familiar with residents and by applying CCPs, residents did not "fight" with them as much. Previous literature supports our findings indicating that when health care providers (nurses and CNAs) listen to residents, apply communication strategies, and/or increase the amount of communication interactions, resident's level of anxiety and aggressive behaviors decrease (Hoerster et al., 2001; McCallion et al., 1999; McGilton, 2004; McGilton et al., 2009; McGilton et al., 2011). As noted earlier, CNAs in this study reported more attempts at communicating with residents and residents' positive response.

Whole lot smoother.

An important finding was that as CNAs became more efficient communication partners, tasks became less effortful requiring less time to complete. Findings from previous studies examining communication plans (Genereux et al., 2004; McGilton et al., 2011; Sorin-Peters et al., 2010) concur that application of individualized communication techniques during resident-staff encounters reduced the amount of time required to complete routine tasks. When CNAs understand a resident's communication intent, responding requires less time.

Amount of resident-staff communication.

Three important findings about 'amount of resident-staff communication' will be discussed in relation to previous literature: (1) person-centered care, (2) communicating with individuals with severe communication deficits, and (3) establishing relationships.

As CNAs became more confident communication partners and tasks became less effortful, CNAs began to communicate with residents about personal topics listed on CCPs. This information validates implications of CCPs serving as a patient-centered

communication intervention (McGilton et al., 2011) with a goal to create more meaningful communication opportunities between residents and caregivers in nursing homes. This was achieved in previous findings as CNAs reported a change in quality of care from task-oriented to person-centered with application of communication strategies (McGilton et al., 2011; VanWeert et al., 2004; Van Weert et al., 2005).

In addition, CNAs from both facilities discussed personal topics with residents with severe communication deficits. Therefore, CCPs serve as a potential solution to previous findings which indicated that resident's communication impairments restricted caregivers' comfort and ease conversing with residents about family and past experiences (Allen & Turner, 1991; Carpiac-Claver & Levy-Storms, 2014; Le Dorze et al., 1994). McGilton (2004) specified that individuals with severe cognitive impairments are able to "express emotions, initiate social contact, and display affectional warmth and social sensitivity" (p. 73). Even individuals in the late stage of dementia can interpret nonverbal communication which reflects on their understanding of staff's behaviors.

By applying the autobiographical information on the CCPs, CNAs established a personal closeness with residents. Certified nursing assistants expressed shock and increased interest in residents' responses when they mentioned information about the resident's personal history. Several CNAs indicated that residents "lit up" during discussions of personal topics. Previous literature linked formation of relationships between caregivers and residents in nursing homes to job satisfaction and tenure (Parsons et al., 2003) which ultimately relates to quality of care and quality of life.

Perceptions between Participants in Facility A and Facility B Related to Support

Perceptions of CCPs varied between CNA participants in facility A and B which can be described as noticeable benefits of CCPs and communication confidence which is attributed to support. Generally, participants in facility A were more optimistic and witnessed the benefits of CCPs; whereas, participants in facility B reported general foreseeable values of CCPs. Following two weeks of implementing CCPs with support, CNAs in facility A reported that they automatically applied the strategies on the CCPs during routine tasks even when they were short-staffed or rushed. These participants reported implementation of specific communication strategies on the CCPs without the CCP within view. However, CNAs in facility B indicated that they did not apply strategies as frequently because they were short-staffed and working longer shifts over the course of the study. They required a visual representation of the CCP during the interview.

Application of CCPs enhanced communication confidence for CNAs in facility A evident by self-reports of communicating more frequently with residents with severe cognitive-communication impairments. On the contrary, CNAs in facility B did not offer any examples of communicating with residents with severe cognitive-communication impairments.

Ultimately, support facilitated a change in CNAs' communication habits. This relates to previous findings which indicated that new learning requires both educational and behavioral training within actual practice (McGilton et al., 1999). Results from previous studies which incorporated support within a communication intervention

showed that CNAs gained knowledge related to a resident's communication characteristics, independently adjusted reactions to support the variability of resident's behaviors (VanWeert et al., 2004; Van Weert et al., 2005), implemented communication techniques (Dijkstra et al., 2002), and maintained communication skills for two months (Burgio et al., 2001).

The long duration of trainings presented in previous literature as well as the clinical in-service trainings may not be necessary, however, for communication techniques to transfer into daily care. Our findings revealed that short, practical doses of one-on-one support over a two week interval proved to be effective in implementation of CCPs by CNAs. During the final support visit, CNAs appeared to understand and use the CCPs during daily care indicating that five support visits over a two week time-frame may be all that is necessary for treatment to transfer.

Clinical Implications

Understanding the progressive process these CNAs experienced to become effective communication partners for residents in nursing homes is important for administrators of nursing homes, speech-language pathologists, and educators. For administrators of nursing homes, our study highlighted the impact of collaboration among all nursing staff on CNAs' job satisfaction and residents' quality of care. Speech-language pathologists will now have a better understanding of the stressful work environment for CNAs and implications of support for CNAs in relation to resident-staff communication. Finally, educational curricula for both CNAs and speech-language pathologists may benefit from more information about each discipline's responsibilities in nursing homes.

Administrators.

A main component of being an effective communication partner for residents involves interdisciplinary communication. Certified nursing assistants spend the most time with residents (Winchester, 2003); yet, they do not always receive information necessary to address the nutritional and mobility needs of residents adequately and are not included in interdisciplinary decision-making. Consequently, they may feel undervalued as an employee relates to job satisfaction and tenure. Wiener, Squillace, Anderson, and Khatutsky (2009) found that CNAs who felt their work was not valued left the job two months earlier than those who rated their organizational work culture more positively. This doesn't have to happen. Some studies have addressed the relationship between a supportive work atmosphere for CNAs and retention using a retention specialist (Pillemer et al., 2008) and a peer-mentoring program (Hegerman, 2005). With a retention specialist, turnover reduced by 10.54% compared to the control group (2.64%) over a one year period (Pillemer et al., 2008). With the team-like atmosphere using a peer-mentoring program, Growing Strong Roots, results showed that over the course of a month retention of new CNAs increased by an average of 25 percent (Hegeman, 2005).

Nursing homes endure direct and indirect costs of turnover (Seavey, 2004). The loss of a CNA creates direct financial costs required to advertise, train, and compensate a new employee. Indirectly, remaining CNAs have a higher workload and residents receive fewer services and reduced quality of care (Castle & Engberg, 2005; Seavey, 2004).

For the sake of a resident's quality of care as well as the financial consequences of turnover, I recommend that nursing home administrators involve CNAs in decision-

making regarding hands-on care for residents (Page & Rowles, in press). Appreciating their insights will likely create a positive atmosphere within the facility as well as impact CNA retention and quality of care.

Speech-Language Pathologists.

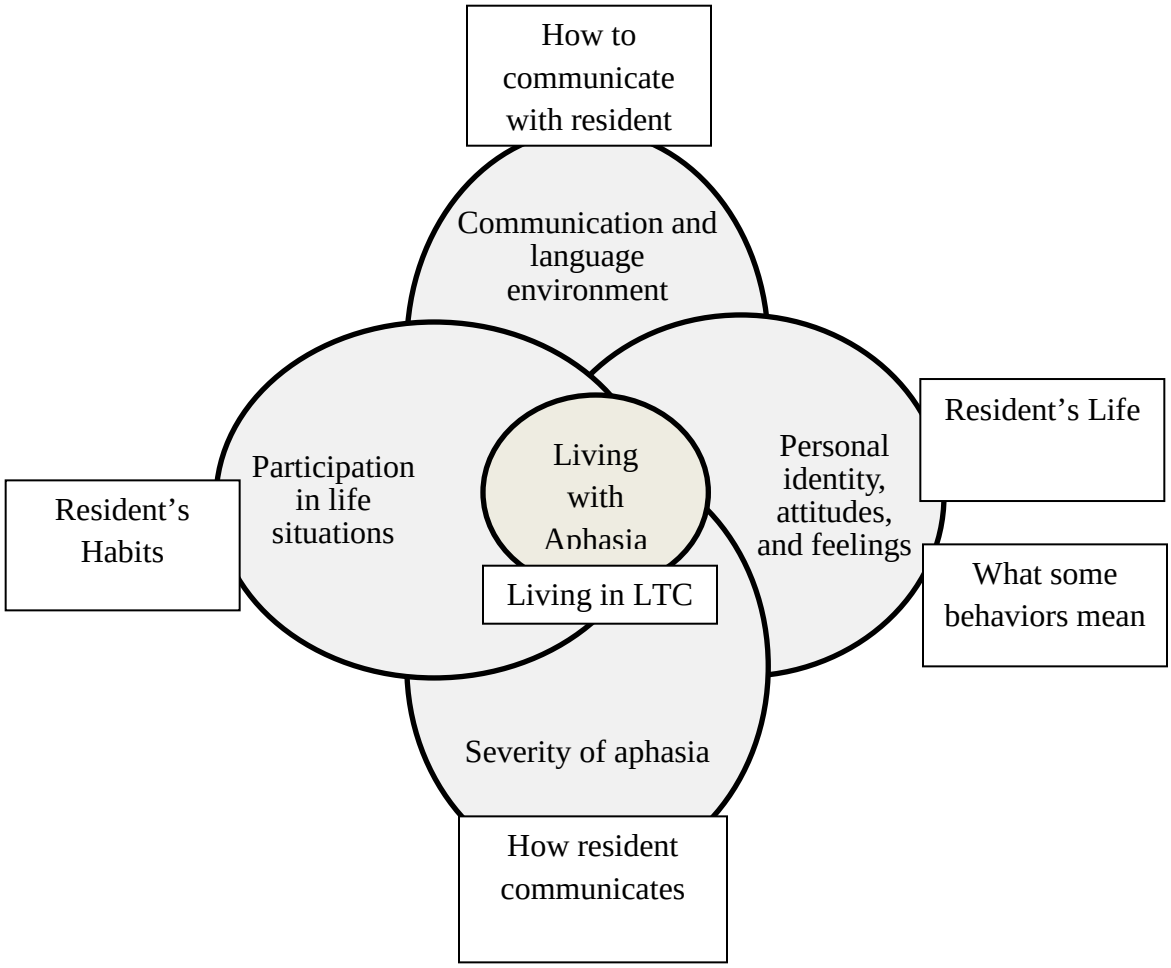
There are several clinical implications of findings that fit within practices of speech-language pathologists in relation to treatment in nursing homes as well as providing support for CNAs.

Communication care plans as speech-language pathology treatment.

Although resident participants were not currently receiving speech-language treatment during the study, most of the participants had been on the speech-language pathologist's caseload at one time during their residency. Therefore, CCPs serve as a treatment option for the residents in nursing homes because they facilitate person-centered care through meaningful resident-staff communication. In accordance with the American Speech-Language Hearing Association, speech-language pathologists are required to provide evidence-based practice (ASHA, 2013). Evidence-based practice includes the integration of empirical support, clinical expertise, and client perspectives. Person-centered care is a component of client perspectives within evidence-based practice. Previous studies have shown that clients prefer to discuss relevant information and focus on life participation (Worrall et al., 2011). The autobiographical information as well as the resident's preferences within the CCP contain meaningful topics for conversations.

Inclusion of CCPs within speech-language pathology treatment regimens would require an outcome measurement. Since the overall goal of CCPs is to enhance resident-staff communication in nursing homes, outcome measurements of CCPs can be tied to the model of Living with Aphasia: Framework for Outcome Measurement (Figure 5.1; A-FROM; Kagan et al., 2008). This model was developed over the course of two years through several focus group discussions to provide clinicians with a practical guide to measure treatment outcomes as they relate to real-life circumstances for individuals with aphasia. Kagan and colleagues (2008) described A-FROM using five overlapping sections: (1) severity of aphasia, (2) participation in life situations, (3) communication and language environment, (4) personal identity, attitudes, and feelings, and (5) living with aphasia. Section one, severity of aphasia, includes the speech, language, and cognitive impairments of the individual. The second section, participation in life situations, comprises involvement in meaningful activities. Section three, communication and language environment, encompasses the social and physical characteristics of an individual's environment. The fourth section, personal identity, attitudes, and feelings, describes the personal factors that may change as a result of having aphasia. The final section, living with aphasia, involves the impact of all sections on the quality of life for an individual with aphasia (Kagan et al., 2008).

Figure 5.1. *Communication care plans relationship to living with aphasia: framework for outcome measurement (Kagan et al., 2008)*



Sections of CCP were added to the A-FROM model (Kagan et al., 2008) as shown in figure 5.1. The shaded ovals contain components of the A-FROM model and the white rectangles include sections of the CCP.

- The severity of the communication impairment within the A-FROM model is described within the 'how resident communicates' section of the CCP. Responding to yes or no questions is an example within this section which may indicate that the individual has an auditory comprehension, memory, or attention deficit.

- The participation in life situations of the A-FROM model includes the 'resident's habits' portion of the CCP. A resident's personal preferences are expressed in this section of the CCP which will enhance participation in meaningful activities. For example, if the resident reads the Bible, she may enjoy attending a Bible study group.
- The communication and language environment of the A-FROM model is revealed in the 'how to communicate with resident' component of the CCP. By supplying CNAs with education about specific modalities to use during communication interactions, residents have a communication partner which facilitates involvement within a communicating society.
- The personal identity, attitudes, and feelings of the A-FROM model relates to 'what some behaviors mean' and 'resident's life' features of the CCP. Information related to specific communication behaviors as well as the resident's personal history are included in these components of the CCP which relates to the personal changes encountered since admission to the nursing homes.
- The center of the model, living with aphasia, relates to living in nursing homes as a resident with a cognitive-communication impairment.

Making the connection between the A-FROM model and CCP will enable speech-language pathologists to develop goals around the CCP targeting the multiple dynamics of living in nursing homes that are meaningful to the resident.

Successful implementation of CCPs requires buy-in by CNAs. The investigator suggests creating portions of the CCP (how a resident communicates, how to communicate with resident, resident's life) shortly following the resident's admission

because this is the time CNAs indicated that they are least familiar with residents and speech-language pathologists are able to supply information about the resident's current communication abilities. Once CNAs become familiar with the resident and realize the beneficial consequences of the current CCP, CNAs and the speech-language pathologist can collaborate to complete the CCP (resident's habits, what some behaviors mean).

Support for CNAs.

