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# Relationship between nursing home size and their dietetic support effort

Kyla Bacon

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Relationship Between Nursing Home Size and their Dietetic Support Effort

by

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Thesis

Submitted to the School of Health Sciences

Eastern Michigan University

in partial fulfillment of the requirements

for the degree of

MASTER OF SCIENCE

in

Human Nutrition

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## **Abstract**

**Background:** While nursing homes in Oklahoma are required to utilize a Registered Dietitian (RD) or Qualified Nutritionist, there are no specifications for minimum utilization.

**Objectives:** Investigate how Oklahoma nursing homes determine RD utilization and whether a relationship exists between resident census and RD availability.

**Design:** Questionnaires focused on RD work patterns were sent to 150 Oklahoma nursing homes.

**Results:** Nursing homes with a resident census of  $\leq 50$ , 51-100, and  $\geq 101$  employed a RD for approximately 7.9, 7.3, and 56.3 hours/month, respectively. The RD is the primary decision maker in determining hours worked, followed closely by corporate staff and governmental guidelines. A minority of nursing homes take into account patient medical status when considering RD utilization.

**Conclusions:** A direct relationship exists between resident census and RD utilization. The RD plays an influential role in determining monthly RD utilization. Patient medical status should play a larger role in determining RD availability.

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## Chapter 1: Introduction

### Background

Nursing homes care for the older population or for individuals who are unable to care for themselves. In 2004, there were 16,100 nursing homes within the United States providing care to a total of 1.5 million residents (1,2). The care of individuals in a nursing home can be medically challenging and requires an interdisciplinary team of healthcare professionals. One integral member of the nursing home interdisciplinary team is the Registered Dietitian (RD).

According to the American Dietetic Association, Registered Dietitians are "the food and nutrition experts who can translate the science of nutrition into practical solutions for healthy living" (3). A RD is one who has completed a bachelor's degree from an accredited university and also completes a supervised practice program (3). The individual must take and pass a national exam governed by the Commission on Dietetic Registration (CDR) (3). To maintain credentialing with the CDR, a RD must accrue continuing professional education credits as set forth by CDR (3).

According to the American Dietetic Association, approximately 10% of all Registered Dietitians work in long-term care (3). The RD serves many roles in the nursing home, with the overall goal of providing optimal nutrition care to the residents.

Two prevalent problems among nursing home residents are pressure ulcers and unplanned weight loss (4). "A pressure ulcer is an area of skin that breaks down when constant pressure" or friction occurs at the site of skin contact (5). Approximately 11% (159,400) of all nursing home residents in the United States have a pressure ulcer (1,2). Pressure ulcers

may trigger pain and lead to further medical problems, including infections (2). Unplanned weight loss is a concern in nursing home facilities (6). Studies have linked unintentional weight loss with an increase in mortality rates for nursing home residents (7). Dietitians are needed to evaluate nutrient needs and nutrient intake and to provide nutrition therapy recommendations for residents with unplanned weight loss and/or pressure ulcers (4).

Some nursing homes employ the RD more than others. Limited information is available as to how a nursing home determines the number of hours that the facility will use a RD per month, particularly in the state of Oklahoma. Nursing homes in Oklahoma are required to utilize the services of a Registered Dietitian or Qualified Nutritionist in order to meet state licensure requirements (8). Although the services of a RD or Qualified Nutritionist are required, the number(s) of hours a RD needs to be employed are not specified in the state requirements. The policy simply states that the facility must "meet the needs of all residents" (8). The state of Texas, a neighbor state to Oklahoma, has regulations that require a Registered Dietitian be available for 8 hours each month for a facility with 60 or less residents and for "each additional 30 residents or fraction thereof for 4 hours" (9). Medicare and Medicaid require that nursing homes report nursing "staff hours per resident per day" but not the Registered Dietitian staff hours per resident per day (10).

### **Purpose of the Study**

The purpose of this study is to investigate how nursing homes in the state of Oklahoma determine the number of hours a Registered Dietitian is available and if a relationship exists between resident census of the nursing home and Registered Dietitian availability.

Additional factors that will be investigated include:

1. Who is in charge of determining the number of hours that a RD will be utilized at the nursing home (corporate or RD)? Is the experience level of the food service director considered? An inexperienced food service director may need more guidance from the RD in relation to kitchen management than an experienced food service director. While justifiable, the RD may be spending less time in the medical care of the residents and more time training and assisting an inexperienced director. RD involvement in the medical care of residents is important and should not be compromised. This should be considered when evaluating how many hours a RD will be employed per month at the nursing home. The RD may need more time each month in the nursing home to complete medical care and to assist the food service director as needed. In some facilities the Registered Dietitian manages the food service operation (11).

2. Is the medical status of residents considered when determining the number of allotted RD hours? Specifically, does the incidence of pressure ulcers, residents with unintentional weight loss, and residents on enteral or parenteral nutrition play a role in determining RD hours/month? Nursing home residents are at risk for developing pressure ulcers and for unintentionally losing weight. These factors increase mortality and morbidity while decreasing the quality of life of residents residing at a nursing home. The RD along with the other healthcare team members at the nursing home not only treat pressure ulcers and unintentional weight loss but also make efforts to prevent such occurrences.

