Collaboration with the North Dakota Department of Health, Division of Health Facilities, on Regulations for Alzheimer’s or Dementia Secured Units or Facilities in Basic Care

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 One in nine people age 65 and older have Alzheimer’s disease. Every 67 seconds someone new in the United States develops Alzheimer’s disease, killing one in three diagnosed seniors every year (Alzheimer’s Association, 2015). The effects of the diagnoses, and death rates of people with Alzheimer and associated dementia, is heavily affecting access and availability to care in all states across the country. The North Dakota Department of Health (NDDH) has observed a need to regulate secured Alzheimer’s and related dementia units in Basic Care (SARDUBC), and to improve access to home and community based services in these facilities.

 The Health Resources Section Chief, NDDH, Darleen Bartz, has requested that the UMary Project Team provide an evidence based approach to backing SARDUBC in North Dakota Basic Care settings. This document is our findings on behalf of the needs requested by the NDDH to represent SARDUBC. The UMary Project Team is needing to initiate a capstone project for their University of Mary Masters of Health Administration seminar and service project. The capstone project’s drive is to become involved as a team with members of a healthcare organization in order to analyze the health facilities clinical problem, design project recommendations, and identify methods for measuring the UMary Project Team project recommendations. The UMary Project Team has found this issue to be a significant problem, collected internal evidence from the NDDH, retrieved internal evidence from all fifty states on their SARDUBC, and provided project recommendations for implementation and measurement of the SARDUBC regulation implementation process. The UMary Project Team has maintained protection of participants by having an Internal Review Board review the need for participant protection in this implementation.

The NDDH new regulations for SARDUBC are based on the waiver by Medicaid Home and Community based services 1915 (c) (HCBS) to fund Medicaid payments towards placing individuals such as Alzheimer’s and related dementia residents into secured units. The priority is to ensure that Basic Care facilities are given the opportunity to be licensed as secured Alzheimer’s and dementia providers under HCBS. Funding by Medicaid will increase services to this population in North Dakota, and will allow residents that would have screened for a higher level of care, such as skilled care, be maintained in a lower level of basic care. Both federal and state observations of the need for SARDUBC regulations emphasize the basis for this project towards Basic Care in North Dakota.

 The implementation of a new secure unit regulation for Basic Care, will not implement changes to the current regulations, but will add to the existing rules. Current regulations of Basic Care areas in North Dakota focus on individual assessment needs of residents and facility safety issues related to life safety codes directed at environmental health. The UMary Project Team found common literature reviews for individualized assessments that promote psychosocial interventions, person-centered care directed towards individualized assessments, and when combined the two will improve overall quality of care received. Environmental issues that affect Alzheimer’s and related dementias quality of life include contrasts in color or lighting on decor, social interaction rooms, and proper sign usage that may lead to exiting doors. All fifty states vary greatly on their approaches towards regulations for these services with observations of both individual assessment and environmental regulations implemented. It was observed that in 1989 secured units for skilled care in North Dakota had detailed regulations, but were later reduced to less stringent rules.

 The implementation of Lewin's change theory observed a problem of needing to set standards for change towards HCBS waiver to allow NDDH to create regulations on SARDUBC. The stakeholders that are involved in the work group of SARDUBC were brought together by the NDDH to initiate this new regulation. Work group members include the NDDH, UMary Project Team, North Dakota Department of Human Services, North Dakota Long Term Care Association, Alzheimer’s Association, Quality Health Associates of ND, and Basic Care managers throughout the state. The impact will affect all North Dakota citizens from those diagnosed, families involved, taxpayers, and medical providers. The goal is to meet with this work group three times to implement a final draft before the 28th of April 2017, and the work group will implement the final regulation no later than December of 2018.

**Problem Statement**

From 2015 to 2025 North Dakota will see a 14.3 percent increase in the population that will be diagnosed with Alzheimer’s disease (Alzheimer’s Association, 2015). The significance of this population increase has put pressure on regulators and facilities to create a larger number of affordable care services, which will allow for fewer services while reducing the impact on the current nursing shortage. Problems exist in skilled care facilities, such as nursing homes, that are too expensive for Alzheimer’s patients based on the their Alzheimer’s and related dementia stage of illness progression. The task has been placed on Basic Care Facilities to incorporate residents that were normally screened for skilled care services to be placed into Basic Care facilities. The issue of a SARDUBC is less care is provided to Basic Care residents that should be placed into higher Skilled Nursing Care facilities. The directive of SARDUBC is to ensure appropriate home and community based services can still be offered to Basic Care residents who screen for high levels of Alzheimer’s and related dementia stages of illness.

The average annual mortality rate for Alzheimer’s Disease in the United States is 26.8% while North Dakota’s average annual mortality rate for Alzheimer’s Disease is 50.2% (Alzheimer’s Association, 2015). The disease is highly prevalent in North Dakota compared to the national statistics. This high statistic represents an increased need for dementia care units to be accessible for those diagnosed with the disease. The safety concerns for the individual increase as their Alzheimer’s disease or dementia progresses based on their wandering risk, unawareness of environmental hazards, and individualized care needs. The problem is to reduce costs by creating an individualized approach option for care while ensuring environmental safety for Alzheimer and related dementia residents by implementing regulations on SARDUBC.