In order to maintain the positive impact of CCPs, the speech-language pathologist must incorporate support for CNAs during daily routines. Certified nursing assistants have knowledge about general communication and swallowing precautions for residents, but previous research has shown limited application of skills possibly due to intense time demands (Pelletier, 2004). Currently, speech-language pathologists conduct a short in-service training with individual CNAs, a small group of CNAs or higher levels of nursing authority or post educational flyers or signs in a resident's room. For example, a speech-language pathologist may write communication strategies (ask yes/no questions) or swallowing precautions (small sips, give a drink after 2 bites, no straws) on a piece of paper and post it above the resident's bed. However, these educational trainings have shown limited maintenance. Nursing staff must understand the intervention's purpose, how it will influence daily work routine, and receive feedback or continued support during demonstration of the intervention for transfer to occur. Based on findings from this study, the investigator found that five to ten minutes of daily support proved beneficial for these CNA participants in applying CCPs. Support incorporated six components: (1) show respect for CNAs' work and insight, (2) hold them accountable, (3) educate CNAs about the intervention's purpose and projected outcomes, (4)

demonstrate application of intervention, (5) provide feedback regarding usage of strategies, and (6) reward or recognize CNAs' efforts. Table 5.1 shows the six components of support and an example of each.

Table 5.1. *Components of Support*

Support	Example
Respect CNAs' insight	"How do you communicate with Chloe?" "What strategies do you use to communicate with Chloe?"
Accountability	"How did implementing the strategy of asking simple, yes/no questions go with Chloe today?"
Educate	"The reason you ask simple, yes/no questions is because Chloe can't remember a lot of information at once."
Demonstrate	During ADL, ask resident yes/no questions in presence of CNA
Provide feedback/ problem-solve	"Sometimes Chloe doesn't respond to yes/no questions because the environment is too distracting."
Reward/recognize	"I saw that Chloe responded well to you asking yes/no questions today. Thank you."

Note. CNA = Certified Nursing Assistant; ADL= Activity of Daily Living

Educators.

Speech-language pathologists initially learn about management of cognitive-communication disorders within entry level college courses. To coincide with aging America, a component of this curriculum should include information about the nursing home environment, roles of employees and the impact of the speech-language pathologist in nursing homes. Teamwork between the speech-language pathologist and CNAs can

facilitate optimal care for residents in nursing homes by providing residents with a trained communication partner.

Just as speech-language pathologists learn about nursing home care in academic courses, CNAs learn about dynamics of providing care within their training. In order to become a CNA, the Omnibus Budget Reconciliation Act of 1987 requires CNAs to complete at least 75 hours of state-approved training including a minimum of 16 hours of supervised clinical training, pass a compensatory examination, and become certified (Wiener, Freiman, & Brown, 2007). Coursework varies by state and agency but generally includes basic information about patient care, resident's rights and emergency procedures. In order to sustain certification, CNAs must complete twelve hours of continuing education annually. Currently, there has been a push to increase training requirements to include more information about the complex needs of aging America (Institute of Medicine, 2000). One of those needs is communication; therefore, information about the professional who manages resident's communication, speech-language pathologist, would be a beneficial addition to CNA training.

Moreover, CNAs' training curriculum should include more information about interdisciplinary responsibilities in nursing homes. The reduced communication between nurses and CNAs may relate to reduced knowledge about each other's role. A collaborative effort to educate nurses and CNAs about roles and responsibilities should be undertaken. One additional idea which may enhance interdisciplinary communication includes a CNA representative be in attendance at a daily meeting with department heads to discuss residents' current health status and the facility's goals. Since CNAs are the

frontline caregivers, they offer valuable insight regarding the resident's response to specific dimensions of care.

Limitations and Challenges

Although findings are promising, various limitations were encountered. The first limitation involved the amount of available participants which impacted the ability to theoretically sample. Theoretical sampling is a method of participant selection in which participants are selected based on their contribution to the emerging theory (Corbin & Strauss, 2008; Creswell, 2007). Although only ten CNAs were interviewed, there was remarkable concurrence among the views of participants, suggesting that a high level of saturation or redundancy was achieved.

Since there was no randomization of participants and the investigator had no control over resident participant selection, there were noticeable differences in the resident participants' cognitive-communication abilities between the two facilities. As identified based on ALPS and SPMSQ scores, resident participants in facility A exhibited more severe cognitive-communication deficits than resident participants in facility B. The CNAs in facility B may have implemented the CCPs more if residents had more severe cognitive-communication impairments. However, our findings found that both residents and CNAs benefited from the autobiographical section of the CCPs for residents with adequate communication skills because they were able to engage in meaningful conversations and establish relationships.

Furthermore, the facility which received support was chosen based on convenience instead of randomly. During the in-service training, the investigator recognized that

CNAs in facility A displayed more interest in the research procedures compared to CNAs in facility B. For instance, CNAs in facility A asked several questions and were eager to select resident participants; whereas, CNAs in facility B simply agreed to participate in the study. Participants in facility B may have responded to CCPs differently with support which would alter the findings. In retrospect, support could have been provided for all CNA participants twice a week.

Also, we only included participants on first and second shifts; thereby, not providing information on the impact of different shifts on CCPs. CNAs on third shift may have presented different perceptions of CCPs.

Another limitation involved the short duration of the interviews and their rushed nature. Initial interviews lasted 20 to 40 minutes and occurred during a lunch break, before or after a work shift and were constrained by the needs of some participants to leave in order to address personal responsibilities (e.g. children). Any questions not probed during the first interview were asked during a second interview for nine of the ten participants. If the study was done again, a goal would be longer or more interviews.

There were several challenges in completing this study within the nursing home environment. First of all, it was difficult to recruit available CNAs. In facility A, only five CNAs attended the scheduled in-service training and in facility B, no one attended the scheduled in-service training. Therefore, prior to two work shifts, the investigator/speech-language pathologist sat at the time-clock and conducted an in-service training with small groups of CNAs before they clocked-in or out for the day. From facility A, a total of seven CNAs agreed to participate in the study, but one

participant completed nursing school during the course of the study and shifted from CNA to nursing status. Another CNA resigned prior to data collection. From facility B, eight CNAs attended in-service trainings, but only five met inclusion criteria and/or agreed to participate in the study. Participants elected not to participate in the study because they feared the time demands of research combined with work tasks were not feasible.

The second significant challenge included unexpected CNA absences. During data collection, Sandra went on vacation during her designated two week interval. Also, after developing CCPs for their resident participants, Nicole took a leave of absence due to a work-related injury and Sharon became ill and unable to work for one week. When these CNAs returned, CCPs were reviewed and CNAs were allotted two weeks to implement the communication strategies.

Arranging support visits was also a challenge because the investigator was not the full-time speech-language pathologist at either facility, and was not always available at the most convenient times for the CNAs.

In addition, reduced staffing in facility B hindered continuity of care preventing CNAs from consistently using CCPs with their selected participants. Justin was unable to use the CCP because he worked in the short-term rehabilitation section of the facility throughout the study instead of the long-term care portion of the facility where resident participants resided. Pamela worked multiple shifts limiting application of CCPs for her selected resident participants. Sharon specified that she worked 16-hour shifts during the study which reduced her ability to review and implement the strategies on the CCP. Previous studies documented that compared to non-profit facilities, for-profit facilities

have fewer staff (Harrington, Olney, Carillo, & Kang, 2011; McGregor et al., 2005). This leads to less time per resident to spend on ensuring effective communication of needs and preferences. However, staffing levels did not appear to be an issue impacting CCP implementation in facility A which is also a "for-profit" facility.

Finally, as a speech-language pathologist, the investigator was familiar with the participants and held biases regarding application of CCPs. At times, leading questions were asked during the interview to confirm the investigator's beliefs but reexamined through adherence to the interview protocol. Also, the investigator revisited biases identified through reflexive bracketing to ensure, in as much as was possible, an open-mind throughout the data collection and analysis process.

Future Research

The findings from this study have generated several directions for future research which can be divided into CNA training and further investigation of CCPs. Additional exploration is needed on the perceptions of CNAs following their state-mandated training with a speech-language pathology representative as well as an objective measure of the effectiveness of communication behaviors following training with a speech-language pathology representative. During the training, the speech-language pathologist describes the general communication behaviors of residents in nursing homes and the communication strategies to apply during communication interactions with residents.

Since speech-language pathologists are the professionals who will likely be responsible for introducing CCPs, additional investigation is needed regarding their views of developing and implementing CCPs as well as providing support for CNAs.

The investigator wishes to explore speech-language pathologists' responses to the following questions:

What are the benefits and barriers of developing and implementing CCPs?

What influenced or prevented use of CCPs?

What were the outcomes of CCPs?

What goals did speech-language pathologists develop related to CCPs?

How did speech-language pathologists provide support with the current productivity requirements of nursing homes?

Future areas of research may address the effectiveness of CCPs on communication behaviors of residents and CNAs as well as maintenance of CCP implementation by CNAs. McGilton et al. (2011) found a reduction in CCP implementation by nurses over the course of two months. It would be interesting to determine maintenance of CCP implementation by CNAs as well as between CNAs with and without support.

Further investigation is needed on the impact of support for CNAs for general speech-language pathology treatments (swallowing strategies, memory aides, etc.). This study could also be extended to incorporate support in facility B to determine if a difference in CNAs' perceptions of CCPs emerged. Is support for CNAs the driving force to transfer treatment techniques into daily care for residents in nursing homes?

In addition, the relationship between CCPs with support and time required to complete work demands, job satisfaction and/or tenure of CNAs should be explored because these variables relate to quality of care and costs in nursing homes.

Conclusion

The majority of residents in nursing homes have cognitive-communication disorders and the staff with whom they communicate most frequently, CNAs, are not sufficiently trained and/or do not have the time available to engage in meaningful communication. This reduces quality of care. This study addressed inefficient communication between residents and CNAs in nursing homes using a grounded theory approach to describe the process of development, implementation and evaluation of CCPs based on views of CNAs who did and did not receive support. Findings revealed that meeting residents' needs in nursing homes is grounded in communication and support. Certified nursing assistants' negative views transformed with application of CCPs and support because they became familiar with residents, tasks became less effortful, and CNAs established relationships with residents. Another finding indicated that CCPs fostered more meaningful communication between residents with different levels of cognitive-communication abilities and staff of varying years of experience. Overall, support for CNAs enhanced carryover of CCP into daily care for residents in nursing homes which impacted their quality of care.

Based on these findings, it is recommended that CCPs and support join speech-language pathology treatments in nursing homes to facilitate resident-staff

communication and the establishment of improved relationships among CNAs and residents.

APPENDICES

Appendix A: Flyer

Appendix B: Informed Consent for Certified Nursing Assistants

Certified Nursing Assistant Consent to Participate in a Research Study

Perception and use of communication care plans by frontline caregivers for residents in long-term care: The role of support

WHY ARE YOU BEING INVITED TO TAKE PART IN THIS RESEARCH?

You are being invited to take part in a research study about communicating with residents under your care. You are being invited to take part in this research study because you are currently working in a long-term care facility and have at least one year long-term care work experience. If you volunteer to take part in this study, you will be one of up to 20 people to do so.

WHO IS DOING THE STUDY?

The person in charge of this study is Christen Page MS/CCC-SLP of the University of Kentucky, Department of Rehabilitation Sciences. She is being guided in this research by Robert Marshall, PhD. There may be other people on the research team assisting at different times during the study.

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of the study is to provide a treatment (communication care plans) to facilitate communication between staff and residents in long-term care settings. By doing this study, we hope to learn more information about the benefits and obstacles of using communication care plans during daily care.

ARE THERE REASONS WHY YOU SHOULD NOT TAKE PART IN THIS STUDY?

You should not take part in this study if you have trouble hearing my voice or have worked in a long-term care facility less than 3 months.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST?

The majority of the research study will occur during your work shift while interacting with residents and during your scheduled breaks. You will also participate in an interview where you will be asked to describe your experiences using communication care plans. This portion of the study will not be during work hours and will take up to 60

minutes. The location of the study will be at the long-term care facility where you work. The maximum amount of time you will be asked to volunteer for this study is up to four hours. The amount of time you will be asked to volunteer is over the course of one month.

WHAT WILL YOU BE ASKED TO DO?

Certified nursing assistants (CNAs) will be asked to participate in the following tasks:

- Participate in an in-service training to learn about communication care plans and procedures of research project. The in-service training will last up to 60 minutes during work time.
- Complete a questionnaire (Montreal Evaluation of Communication Questionnaire for use in Long-term Care) for two residents under your care. Each questionnaire will take approximately 10 minutes to complete.
- Engage in communication with residents during daily routines using communication strategies listed on communication care plans.
- Participate in support visits during breaks. You will be able to ask questions, make changes, and provide feedback about communication care plans.
- Participate in an interview to describe your experiences and thoughts about communication care plans and support from researcher. The interview will last between 60 to 90 minutes outside of normal work time.
- All interactions with the researcher will be audio recorded.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

There are no foreseeable risks in this study. The human resource coordinator in each facility will provide the names of all CNAs who currently work during the day shift with their approximate length of employment. The principal investigator will select two to three CNAs who have been employed the longest amount of time and two to three CNAs who have been employed the shortest amount of time. The research team will make every effort to minimize the administrator(s), director(s) of nursing, and/or human resources coordinator's awareness of who chose to participate. If you agree or refuse to participate, work-related tasks (number of demands, work hours, communication with co-workers) will not be compromised. Withdrawal from participation at any time is permissible.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

There are no direct benefits for participating in this study. However, information found in this study will provide insight regarding the practicality of implementing communication care plans for residents in nursing homes.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. If you decide to take part or not to take part in this study, your decision will have no effect on your current job.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

If you do not want to be in the study, there are no other choices except not to take part in the study.

WHAT WILL IT COST YOU TO PARTICIPATE?

Participation in the study requires no additional cost other than travel expenses and time for additional interviews.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

Confidentiality We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. All information gathered from the study will remain confidential. Your identity as a participant will not be disclosed to any unauthorized persons; only the researchers and University of Kentucky officials and Institutional Review Board will have access to the research materials, which will be kept in a locked drawer. Officials of the University of Kentucky may look at or copy pertinent portions of records that identify you. Any references to your identity that would compromise your anonymity will be removed or disguised prior to the preparation of the research reports and publications. We will make every effort to keep private all research records that identify you to the extent allowed by law.

Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be personally identified

in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

At the conclusion of the study, the original audio-recordings will be deleted. At completion of the study, all identifiable information located on paper documents will remain in a locked drawer for six years to secure your confidentiality.