## Chapter 2: Review of the Literature

### Nursing Homes

Nursing homes are a vital element of long-term care by providing care for the older population or for individuals who are unable to care for themselves (2). Nursing home residents receive a variety of services such as medical care, rehab, personal hygiene, and social assistance (6). A simpler definition of a nursing home is a home in which most individuals require attention on an ongoing basis (12). These homes provide around-the-clock care for individuals who are unable to care for themselves (12).

In 2004, there were 16,100 nursing homes within the United States (U.S.) providing care, to a total of 1.5 million residents (1, 2). The majority of these homes are for-profit (61.5%) followed by non-profit (30.8%) and government/other (7.7%) owned (2). Most nursing homes in the U.S. have 100-199 beds (2). The vast majority of these nursing homes are Medicare and Medicaid certified (2).

The majority of nursing home residents are 65 years of age and older (2, 6). Many of these individuals have complicated medical diagnoses and disabilities (6). The most common diagnoses at the time of nursing home admission are diseases related to the circulatory system, such as hypertension, heart disease, and cerebrovascular disease (2).

Nursing homes are expected to provide quality care to an often medically complicated resident. Quality care is defined as "care that consistently contributes to the improvement or maintenance of quality and/or duration of life" by the American Medical Association (12). As nursing home care advances, so does the need for effective communication amongst the healthcare team (13). Nursing homes employ or contract with individuals to meet the

needs of the residents (2). Examples of such individuals providing direct care to residents include nurses, nurse aides, and physicians (2). Another individual responsible for providing Medical Nutrition Therapy (MNT) is the Registered Dietitian. The RD plays many roles in the nursing home, including providing MNT to residents with pressure ulcers, unplanned weight loss, and those on enteral or parenteral nutrition support.

### **Pressure Ulcers**

Pressure ulcers are an ever-increasing concern for the elderly and particularly nursing home residents (4). Common areas of the body where pressure ulcers may develop are the "coccyx, elbows, heels and back of head" (14). Pressure ulcers are graded on a scale from Stage I to Stage IV with the higher grade being the more severe (15, 16).

Approximately 11% (159,400) of all nursing home residents in the United States have a pressure ulcer (1, 2). The higher stages are usually related to a higher treatment cost due to greater duration to recover (16). The cost to treat one pressure ulcer can range from \$5,000 to \$40,000 (4). Not only is there a monetary cost involved, but pressure ulcers also affect quality of life of the resident (17).

An individual with a pressure ulcer can become very ill and even septic (16). A pressure sore can cause excruciating pain for the individual (15). The presence of a pressure ulcer is very serious and is associated with increased morbidity and mortality (17).

Pressure ulcers are now believed to be a preventable problem (15,16). Risk factors for a pressure ulcer include being bed bound, being elderly, immobility, being undernourished, having delicate skin, diabetes, or vascular disease, incontinence, and altered mental state (5). A study completed by Banks and colleagues (15) identified an association between malnutrition and the development of a pressure ulcer. This study, completed in Queensland,

Australia, concluded that residents of an "aged care" facility who are malnourished are two times more likely to develop a pressure ulcer (15).

The dietitian is a valuable team member in the efforts to treat or reduce the incidence of pressure ulcers (14). The dietitian estimates calorie, protein, vitamin, and mineral needs of a resident (14). The dietitian has the expertise to assess if a resident is meeting these needs, and if the resident is not meeting these needs, the RD can assist the interdisciplinary team in developing a care plan to do so (14).

Horn and colleagues (17) did a pilot study on nurse aid documentation and pressure ulcer prevention. This pilot study involved creating and utilizing documentation by nurse aide for nutrition intake, weight loss, behavior changes, incontinence, and skin observations (17). Then the multidisciplinary team, including the dietitian, used the nurse aide's reports to target and assess those residents who are at risk for developing a pressure ulcer (17). Specifically the dietitians used the reports to evaluate an individual's nutrition consumption and weight status in order to plan for medical nutrition therapy (17). The Centers for Medicare & Medicaid Services (CMS) evaluate incidence of pressure ulcers developed in the nursing home and individuals admitted to a nursing home with an existing pressure ulcer (17). In this study, the average incidence of pressure ulcers developed in the nursing home was reduced by 62% (17).

There are instances of lawsuits involving malnutrition and pressure ulcers (18). One individual was granted \$7 million for "pain and suffering from malnutrition and pressure ulcers, and contractures" in the state of Mississippi (18). Another example is the estate of a woman that was granted \$3.5 million for poor medical care leading to the occurrence of malnutrition and pressure ulcers (18). Medical Nutrition Therapy is a form of treatment that

can assist in reducing the incidence of pressure ulcers and therefore lower lawsuit risk for a facility (18).

### **Unintentional Weight Loss**

Unplanned or unintentional weight loss continues to be a concern in caring for residents at a nursing home (7). Elderly nursing home residents are at high nutrition risk due to a myriad of physical, mental, and social issues that influence food intake and absorption (19).

Depression is often a primary cause for weight loss among residents (7, 14).