**Significance of Clinical Problem**

The SARDUBC is unique to North Dakota as there currently are no direct legal regulations placed on secured units that involve Alzheimer’s and dementia residents in Basic Care settings. Currently secured units are regulated much less in Basic Care, the provision is to make this a regulated practice for SARDUBC.  The timeliness of this new regulation is based on Medicaid's time frame of five years to enact a project starting no sooner than January of 2014 and ending by December of 2018 (Centers for Medicare and Medicaid, 2014). The secured unit workgroup members must follow and meet these timelines to meet compliance deadlines of the HCBS.

Organizations in North Dakota will then be able to define how the regulations will be applicable in their facilities in order to stay in compliance with the state and federal mandate. Resident’s health may be improved as those Alzheimer’s and dementia residents who cannot afford Skilled Nursing Care may be able to afford Basic Care through Medicaid funding or a reduced private pay cost. The scope of the project is to ensure access to care for the sixteen thousand people diagnosed with Alzheimer’s in North Dakota by 2025 (Alzheimer’s Association, 2015). Without this SARDUBC enactment North Dakota will not be able to ensure evidence based practice care is provided for its growing Alzheimer’s Dementia population.

**PICO(T) Question**

 The understanding of the NDDH clinical problem needs to be broken down into clinical questions that will be observed in an evidence based process. The clinical problem is broken down by the acronym PICOT that describes the current population, the intervention of the issue that needs to be implemented, the comparison of any topics, what the outcome should emphasize, and the time frame of the evidence based observation. The combination of EBP and the PICOT question keep the projected outcomes promoting the same outcome. To finalize understanding of the PICOT a holistic question involving the steps of the PICOT is represented to observe the drive for evidence based practice findings.  The current acronym, PICOT, used for this question related to the NDDH need for a SARDUBC is represented.

Population: Individuals with Alzheimer’s or related dementia that reside in a secured basic care facility or unit.

Intervention: Develop a new section in the North Dakota Basic Care regulations related to care of individuals with Alzheimer’s and related dementia in a secured basic care facility or unit that incorporates EBP as applicable including the recent centers for Medicare and Medicaid HCBS requirements.

Comparison: No change in existing basic care regulations.

Outcome: Improved quality of care in a homelike environment.

Time: Implement new requirements prior to the Centers for Medicare & Medicaid five year waiver expires in December of 2018.

Question: Does implementation of EBP including the recent CMS Home and Community based requirements for care of Alzheimer and related dementia promote improved quality of care in a homelike environment for individuals with Alzheimer’s and related dementia who reside in a secured basic care facility or unit?

 The PICOT question is the baseline for the evidence based project. The UMary Project Team has placed their evidence based findings on the PICOT topics and question in order to formally represent the project needs expressed by the Health Resources Section Chief of the NDDH. This acronym will guide the collective evidence based approach of combining HCBS, NDDH, and SARDUBC into a collective review of these entities having a unified directive outcome.

**Purpose Statement**

The purpose of this evidence based project is to explore the HCBS waiver for Alzheimer’s and related dementia residents and compare this waivers compliance rules to the NDDH need for regulation enactments to North Dakota’s SARDUBC. The intention of this evidence based project is to generate a holistic review of other states’ regulations and current practiced literature in order to develop a new regulation regarding SARDUBC. The analysis will occur at both the state and facility levels to discover ways to promote best practices related to individualized care and environmental safety issues. The collection of state by state reviews along with review of current literature will enhance the evidence based enforcement of new SARDUBC.

**Review of Literature**

**Literature Search**

 For the purpose of this evidence based project the literature search was conducted by performing external data searches on safe environmental standards and individual quality of care for Alzheimer’s and related dementia residents. Each state was also contacted and processes that have been implemented for Alzheimer’s and dementia care in basic care or assisted living facilities were evaluated.

 The following search engines were used in the literature review for this project: Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Medline. The time period of 2010 to 2016 was used in order to ensure the most recent evidence and data was compiled. The tables below describe the key search terms, and the number of results yielded in each search engine. A matrix grid is also included for each external data search to indicate the selected sources, the level of evidence, study design, and other key source information.