CAN YOUR TAKING PART IN THE STUDY END EARLY?

If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue. You will not be treated differently if you decide to stop taking part in the study.

The individuals conducting the study may need to withdraw you from the study. This may occur if you are not able to follow the directions they give you, if they find that your being in the study is more risk than benefit to you, or if the study is stopped early for a variety of scientific reasons.

ARE YOU PARTICIPATING OR CAN YOU PARTICIPATE IN ANOTHER RESEARCH STUDY AT THE SAME TIME AS PARTICIPATING IN THIS ONE?

You may take part in this study if you are currently involved in another research study. It is important to let the investigator know if you are in another research study. You should also discuss with the investigator before you agree to participate in another research study while you are enrolled in this study.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will not be paid to participate in this research project. However, complimentary refreshments will be available to you during the study.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS, CONCERNS, OR COMPLAINTS?

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions, suggestions, concerns, or complaints about the study, you can contact the investigator, Christen Page at (502) 316-2111. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky between the business hours of 8am and 5pm EST, Mon-Fri at 859-257-9428 or

toll free at 1-866-400-9428. We will give you a signed copy of this consent form to take with you.

WHAT IF NEW INFORMATION IS LEARNED DURING THE STUDY THAT MIGHT AFFECT YOUR DECISION TO PARTICIPATE?

If the researcher learns of new information in regards to this study, and it might change your willingness to stay in this study, the information will be provided to you. You may be asked to sign a new informed consent form if the information is provided to you after you have joined the study.

POTENTIAL FUTURE USE

Do you give your permission to be contacted in the future by the principal investigator Christen Page regarding your willingness to participate in future research studies about how to treat communication impairments in nursing homes?

☐ Yes ☐ No _____Initials

WHAT ELSE DO YOU NEED TO KNOW?

There is a possibility that the data collected from you may be shared with other investigators in the future. If that is the case the data will not contain information that can identify you unless you give your consent/authorization or the UK Institutional Review Board (IRB) approves the research. The IRB is a committee that reviews ethical issues, according to federal, state and local regulations on research with human subjects, to make sure the study complies with these before approval of a research study is issued.

_____ _____

Signature of person agreeing to take part in the study Date

_____

Printed name of person agreeing to take part in the study

_____ _____

Name of [authorized] person obtaining informed consent Date

_____

Signature of Principal Investigator or Sub/Co-Investigator

Appendix C: Informed Consent for Residents

Resident Consent to Participate in a Research Study

Perception and use of communication care plans by frontline caregivers of residents in long-term care: The role of support

WHY ARE YOU BEING INVITED TO TAKE PART IN THIS RESEARCH?

You are being invited to take part in a research study about a treatment (communication care plans) to help nursing staff understand how you communicate. You are being invited to take part in this research study because you reside in a long-term care facility and certified nursing assistants want help communicating with you. If you volunteer to take part in this study, you will be one of up to 40 people to do so.

WHO IS DOING THE STUDY?

The person in charge of this study is Christen Page MS/CCC-SLP of the University of Kentucky, Department of Rehabilitation Sciences. She is being guided by Robert Marshall, PhD/CCC-SLP. There may be other people on the research team assisting at different times during the study.

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of the study is to provide a treatment (communication care plans) to facilitate communication between nursing staff and residents. By doing this study, we hope to learn more information about the benefits and obstacles of using communication plans during daily care.

ARE THERE REASONS WHY YOU SHOULD NOT TAKE PART IN THIS STUDY?

You should not take part in this study if you have trouble remaining alert or have been a resident in this facility less than 3 months.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST?

The research study will occur while interacting with nursing staff. The location of the study will be at the long-term care facility where you reside. The maximum amount of time you will be asked to volunteer for this study is approximately one hour. You will be involved in the research for approximately one month.

WHAT WILL YOU BE ASKED TO DO?

The main researcher will locate you for participation in the study. Your legal representative will be contacted as well. He or she will help make decisions on your behalf and understand the risks and benefits associated with participation in the research study.

You will be asked to participate in a speech/language and cognitive test which will take approximately one hour. If you become tired during the testing, the researcher will stop testing and complete at a later time. A communication care plan will be created which describes your speaking and understanding abilities, preferences, and hobbies. The communication care plan will be placed in your room above the bed, in your medical chart, and in the care plan book. You will be asked to talk with nursing staff like you normally do.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

Risks You may become tired or frustrated during some interactions and if you do, you can take a break.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

There are no direct benefits of participating in this study other than communicating better with nursing staff. However, this research should help us learn about communication care plans for persons living in nursing homes.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. If you decide not to take part in this study, your decision will have no effect on your health care.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

If you do not want to be in the study, there are no other choices except not to take part in the study.

WHAT WILL IT COST YOU TO PARTICIPATE?

Participation in the study requires no additional cost.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

Confidentiality We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. All information gathered from the study will remain confidential. Your identity as a participant will not be disclosed to any unauthorized persons; only the researchers and University of Kentucky officials will have access to the research materials, which will be kept in a locked drawer. Officials of the University of Kentucky may look at or copy pertinent portions of records that identify you. Any references to your identity that would compromise your anonymity will be removed or disguised prior to the preparation of the research reports and publications. We will make every effort to keep private all research records that identify you to the extent allowed by law.

Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be personally identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

At completion of the study, all identifiable information located on paper documents will remain in a locked drawer for six years to secure your confidentiality.

CAN YOUR TAKING PART IN THE STUDY END EARLY?

If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue. You will not be treated differently if you decide to stop taking part in the study.

The individuals conducting the study may need to withdraw you from the study. This may occur if you are not able to follow the directions they give you, if they find that your being in the study is more risk than benefit to you, or if the study is stopped early for a variety of scientific reasons.

ARE YOU PARTICIPATING OR CAN YOU PARTICIPATE IN ANOTHER RESEARCH STUDY AT THE SAME TIME AS PARTICIPATING IN THIS ONE?

You may take part in this study if you are currently involved in another research study. It is important to let the investigator know if you are in another research study. You should also discuss with the investigator before you agree to participate in another research study while you are enrolled in this study.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will not be paid to participate in this research project. However, complimentary refreshments will be available to you during the evaluation procedures of the study.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS, CONCERNS, OR COMPLAINTS?

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions, suggestions, concerns, or complaints about the study, you can contact the investigator, Christen Page at (502) 316-2111. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of between the business hours of 8am and 5pm EST, Mon-Fri at 859-257-9428 or toll free at 1-866-400-9428. We will give you a signed copy of this consent form to take with you.

WHAT IF NEW INFORMATION IS LEARNED DURING THE STUDY THAT MIGHT AFFECT YOUR DECISION TO PARTICIPATE?

If the researcher learns of new information in regards to this study, and it might change your willingness to stay in this study, the information will be provided to you. You may be asked to sign a new informed consent form if the information is provided to you after you have joined the study.

POTENTIAL FUTURE USE

Do you give your permission to be contacted in the future by the principal investigator Christen Page regarding your willingness to participate in future research studies about how to treat communication impairments in nursing homes?

☐ Yes ☐ No _____Initials

WHAT ELSE DO YOU NEED TO KNOW?

There is a possibility that the data collected from you may be shared with other investigators in the future. If that is the case the data will not contain information that can identify you unless you give your consent/authorization or the UK Institutional Review Board (IRB) approves the research. The IRB is a committee that reviews ethical issues, according to federal, state and local regulations on research with human subjects, to make sure the study complies with these before approval of a research study is issued.

_____ _____

Signature of person agreeing to take part in the study Date

_____

Printed name of person agreeing to take part in the study

_____ _____

Signature of Legally Authorized Representative (LAR) Date

_____

Printed name of Legally Authorized Representative (LAR)

_____ _____

Name of [authorized] person obtaining informed consent Date

_____

Signature of Principal Investigator or Sub/Co-investigator

Appendix D: Assent

Perception and use of communication care plans by frontline caregivers of residents in long-term care: The role of support

You are invited to be in a research study being done by Christen Page from the University of Kentucky. You are invited because you are a resident of a long-term care facility and some of the nursing assistants recommended you for the study based on your ability to speak, listen or remember. This means that you will complete a test to assess your memory, speech and listening abilities. A plan will be created to help nursing staff communicate with you. This may cause you to get tired or frustrated and if this happens, you can take a break.

If you are in the study, you will be seen up to 2 times between 30-60 minutes each to complete the test. Your family will know that you are in the study. If anyone else is given information about you, they will not know your name. A number or initials will be used instead of your name.

You will not be paid to participate in the study but will receive some snacks during each session if desired. If something makes you feel bad while you are in the study, please tell Christen or the nurse. If you decide at any time you do not want to finish the study, you may stop whenever you want. You can ask Christen questions any time about anything in this study.

Signing this paper means that you have read this or had it read to you and that you want to be in the study. If you do not want to be in the study, do not sign the paper. Being in the study is up to you, and no one will be mad if you do not sign this paper or even if you change your mind later. You agree that you have been told about this study and why it is being done and what to do.

Signature of Person Agreeing to be in the Study Signed	Date
Name of Person Obtaining Informed Assent Signed	Date
Signature of Investigator Signed	Date

Appendix E: Modified Montreal Evaluation of Communication Questionnaire for use in Long-term Care for Chloe (Le Dorze et al., 2000)

Resident's Name: ___Chloe Guffey_ Date: __6/5/2015___

Duration of evaluation: _15 minutes_ Examiner's name: ___Julie_____

Means of communication used by the resident (How resident communicates)

Instructions: Here is a list of means of communication that may be used by Mr. / Mrs. __ to express him/herself. Tell me if he/she uses each of them frequently, sometimes or never.

Means of Communication	Frequently	Sometimes	Never
Yes and no indicated by head movement	X		
Facial expressions		X	
Speech	X		
Body movements		X	
Yes and no verbally	X		
Attitudes/behaviors that carry particular meaning	X		
Pointing		X	
Gestures	X		
A code that needs to be interpreted			X
Writing/drawing			X
Yes and no indicated by pointing to the written words or pictures			X
Communication Board			X
Other			

Comments: At night, she rubs her hands on the table when she wants her books and licks her lips when she is thirsty or nervous

1.2. Means of communication used to <u>understand</u> resident

(How to communicate with resident)

Instructions: Here is a list of means of communication that you may be employing in order to understand Mr./Mrs. ____ when he/she tries to transmit a message. Tell me how often you are using each of them, frequently, sometimes or never.

Means of Communication	**Frequently**	**Sometimes**	**Never**
Asking yes/no questions	X		
Verifying (Repeating or Do you mean?)	X		
Waiting	X		
Giving a choice of responses	X		
Guessing		X	
Knowing the resident's routines		X	
Being very attentive		X	
Calming the resident		X	
Asking help from a more familiar person		X	
Other			

Comments:

1.3 Means used by caregiver to <u>transmit</u> a message to the resident (How to communicate with resident)

Means of Communication	**Frequently**	**Sometimes**	**Never**
Speech	X		
Simplifying your sentences (short)	X		
Gesturing	X		
Checking if the resident has understood	X		
Repeating	X		
Re-stating differently		X	
Demonstrating		X	
Asking the resident to read your lips			X
Asking help from a more familiar person		X	
Using writing or drawing			X
Obtaining the resident's attention	X		
Asking the resident to repeat		X	
Speaking loudly	X		
Speaking slowly	X		
Other			

Comments: I have to scream sometimes

Appendix F: Interview Questions and Potential Probe Questions

1. Describe a typical day in your shoes as a CNA.
    a. What time do you arrive and leave work?
    b. What do you do?
2. Tell me about your CNA training.
    a. How much information did you receive about communicating with residents?
3. Describe your experiences using CCP?
    a. When, where, examples
    b. How did you use CCPs?
    c. What do you think about the questionnaire?
    d. Describe the amount of time you spend communicating with residents, did CCP help?
    e. Describe ways in which residents attempted to communicate with you, actions/speech.
4. In what ways did the in-service training help?
    a. Was the researcher's presentation of the Communication Care Plan clear?
    b. How could I improve the in-service?
5. I have been visiting frequently for the past 2 weeks, how was that helpful?
    a. What else should I discuss or explain during the visits?
6. What was good about the CCPs?
7. What was negative about the CCPs? (specific examples)
    a. Did you use the CCP every time you interacted with the resident?
    b. What made using CCP easy or difficult?
    c. Any differences or similarities between the two residents?
    d. How did time effect the amount you used CCP?
    e. How did resident characteristics (mobility, medical stability, deficits) effect use of CCP?
8. How did other people (family, nursing, therapists) perceive CCP?
9. Who did or did not benefit from CCP? (CNAs, residents, family)
10. How do you feel CCP impacted the amount of effort required to understand a resident's message?
11. Describe how confident you are communicating with residents. Did CCP help?
12. How do you feel about CCP now compared to when it was introduced?
13. Do you have any suggestions for future CCPs?
    a. Would a Communication Plan be useful for each resident with communication difficulties?
    b. How would you change CCPs? Photos?

Facility A

Appendix G. Barbara's Communication Care Plan

Barbara completed testing in her wheelchair in the dining area at a time when there was few external distractions during the afternoon. Barbara exhibited profound cognitive-communication impairments based on results from the ALPs and SPMSQ. She responded to her name and answered yes/no questions with a head nod and used facial expressions to reveal pain or interest. Barbara did not respond to any questions on the SPMSQ. Responses to the MECQ-LTC indicated that Barbara conveyed information by answering yes/no questions with head movement or through facial expressions. To facilitate comprehension of a message, Rachel guessed, knew Barbara routines, was very attentive, or asked help from a more familiar person. In order to transmit a message to Barbara, Rachel obtained her full attention, used simple sentences, and repeated information. Barbara's son supplied the autobiographical information and Barbara's preferences. She has two sons, Dave and Bill. She has a nephew, Doug. Barbara worked at Johnson Control. She liked to wear red cowboy boots. Barbara enjoys listening to music, watching movies, and looking at pictures of children.

Appendix G (continued): Barbara's Communication Care Plan

How to communicate with Barbara?	How Barbara communicates?
• **Wait** 5-10 seconds for her to respond • Ask **yes/no questions** • **Repeat** information • Obtain her **attention**, **speak at face level**	• She uses **facial expressions** to communicate pain or interest. • She **responds to "yes" questions with a head nod and to "no" questions with a stare.** • Minimal speech
What Barbara's behaviors mean.	**Barbara's habits**
• Very responsive to yes/no questions concerning family and previous job. • Pushes away when re-positioning in bed.	*She likes:* • **Look at magazines** • **Look at pictures of children** • **Listen to music** • **Watch movies**
Barbara's Life: She has two sons, **Dave and Bill**. She has a nephew, **Doug**. Barbara worked at **Johnson Control**. She liked to wear red **cowboy boots**. Barbara enjoys listening to music, watching movies, and looking at pictures of children.	