Problems arising from unintentional weight loss can include a decrease in function, more hospitalizations, and early death (6). The Omnibus Budget Reconciliation Act (OBRA) of 1987 defines significant weight loss as 5% loss in 30 days or 10% in 6 months (6, 7). A study completed by Ryan and colleagues (20) showed a 4.5-fold increase in 1-year mortality if a 5% weight loss occurred in a 1-month time period.

Evaluating and treating weight loss in the nursing home requires a thorough assessment and laboratory tests as indicated (21). Dietitians can identify residents at risk of unplanned weight loss and develop a treatment strategy along with other healthcare team members (7). A nutrition assessment by a dietitian has many components (14). A thorough dietitian assessment includes evaluating weight changes, medications, disease states, gastrointestinal symptoms, oral health (including any problems chewing or swallowing foods), food allergies or intolerances, laboratory results, signs of malnutrition, appetite, social food beliefs, and cultural beliefs (14). The dietitian evaluates each resident and assesses the resident for risk of malnutrition. For example, there are many medications that decrease the appetite, hence affecting nutrient intake and leading to unplanned weight loss (14). The American Dietetic

Association suggests liberalizing diets in the elderly to increase the nutritional well-being (21). Dietitians are "helpful for balancing the liberalisation of diets to promote palatability and quality of life" while still providing a medically appropriate diet (22).

This may help to encourage weight gain for residents who are experiencing unplanned weight loss (21). Small frequent meals are also an option to consider when treating unplanned weight loss (21). The resident should also be assessed for the ability to chew and swallow foods (23).

Often times oral nutrition supplements are prescribed as a tool to promote weight gain or minimize loss (19). The RD is the interdisciplinary team member with the education in nutrition and knowledge behind the use of nutrition supplements (19). Medications to stimulate the appetite of an individual may also be a treatment option (21).

Dietitians can help to educate staff on how to weigh residents correctly and when to make a referral to the dietitian for weight changes (6). For example, scales should be routinely calibrated, weights should be taken around the same time each day, and the resident should be wearing about the same weight of clothing at the time of weighing (7). If the scale indicates that the resident has lost weight since the previous weight, the resident should be weighed again to verify the new weight (7).

### **Enteral or Parenteral Nutrition**

The initiation of nutrition support may be considered for individuals who "cannot eat, those who refuse to eat," and for people who are unable to meet nutrient needs from oral intake alone (23). There are some instances when an individual is unable to consume adequate oral intake to supply nutrition for his/her body (24). In these cases, nutrition support can be considered to provide nutritional needs for the individual (24). Certain

diseases, mental status, depression, and some medications may affect an individual's ability to consume adequate nutrition especially in the elderly population (24).

According to the American Society for Parenteral and Enteral Nutrition, nutrition can be provided by route of feeding tube (enteral nutrition) when the digestive tract is functional (24). Some disease states may leave an individual unable to take adequate nutrition by oral intake, but the digestive tract continues to work appropriately and enteral nutrition can be considered as the preferred route of nutrient delivery. Dysphagia, stroke, radiation, or chemotherapy for cancer (such as esophageal tumor), and mental disorders are examples of medical conditions in which enteral nutrition can be considered if the individual is not able to obtain sufficient or safe oral intake (23).

A nasogastric feeding tube may be placed into the stomach or small bowel if it is anticipated that the individual will not require enteral nutrition for any significant length of time (23). For those requiring long-term enteral nutrition, anticipated length of support greater than four weeks, a feeding tube may be placed percutaneously or surgically in the stomach or small bowel for long-term enteral support (23).

There is a wide array of enteral nutrition formulas on the market to use in a feeding tube. The clinician selecting the enteral formula should consider the patient's diagnoses and diseases, digestive abilities, and fluid needs when selecting an enteral formula (23).

While tube feeding is the preferred route of nutrition support, it is not always the medically appropriate choice for all individuals who are unable to take in adequate oral nutrition. There are instances in which the digestive tract may not be used for nutrition support such as bowel obstruction, major bowel resection, or acute pancreatitis (23). Each individual and medical situation must be assessed on an individual basis to determine if the

digestive tract is functional and can be used for nutrition support or not. If the digestive tract is not functional, "an intravenous tube called a catheter" can be placed into the vein to provide nutrition (parenteral nutrition) (24). Parenteral solutions contain dextrose, amino acids, and lipids combined together and infused. (23). Conversely, the solution may contain dextrose and amino acids only and the lipids infused separately (23).

There are dietitians who specialize in providing nutrition support to various populations including the elderly (24). Providing the proper nutrition support is of great importance for the elderly as they may not respond as quickly or recover as well as a younger individual (23). The RD has increasing roles in the provision of nutrition support to these individuals (23). The State of Oklahoma Statutory Standards for Dietitians permits the RD in "developing and implementing plans of nutritional care for individuals, both enteral and parenteral, based on assessment of nutritional needs" (25). Refer to the pathway in Figure 1 for nutrition assessment and decision regarding route of nutrition support.

The RD is an important healthcare team member in nursing home facilities. Responsibilities of a RD in a nursing home should include providing MNT to residents with pressure ulcers, unplanned weight loss, and those on enteral or parenteral nutrition support.