Table 1

*External Data Search on Quality of Care*

                    Key Search Terms    CINAHL Medline

Alzheimer’s Assessment          298  182

Quality of Care for Alzheimer’s 3         1
& Dementia Patients

Alzheimer’s Care          162  417

Dementia Care         2,496 2,975

Alzheimer’s Quality of Care             8        10

Table 2

*Matrix Grid for Quality*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Full APA Reference Citation | Research Purpose | Study Design | Sample (Setting) | Data Collection/Measures | Analysis/Outcomes | Strengths/Limitations | Joanna Briggs Level of Evidence | Study Quality |
| Cabin, W. D. (2015).Medicareconstrainssocial workers'and nurses'home carefor clients withAlzheimer'sdisease.*Social* *Work*, *60*(1),75-83. | The article provides the opinions of 29 home health nurses on the effect the Medicare prospective payment system has on the care of Alzheimer’s patients. | Qualitative Study using a Grounded Theory approach | Data was collected by interviewing 29 home care nurses, selected from the New York City metropolitan area from May 2011 to February 2013. A snowball convenience sampling technique was used to select participants. Multiple studies and articles were also evaluated. | An interview guide was used to help standardize the data collection, and all participants were assured of anonymity and confidentiality | Analysis resulted in additional questions and probes that were included in further interviews. Analysis followed the grounded theory three-stage coding of interview data: open, axial, and selective coding. | This study is limited to looking at issues, and did not include information about the relationship between Medicare regulations, patient needs, and home care nurses’ coping strategies. Another limitation is the limited questions asked of the home care nurses about specific suggested coverage, eligibility, and payment changes. | Level 3 | Good |
| Edvardsson, D., Sandman, P., & Rasmussen,B. (2012).Forecastingthe wardclimate: astudy froma dementiacare unit.*Journal Of**Clinical Nursing*,*21*(7/8), 1136-1114. doi:10.1111/j.1365-2702.2011.03720.x | The purpose of this study was to explore the psychosocial climate and its influence on the well-being of people with dementia. | Grounded Theory Design | Participant observation was conducted in a psycho-geriatric ward for the assessment and treatment of people with dementia in Sweden. | Data was collected and analyzed using the principles of grounded theory methodology. Observation of the participants was used as the method for data collection. | The main finding of this study was that different levels of staff presence or absence were most influential in creating the overall psychosocial climate in the unit, which in turn influenced patient well-being. | The study results are based on observationdone in one clinical setting, which means that the sample is small. | Level 3 | Good |
| Hayajneh, F. A., & Shehadeh, A. (2014). The impact of adopting person-centred careapproach forpeople withAlzheimer's onProfessionalcaregivers'burden: aninterventional study.InternationalJournal OfNursingPractice, 20(4), 438-445. doi:10.1111/ijn.12251 | This study described the impact of adopting person-centered care approach for people with Alzheimer’s disease. | Qualitative descriptive phenomenological design. | Participants were subjected to a 4-week structured training program about person-centered care. | Data was collected from a sample of 10 professional caregivers using semi-structured interviews. | Van Manen’s hermeneutic phenomen-ological framework was used to interpret the participants’ experiences as it allows for an in-depth analysis of human experiences. | Participants were all working at the same place and caring for the same people with dementia, which could have limited the generalizability of this study. | Level 3 | High |
| Moyle, W.,Murfield, J. E., Griffiths, S. G., & Venturato, L. (2012).Assessingquality of life of older people with dementia: a comparison ofquantitative self- report and proxyaccounts.*Journal**Of Advanced**Nursing*, *68*(10),2237-2246. doi:10.1111/j.1365-2648.2011.05912.x | This study looked at the quality of life of older people with dementia, as assessed by the person with dementia, family caregiver and care staff. | Quantitative study – Observational/Analytical design | Fifty-eight triads comprising the person with dementia, family caregiver and members of care staff from four long-term care facilities were surveyed on the Quality of Life-Alzheimer’s Disease questionnaire between August and December 2007. | All participants completed the self-administered modified Quality of Life-Alzheimer’s Disease questionnaire. A total mean score is figured from the 15 questions, with a higher score indicative of a better quality of life. The final question also provides a standalone assessment of life overall. | Data was analyzed using PASW Statistics Version 18.0.  | This study was limited in the number of issues it looked at. In addition it did not take into consideration the relationship of the rater to the patient, as this could affect the results. | Level 3 | Good |
| Reuben, D. B., Evertson, L. C., Wenger, N. S., Serrano, K.,Chodosh, J.,Ercoli, L., & Tan, Z. S.(2013). TheUniversity ofCalifornia atLos AngelesAlzheimer'sand DementiaCare program forcomprehensive,coordinated,patient-centeredcare: preliminarydata. *Journal Of**The American**Geriatrics**Society*,*61*(12), 2214-2218.doi:10.1111/jgs.12562 | This study focuses on the recruitment of patients into the UCLA ADC program. This program focuses on the creation of individualized care plans that are based on needs assessments and input from the primary care providers. The individualized care plans also include monitoring and revising as needed, and around-the-clock access for assistance and advice.  | Evidence Based Design | Patients are recruited into the program through two methods: referrals from the UCLA primary care and geriatrics practices, the psychiatry and neurology memory and dementia clinics, or direct inquiries from patients or families, and identifying potential patients by billing codes. | This is an ongoing program that began seeing individuals in July of 2012. As of 2013 8 to 10 new patients per week were enrolled and assessed by the first DCM; nine patients had refused to participate during the first 7 months. | The anticipated outcomes of the UCLA ADC program are: better care for individuals, better health for populations, and lower costs. The program will need to be evaluated on each of these components and on how well it achieves person-centered goals. | Challenges of this program include identifying individuals with dementia; dementia evaluations and medical and psychological histories included in the medical record have been highly variable; some providers restricting the program’s management to care directly related to dementia only; and data collection, documentation, and communication have been difficult. | Level 4 | High |
| Warchol, K.(2015).Establishingdementiacare bestpractices:How to doit and whyit matters.*PPS Alert For**Long-Term**Care,*18(10), 9-11 | This articles focus is on the importance of establishing and practicing best practices for dementia care. | Expert Opinion | Sample is not defined.  | Information given is all from the author, and is her expert opinion. | When creating standard practices for dementia care it is important to make sure they are rooted in objective, measureable goals for the patients. These goals could include: Optimizing each patient’s quality of life, functionalindependence, health, and safety; Supporting loved ones and care givers; andreducing hospitalizations | The information is presented well, however, would have been stronger if outside sources, or primary research were included. | Level 5 | Good |