Appendix H: Carol's Communication Care Plan

Carol participated in assessments seated in wheelchair at dining room table prior to lunch. She wears glasses and hearing aids. Carol had moderate to profound cognitive-communication impairments. On the ALPs, she responded to her name, followed one-step directions, identified objects, and answered yes/no questions verbally. Carol could not complete the reading and writing scales due to hearing and visual impairments. The SPMSQ revealed that Carol was oriented to location and personal information but made errors on attention and memory tasks. Responses to the MECQ-LTC specified that Carol frequently answered yes/no questions verbally and used speech to communicate a message. Sharon indicated that Carol says "nurse" all the time. In order to understand Carol's message, Sharon verified information, waited for a response, and knew her routine. In order to convey information to Carol, Sharon obtained her attention, spoke slowly and loudly in short sentences, verified understanding, and repeated information. Carol's family member supplied autobiographical information as well as Carol's preferences. Carol was born and raised in Scott County. She had 11 brothers and sisters. Eric and Archie are two of her brothers that are still living. Betty is her niece and Joe is her nephew. Carol went to grade school. She enjoys sewing, crafts, going to the Church of Christ, and listening to gospel music.

Appendix H (continued): Carol's Communication Care Plan

How to communicate with Carol?	How Carol communicates?
• Place **hearing aids** in ears • **Limit distractions** during care • Speak at **face level, loudly** and **slowly** • Ask **yes/no questions** • Use **simple**, short speech • Restate or clarify what she says • **Wait** a few seconds for her to respond to directions.	• Speech is intelligible at phrase level • Her yes/no responses are reliable • Follows **1-step directions**. • **Hard of hearing** • Reduced **vision**
What Carol's behaviors mean.	**Carol's habits**
• When she yells "nurse" she wants to go to her room.	*She likes to:* • **Gospel Music** • **Cook, country food** (chicken and beans)
Carol's Life: Carol was born and raised in Scott County. She had **11 brothers and sisters**. **Eric** and **Archie** are 2 of her brothers. **Betty** is her niece and **Joe** is her nephew. Carol went to **grade school**. She enjoys **sewing, crafts**, and going to the **Church of Christ**, and listening to gospel music.	

Appendix I: Doris' Communication Care Plan

Doris completed testing seated upright in bed during the afternoon. Doris' communication was characterized by the ability to identify objects, follow two-part commands, talk at the conversational level, and read short phrases. She refused to complete the writing scale. Results of the SMPSQ indicated that Doris was oriented to spatial and personal information but not to temporal concepts. She also made errors on attention and memory tasks. During testing, the investigator/speech-language pathologist noticed perseverative behaviors in which wait time between directions facilitated language performance. According to responses on the MECQ-LTC, Doris answered yes/no questions verbally and used speech to communicate with caregivers. To facilitate comprehension of Doris' communication intent, Sharon asked yes/no questions, verified information, gave a choice of responses, and was familiar with her routine. She also allowed her time to complete tasks and refrained from touching her left hand because it is painful. In order to convey information to Doris, Sharon frequently spoke in simple sentences, repeated and re-stated information. Doris' son provided the autobiographical information as well as some hobbies and preferences related to care. Doris grew up in Wisconsin. At the age of four years, she was a concert pianist. Doris graduated high school and attended college in St. Paul, Minnesota where she earned a Bachelor's Degree in Music. She was married two times and has three children: Angela, John, and Jim (Angela passed away). Doris worked at Arthur Murray Dance studio for a couple of years and then became a stay at home housewife. She has a cat, Gabe. Doris enjoys reading and listening to all kinds of music. She prefers a quiet atmosphere and the door be closed at night.

Appendix I (continued): Doris's Communication Care Plan

How to communicate with Doris?	How Doris communicates?
• **Limit distractions** during care • Speak at **face level, loudly** and **slowly** • Ask **yes/no questions** • Use **simple**, short speech • **Give choices** • Restate or clarify what she says • **Wait** a few seconds for her to respond to directions.	• Speech is intelligible • Her yes/no responses are reliable • Follows **2-step directions**. • **Reads** familiar words and some phrases • **Hard of hearing** • Reduced **vision**
What Doris's behaviors mean.	**Doris's habits**
• Specific **facial expressions** indicate something is wrong. • Don't **rush** her during care. • Don't touch her **LEFT** hand	*She likes to:* • **Dance** • **Read** • **Music** • **Cook, specialty is beef stroganoff** *She dislikes:* • Loud noises, prefers her door closed at night
Doris's Life: Doris grew up in **Wisconsin**. At the age of **4 years**, she was a **concert pianist**. Doris graduated high school and attended **college** in St. Paul, Minnesota where she earned a Bachelor's Degree in **Music**. She was married 2 times and has 3 children: **Angela, John, and Jim** (Angela passed away). Doris worked at **Arthur Murray Dance studio** for a couple of years and then became a stay at home housewife. She has a cat, **Gabe**. Doris enjoys reading and listening to all kinds of music. She prefers a quiet atmosphere and the door be closed at night.	

Appendix J: Joan's Communication Care Plan

Joan was assessed seated in wheelchair in the dining room with reduced external distractions during the morning. Joan was highly distractible during the evaluation contributing to moderate to profound scores on the ALPs. Joan responded to her name with a head turn, imitated one-part commands, and read single words. Expressive language was characterized by disjointed speech, facial expressions and gestures. Joan did not respond to any questions on the SPMSQ. Jessica indicated on the MECQ-LTC that Joan hissed or breathed hard when she was scarred which usually occurs during transfers and will hit, grab, or pinch if she is approached the wrong way. In order to understand Joan, Jessica knew her routine, calmed Joan, and requested help from a more familiar person. Jessica suggested that CNAs should approach Joan in a calm manner with a soothing voice and explain what you are doing during the process of the task. If she begins to hiss, instruct her to breathe and calm down. Means of communication Jessica implemented to transmit a message to Joan included: gesturing, demonstrating, obtaining her attention, and speaking loudly and slowly. Joan's friend completed the autobiographical component of the CCP. During her teenage years, Joan was a model. When she was 18 years old, Joan married Joe who was a farmer. They were married 40 years. She has three children (Jill, Jane, and Lisa) and eight grandchildren. Joan learned to type when she was seven years old and later became a secretary. She was also a tour guide in Washington, DC. In 1997, Joan met a gentleman, Brian. Together, they loved to square dance in Nashville. Brian and Joan traveled to Switzerland, Germany and Hawaii. Joan walked five miles a day.

Appendix J (continued): Joan's Communication Care Plan

How to communicate with Joan?	How Joan communicates?
• **Limit distractions** during care • **Approach** in a **calm manner** • Speak at **face level, loudly** and **slowly** • Ask **yes/no questions** • Use **simple**, short speech • **Demonstrate** & **Explain** what you are doing during care (brushing teeth).	• She uses facial expressions to communicate pain or interest. • Her yes/no responses are reliable, sometimes. • Follows **1-step directions**. • **Reads** familiar words and some phrases • Points to **written words** or **pictures** to indicate need.
What Joan's behaviors mean.	**Joan's habits**
• **Breathes hard** when she is scarred, usually during transfers from wheelchair to bed. **Hold her hand** to keep her calm. • Increased aggression if she is approached abruptly.	*She likes to:* • **Dance** • **Travel** • **Music, old country**
Joan's Life: During her teenage years, Joan was a **model**. When she was 18 years old, Joan married **Joe** who was a **farmer**. They were married 40 years. She has **3 children** (Jill, Jane, and Lisa) and **8 grandchildren**. Joan learned to **type** when she was 7 years old and later became a **secretary**. She was also **a tour guide in Washington, DC**. In 1997, Joan met a gentleman, **Brian**. Together, they loved to square dance in Nashville. Brian and Joan traveled to **Switzerland, Germany and Hawaii**. Joan walked 5 miles a day.	

Appendix K: Joyce's Communication Care Plan

Joyce completed testing in her room up in wheelchair during the morning. She wears glasses and is hard of hearing. Joyce demonstrated mild to moderate communication skills according to scores on the ALPs. Receptively, she followed two-part commands presented verbally and written three-part commands. Speech intelligibility was impacted by an orofacial anomaly (cleft palate). She was also unaware of speech impairments or physical limitations. During the writing scale, Joyce showed signs of fatigue and frustration so testing ceased. Results of the SMPSQ revealed that Joyce was oriented to spatial and personal information but not to temporal concepts. She also made errors on attention and memory tasks. According to Megan's responses on the MECQ-LTC, Joyce used facial expressions, speech, body movements, pointing, and gestures to convey information. To facilitate comprehension of Joyce's communication intent, Megan asked yes/no questions, verified information, allowed time for her to respond, gave a choice of responses, knew her routines, and calmed Joyce. In order to transmit a message to Joyce, Megan spoke loudly and slowly in simple sentences, gestured, confirmed correct interpretation, repeated or re-stated information. Joyce's family member supplied the autobiographical information as well as specific hobbies. She grew up in Scott County. She has two sisters, Tammy and Sandy, and a good friend, Debbie. Joyce worked at Re-dryer, dried tobacco. She attended Corinth Baptist Church. Joyce likes watching television and listening to the radio.

Appendix K (continued): Joyce's Communication Care Plan

How to communicate with Joyce?	How Joyce communicates?
• Look at her when you speak; speak loudly and slowly. • **Write down** more than 2-step directions. • **Ask yes/no questions or simple sentences** • **Wait** a few seconds for her to respond • **Clarify** what she says • **Tell her what you are going to do.**	• Her yes/no responses are reliable. • She uses facial expressions to show interest or pain. • Points to items she wants
What Joyce's behaviors mean.	**Habits**
	She likes: • Listening to old rock music • Playing BINGO *She dislikes* • Taking a shower
Joyce's Life: Joyce grew up in Scott County. She has 2 sisters, Tammy and Sandy, and a good friend, Debbie. Joyce worked at Re-dryer, dried tobacco. She attended Corinth Baptist Church. Joyce likes watching television and listening to the radio.	

Appendix L: Lillian's Communication Care Plan

Lillian participated in assessments in room seated upright in bed during the afternoon. She wears glasses. During testing, the investigator/speech-language pathologist spoke loudly to facilitate Lillian's hearing acuity. Lillian completed all portions of the ALPs and exhibited mild impairments in auditory comprehension with following complex, multiple step directions. Her speech was intelligible at the conversation level. She can read at the short paragraph level and wrote phrases. Lillian's two errors on the SPMSQ were related to temporal information. According to responses on the MECQ-LTC, Lillian answered yes/no questions by head movements, used speech, facial expressions and body movements to communicate with caregivers. The most facilitative methods to understand the Lillian included asking yes/no questions, verifying information, knowing Lillian's routines, being attentive and calming Lillian. The means of communication used by Taylor to transmit a message to Lillian involved speaking loudly and slowly in short sentences, verifying correct interpretation of the message, and repeating information. Lillian completed the autobiographical component of the CCP and indicated hobbies and care preferences. Lillian grew up in Anderson, Indiana. Lillian married Stevie and they have two daughters, Angela and Christy. Lillian worked at the Greyhound office in Lexington. Interestingly, Lillian's aunt lived to be 104 years old. Her hobbies include reading the newspaper and mystery books as well as cross-stitching. She prefers to sleep until seven of eight o'clock, quiet time in the afternoon, and for the CNAs to devote their full attention when she asks a question.

Appendix L (continued): Lillian's Communication Care Plan

How to communicate with Lillian?	How Lillian communicates?
• Look at her when you speak; speak loudly • **Write down** more than 2-step directions. • **Wait** a few seconds for her to respond to an instruction or question. • Make sure **glasses** are within reach	• She **speaks well**. • Her yes/no responses are reliable. • She understands conversations. • Follows 2-step directions. • She can **read** and **write** phrases.
What Lillian's behaviors mean.	**Lillian's habits**
• Prefers **quiet time** in the afternoon • Requests **full attention** during care	*She likes to:* • **Read** newspaper, mystery books • **Cross-stitch** • **Word searches**
Lillian's Life: Lillian grew up in Indiana. Lillian married Stevie and they have 2 daughters, Angela and Christy. Lillian worked at the **Greyhound** office in Lexington. Interestingly, Lillian's aunt lived to be **104 years old.** Her hobbies include reading the newspaper and mystery books as well as cross-stitching. She prefers to sleep until seven of eight o'clock, quiet time in the afternoon, and for the CNAs to devote their full attention when she asks a question.	

Appendix M: Linda's Communication Care Plan

Linda completed testing in room seated in wheelchair during the afternoon. She wears glasses. Scores revealed moderate to profound impairments in all scales of the ALPS. Receptively, Linda followed one-part commands, identified objects, answered yes/no questions, and read familiar words. Expressive language was characterized by familiar words, copying numbers, and gestures. Cognitive abilities revealed orientation to location and personal information with impairments in attention and memory skills. According to responses on the MECQ-LTC, Linda answered yes/no questions with head movement, verbally, or by pointing to pictures, used facial expressions, body movements, and gestures to convey information. The means of communication Jessica applied to understand Linda included: asking yes/no questions, verifying information, knowing Linda's routine, being very attentive, calming Linda, and asking help from a more familiar person. The means of communication Jessica used to transmit a message included: speaking slowly in simple sentences, gesturing, verifying correct interpretation, repeating and re-stating information, and asking help from a more familiar person. Linda's daughter provided the autobiographical information and hobbies. She grew up in Morgan County with seven brothers and sisters. Linda's dad was a school teacher which influenced her to go to college. She rode a Greyhound bus about 160 miles to attend college. Linda was one semester from obtaining her teaching degree, but she decided to get marred instead. Linda married Chris in 1955 and they were married for 31 years. They have four children (Francis, Carolyn, Helen, Danny). Linda worked as a seamstress and sliced meat in a country store. She also crocheted purses and sold them at festivals. Linda enjoys watching UK basketball, Christian music (channel 115.62).