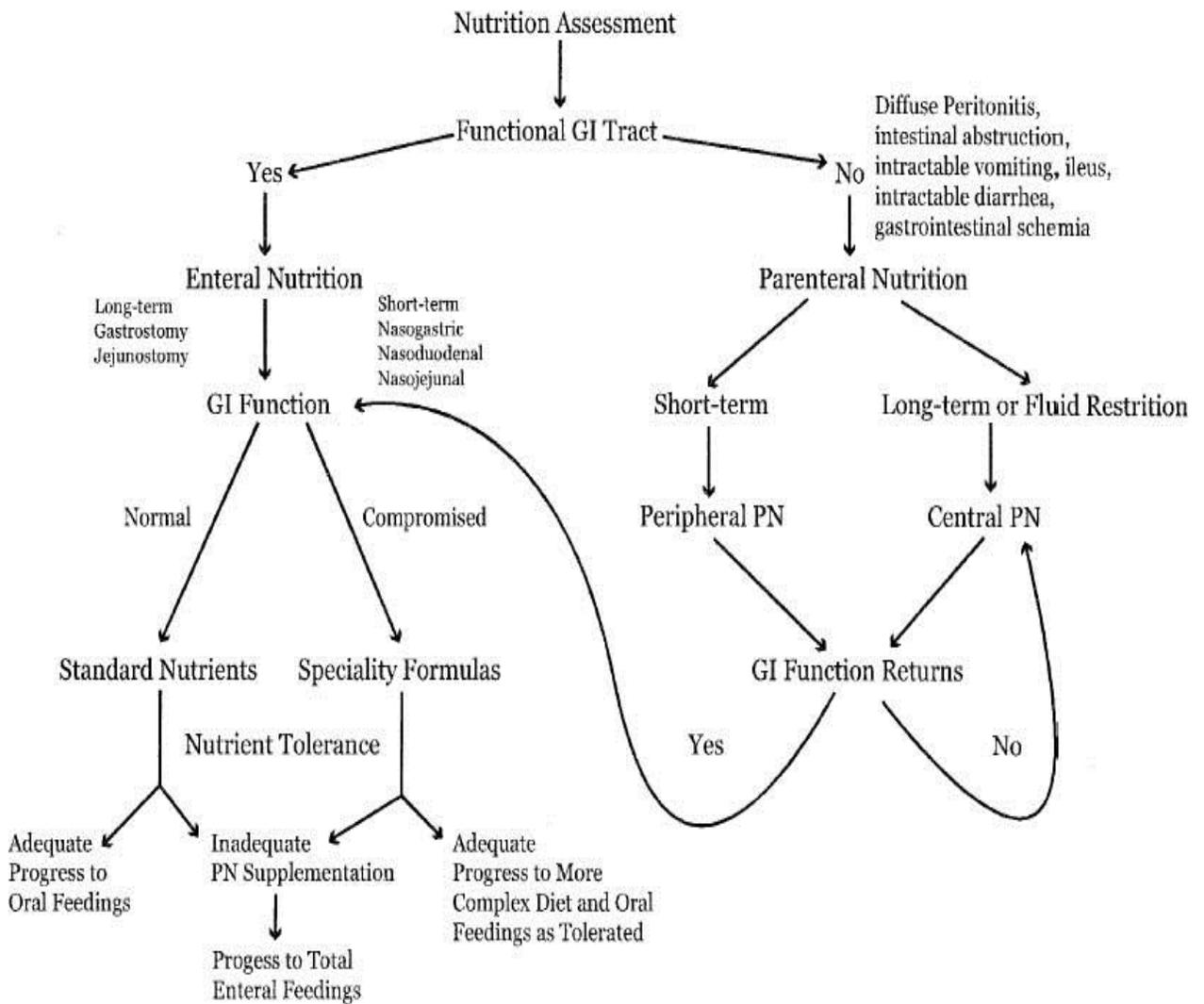


Figure 1. Route of providing Nutrition A.S.P.E.N. Clinical Pathways and Algorithms for Delivery of Parenteral and Enteral Nutrition Support in Adults (26).

## **Chapter 3: Research Design and Methodology**

### **Subjects**

Administrators from 150 nursing homes were randomly selected from the Oklahoma State Department of Health Directory of Nursing Homes and were invited to participate in this study. Prior to initiation, the Eastern Michigan University Human Subjects Review Committee reviewed and approved the study (Appendix A).

### **Research Design**

Invitations (Appendix B) were sent out by mail in December 2008 asking the administrators to complete a questionnaire (Appendix C) that was designed to gather information about work patterns of dietitians in Oklahoma nursing homes. A pre-addressed stamped envelope was included so administrators could return the completed forms. For analysis and confidentiality purposes, the individual facilities were identified by numbers that were assigned by the primary investigator.