Table 3

*External Data Search on Safe Environmental Standards*

                    Key Search Terms    CINAHL Medline

Locked Unit          6 21

Rehab Nursing 205      4

Basic Care          68   756

Independent Living         224 1,219

Life Safety             223        522

Wandering Interventions 2 2

Wandering Care 4 6

Dementia Care in Nursing Homes 57 27

Dementia Unit Environment 0 1

Dementia Unit Design 2 0

Wandering Safety 14 8

Interior Environment Dementia 266 281

Locked Doors 7 8

Table 4

*Matrix Grid for Safe Environmental Standards*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Full APA Reference Citation | Research Purpose | Study Design | Sample (Setting) | Data Collection/Measures | Analysis/Outcomes | Strengths/Limitations | Joanna Briggs Level of Evidence | Study Quality |
| Benbow, B. (2014). Interior design for dementia care residences. *Canadian Nursing Home*, *25*(3), 4-12. | The purpose of this report is to explain in detail the interior design elements that must be kept in mind for residential spaces of those with dementia to promote comfort and safety. | Non-experimental, descriptive expert opinion | 34 published studies were evaluated to compile data and define suggested design elements. | Interior design recommendations were gathered from previously completed clinical studies with significant results to provide a comprehensive list of environment suggestions, presented by an industry expert. | Each design element is listed, followed by a through explanation and further details. Images and tables are also provided to visually clarify design suggestions. | The amount and quality of data presented is significant and impressive, and the presentation is organized. The significance of the presented data is limited by the lack of primary research. | Level 5 | Good |
| Futrell, M., Melillo, K. D., Remington, R., & Schoenfelder, D. P. (2010). Evidence-based guideline. Wandering. *Journal Of Gerontological Nursing*, *36*(2), 6-16. doi:10.3928/00989134-20100108-02 | The purpose of these guidelines is to summarize the guidelines provided by the Gerontological Nursing Intervention Research Center, developed to assist in the care for residents prone to wandering. | Evidence Based Guideline | Several studies and published works discussing the behavior of wandering and how to determine one’s risk as well as intervene were analyzed. | The evidence based practice guideline titled Wandering, developed by the Gerontological Nursing Intervention Research Center was evaluated and numerous resources were provided to support the published guidelines | Risk assessment tools, locator system criteria table, staff competency, and list of interventions all included within resource. | The data presented is highly regarded within the industry and well supported with evidence based data. Further research is needed to continue to define the consequences of wandering. In addition, the tools assessing safety are not 100% accurate, as safety is only observation of a resident. No tool can guarantee one’s safety risk. | Level 4 | Good |
| Kaskie, B. R., Nattinger, M., & Potter, A. (2015). Policies to Protect Persons With Dementia in Assisted Living: Déjà Vu All Over Again?. *Gerontologist*, *55*(2), 199-209. doi:geront/gnu179 | The purpose of this research was to evaluate state policies regarding assisted living facilities, specifically those targeted to residents with dementia, and assign a score of rigor to determine the variety of policy strictness across the nation. | Qualitative descriptive study, Cross-sectional | All 50 states’ Assisted Living policies in regards to residents with dementia. | All regulations were gathered and each state was scored on a scale of 0 (no policies) to 10 (strictest policies) in regards to rigor pertaining to several different patient care elements. Initial scores were developed by two specialists and any disagreements on scores were then decided on by a third representative. | A comprehensive table of scores were provided, including all 50 states, as well as a table of recommended minimum standards. | The research completed offers significant insight in the need for more legislative focus on assisted living facilities and the care of their residents with dementia. However, this study was limited by the flexible definition of assisted living. Therefore, to provide more valid and reliable research, a concrete definition must be determined and implemented nationwide to develop policies. | Level 4 | High |
| Lenham, J. (2013). Colour, contrast and comfort: interior design in dementia. *Nursing & Residential Care*, *15*(9), 616-618. | The purpose of this research is to provide interior design suggestions for residential homes housing residents with dementia. | Expert opinion | Sample is not clearly defined. 9 highly credible sources are listed within the references. | Research was gathered from various reputable publications and organizations to develop a comprehensive and detailed list of interior design recommendations in a facility housing residents with dementia. | Interior design elements are listed in a narrative way with images scattered throughout to provide examples. | The detailed data is well organized and each item is thoroughly explained and supported. The article would be much stronger if primary research were obtained. | Level 5 | Low |