Appendix M (continued): Linda's Communication Care Plan

How to communicate with Linda?	How Linda communicates?
• Place **glasses** on face • Look at her when you speak; speak loudly and **slowly**. • Ask **yes/no questions** • Use **simple**, short speech • **Wait** a few seconds for her to respond. • Check to see if she has understood.	• She uses facial expressions to communicate pain or interest. • Her yes/no responses are reliable. • Follows **1-step directions**. • She understands some **humor**. • **Reads** familiar words • Points to **written words** or **pictures** to indicate need.
What Linda's behaviors mean.	**Linda's habits**
• Know her routine • She gets emotional at times.	*She likes:* • **TV:** Christian channel **115.62, WLJC** • **Country music** • **Crochet** • **Sports (any)** • **UK**
Linda's Life: She grew up in **Morgan County** with **7** brothers and sisters. Linda's dad was a school teacher which influenced her to go to college. She rode a **Greyhound** bus about 160 miles to attend college. Linda was one semester from obtaining her **teaching** degree, but she decided to get marred instead. Linda married **Chris** in 1955 and they were married for 31 years. They have **4 children** (Francis, Carolyn, Helen, Danny). Danny passed away. Linda worked as **a seamstress** and **sliced mea**t in a country store. She also **crocheted** purses and sold them at festivals. Linda enjoys watching UK basketball, Christian music (channel 115.62).	

Appendix N: Mary's Communication Care Plan

Mary was assessed in her room lying in bed during the morning. Mary wears glasses. Based on results from ALPs, Mary followed two-part commands presented verbally and written three-part commands, identified objects, answered yes/no questions, spoke intelligibly at the conversation level. Mary wrote single words with her left hand. Mary's writing performance was impacted by poor positioning (she refused to sit upright during testing due to back pain). According to the SPMSQ, Mary was oriented to spatial and personal information as well as some temporal concepts, but made errors on attention and memory tasks. Responses to MECQ-LTC indicated that Mary communicated by speech and body movements. Megan asked yes/no questions and calmed Mary to enhance comprehension. In order to convey a message, Megan spoke slowly and loudly in short sentences, gestured, verified understanding, repeated and re-stated information. Megan also indicated that Mary wore sunglasses all the time. Mary's family member supplied the autobiographical information and hobbies. Mary is married to Wayne. She has three children (Maude, Cornell, and Bennie). Mary worked as a nurse at several different hospitals: John Graves Ford Memorial, KY Village, and Eastern State. She traveled to multiple states, and her favorite state is Kentucky. Mary enjoys watching birds, crocheting, and reading magazines.

Appendix N (continued): Mary's Communication Care Plan

How to communicate with Mary?	How Mary communicates?
• Look at her when you speak; speak loudly and slowly. • **Write down** more than 2-step directions. • **Ask yes/no questions or simple sentences**	• She speaks well. • Her yes/no responses are reliable. • She understands simple conversations.
What Mary's behaviors mean.	**Mary's habits**
• Make sure **sunglasses** are on.	*She likes:* • Watching **birds** • Crochet • **Read** magazines *She dislikes* • Being cold • **Too much sunshine or light** • Getting hair washed
Mary's Life: Married to Wayne. She has 3 children (Maude, Cornell, and Bennie). Mary worked as a nurse at several different hospitals: John Graves Ford Memorial, KY Village, and Eastern State. She traveled to multiple states, and her favorite state is Kentucky. Mary enjoys watching birds, crocheting, and reading magazines.	

Appendix O: Susan's Communication Care Plan

Susan completed tests in her room seated in wheelchair during the morning. Joan was highly distractible during the evaluation contributing to profound scores on the ALPs. Receptively, Susan correctly responded to her name presented verbally and through written modality. Responses to general yes/no questions presented verbally were unreliable; however, she smiled in response to questions about family members. Expressive language was characterized by disjointed, involuntary speech, facial expressions and gestures. Following presentation of reading scale, specifically numbers and nouns (hand, foot), a delayed response was noted; she began counting and gazed at her hand and foot. Susan did not respond to any questions on the SPMSQ. According to responses on the MECQ-LTC, Susan used speech and body movements to convey information. The means of communication Rachel applied to understand Susan included: asking yes/no questions, verifying information, waiting, guessing, knowing Susan's routine, being very attentive, calming Susan, and asking help from a more familiar person. The means of communication Rachel used to transmit a message included: obtaining her attention, speaking loudly and slowly in simple sentences, verifying correct interpretation, repeating information, and asking help from a more familiar person. Susan's daughter completed the autobiographical information and indicated previous hobbies. Susan was married three times. She was married to Ralph for 12 years. They lived in Florida where she became friends with Madison. Susan learned to swim at a very young age. Susan has three children, Hannah, Johnny, and Elliot. She worked as a cigar roller which required a lot of counting. Susan enjoyed the outdoors, specifically gardening and the woods, read historical romance novels, sewed and crocheted.

Appendix O (continued): Susan's Communication Care Plan

How to communicate with Susan?	How Susan communicates?
• **Repeat** information • Obtain her **attention**, **speak at face level** • **Calm** the resident by talking about **her children** • Use **short, simple sentences** • Speak **slowly**	• Yes/no responses are not reliable • Appropriate **greetings** • **Verbalizes pain** but not able to localize • Little meaningful speech • **Reads** single words, sometimes
What Susan's behaviors mean.	**Susan's habits**
• Gets upset if she doesn't have your attention • Arches back when in pain	*She likes:* • Read **historical romance** • Sew • Crochet • **Swim (look at pictures of the beach)** • **Outdoors, gardening, woods** • Listening to **music (CD player in top drawer)** *She dislikes:* • Disrobing • Getting in and out of bed
Susan's Life: Susan was married 3 times. She was married to **Ralph** for 12 years. They lived in Florida where she became friends with **Madison**. Susan learned to swim at a very young age. Susan's sister is **Emily**. Susan has **3 children, Hannah, Johnny, and Elliot**. She worked as a **cigar roller** which required a lot of counting. Susan enjoyed the outdoors, specifically gardening and the woods, read historical romance novels, sewed and crocheted. Susan's daughter specified that she gets mad if she is not able to get your attention.	

Appendix P: Virginia's Communication Care Plan

Virginia completed testing in the dining room prior to a lunch seated in a wheelchair. She wears glasses. Virginia showed severe to profound scores across all scales of the ALPs which were influenced by visual acuity. She responded to her name presented verbally, followed one-part commands, and identified objects. Speech was intelligible but incoherent. Reading and writing were not completed due to visual impairments. Virginia did not respond to any questions on the SPMSQ. Responses to MECQ-LTC revealed that Virginia used speech, facial expressions, and pointing to communicate. The means of communication Taylor implemented to understand Virginia included asking yes/no questions, waiting for a response, knowing Virginia's routine, and being attentive. In order to convey a message, Taylor spoke in short sentences, verified understanding, and repeated information. Virginia's daughter provided the autobiographical information, hobbies, and specific communication behaviors. Virginia is married to Mark. They have been married for 26 years. She has three children: Loretta, Greta and Stevie. Carolyn graduated high school in Versailles and worked for the state where she retired. She has traveled to California. Virginia enjoyed cooking. Her daughter indicated that she does not initiate conversations.

Appendix P (continued): Virginia's Communication Care Plan

How to communicate with Virginia?	How Virginia communicates?
• Look at her when you speak; speak loudly and **slowly**. • Ask **yes/no questions** • Use **simple**, short speech • **Vision** is limited, place objects in hand (cup) to aid orientation to environment. • **Wait** a few seconds for her to respond. • Check to see if she has understood.	• She uses facial expressions to communicate pain or interest. • She speaks a lot, but it is often off-topic • Her yes/no responses are reliable. • She understands simple phrases. • Follows **1-step directions**. • She understands some **humor**.
What Virginia's behaviors mean.	**Virginia's habits**
	She likes: • Travel • **County cooking**
Virginia's Life: Virginia is married to **Mark**. They have been married for 26 years. She has 3 children: Loretta, Greta and Stevie. Virginia graduated high school in **Versailles** and worked for the state where she retired. She has traveled to **California**. Virginia enjoyed cooking. Her daughter indicated that she does not initiate conversations.	

Facility B

Appendix Q: Anna's Communication Care Plan

Anna participated in assessments seated in chair in her room during the afternoon. She wears glasses and hearing aids. Results of the ALPs revealed better performance on reading and talking scales, but listening scores were influenced by hearing impairments. Receptively, Anna responded to her name presented verbally and followed written complex directions. Expressively, Anna speaks intelligibly at the conversational level. Administration of the SPMSQ required written presentations due to limited hearing abilities. Anna answered the two questions related to personal orientation and remote memory correctly. Responses to the MECQ-LTC revealed that Anna used speech to communicate. Sandra indicated that she yelled a lot or spoke close to her ear because Anna can't hear well. The means of communication Sandra implemented to understand Anna included asking yes/no questions, repeating information, knowing Anna's routine, and calming Anna. In order to convey a message, Sandra spoke slowly and loudly in short sentences, gestured, verified understanding, repeated information and asked Anna to repeat information. Anna and her son supplied the autobiographical information and hobbies. Anna grew up in Georgetown, KY with one brother, Archie. Her mother was a seamstress and made Anna's clothes. She graduated from Garth High School. Anna was in the military from 1938-1958. She has two sons, Maddox and Eli. Eli passed away. Lorraine worked as a credit collector at Central Bank. Anna loved to travel. She went to Canada, Mexico and different places in the United States. She still wants to go to Hawaii. Anna is a member of Immanuel Baptist Church. Anna specified that she liked to walk, sing church music, read, watch television, and listen to Christian music.

Appendix Q (continued): Anna's Communication Care Plan

How to communicate with Anna?	How Anna communicates?
• **Look** at her when you speak. • Speak slowly and loudly, **deep voice next to her ear** • **USE DRY ERASE BOARD, Write down any questions, instructions, or what you are going to do.** (EXAMPLE - getting a lift to take you to the bathroom) • Use **pointing or gestures**	• Speaks well. • Her yes/no responses are reliable. • She follows **2-step WRITTEN directions.** • She can **read** well. • She **cannot hear** well.
Anna's specific behaviors	**Anna's habits**
• Introduce yourself. • Little **patience** which may be related to memory and hearing impairments.	*She likes to:* • Read informative **books** • Listen to band **music**, piano, or gospel music • Loves to **travel**, read travel **magazines** • **Sing** church music
Anna's Life: Anna grew up in Georgetown, KY with one brother, **Archie**. Her mother was a seamstress and made Anna's clothes. She graduated from **Garth High School**. Anna was in the **military** from 1938-1958. She has two sons, **Maddox and Eli**. Eli passed away. Anna worked as a credit collector at **Central Bank**. Anna loves to **travel**. She went to Canada, Mexico and different places in the United States. **She still wants to go to Hawaii.** Anna is a member of **Immanuel Baptist Church**.	

Appendix R: Betty's Communication Care Plan

Betty completed testing seated in a wheelchair in a quiet therapy gym during the evening. She wears glasses and is hard of hearing. Betty completed all portions of the ALPS. She understands two step directions and can read at the sentence level using her personal magnifying glass. She speaks intelligibly at the conversational level and writes sentences. On the SPMSQ, Betty was unclear about temporal concepts, but responded correctly to the remainder of the test items. According to responses on the MECQ-LTC, Betty frequently answered yes and no questions with head movement, by pointing to pictures of words, or verbally, used facial expressions, speech, body movements, writing or drawing, and a communication board to express a thought or need. In order to understand Betty's communication intent, Nicole asked yes/no questions, repeated information, waited, guessed, calmed Betty, and requested assistance from a more familiar person. To facilitate transmission of a message to Betty, Nicole obtained her attention, spoke loudly, and verified her understanding. Betty provided the autobiographical information, hobbies, and care preferences. Betty grew up in South Dakota. She married Ronnie and they have four children, Julie, Nelma, Hannah, and Elisha. Ronnie was in the military so each child was born in a different state. Betty has seven grandchildren and 11 great-grandchildren. After raising her family, Betty began work at 40 years old as a business manager. When she was 66, she retired. Betty and her husband were world travelers; they went to England, Europe, and throughout the United States. Betty enjoys listening to books on tape and Jazz music, gardening, going outside, and dancing. Betty specified that she does not liked to be rushed during care.

Appendix R (continued): Betty's Communication Care Plan

How to communicate with Betty?	How Betty communicates?
• Look at her when you speak; speak **loudly** • Make sure **glasses** are accessible • Check to make sure she understands you • **Wait** a few seconds for her to respond to instructions.	• She speaks well. • Her yes/no responses are reliable. • She understands conversations. • She uses a **magnifier** to read • Follows **2-step directions**
Betty's habits	**Betty's habits**
She likes to: • **To go outside** • Listen to audio tapes • Listen to music • **Dance** • Gardening	*She dislikes* • Being rushed
Betty's Life: Betty grew up in **South Dakota**. She married Ronnie and they have 4 children, Julie, Nelma, Hannah, and Elisha. Ronnie was in the **military** so each child was born in a different state. Betty has 7 grandchildren and 11 great-grandchildren. After raising her family, Betty began work at 40 years old as a **business manager** in Georgia. When she was 66, she retired. Betty and her husband were **world travelers**; they went to England, Europe, and throughout the United States.	

Appendix S: Dorothy's Communication Care Plan

Dorothy completed testing seated in a wheelchair in a quiet therapy gym during the evening. She wears hearing aids and glasses. Results of the ALPs revealed that Dorothy can follow one-step directions, read and speak intelligibly at the sentence level. Dorothy could not complete the writing scale because of arthritis. On the SPMSQ, Dorothy was oriented to temporal and personal information but not spatial concepts. Michelle indicated on the MECQ-LTC that Dorothy answered yes/no questions with head movement or verbally, used speech, pointing and gestures to convey information. Michelle used a variety of means of communication to understand Dorothy: asked yes/no questions, verified information, waited for a response, gave a choice of responses, guessed, was attentive and familiar with Dorothy's routine. In order to communicate a message to Dorothy, Michelle spoke slowly and loudly in short sentences, gestured, verified interpretation, repeated and re-stated information. Dorothy and her son supplied an only child. Dorothy graduated from high school. She married three times. Dorothy has two children, Graham and Luke. Luke passed away. Graham is married to Sarah. Dorothy has one granddaughter, Callie. Dorothy worked at First National Bank as a teller for 25+ years and taught ceramics for 25 + years. She is a member of Eastland Baptist Church. Dorothy has vacationed in several states and remembers traveling to Egypt. She enjoys reading, cooking, and listening to music. Her son indicated that Dorothy gets frustrated when she has trouble communicating and will say "I don't know" or "never mind."