### **Research Questionnaire**

The research questionnaire used in the present study requested information from nursing home administrators regarding the average daily resident census and the number of hours/month RD services were utilized. Administrators were then asked to identify various factors that were used to determine the number of hours RD services were utilized in the nursing home during the month of October 2008. Statements that were asked to help determine what these factors were included (a) who made decisions regarding RD services at the home (corporate staff members, RD, food service director), (b) total number of residents, (c) number of residents with pressure ulcers, (d) number of residents losing weight, and (e) number of residents who were maintained on enteral or parenteral nutrition. Subjects

were also allowed to provide additional information related to how RD work load was assigned.

### **Statistical Analysis**

Responses were entered into SPSS 16.0 for data analysis. Correlation of hours/month by census was calculated along with descriptive statistics for census and RD hours/month.

Frequency distribution was performed for RD hours, who determines RD hours, and status of residents. An Analysis of Variance was performed on the three categories of resident census: less than 50 (n=9, 45%), 51-100 (n=6, 30%), and greater than 100 census (n=5, 25%). Post hoc analysis using the Tukey HSD test and the SNK test was performed to identify differences between the groups for RD utilization.

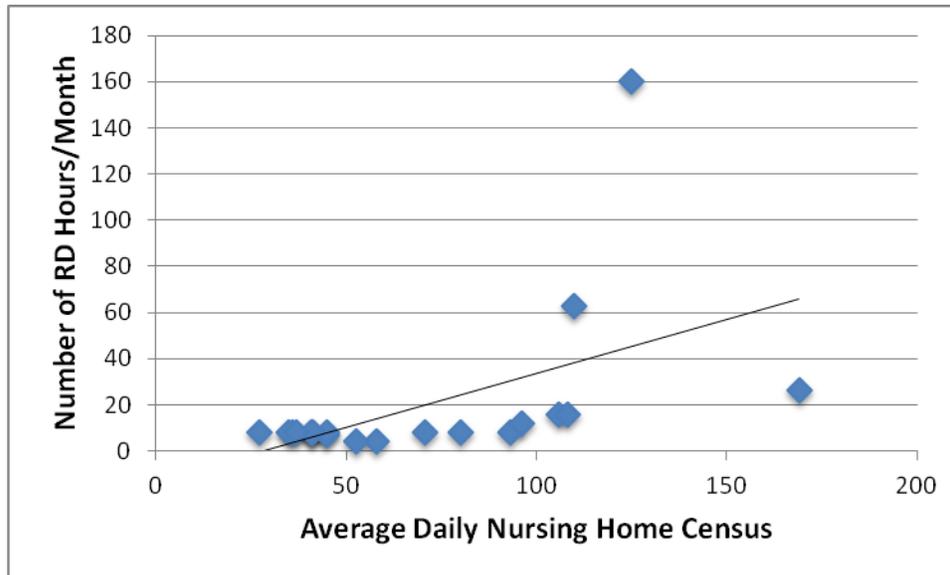
## Chapter 4: Research Results

A total of 150 questionnaires were mailed to nursing home administrators, and 21 questionnaires were returned (Response rate = 14%). Nursing home administrators were asked to provide facility data for October of 2008 only. Therefore, these research results reflect only facility data for October 2008. The average resident census was  $68.5 \pm 8.5$  residents/day (mean $\pm$ SE) and the average number of hours RD services were utilized was  $19.8 \pm 7.9$  hours/month. There were ten questionnaires returned with a resident census of 50 or less. One nursing home administrator with a census of 50 or less did not provide the number of hours that a RD was utilized for the month. Nursing homes that had a resident census of 50 or less employed a RD for approximately 7.89 hours/month.

There were six questionnaires returned with a resident census of 51-100. Nursing homes with a resident census of 51-100 employed a RD for approximately 7.33 hours/month. There were five questionnaires returned with a resident census of 101 or greater. Nursing homes with a resident census of 101 or greater employed a RD for approximately 56.30 hours/month. In the group of homes that contained 101 or greater residents there was one outlier nursing home that utilized a RD 40 hours/week or approximately 160 hours/month. If the nursing home that utilizes a RD for 160 hours/month is excluded from the data, the average is 30.37 hours/month for this group.

There was a significant moderate positive correlation observed between average daily resident census and number of hours/month services of RDs were utilized (Figure 2) ( $r = +0.51, p < 0.05$ ). No significant difference is noted between nursing homes with a resident census of 50 or less or 51-100 in regards to RD hours/month. However, both of these two

groups utilize a RD significantly less than nursing homes with a census of 101 or greater ( $p < 0.05$ ).



*Figure 2.* Relationship Between Nursing Home Size and Amount of Care Provided by Registered Dietitian. Average Daily Nursing Home Census October 2008.