| Lester, P. E., Garite, A., & Kohen, I. (2012). Wandering and Elopement in Nursing Homes. *Annals of Long-Term Care: Clinical Care and Aging, 20*(3), 32-36.  | The purpose of this research is to stress the need for regular resident assessments for wandering and elopement risks, in addition to providing several recommendations to minimize said risk.  | Case Report | An 85 year old man with multiple comorbidities including Alzheimer’s dementia, osteoarthritis, and hypertension. | A Case report was completed after the analysis of the 85 year old patient assessing his risk for wandering and elopement, the interventions taken, and the patient’s outcome. A literature review follows the case study, which compiles research supporting the findings form the case study. | The assessment and status of the resident is explained in detail and the literature review is completed in narrative form. | Strengths of the report include a thorough literature review that the case clearly supports the need for risk assessments; however, the argument could have benefited from more examples/cases and creating a case series. | Level 4 | High |
| Park-Lee, E., Sengupta, M., & Harris-Kojetin, L. D. (2013). Dementia Special Care Units in Residential Care Communities: United States, 2010. *NCHS Data Brief, (134),* 1-7. | The purpose of this report is to compare residential facilities with and without special care units around the nation as of 2010. | Cross sectional study – descriptive  | 31, 1000 Residential care communities across the nation, after meeting inclusion criteria as identified by the authors. | Data gathered from surveys conducted by the Centers for Disease Control’s National Center for Health Statistics. Differences were then measure using chi-square and t tests. | Detailed statistics and several bar graphs to illustrate findings. | The strengths include the in depth statistical analysis provides a great deal of data; however, the discussion of the data is lacking and could be improved. | Level 4 | Good |
| Popham, C., & Orrell, M. (2012). What matters for people with dementia in care homes?. *Aging & Mental Health*, *16*(2), 181-188. doi:10.1080/13607863.2011.628972 | The purpose of this research was to determine how impactful residents, family members, and staff found the residential environment was for individuals with dementia. | Cross Sectional Study, descriptive | 60 participants and managers from five facilities, as well as the environmental assessment from each facility. | Participants were placed into focus groups and interviewed. The Sheffield Care Environment Assessment Matrix (SCREAM) was utilized to complete environmental assessments on each of the five facilities. | Statistics provided and themes identified in the survey are presented in a table with direct participant quotes included. | The evaluation of completed participant interviews provided a list of common themes relative to the research purpose. The convenient sample of participants likely impacted the generizability of the results, and the SCREAM analysis did not cover all important elements. | Level 4 | High |
| Wigg, J. M. (2010). Liberating the wanderers: using technology to unlock doors for those living with dementia. *Sociology Of Health & Illness*, *32*(2), 288-303. | The purpose of this research was to examine the impact of different monitoring methods to decrease risk of wandering resident. | Prospective Observational Study, analytic.  | Data drawn from 2 long term care settings. | Observations of wandering patients and how staff members intervene with these residents over a year-long period were logged and analyzed to determine which method created the least distress amongst residents and staff. | Findings were described in depth via narrative form. | A clear comparison between the locked units versus motion detector units over a year long period was provided. The small sample of only two units limit the findings, and observing more would increase the strength of the study. | Level 3 | Good |
| Zeisel, J. (2013). Improving Person-Centered Care Through Effective Design. *Generations*, *37*(3), 45-52. | The purpose of this research was to explain eight previously studied design elements and discuss the impact of each on residents in an Alzheimer’s/dementia care setting. | Expert opinion, based on high quality primary research studies. | Several different documents (6 listed in the references) written by industry experts. | Recommendations from previously completed studies were analyzed and combined to create a list of eight environmental criteria for a residential care setting. Each item was then thoroughly detailed. | Eight critical design elements are listed and explained in a narrative fashion. | The quality and thoroughness are strengths of the evaluations, while the information is limited due to not being primary research. | Level 5 | Good |

**Synthesis of Current Literature**

**Background**. As the most common type of dementia in the United States, Alzheimer’s disease is a rising concern among caregivers, healthcare providers, and insurers, such as the Centers for Medicare and Medicaid Services (CMS). Dementia, specifically Alzheimer’s disease, imposes significant economic, social and psychological burdens for not only the patients themselves, but also their caregivers (Cabin, 2015). In 2014 over five million Americans age 65 years and older had Alzheimer’s disease, and this number is expected to increase to 14 million, or 16% of the population, by the year 2050 (Cabin, 2015). As the population ages and is living longer, the prevalence of dementia related diseases is increasing, and because of this more focus is beginning to be placed on this disease and ways to better manage it and care for the patients it affects.