Appendix S (continued): Dorothy's Communication Care Plan

How to communicate with Dorothy?	How Dorothy communicates?
• Place 2 **hearing aids** in ears • Speak at **face level, loudly** and **slowly** • Ask **yes/no questions** • Use **simple**, short speech • **Repeat** information • **Wait** 5 seconds for her to respond. • Give **choices** • Be very attentive during care	• Her yes/no responses are reliable. • Follows **1-step directions**. • **Reads** sentences • **Points** to objects to indicate interest or need.
What Dorothy's behaviors mean.	**Dorothy's habits**
• Elizabeth understands information if she can hear or read it. • She gets frustrated and says "I don't know" or "never mind" – If this occurs, **write** your request.	*She likes to:* • **Read** • Listen to **music** • Attend **church** activities • **Bake** (cookies)
Dorothy's Life: Dorothy grew up in Lexington. She was an **only child**. Dorothy graduated from **Picadome High School**. She married 3 times. Dorothy has 2 children, **Graham** and Luke. Luke passed away. Graham is married to Sarah. Dorothy has one granddaughter, **Callie**. Dorothy worked at First National **Bank as a teller** for 25+ years and taught **ceramics** for 25 + years. She is a member of Eastland **Baptist Church**. Dorothy has vacationed in several states and remembers traveling to **Egypt**.	

Appendix T: Margaret's Communication Care Plan

Margaret completed testing in wheelchair in quiet therapy gym during the evening. She wears glasses and is hard of hearing. Margaret completed all portions of the ALPs. Receptively, she followed written and verbally presented complex, multiple step directions. She speaks intelligibility at the conversational level. Margaret wrote simple sentences. On the SPMSQ, Margaret was oriented to personal information and remote memory but made errors on temporal concepts and attention tasks. Responses to the MECQ-LTC revealed that Margaret frequently answered yes/no questions with a head nod or verbally and used facial expressions, speech, and body movements to communicate a message. To facilitate comprehension of Margaret's communication intent, Nicole asked yes/no questions, gave a choice of responses, and requested help from a more familiar person. In order to convey information to Margaret, Nicole frequently used speech or verified understanding. Margaret and her daughter provided the autobiographical information, hobbies, and preferences related to care. Margaret grew up in Versailles with four brothers and three sisters. Margaret was married to Bill for 8 years. She has three children, Dorothy, Haley, and Joyce and 6 grandchildren. Margaret worked as a cook in a restaurant. Her cooking expertise carried over to home where she was a master at cooking pies. She is a member of First Baptist Church. She traveled with church friends and other friends to several places, Canada, Michigan, California, Las Vegas, Florida, and South Carolina. She loves the beach. Margaret likes watching television, specifically UK basketball, cooking, and reading the Bible. Margaret indicated that she likes to take a nap around two or three o'clock and occasionally has trouble squeezing her right hand.

Appendix T (continued): Margaret's Communication Care Plan

How to communicate with Margaret?	How Margaret communicates?
• **Look** at her when you speak; speak loudly • Make sure **glasses** are accessible • Check to make sure she understands you • **Wait** a few seconds for her to respond to instructions.	• She speaks well. • Her yes/no responses are reliable. • She understands conversations. • She follows **2-step directions.** • She can **read** and **write** phrases.
Margaret's specific behaviors	**Margaret's habits**
• She has trouble squeezing her right hand • Takes a nap around 2:00 • Likes a **blanket** within reach	*She likes to:* • Watch TV • **UK** Basketball • Cook • Read the **Bible** *She dislikes* • Being rushed
Margaret's Life: Margaret grew up in **Versailles** with 4 brothers and 3 sisters. Margaret was married to Bill for 8 years. She has 3 children, Dorothy, Haley, and Joyce and 6 grandchildren. Margaret worked as a **cook** in a restaurant. Her cooking expertise carried over to home where she was a master at cooking **pies**. She is a member of First Baptist **Church** in Versailles. She **traveled** with church friends and other friends to several places, Canada, Michigan, California, Las Vegas, Florida, and South Carolina. She loves the **beach**.	

Appendix U: Mildred's Communication Care Plan

Mildred was evaluated lying in bed during the evening. Mildred scores on the ALPs were influenced by reduced attention to tasks as well as visual limitations. Receptively, Mildred responded to her name, identified familiar objects, and followed written and verbally presented simple one-step commands. During testing, no verbalizations were noted. Mildred did not respond to any questions on the SPMSQ. Responses to MECQ-LTC revealed that Mildred used speech and specific behaviors to convey information. The CNA reported that Mildred sat at the end of her wheelchair to communicate bathroom needs and followed you if she needed to tell you something. To facilitate comprehension of Mildred's communication intent, Michelle asked yes/no questions, repeated information, waited, guessed, knew her routine, and was very attentive. In order to convey information to Mildred, Michelle frequently obtained her attention, spoke loudly and slowly using simple, short sentences, verified her understanding, repeated information, re-stated communication intent, and asked Mildred to repeat. Mildred's family completed the autobiographical information and a close friend indicated specific hobbies. Mildred grew up in Grant County where she graduated high school. She has three daughters, Betty, Carol, and Marsha. Mildred worked at the Drug Store and at an automobile shop as a secretary. She had two or three German shepherd dogs that became Police Dogs. Mildred has a special friend, John who visits frequently. They traveled to North Dakota where the mosquitoes nearly ate them up. Mildred also liked to dance to country music.

Appendix U (continued): Mildred's Communication Care Plan

How to communicate with Mildred?	How Mildred communicates?
• **Reduce distractions** during care. • Speak at **face level, loudly** and **slowly** • Ask **yes/no questions** • Use **simple**, short speech • **Repeat** information • Give **choices** • Be very attentive during care	• Uses facial expressions to communicate pain or interest. • Follows **1-step, simple directions**. • Says stereotypical phrases frequently. • Reads familiar words.
What Mildred's behaviors mean.	**Mildred's habits**
• **Sits** at end of wheelchair if she needs to go to the bathroom. • **Follows** you to indicate she needs something.	*She likes to:* • **Dance** • Listen to country **music** • **Dogs**
Mildred's Life: Mildred grew up in **Grant County** where she graduated high school. She has three daughters, **Betty, Carol, and Marsha**. Mildred worked at the Drug Store and at an automobile shop as a **secretary**. She had 2 or 3 **German Shepherd dogs** that became Police Dogs. Mildred has a special friend, **John** who visits frequently. They traveled to **North Dakota** where the **mosquitoes** nearly ate them up. Mildred also likes to **dance to country music**.	

Appendix V: Nancy's Communication Care Plan

Nancy completed assessments lying in bed during the afternoon. She wears glasses and can see better out of the right eye. Nancy is also hard of hearing. Based on ALPs scores, she demonstrated adequate communication abilities. Nancy could not complete portions of the listening scale and all of the writing scale due to rheumatoid arthritis. Visual acuity limited performance on reading tasks as well. Nancy exhibited no cognitive impairment. Responses on the MECQ-LTC indicated that Nancy frequently answered yes and no questions with head movement. Justin did not indicate any *frequently* occurring means of communication used to understand Nancy. He specified that *sometimes* he asked yes/no questions, verified information, waited for a response, gave choices, knew Nancy's routines, was very attentive, calmed Nancy, and asked help from a more familiar person. To transmit a message to Nancy, Justin used speech. Nancy provided autobiographical information and hobbies. Nancy was born in Bourbon County. She was married four times and has 10 children. Her fourth husband was her high school sweetheart, Lester and they were married 22 years. Nancy worked in agriculture. She is a member of Zion Baptist Church. Nancy enjoys watching Christian shows and the Price is Right on the television, fishing, and gardening.

Appendix V (continued): Nancy's Communication Care Plan

How to communicate with Nancy?	How Nancy communicates?
• Put on **glasses** when she is reading • She sees better out of **right eye** • Speak loudly. • Give resident **time** to respond	• She speaks well. • Her yes/no responses are reliable. • She understands complex conversations.
What Nancy's habits mean.	
She likes: • Watch TV (Spiritual shows, Price is Right) • Fishing • Gardening • Items placed within reach	
Nancy's Life: Nancy was born in Bourbon County. She moved to Georgetown in 1991. Nancy was married 4 times. She has 10 children. Her 4th husband was her high school sweetheart, Lester and they were married 22 years. Nancy worked in agriculture. She is a member of Zion Baptist Church.	

Appendix W: Patricia's Communication Care Plan

Patricia participated in testing seated in wheelchair in quiet therapy gym during the afternoon. She wears glasses and is hard of hearing. Patricia completed most items on the ALPs, but was unable to finish the final writing tasks due to deficits in memory. Receptively, she followed one-step directions presented verbally and written two-step directions. She speaks in simple sentences and writes phrases. Based on the SPMSQ, Patricia was only oriented to the day of the week. Pamela indicated on the MECQ-LTC that Patricia frequently answered yes and no questions with head movement and verbally, used facial expressions, gestures, and speech to convey information. In order to understand Patricia's message, Pamela guessed. To facilitate transmission of a message, Pamela frequently spoke loudly and slowly using simple, short sentences, repeated and re-stated information. Patricia's husband supplied the autobiographical information as well as previous hobbies. Patricia is married to Andrew and they have been married 54 years. While Andrew was in the service, they traveled to Europe (Italy, Austria, and Germany), Colorado, North Carolina and Florida. They have two children, Melissa and Jordan. Before having children, Patricia worked for electric parts. Patricia enjoys embroidering, listening to old music (no rap), reading love stories, and watching westerns and *I Love Lucy* on the television.

Appendix W (continued): Patricia's Communication Care Plan

How to communicate with Patricia?	How Patricia communicates?
• **Look** at her when you speak. • Speak slowly and loudly • Check to make sure she understands you • Reduce **distractions** during care • **Write down your name and type of care (bathroom).** • Use short, simple speech.	• Speaks simple sentences. • Her yes/no responses are sometimes reliable. • She uses facial **expressions to show interest** • **She follows 1-step directions.** • She can **read** sentences. • She can **write** words.
Patricia's specific behaviors	**Patricia's habits**
• Introduce yourself.	*She likes to:* • Watch TV – **Western's & I Love Lucy** • **Embroidery** (ordinary and swiss) • **Old Music,** no rap • **Read love stories**
Patricia's Life: Patricia is married to **Andrew** and they have been married **54 years**. While Andrew was in the service, they traveled to **Europe** (Italy, Austria, Germany), Colorado, North Carolina and Florida. They have **2 children (Melissa and Jordan**). Before having children, Patricia worked for **electric parts**.	

Appendix X: Robert's Communication Care Plan

Robert was evaluated seated in his wheelchair in the quiet therapy gym during the evening. He wears glasses. Robert showed limited attention during the majority of tasks. Receptively, Robert responded to his name. Expressively, he speaks intelligibly at the single word level. Robert can read and write numbers. During testing, a communication photo book was created and placed on Robert's wheelchair. He was able to identify photos by name and function. On the SPMSQ, Robert only answered one question correctly which was his age. According to responses on the MECQ-LTC, Robert answered yes/no questions with head movement, used speech, and body movements to communicate. The means of communication Sandra implemented to understand Robert included asking yes/no questions, waiting for a response, giving choices, knowing Robert's routine, and calming Robert. In order to convey a message, Sandra spoke in short sentences, gestured, verified understanding, repeated information and asked Robert to repeat information. Robert's autobiographical information was extracted from the social services portion of his medical chart. Robert was born in Frankfort. He has three sisters and two brothers. Robert worked as a farmer feeding cows and tending corn. He enjoys going to church and playing games.

Appendix X (continued): Robert's Communication Care Plan

How to communicate with Robert?	How Robert communicates?
• If he gets frustrated, ask him to **point to a picture in communication book.** • Give **choices** • Use **short, simple speech** • Communicates best in a quiet environment. • Look at him when you speak; speak loudly • **Wait** a few seconds for him to respond to instructions.	• Gestures, uses facial expressions • Speech is intelligible sometimes with familiar words and phrases • **Points** to show interest or pain • **Identifies items in photos**
Robert's specific behaviors	**Robert's habits**
• Gets frustrated when you can't understand him.	*He likes to:* • Watch TV • **Play games** • **Sports** • Church • Listen to church music
Robert's Life: Robert was born in **Frankfort**, KY. He has 3 **sisters** and 2 **brothers**. Robert worked as a **farmer** feeding cows and tending corn.	

Appendix Y: Ruth's Communication Care Plan

Ruth was evaluated lying in bed during the evening. She wears glasses. Ruth completed all portions of the listening, reading, and talking scales but poor positioning prevented completion of the writing scale. Ruth understands three step directions, speaks at the conversational level, reads sentences and writes single words. On the SPMSQ, Ruth made two errors related to temporal orientation. According to responses on the MECQ-LTC, Ruth frequently answered yes/no questions with a head nod and used speech and pointing to communicate a message. In order to understand Ruth's message, Pamela verified information, gave choices and full attention, guessed, and was familiar with Ruth's routine. In order to convey information to Ruth, Pamela spoke slowly and loudly in short sentences, verified understanding, repeated and re-stated information. Ruth completed the autobiographical section of the CCP, specified hobbies and preferences related to care. Ruth grew up in Scott County. She was married to Sal for six years and they have four children and 10 grandchildren. Ruth was self-employed as a nurse and owned a personal care home, Ruth's Geriatric Center. She is a member of First Baptist Church. Ruth traveled with a group from church to Europe and Africa. Ruth enjoys traveling and watching soap operas and family feud on the television. She prefers CNAs introduce themselves upon entering her room and dislikes being left in the middle of an ADL.

Appendix Y (continued): Ruth's Communication Care Plan

How to communicate with Ruth?	How Ruth communicates?
• **Look** at her when you speak • Speak loudly and slowly • **Verify** what she says (Do you mean?) • Encourage her to **speak slowly** • Give **choices** • Use simple, short speech	• Speaks phrases intelligibly. • Her yes/no responses are reliable. • She **points** to items she wants • She follows **2-step directions.** • She can **read** phrases. • She can **write** words.
Ruth's specific behaviors	**Ruth's habits**
• Introduce yourself • Prefers your full attention during care	*She likes to:* • Watch TV - **Soap Operas** and **Family Feud** • **Travel** *She dislikes* • Being rushed
Ruth's Life: Ruth grew up in Scott County. She was married to **Sal** for 6 years and they have 4 children and 10 grandchildren. Ruth was self-employed as a **nurse** and owned a personal care home, **Ruth's Geriatric Center**. She is a member of **First Baptist Church** in Georgetown. Ruth traveled with a group from church to **Europe** and **Africa**.	