Results from the questionnaire regarding individuals involved in determining utilization of RD's included the following (n=21) (Figure 3):

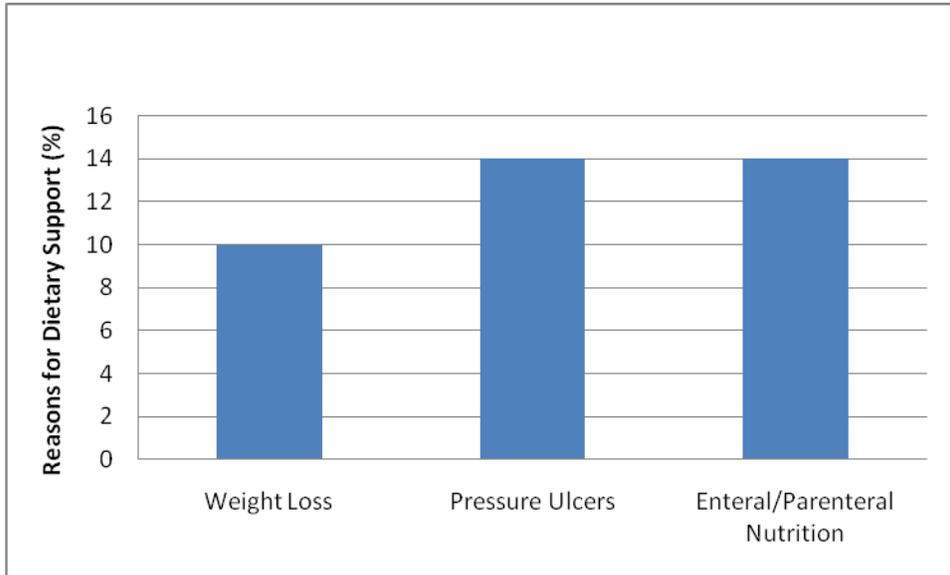
- RD - 38% of respondents
- Corporate Staff Member - 29% of respondents
- Food Service Director Experience Level - 10% of respondents
- State and/or federal regulations guide the decision making process - 33% of respondents (an additional factor written in by respondents)



Figure 3. Individuals Involved in Determining RD Hours.

Other factors that were surveyed in relation to the utilization of RD's in nursing homes included the number of residents (a) with pressure ulcers, (b) losing weight, and (c) on enteral or parenteral support. Not all of the facilities used these factors to help determine the amount of hours/month that a RD is utilized. Ten percent of facilities considered the resident's weight loss, 14% considered their pressure ulcer status, and 14% considered their enteral or parenteral nutrition status when determining how they utilized RD support in the facility (Figure 4). Three of the same facilities considered two of these factors (pressure ulcers and enteral/parenteral nutrition status) when determining RD support. Two of these same facilities also looked at weight loss when determining RD support. One other respondent wrote that the high number of skilled patients (the respondent did not define skilled patients) determines RD hours. Another respondent wrote that significant

changes in weight help to determine RD hours. The remaining sixteen questionnaires returned did not consider any of these factors.



*Figure 4.* Questionnaire Responses Used by Staff Members to Justify Dietary Support for Nursing Home Residents

## Chapter 5: Discussion

**Question One: Does a relationship exist between the size of a nursing home (number of residents) and the number of hours that a facility voluntarily utilizes a RD per month in the state of Oklahoma?**

Results from this study show a direct relationship between the resident census and the number of hours/month that RD services are utilized. An interesting finding is that those nursing homes with census of 50 or less or a census of 51-100 utilized RD services very similarly with an average of 7 to 8 hours/month. One might expect the census group of 51-100 to utilize RD services more than the lower census nursing homes. It seems reasonable that a larger census nursing home would utilize more RD hours/month than a smaller census home. Nursing homes with a resident census of 101 or greater did utilize RD services significantly more than the other two groups.

Although the state of Oklahoma does not set such hours, it appears nursing home facilities may be following an unspoken guideline for minimum RD utilization as there was a relationship between census and RD utilization. One might speculate that nursing homes employ a RD for at least eight hours per month, as seventeen of the twenty-one nursing homes that participated in this study utilized a RD for at least eight hours monthly. This would be equivalent to having a RD available at the nursing home for approximately one day per month.

This finding is similar to a study completed in Louisiana by Ryan and colleagues (27) that reported facilities with an average census of 140 residents (range of 60-250) consulted with a RD for 8 hours/month. A study by Liebman (28) is also similar in that it surveyed consulting

RD's on how many hours per month he/she works in the nursing home. The majority of the participating dietitians in this study worked part-time (8 to 16 hours/month) in the nursing home, and resident census was not evaluated. Another study by Bills and colleagues (29) found that, on average, the dietitian spent 3.3 hours per week at the nursing home, but resident census was not evaluated. All of these studies could support the unspoken guideline to have the RD available for at least one day per month at the nursing home regardless of census.

If this practice is taking place, it means less RD care per resident for larger census nursing homes. For smaller census nursing homes it means greater RD care per resident.

**Question number Two: Who determines the amount of dietetic care provided in the facility?**

The Registered Dietitian is the predominant decision-maker in regard to hours/month that a RD is utilized. In 38% (n=8) of nursing homes the RD decides the amount of dietetic care (hours) for the home. This points out that the RD has an influential role in determining if more or fewer RD hours are needed at the nursing home. Although the RD has an influential role, it is probable that Corporate Staff has the final approval for RD hours as Corporate Staff most likely controls the facility budget and has the final say in such situations.

Corporate Staff followed closely at 29% being the decision-maker. Corporate Staff was also noted to have a role in determining RD utilization. Good communication between the RD and Corporate Staff may be key in assuring adequate dietetic care in a nursing home.