Dementia can be a debilitating disease, and as the disease progresses basic activities of daily living and social interaction become increasingly impaired (Wajman, Oliveira, Marin, Schultz & Bertolucci, 2014). In the beginning stages of dementia patients often still live at home and are independent for the most part. As the disease progresses, they often have caregivers that either live with them or check in on them frequently. Eventually the disease progresses to a stage that is not able to be managed by the caregiver alone, and the patient requires a higher level of care. This is often the stage where patients end up in long-term care facilities as there are no less restrictive facilities that have programs set up specifically to care for the needs of dementia patients. Current guidelines classify the progressive course of dementia in three stages: mild – can still live independently despite the effect on activities of daily living; moderate – independent living is limited and some supervision is needed for certain activities; severe – independence is restricted for all activities (Wajman et al. 2014).

It has been proven through the success of the Medicare Hospice Benefit that an increase in the use of social work services and psychosocial care improves the quality of life for dementia patients and their caregivers (Cabin, 2015). It’s also been shown that this is directly related to a decrease in the costs to the patient, caregiver and the government. In 2012 the cost of caring for patients with Alzheimer’s and dementia related diseases was $216 billion, and this is expected to increase to $1.2 trillion annually by the year 2050 (Cabin, 2015). The costs related to caring for dementia patients can be substantial, so it’s imperative that different means of caring for this population are explored in an effort to increase the quality of care, while at the same time decreasing the cost of that care.

**Psychosocial Interventions**. Evidence supports that psychosocial interventions can increase positive outcomes, increase quality of life, and allow patients with Alzheimer’s to live at home longer, thereby reducing costs. Some of the interventions that have had the greatest impact are support groups, counseling programs, skills-building programs, and home environmental assessments (Cabin, 2015). These interventions, along with the benefits they present, have shown a decrease in cost which is attributable to a delay in nursing home entry (Cabin, 2015). These interventions are also beneficial as they are nonpharmacological. Data released by the Centers for Medicare and Medicaid Services (CMS) earlier this year indicated the use of antipsychotic medications in nursing homes has decreased 27% since 2012, which is when CMS established the National Partnership to Improve Dementia Care in Nursing Homes (HCPro, 2016). There is growing evidence of the effectiveness of nonpharmacological therapies for the treatment of people with dementia.  Examples of additional non-pharmacological therapies include cognitive training, exercise, recreational therapies, and technology-based interventions. Evidence has shown that pharmacological therapies have limited effectiveness in treating dementia (Buettner, Yu & Burgener, 2010).  By exploring different non-pharmacological therapies that can be used in combination with pharmacological therapies, options for treatment therapies in the early stages of dementia can be more diverse.

Technology-based programs specifically are being looked at for inclusion in current and future treatment regimens for dementia patients as they have been shown to minimize the need for professional support services, minimize costs, they assist caregivers, and they can be widely distributed (Buettner, Yu & Burgener, 2010).  These technology-based programs have also been noted to have positive effects on the functional behaviors of dementia patients, such as: better recall of appointments, dates, or tasks; improved concentration; cognitive performance; recall of routes in the environment; increased social interactions; and improved medication adherence (Buettner, Yu & Burgener, 2010).  These interventions also have the potential to increase safety in the home, decrease caregiver burden, and contribute to a reduction in the cost of care. The current demographic of patients with dementia may not be comfortable with these technology-based interventions, such as mobile devices or in-home systems, however as our population continues to age and the number of dementia patients continues to grow, future patients and their family/caregivers should readily adapt to this type of intervention format.

**Best Practices**. In trying to reform the care that dementia patients receive, it is important to establish best practices (see Appendix A) that can serve as a guide to ensure quality care and the well-being of the patients (Callahan, Sachs, LaMantia, Unroe, Arling & Boustani, 2014). The best practices should stem from current research, yield measurable data, and demonstrate flexibility so they can be adapted to meet the needs of each individual patient (Warchol, 2015). These best practices should also focus on optimizing the quality of life, functional dependence, health, and safety of the patients. Interventions that support best practices include individualized care plans, environmental support, trained staff and interdisciplinary teams, consistent staffing, and family support and involvement (Warchol, 2015). Ideally, the establishment of these best practices in addition to the collaboration of all parties involved in the care of the patient, should result in a person-centered care regimen for dementia patients.

**Person-Centered Care**. Currently there are two different paradigms for caring for people with dementia: the biomedical paradigm which is the more traditional and focuses on the dementia itself first, and the second is the phenomenological paradigm which focuses on the person first (Hayajneh & Shehadeh, 2014). Current practice is beginning to focus more on interacting with patients, and is moving away from the task-oriented care of the past. This shift in the focus of care is occurring because of the shortfalls of the biomedical paradigm to preserve and promote the well-being and quality of life of dementia patients (Hayajneh & Shehadeh, 2014). The primary area of focus with person-centered care is prioritizing the person rather than the task or disease, and adjusting the care based on the patient’s wants and needs (Warchol, 2015). Measurement of the quality of life in people with dementia poses many challenges. These patients often have impairments in their communication and memory that can make it difficult for them to communicate with caregivers (Moyle, Murfield, Griffiths & Venturato, 2012). Added to that is the possible presence of psychological and behavioral symptoms, which can make assessing these patients even more challenging. Quality of life assessments generally focus on physical, psychological, social and emotional components of well-being (Moyle et al. 2012). In light of this, when determining the quality of life of a dementia patient it is beneficial to focus on what the patient can still do, rather than the skills and abilities they have lost.