Appendix Z: Shirley's Communication Care Plan

Shirley completed testing lying in bed during the morning. She wears glasses and is hard of hearing. Shirley demonstrated mild communication impairments. She understands and speaks at the conversational level and reads at the phrase level. Shirley could not complete the writing scale because of severe arthritis. On the SPMSQ, Shirley's errors were on items concerning temporal orientation, attention and memory. According to responses on the MECQ-LTC, Shirley used speech and answered yes/no questions verbally to communicate with caregivers. To facilitate comprehension of Shirley's communication intent, Justin asked yes/no questions, gave a choice of responses, and was familiar with her routine. In order to convey information to Shirley, Justin frequently used speech or verified correct understanding. Shirley and a family member specified autobiographical information and hobbies. She was married to for 50 years. Dates involved going to the movies and basketball games. They have four children: Jimmy, Sandra, Brittany and Ben (passed away in a car wreck). Their home was in Harrison County where Shirley graduated from high school and worked at Electric Parks and Montgomery Ward. Shirley is a member of Gano Baptist Church. She enjoys watching UK Basketball, playing the card game Rummy, playing Bingo, and reading novels. Shirley prefers to lay on her left side and wears a necklace every day.

Appendix Z (continued): Shirley's Communication Care Plan

How to communicate with Shirley?	**How Shirley communicates?**
• Put on **glasses** when she is reading • Look at her when you speak; speak loudly and slowly. • Tell Shirley **where you are taking her.** • **Ask yes/no questions, simple sentences** • **Give choices** • Check to make sure she understands you	• She speaks well. • Her yes/no responses are reliable. • She understands simple conversations.
Shirley's habits	**Shirley's habits**
She likes to: • Watch UK Basketball • **Play cards – Rummy** • Play BINGO • **Read** novels • Prefers to lay on her left side • Wears a necklace everyday	*She dislikes* • Being rushed
Shirley's Life: Married for 50 years. Dates involved going to the movies and basketball games. They have four children: Jimmy, Sandra, Brittany and Ben (passed away in a car wreck). Their home was in Harrison Country where Shirley graduated from high school and worked at Electric Parks and Montgomery Ward. Shirley is a member of Gano Baptist Church.	

Appendix AA: Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Abilities	• Resident's physical and mental capabilities	• ADLs • change in residents over the years • daily changes • daily routine • get up list • meeting residents' needs • routine tasks	• at home	• depends on abilities • diagnosis • elderspeak • language barrier • resident differences • residents are people	• access to personal items • cognitive abilities • confused • communication behaviors • comprehension • dependence • easier to communicate • feeders • hearing abilities • means of communication • repeating self • resident behavior • scattered • transfer procedures • tries to tell you	• adjusting style of communication • aggression • amount of resident-staff communication • assignments • assistive communication devices • benefits from CCPs • can't get her to stand up • carry on a conversation • communication strategies • complaining • content of CCPs • don't ask for much • effectiveness of CCPs • effort to communicate • isolation • it takes time • know what they want

Appendix AA: Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Abilities (continued)						• refusal of care • residents are time-consuming • response to limited communication abilities • rushed • shocked me • staff-speech therapist communication • staffing • strategies on CCPs • suggestions for CCPs • talk to me nonstop • you have to know

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Administering Care	• process of providing medical and bed and body care	• ADLs • change in residents over the years • daily changes • daily routine • immediately • residents are time-consuming • routine tasks • shift Preference • start a shift • time demands • time of communication • work shift	• depends on facility • privacy	• abilities • cognitive abilities • complaining • comprehension • concerned • confused • dependence • feeders • love of job • makes their day better • repeating self • resident behaviors • residents are people • scattered • that's your job • wages	• abuse • application of CCPs • application of personal component • ask permission • assignments • assistive communication devices • attempts to decrease aggression • attention to residents • bargaining • catch her off guard • CNA-nurse communication • CNA response to resident complaint • continuity of care • depends on how agitated • depends on resident • diagnosis	• comfortable • emotionally taxing • love of job • makes their day a lot better • more time with residents • new information on CCP • reasons for staff resignation • refusal of care • relationships with residents • strategies on CCPs • stressful work environment • suggestions to improve communication between staff • talk to me nonstop • visitor's perceptions • viewing job negatively • workload

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Administering Care (continued)				• why she's here	• differences between shifts • difficulty with residents • face to face resident updates • individuality • interdisciplinary support • know about them • like family • listen to resident • patience • poor care • resident differences • response to limited communication abilities • role of nurses • rushed • staffing • staff-speech therapist communication	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Application of CCPs	• examples of CNAs using CCPs	• ADLs • application of CCPs when busy • daily routine • differences between shifts • easy tasks • face to face resident updates • getting it done • going to stand up • putting on her shirt • routine tasks • start a shift • time of • communication • transferring procedures • work shift	• depends on facility • facility characteristics • location of communication • pulling the curtain	• abilities • attempts to decrease aggression • change • cognitive abilities • communication behaviors • complaining • comprehension • confused • daily changes • dependence • diagnosis • effort to communicate • feeders • frustrated • language barrier • patience • people need to know • refusal of care • repeating self	• adjusting style of communication • application of personal component • ask permission • assignments • assistive communication devices • attention to residents • background • clarifying resident's statements • CNA response to resident complaint • communication education • communication strategies	• amount of resident-staff communication • carry on a conversation • characteristics of care as perceived by residents • comfortable • communication confidence • communication partners • continuity of care • duration of aggression • easier to communicate • effectiveness of CCPs • familiarity • feel better • frequency of aggression

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Application of CCPs (continued)					• staff-speech-therapist communication • strategies on CCPs • support • support from therapists • talking about her family • talk to all of them • touch • who uses CCPs	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Characteristics of CNAs	• work experience, personality, work ethic of CNAs	• days off • differences between shifts • first job • getting it done • start a shift • transferring procedures • work shift	• easy tasks • facility characteristics • facility rules • work experience • workload	• emotionally taxing • familiarity • frustrated • future career plans • get-up list • hang in there • job choice • perceptions of job • stressful work environment • that's your job	• CNA response to resident complaint • CNA school • communication confidence • communication education • communication training • correct field for you • dementia education • effort to communicate • elderspeak • experience level • hands-on training • it takes time • know what they want • love of job • on-site training	• amount of resident-staff communication • application of CCPs • carry on a conversation • CNA communication • CNA-nurse communication • communication strategies • content of resident-staff communication • person centered care • relationships with residents • viewing job negatively

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Characteristics of CNAs (continued)					• public's perceptions of CNAs • routine tasks • rushed • staffing • struggles • talk to all of them • time management • touch • treat them like a person	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
CNA-nurse communication	• Communication between nurses and CNAs regarding resident's medical status.	• ADLs • application of personal component • daily routine • routine tasks • start a shift • work shift	• central location • depends on facility • facility rules	• abilities • abuse • cognitive abilities • communication behaviors • communication is number one key • comprehension • concerned • confused • daily changes • days off • dependence • depends on resident • diagnosis • differences between shifts • difficulty with residents • effort to communicate • everyone needs communication	• attention to residents • CNA communication • communication education • communication training • content of resident-staff communication • experience level • face to face resident updates • guidance • hang in there • interdisciplinary support • nurses responses to resident's complaints • nurses won't help us • procedures	• amount of resident-staff communication • characteristics of CNAs • comfortable • communication confidence • continuity of care • duration of aggression • easier to communicate • familiarity • reasons for staff resignation • shift preference • stressful work environment • suggestions for CNA training • suggestions to improve communication between staff

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
CNA-nurse communication (continued)				• frustrated • hearing abilities • know about them • know what they want • new resident • people need to know • resident behavior • resident differences • roles of nurses • rushed • scattered • staffing • that's your job • work load • you have to know	• support • support from therapists • time demands • time management • training at other facilities • transferring procedures • who benefits from CCPs • who uses CCPs • work experience	• visitor's perceptions • viewing job negatively • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
CNA school	• educational and clinical training completed by CNAs	• length of CNA school	• depends on facility • facility characteristics • location of CNA school • on-site training • training at other jobs	• CNA certification • correct field for you • facility rules • future career plans • hang in there • life experiences • new hire requirements • procedures • that's your job • unfamiliarity	• communication education • communication training • dementia education • guidance • hands-on training • nurses won't help us • training supervision • transferring procedures • work experience	• amount of resident-staff communication • application of CCPs • application of personal component • carry on a conversation • CNA communication • CNA-nurse communication • communication confidence • communication strategies • effort to communicate • familiarity • shift preference • stressful work environment • suggestions for CNA training

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Depends on facility	• procedural differences between nursing home facilities	• daily changes • getting it done • on-site training • training at other jobs	• CNA school • facility characteristics	• abilities • access to personal items • aggression • viewing job negatively • change in residents over years • characteristics of care as perceived by residents • characteristics of CNAs • cognitive abilities • communication is number one key • complaining • comprehension • dependence • diagnosis • don't ask for much • family involvement • frustrated • feeders	• abuse • assignments • attention to residents • CNA-nurse communication • CNA communication • CNA response to resident complaint • communication confidence • communication education • concerned • continuity of care • daily routine • days off • dementia education • difficulty with residents • easier to communicate • effort to communicate • experience level	• amount of resident-staff communication • application of CCPs • benefits from CCPs • benefits of support • effectiveness of CCPs • future career plans • intent to leave • limited use of CCPs • love of job • more time with residents • perceptions of job • visitors' perceptions

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Depends on facility (continued)				• frequency of aggression • hearing abilities • motivation • new resident • person centered care • privacy • public's perceptions of CNAs	• face to face resident updates • familiarity • facility rules • first perceptions of speech therapist • get-up list • guidance • hands-on training • marketing • new hire requirements • nurse-nurse daily report • nurses responses to resident complaints • staffing • training at other jobs • training supervision • wages • work experience • workload	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Depends on how agitated	• differences in the amount and time of resident's aggression	• ADLs • change in resident over years • daily changes • differences between shifts	• at home • depends on facility	• abilities • abuse • access to personal items • background • change communication partners • comprehension • concerned confused • continuity of care • dementia education • diagnosis • elderspeak • emotionally taxing • emotions • experience level • face to face resident updates • frustrated • guidance	• CNA response to resident complaint • communication behaviors • complaining • daily routine • depends on resident • family involvement • feeders • get-up list • getting it done • language barrier • poor care • resident behavior • response to limited communication abilities • treat them like a person	• adjusting style of communication • amount of resident-staff communication • application of CCPs • application of personal component • attempts to decrease aggression • can't get her to stand up • characteristics of care as perceived by residents • communication strategies • content on CCPs • content of resident-staff communication • effectiveness of CCPs • get somebody else • isolation

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Depends on how agitated (continued)				• hands-on training • isolation • loneliness • mood • privacy • resident differences • rushed • scattered • stubborn • unfamiliarity		• limited time to talk socially • refusal of care • reasons for staff resignation • residents are time-consuming

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Effectiveness of CCPs	• changes in care or residents' behaviors with application of CCPs	• ADLs • catch her off guard • change in residents over years • daily changes • face to face resident updates • routine tasks • refusal of care • time of communication • work shift	• stressful work environment	• abilities • attention to residents • viewing job negatively • background • characteristics of CNAs • cognitive abilities • communication behaviors • communication is number one key • complaining • comprehension • concerned • confused • content on CCPs • dependence • depends on facility • depends on how agitated	• adjusting style of communication • application of CCPs • application of personal component • assistive communication devices • ask permission • attempts to decrease aggression • bargaining • clarifying resident's statements • CNA response to resident complaint • benefits of support • communication training • communication strategies	• amount of resident-staff communication • carry on a conversation • CNA communication • comfortable • communication confidence • communication partners • content of resident-staff communication • continuity of care • Co-workers perceptions of CCPs • duration of aggression • easier to communicate • effort to communicate • familiarity • feel better

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Effectiveness of CCPs (continued)				• depends on resident • diagnosis • difficulty with residents • don't ask for much • emotionally taxing • emotions • everyone needs communication • facility characteristics • facility rules • feeders • hearing abilities • know what they want • repeating self • resident behavior • resident differences • time demands • tries to tell you • unfamiliarity • who benefits from CCPs	• creating CCPs • dementia education • experience level • family involvement • guidance • habit of looking at it • interdisciplinary support • it takes time • location of CCPs • meeting resident's needs • motivation • perceptions of CCPs • person centered care • pictures in their room • preferences • procedures • resident's response to CCPs	• getting your point across • know about them • lit up • makes my job a lot easier • more time with residents • residents benefit from CCPs • suggestions for CCPs • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Effectiveness of CCPs (continued)				• who uses CCPs • you have to know	• response to limited communication abilities • reviewing CCPs • specific behaviors • strategies on CCPs • support • talk to all of them • time management • touch • treat them like a person • who does not need CCPs	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Effort to communicate	• CNAs try to understand or speak with residents	• ADLs • assignments • daily changes • daily routine • days off • differences between shifts • easy tasks • refusal of care • routine tasks • time of communication • work shift	• location of communication • stressful work environment	• abilities • aggression • viewing job negatively • change • change in residents over years • cognitive abilities • communication behaviors • communication education • communication is number one key • communication training • complaining • concerned • confused • dependence • diagnosis • difficulty with residents • don't want to be here • emotions	• adjusting communication style • application of CCPs • application of personal component • ask permission • assistive communication devices • attention to residents • bargaining • benefits of CCPs • benefits of support • catch her off guard • clarifying resident's statements • CNA response to resident complaint	• amount of resident-staff communication • carry on a conversation • characteristics of care as perceived by residents • characteristics of CNAs • comfortable • communication partners • content of CCPs • content of resident-staff communication • duration of aggression • easier to communicate • emotionally taxing • familiarity • feel better • frequency of aggression • future career plans