Respondents wrote in State and Federal Guidelines as an additional factor when determining amount of dietetic care for the facility. Although the state of Oklahoma does not set such hours, it appears nursing home facilities may be following an unspoken guideline for minimum RD utilization. Most questionnaires received indicated RD employment at the nursing home at least 8 hours/month. However, there were two nursing homes questionnaires received stating employment of a RD for 4 hours/month, one questionnaire did not have a response entered at all, and one questionnaire reported RD employment at a range of 6-8 hours/month.

The experience of the food service director was a factor only considered by 10 % when evaluating the amount of dietetic care (RD) for the nursing home. This factor may need to be considered more as the state of Oklahoma requires that a RD or Qualified Nutritionist be involved in the training of dietary employees (8). A study completed by Theis and colleagues (30) found that an average of 76.9 minutes per month were spent by the RD in menu evaluation, 46.8 minutes in training dietary staff, and 75.3 minutes surveying the food service department. This can be a time-consuming task for the RD especially, if the current dietary manager or staff have very little experience in the nursing home setting.

In addition, the important duties of the RD in the food service department or kitchen are not a reimbursable service. Up until January of 2002, RD services were not billable to Medicare for Medical Nutrition Therapy (31). Diabetes and renal disease are now Medicare billable services (3). Nursing homes may view other functions of the RD as a cost rather than a benefit to the facility based on monetary value as many contact hours will not be reimbursed. However, the RD aids in increasing resident quality of life by reducing incidence of pressure ulcers. The facility, in turn, may find a cost benefit with a reduction in

the cost for treating pressure ulcers and also litigation fees that may ensue when a pressure ulcer is developed.

**Question number three: Is the medical status of residents considered when justifying amount of dietetic care ie: weight loss, pressure ulcers, and enteral or parenteral support?**

### **Pressure Ulcers**

Only 14% of nursing homes involved in this study consider the incidence of pressure ulcers when justifying the amount of dietetic care. A study completed by Horn and colleagues (32) evaluated pressure ulcer risk of 1,524 residents in long-term care facilities. Of these 1,524 residents, 443 residents developed a new pressure ulcer. Significant weight loss and oral eating dysfunction were noted among the factors that increase the risk of pressure ulcers (32). Nutrition intervention including the enteral feedings and oral nutrition supplements were noted to reduce the risk of pressure ulcer development (32). The RD has knowledge in treating weight loss including recommending nutrition supplements or enteral feedings, if indicated, in the long term care setting to reduce incidence of pressure ulcer development.

### **Weight loss**

Only 10% of nursing homes involved in this study consider resident weight loss when justifying the amount of dietetic care. Dietitians can identify residents at risk of unplanned weight loss and develop a treatment strategy along with other healthcare team members (7). A study was completed by Johnson and colleagues (19) regarding the use of oral nutrition supplements in the long-term care setting (Saskatchewan, Canada). One reason to initiate oral nutrition supplements is to maintain or increase body weight when unplanned weight

loss occurs (19). Interestingly enough, the survey results show that supplements are mostly ordered "by nursing staff (59%), followed by physician, registered dietitians, or other staff" (19). They observe that Registered Dietitians are not primary prescribers for oral nutrition supplements because RDs are not readily available in the homes (19). Of the 13 long-term care centers involved in this study, only three had either a part-time or full-time RD; the study did not specify RD employment information for the other 10 nursing homes (19). This is a problem as the RD is the interdisciplinary team member with the education in nutrition and knowledge behind the use of nutrition supplements (19). Splett and colleagues (6) point out that it is challenging for the RD to collaborate and share the nutrition status of residents when the RD is available at the nursing home only biweekly or monthly.

### **Enteral or Parenteral Support**

Only 14% of nursing homes involved in this study consider enteral or parenteral support when justifying the amount of dietetic care. Individuals requiring either enteral or parenteral support may have more complex medical issues and require a greater time in an evaluation by a RD. If a nursing home has residents on nutrition support, this issue should be considered in determining the number of hours that the RD will be employed at the nursing home.

## **Chapter 6: Conclusion**

### **Conclusion**

Results from the study show a modest relationship between the resident census and the number of hours/month that RD services are utilized. This indicates that resident census may be a factor to consider in state regulations to determine RD hours/month. Interestingly, nursing homes with a census of 50 or less and a census of 51-100 utilized RD services very similarly, with an average between 7 to 8 hours/month.

### **Application to Practice**

Questionnaire results show that the Registered Dietitian is the predominant decision-maker in regard to hours/month that a RD is utilized in those facilities that responded to this survey request. This points out that the RD has an influential role in determining if more or fewer RD hours are needed at the nursing home. Corporate Staff also were noted to have a role in determining RD utilization. Good communication between the RD and corporate staff may be key in assuring adequate RD coverage in a nursing home.

Very few nursing homes considered weight loss, pressure ulcers, or nutrition support when determining hours/month of RD services. All residents with these conditions should be assessed by a RD as these are residents at a high nutrition risk. A nursing home with a high incidence of these factors may need to consider utilizing a RD more frequently to provide a higher standard of care. With rising healthcare costs and lawsuits involving nursing home residents, it is prudent that nursing homes provide the best nutrition care possible.