The main premise behind the person-centered care approach is that the dementia patient is heard, seen and acknowledged despite their declining cognitive abilities (Hayajneh & Shehadeh, 2014). For the person-centered care approach to be successful communication with the patient is paramount. Person-centered care involves knowing the patient’s life story, experiences and preferences, and then adapting the care to suit that person. This is where the creation and implementation of individualized care plans will help to establish a more personable approach to caring for and treating these individuals. During the creation of these individualized care plans, the patient, family, physician(s), and social worker/care manager should all work together to ensure that the needs of the patient are being fully met. It is common for dementia patients to have multiple care providers to treat different diseases. Because of this, the establishment of best practices and the implementation of an individualized care plan are even more important to ease the transition from care provider to care provider. There should be ongoing monitoring and revising of care plans as needed, and the care plan should be a part of the patient’s permanent medical record to ensure a continuity of care (Reuben, Evertson, Wenger, Serrano, Chodosh, Ercoli & Tan, 2013).

**Behavioral Assessments**. The environment that dementia patients live in can play a large role in their behavior and well-being as well, so it is important to regularly perform behavioral assessments on dementia patients (Edvardsson, Sandman & Rasmussen, 2012). These behavioral assessments can track changes in the patient's demeanor and behavior throughout the day and allows staff to see what items or activities are positively or negatively affecting the behavior of the patient (See sample Behavioral Log in Appendix B) (HCPro, 2016). These behavioral assessments can then be used to aid in the development of the individualized care plan for the patient.

**Quality of Care**. The quality of care for dementia patients is poorer quality than for other diseases that affect the aging population. This is in part because physicians often are short on time, and in some cases the skills, to adequately manage the many aspects of dementia (Reuben et al. 2013). This is where social workers could play a significant role in filling that gap that exists in the care of this population. Some of the areas often unaddressed by the primary physician include coordinating social and medical care, instructing caregivers, and counseling families. Social workers are aware of the resources and organizations in the community that can benefit not only dementia patients, but also their caregivers. These community resources can help to increase the quality of care, and the quality of life for the patient and their caregiver by providing education and support. Evidence has shown however that these types of organizations are underused and are poorly integrated into the healthcare system (Reuben et al. 2013).

In San Diego, CA care managers, which were primarily social workers, were part of a community-based program that worked with a web-based care management software system that aided in dementia care planning and coordination (Reuben et al. 2013). This program showed an increase in adherence to dementia practice guidelines, an increase in quality of life, increased caregiver quality and social support, and a lower level of unmet caregiving assistance needs (Reuben et al. 2013). In 2011, this program was formally launched by the University of California at Los Angeles (UCLA) as the Alzheimer’s and Dementia Care (ADC) program, and in July of 2012 with additional support, including receiving the Centers for Medicare and Medicaid Services Innovations Challenge Award, the UCLA ADC program was fully implemented (Reuben et al. 2013). In this program care managers work closely with primary care physicians, and the health care organizations partner with community based organizations to provide comprehensive, coordinated, patient-centered care for dementia patients (Reuben et al. 2013). The goal of the ADC program is to maximize function, independence and dignity of dementia patients, and also to reduce caregiver strain and burnout (Reuben et al. 2013). The benefits of this program also reduce unnecessary healthcare costs through improved collaboration and care. This type of a program falls in line with the person-centered care approach that is becoming more of a focus with dementia patients.

**Environment**. An analysis of design guidelines for dementia care in the United Kingdom was initiated by John Zeisel to evaluate which architectural criteria allowed residents with cognitive impairments to most be themselves. The eight key criteria that were determined to be most impactful were “exit control, walking paths, common spaces, privacy and personalization, garden access, residential-ness, sensory comprehension, and support for capacity” (Zeisel, 45). Making these eight factors a top priority when designing and developing dementia residential care centers were found to reduce the distress and anxiety of residents as well as foster strong interpersonal relationships. The architectural design of a facility housing individuals suffering from dementia can be a surprisingly impactful element of treatment. Many experts in the niche of dementia care stress that the environment or layout of a special care unit is a form of intervention. Oftentimes the distress an individual experiences due to their dementia is avoidable by simply designing their surroundings appropriately. The wrong design may create confusion and panic, whereas a well-designed space will positively impact “emotional well-being and independence of that person” (Lenham, p. 616). Providing a safe environment as well as one that is aesthetically pleasing is essential for residents with dementia. These special care units “often feature modified environments including exit controls, safety accommodations, and other designs that promote security and safety” (Kaskie, Nattinger, & Potter, p. 200). In addition to providing specialized dementia education for staff members, it is essential to focus on the design of the residential environment.