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Effort to communicate (continued)				• everyone needs communication • experience level • frustrated • hearing abilities • hands-on training • know what they want • language barrier • life's experiences • patience • preferences • repeating self • resident behavior • resident differences • residents are time-consuming • response to limited communication abilities • scattered	• communication confidence • communication strategies • continuity of care • dementia education • depends on facility • depends on how agitated • depends on resident • elderspeak • family involvement • get-up list • getting your point across • guidance • habit of looking at it	• get somebody else • know about them • learn about their life • limited time to talk socially • lit up • makes their day a lot better • more time with residents • reasons for staff resignation • rushed • suggestions to improve communication between staff • treat them like a person • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Effort to communicate (continued)				• staffing • struggles • stubborn • you have to know	• interdisciplinary support • introduce yourself • it takes time • listen to resident • means of communication • motivation • person centered care • person they were • pictures in their room • relationships with residents • resident-resident communication • staff-speech therapist communication • support from therapists • talk to all of them • talk to me nonstop • time management • tries to tell you	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Getting it done (continued)				• residents are time-consuming • role of nurses • rushed • staffing struggles • that's your job • time demands	• communication strategies • continuity of care • depends on facility • depends on how agitated • depends on resident • differences between shifts • difficulty with residents • easy tasks • effectiveness of CCPs • effort to communicate • elderspeak • get somebody else • get-up list • it takes time • meeting resident's needs • motivation	• more time with residents • relationships with residents • resident behavior • suggestions for CNA training • suggestions to improve communication between staff • viewing job negatively • whole lot smoother • you have to know

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Getting it done (continued)					• nurse-nurse daily report • person centered care • procedures • purpose of visit • response to limited communication abilities • shift preference • talk to all of them • time management • transferring procedures • treat them like a person	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
I am satisfied	• positive perceptions of CCPs after 2 weeks of implementation	• ADLs • daily changes • daily routine • getting it done • work Shift • when CNAs used CCPs	• routine tasks • stressful work environment	• abilities • amount of resident-staff communication • benefits of CCPs • benefits of support • carry on a conversation • comfortable • communication confidence • communication partners • continuity of care • difficulty with residents • duration of aggression • easier to communicate • easy tasks	• application of CCPs • application of CCPs when busy • application of personal component • assignments • CNA communication • content of CCPs • depends on how agitated • depends on resident • differences between shifts • experience level • familiarity • get up list • habit of looking at it • hang in there	• characteristics of care as perceived by residents • characteristics of CNAs • content of resident-staff communication • makes their day a lot better • shocked me • suggestions for CCPs • treat them like a person • viewing job negatively • who does not need CCPs • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
I am satisfied (continued)				• effectiveness of CCPs • effort to communicate • everyone needs communication • feel better • guidance • person centered care • privacy • resident communications influence on staff • resident's response to CCPs • who benefits from CCPs • who uses CCPs • you have to know	• know about them • know what they want • life's experiences • questionnaires • residents benefit from CCPs • response to limited communication abilities • reviewing CCPs • specific behaviors • strategies on CCPs • suggestions to improve communication between staff • support	

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
It takes time	• With time, new CNAs learn how to effectively communicate with residents	• ADLs • routine tasks • work shift	• stressful work environment	• abilities • amount of resident-staff communication • assignments • change • cognitive abilities • communication behaviors • daily changes • dependence • depends on how agitated • depends on resident • diagnosis • differences between shifts • difficulty with residents • don't want to be here • hearing abilities	• adjusting communication style • application of CCPs • application of CCPs when busy • application of personal component • assistive communication devices • attention to residents • bargaining • benefits of CCPs • benefits of support • communication education • communication training • dementia education • effort to communicate • face to face updates	• carry on a conversation • characteristics of care as perceived by residents • CNA communication • CNA -nurse communication • comfortable • communication confidence • communication partners • content of CCPs • content of resident-staff communication • continuity of care • easier to communicate • effectiveness of CCPs • familiarity • get somebody else • know about them • know what they want

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
It takes time (continued)				• language barrier • meeting resident's needs • new CNA • nurses won't help us • patience • people need to know • procedures • refusal of care • resident differences • residents are time-consuming • scattered • stubborn • unfamiliarity • workload	• get up list • introduce yourself • pictures in their room • purpose of visit • response to limited communication abilities • rushed • time management • time of communication • touch • training at other jobs • when CNAs used CCPs • work experience	• limited use of CCPs • person centered care • shift preference • suggestions for CNA training • treat them like a person • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Learn about their life	• beneficial consequences of application of personal component of CCPs by residents and CNAs	• ADLs • daily changes • daily routine • differences between shifts • routine tasks	• location of communication • stressful work environment	• assignments • attention to residents • background • communication is number one key • continuity of care • everyone needs communication • familiarity • like family • life's experiences • new resident • people need to know • residents are people • treat them like a person	• access to personal items • application of CCPs • application of CCPs when busy • application of personal component • communication behaviors • communication strategies • effort to communicate • experience level • family involvement • getting it done • habit of looking at it • hang in there • introduce yourself • it takes time • know about them • listen to resident • pampering	• amount of resident-staff communication • carry on a conversation • characteristics of care as perceived by residents • characteristics of CNAs • comfortable • communication confidence • communication partners • content of resident-staff communication • duration of aggression • easier to communicate • effectiveness of CCPs

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Learn about their life (continued)					• person they were • pictures in their room • preferences • previous appearance • strategies on CCPs • staffing • support • work experience • workload	• feel better • frequency of aggression • lit up • makes their day a lot better • mood • more time with residents • motivation • new information on CCPs • perceptions of job • person centered care • relationships with residents • residents benefit of CCPs • shift preference • shocked me • talk to me nonstop • viewing job negatively • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Makes their day a lot better	• beneficial consequences of resident-staff communication	• ADLs • daily • daily routine • differences between shifts • pampering • routine tasks • rushed • time of communication	• privacy • stressful work environment	• attention to residents • background • change • communication is number on key • continuity of care • emotions • everyone needs communication • experience level • get up list • guidance • like family • know what they want • person they were • relationships with residents • residents are people	• adjusting style of communication • application of CCPs • application of CCPs when busy • application of personal component • ask permission • assistive communication devices • attempts to decrease aggression • clarifying resident's statements • CNAs response to resident complaint • communication strategies • depends on how agitated	• amount of resident-staff communication • benefits from CCPs • benefits of support • carry on a conversation • characteristics of care as perceived by residents • comfortable • communication confidence • communication partners • content of resident-staff communication • duration of aggression • easier to communicate • familiarity • feel better • lit up • mood

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Makes their day a lot better (continued)				• that's your job • treat them like a person	• effectiveness of CCPs • face to face resident updates • family involvement • frequency of aggression • habit of looking at it • introduce yourself • learn about their life • listen to resident • meeting resident's needs • pampering • person centered care • preferences • privacy • procedures • staffing • support • talk to all of them • who uses CCPs • work experience • workload	• more time with residents • motivation • perceptions of job • residents benefit from CCPs • shocked me • talk to me nonstop • viewing job negatively

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Resident behavior	• descriptions of resident's conduct	• ADLs • daily routine • routine tasks • start a shift	• depends on facility • location of communication	• abilities • viewing job negatively • background • change • cognitive abilities • complaining • comprehension • confused • continuity of care • daily changes • dependence • depends on how agitated • diagnosis • differences between shifts • don't want to be here • everyone needs communication • familiarity • get-up list • hearing abilities • isolation	• aggression • catch her off guard • communication behaviors • easy tasks • effectiveness of CCPs • effort to communicate • emotions • getting it done • getting your point across • know what they want • language barrier • means of communication • resident-resident communication • staff's communication abilities • staffing	• adjusting style of communication • amount of resident-staff communication • application of CCPs • benefits from CCPs • communication strategies • content of CCPs • frustrated • get somebody else • isolation • limited time to talk socially • limited use of CCPs • reasons for resignation • refusal of care • residents benefit from CCPs • shift preference • shocked me

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Resident behavior (continued)				• life's experiences • listen to resident • loneliness • meeting resident's needs • mood • pampering • poor care • preferences • privacy • repeating self • residents are time-consuming • specific behaviors • tries to tell you	• strategies on CCPs • stressful work environment • time of aggression • time of communication • when CNAs used CCPs	• suggestions for CNA training • who benefits from CCPs • workload

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Rounding with leaving CNAs	• face to face resident updates between CNAs	• daily routine • routine tasks • start of shift • work shift	• central location • depends on facility	• abilities • assignments • attempts to decrease aggression • attention to residents • communication is number one key • continuity of care • daily changes • diagnosis • everyone needs communication • facility rules • interdisciplinary support • know what they want • meeting resident's needs • new CNA • new resident • people need to know	• CNA communication • CNA-nurse communication • hang in there • nurse-nurse daily report • procedures • you have to know	• application of CCPs • communication confidence • easier to communicate • effectiveness of CCPs • familiarity • makes my job a lot easier • new information on CCPs • shift preference • staffing • suggestions to improve communication between staff

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Rounding with leaving CNAs (continued)				• person centered care • preferences • resident behavior • resident differences • that's your job • unfamiliarity • workload		

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Supporting CNAs	• Therapists and nurses providing education and involving CNAs in medical decision-making.	• ADLs • routine tasks • work shift	• depends on facility • stressful work environment	• abilities • characteristics of care as perceived by residents • diagnosis • cognitive abilities • communication is number one key • new CNA • new resident • people need to know • resident differences • staffing • time demands	• application of CCPs when busy • communication education • communication training • dementia education • face to face resident updates • facility rules • guidance • location of CCPs • meeting resident's needs • nurse-nurse daily report • nurses won't tell us • perceptions of speech therapist • procedures • questionnaire • role of nurses	• amount of resident-staff communication • application of CCPs • application of personal component • benefits from CCPs • CNA-nurse communication • communication confidence • continuity of care • easier to communicate • love of job • makes my job a lot easier • more time with residents • new information on CCPs • person centered care

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Supporting CNAs (continued)					• staff-ST communication • strategies on CCPs • suggestions for CNAs training • suggestions for CCPs • suggestions to improve communication between staff • support • support from therapists • time management • training at other jobs • training supervision • wages • work experience	• public's perception of CNAs • shift preference • viewing job negatively • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Stressful work environment	• CNAs' intense work demands of daily routine tasks	• ADLs • daily changes • daily routine • routine tasks • start a shift	• depends on facility • facility characteristics • facility rules • work shift	• abilities • aggression • assignments • cognitive abilities • complaining • confused • diagnosis • difficulty with residents • duration of aggression • emotionally taxing • experience level • first job • frequency of aggression • get-up list • getting it done • hearing abilities • it takes time • job choice • new resident • nurses won't help us • patience • procedures	• CNA communication • CNA-nurse communication • depends on how agitated • depends on resident • hang in there • language barrier • meeting resident's needs • poor care • that's your job • time demands • time management • work experience • workload	• characteristics of care as perceived by residents • frustrated • future career plans • intent to leave • limited time to talk socially • limited use of CCPs • perceptions of job • public's perceptions of CNAs • reasons for resignation • shift preference • visitor's perceptions

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Stressful work environment (continued)				• refusal of care • resident differences • residents are time-consuming • rushed • scattered • staffing • stubborn • unfamiliarity		

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Treat them like a person	• during daily routines, treating residents as people instead of tasks	• ADLs • daily changes • daily routines • differences between shifts • routine tasks • work shift	• stressful work environment	• communication is number one key • communication partners • dementia education • don't want to be here • everyone needs communication • know about them • life's experiences • like family • loneliness • resident differences • residents are people	• adjusting communication style • application of personal component • ask permission • assistive communication devices • attention to residents • communication strategies • effort to communicate • experience level • guidance • hang in there • introduce yourself • listen to resident • means of communication • meeting resident's needs • more time with residents • nurses response to resident's complaints	• amount of resident-staff communication • carry on a conversation • characteristics of care as perceived by residents • characteristics of CNAs • comfortable • continuity of care • duration of aggression • easier to communicate • familiarity • feel better • frequency of aggression • know what they want • learn about their life • lit up • makes their day a lot better

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Treat them like a person (continued)					• person centered care • person they were • personal items • pictures in their room • preferences • previous appearance • privacy • procedures • purpose of visit • specific behaviors • staff's communication abilities • strategies on CCPs • touch • work experience	• mood • motivation • person centered care • relationships with residents • resident behavior • residents benefit from CCPs • talk to me nonstop • viewing job negatively • visitor's perceptions • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Treats me like family	• CNAs establish relationships with residents	• ADLs • differences between shifts • getting it done • routine tasks • time of communication • work shift	• depends on facility • location of communication	• correct field for you • everyone needs communication • know about them • like family • meeting resident's needs • resident communications influence on staff • residents are people	• adjusting communication style • application of CCPs • application of personal component • attention to residents • background • benefits of CCPs • benefits of support • communication education • depends on how agitated • depends on resident • effort to communicate • family involvement • it takes time • listen to resident • means of communication	• amount of resident-staff communication • carry on a conversation • comfortable • communication partners • duration of aggression • easier to communicate • familiarity • know what they want • love of job • makes my job a lot easier • makes their day a lot better • more time with residents • motivation • perceptions of job • person centered care • shift preference • viewing job negatively

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
Treats me like family (continued)					• pampering • preferences • staff's communication abilities • strategies on CCPs • treat them like a person • work experience	• visitor's perceptions • whole lot smoother

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
You have to know	• CNAs need to know what residents need	• ADLs • daily routine • pampering • routine tasks • time of communication • work shift • workload	• depends on facility • differences between shifts • stressful work environment	• abilities • attention to residents • cognitive abilities • communication is number one key • communication strategies • difficulty with residents • easier to communicate • frequency of aggression • getting it done • getting your point across • hearing abilities • people need to know • perceptions of job • preferences	• application of CCPs • application of personal component • ask permission • assistive communication devices • communication behaviors • benefits of CCPs • benefits of support • clarifying resident's statements • CNA communication • CNA-nurse communication • depends on resident • experience level • face to face resident updates	• amount of resident-staff communication • carry on conversation • comfortable • communication confidence • communication partners • familiarity • know what they want • makes my job a lot easier • more time with residents • perceptions of job • person centered care • relationships with residents • shift preference • talk to all of them • treat them like a person • viewing job negatively

Appendix AA (continued): Conditional Relationship Table						
Category	**What (definition)**	**When (during)**	**Where (in)**	**Why (because)**	**How (by)**	**Consequence**
You have to know (continued)				• resident communications influence on staff • residents are people • residents are time-consuming • that's your job	• family involvement • hang in there • interdisciplinary support • listen to resident • new information on CCPs • nurses responses to resident's complaints • on-site training • person they were • pictures in their room • reviewing CCPs • strategies on CCPs • support • support from therapists • training supervision • work experience	• whole lot smoother

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REFERENCES

Excellent references available upon request.