### **Limitations**

This study may not fully represent data from the majority of nursing homes in Oklahoma due to the low questionnaire response rate. This may be due to method of delivery of

questionnaire (mail) or the time of year that the questionnaire was sent out (December). An electronic questionnaire or sending out questionnaires at a different time of the year may have yielded a better response rate to the study. In addition, some administrators may not have completed the questionnaire based on fear that questionnaire responses could somehow incriminate them.

### **Future Research**

Future research could be conducted to evaluate if a relationship exists between RD hours/month and nursing home residents' incidence of weight loss, pressure ulcers, or need for nutrition support. This could also include evaluating the incidence of weight loss, pressure ulcers, and nutrition support in small census nursing homes versus large census nursing homes.

More research could be done to evaluate the number of hours/ month a RD is employed in relation to state or federal citations received by the nursing home.

Additional research could also be conducted to evaluate if a difference exists among for-profit and non-profit nursing homes in terms of RD employment.

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## **APPENDICES**



## EASTERN MICHIGAN UNIVERSITY

November 24, 2008

Kyla Bacon  
c/o George Liepa  
Eastern Michigan University  
School of Health Sciences  
Ypsilanti, Michigan 48197

Dear Kyla Bacon,

The CHHS Human Subjects Review Committee has reviewed the revisions to your proposal entitled: "Relationship Between the Size of Nursing Home and their Dietetic Support Effort" (CHHS 09-14).

The committee reviewed your proposal and recommends the following additions to your proposal and informed consent:

- In Letter to Administrator correct spelling of employ from employee
- The Letter to Administrator state 150 Nursing Homes selected, while proposal indicates 200- be consistent.
- Add email for George Liepa as contact person
- Remove student contact information
- Make deadline date adjustments if needed

Your study is approved by the committee with the revisions requested above. Please return documents with revisions at your earliest convenience to [chhs\\_human\\_subjects@emich.edu](mailto:chhs_human_subjects@emich.edu).

Good luck in your research endeavors.

Sincerely,

A handwritten signature in black ink, appearing to read "GDR".

Gretchen Dahl Reeves, Ph.D.  
Interim Chair, CHHS Human Subjects Review Committee

A handwritten signature in black ink, appearing to read "file".

Dean, College of Health and Human Services • 206 Marshall Building • Ypsilanti, Michigan 48197  
Phone: 734.487.0077 Fax: 734.487.8536

(Appendix B)

December 1, 2008

Dear Administrator:

I am writing to you on behalf of Eastern Michigan State University and myself, Kyla Bacon. I am a graduate student at Eastern Michigan State University working on a thesis project for a Master of Science in Nutrition. I have selected to do research on nursing homes in the State of Oklahoma. The project will examine how a nursing home determines the number of hours that it will employ a Registered Dietitian.

Your facility has been randomly selected from the list of Oklahoma State Department of Health Directory of Nursing Homes to be part of this project. A total of 150 nursing homes have been randomly selected from this list to participate. I know that this is a busy time of year for you, but I hope that you will take time to participate in this brief **one page** survey.

Participation in this project is completely voluntary. By completing the enclosed questionnaire and submitting it you are choosing to participate in this research project. If you choose not to participate, simply do not submit the questionnaire.

The name and address of the facility and the administrator will be kept in strict confidence and will not be made public. For analysis purposes the individual facilities will be identified by numbers assigned by the investigator.

If you submit a questionnaire but then choose to withdraw from the project please do so by emailing a statement to withdraw from the research to Dr. George Liepa at the email listed below. Request to withdraw must be received by January 1, 2009.

Should you have any questions, you may contact:

Dr. George Liepa (Faculty Sponsor) at 734-487-2499 or [george.liepa@emich.edu](mailto:george.liepa@emich.edu)

Thank you in advance for your participation in this project. A preaddressed stamped envelope accompanies this letter in which you will submit your questionnaire responses. All returned questionnaires must be postmarked by **December 20, 2008** to be included in the project. Results of the research may or may not be published. If you wish to receive a summary of questionnaire results please contact Dr. George Liepa.

Sincerely,

Kyla Bacon  
Student Research Investigator

**(Appendix C)**

**Questionnaire**

**Question 1:** What was the average daily resident census for the month October 2008?

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**Question 2:** How many hours did your facility utilize a Registered Dietitian (RD) for the month of October 2008?

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**Question 3:** What determines the number of hours the facility will utilize the services of a Registered Dietitian per month? Please circle all that apply. You may also write in an answer under "Other".

Corporate office sets guidelines for the number of hours that our facility uses the services of a Registered Dietitian

The number of residents at our facility determines the number of hours that we use a Registered Dietitian.

Our Registered Dietitian sets the number of hours that he/she feels is needed to meet the needs of the residents.

The experience of our Food Service Director helps our facility to determine how many hours we need a Registered Dietitian.

The number of residents with pressure ulcers at our facility determines how many hours we need a Registered Dietitian.

The number of residents who are losing weight at our facility determines how many hours we need a Registered Dietitian.

The number of residents on enteral or parenteral nutrition at our facility determines how many hours we need a Registered Dietitian.

Other \_\_\_\_\_