**Color Contrast**. The two most important features of the interior design for residents with dementia are color contrast and light (Benbow, p. 4). Due to the natural process of aging, the anatomy of the eye changes and the visualization of color diminishes, with yellow being the last color to fade; therefore, warm colors are best to use in the interior environment of elderly residents. The influence of color plays an integral role in the safety of individuals with dementia, as evidenced by several studies pertaining to the topic. When utilizing contrasting colors, a suggested differential value of 30% to distinguish objects and 70% for signage, aids elderly residents when differentiating objects, which is critical when ambulating, eating, and performing other daily activities (Benbow, p. 6). The method of color contrast should be utilized in essentially every interior design decision from wall and floor colors, to placemat and plate colors. The colors decided on for flooring, should make it easy for a resident to visualize where the floor ends and the will begins. When chosen incorrectly, an individual with dementia may not be able to differentiate between the two, which leads to anxiety (Benbow, p. 5).Something as simple as the pattern on the floor or a shower curtain can easily confuse someone and cause him or her to fall or become anxious. The design of the pattern may easily be misunderstood as a hole or shadow, which would cause stress and confusion. Stripes should also be avoided when creating a design because they may be interpreted as movement, which also causes confusion or agitation (Benbow, p.5). In general, it is best to commit to using solid colors instead of busy patterns on walls, floors, bedding, upholstery, etc.

**Lighting**. The lighting strategy utilized with a unit specifically designed for those with dementia is crucial. Surprisingly, care should be taken when selecting the wattage of lighting. An analysis completed by dementia design expert Bill Benbow determined that ambient lighting around 2500 lux was found to improve residents’ sleep patterns and decrease distress (p.4). Another important measurement when determining which light bulbs to utilize is the value on the Kelvin scale. The higher the Kelvin value, the more the emitted light resembles sunlight, which is a particularly important factor when many residents spend limited time outdoors (Benbow, p. 7). The closer a bulb is to the value of sunlight, 5250 K, sleep patterns are improved and the phenomenon of sun-downing occurrence is decreased.  Residents have also found a benefit to have lighting integrated within their bedframe or along a handrail going to the bathroom, in order to assist them while attempting to find the toilet during the night (Benbow, p.5). Another suggestion to implement is installing lighting in the bathroom that will automatically turn on when an individual gets out of bed (Lenham, p. 617). This will prevent any anxiety caused by the shadows created at night, in the dark.

Another aspect of lighting that should be addressed when designing the environment of a special care dementia unit is the selection of non-reflective windows (Lenham, p. 617). When the glass in windows form reflections, they may appear as shadows, which can cause anxiety. In addition to preventing reflections that may be confusing for a resident, it is also important to control glare from lighting and windows (Benbow, p.4). A glare will impact how an individual with dementia visualizes an area and may increase their risk of falling or anxiety. To reduce or avoid glare, lights should be installed as indirect light. Other measures to reduce glare include “illuminating vertical as well as horizontal surfaces,… shadowing of overhead lights… to avoid dark ‘puddles,’ particularly in corridors where fixtures are too far apart” (Benbow, p. 8).  More glare reduction methods include placing vertical blinds help to reduce the glare emitted by windows as well as framing artwork with low reflective glass.

All lighting throughout the facility should be dimmable, and in bedrooms, switches should be operable from the bed and easily seen by utilizing color contrasted plates. There should be at least two ceiling lights per bedroom with another additional light fixture within an arm’s reach from the bed. Not only is the color of flooring and walls important, but also small, seemingly insignificant details can be extremely impactful when attention goes into the design. For instance, color-coding the hot and cold knobs of a faucet allows residents to be more independent while in the kitchen or bathroom. These several factors should be considered when lighting and decorating a space for residents with dementia.

**Décor**. Environment décor has a huge impact on the level of confusion in regards to individuals with dementia. Decorating the space to feel like home, such as having homelike furniture to prevent an institution feel, allows residents to feel comfortable in the space. (Zeisel, p. 50). Including items like cozy blankets and comfortable mattresses are important in eliminating stressors in the living space of a special care unit. In regards to wall art, utilizing large portraits of familiar landscapes have shown to be comforting to those with dementia or other cognitive diseases.

When choosing an appropriate handrail to secure around hallways, Benbow suggests utilizing C-shaped handles, which are easier to use for individuals with agility issues than the common door-knob (p. 6). In addition to handrails in hallways and other walkways, they should also be installed in the shower and beside toilets. When installing these grab bars, it is crucial that the color selected for the handrail contrasts with the color of the wall for easy visualization (Benbow, p. 7). A design aspect that is often forgotten is the installation of removable mirrors. As dementia progresses, the resident may no longer recognize themselves; therefore, their image in the mirror is likely to cause anxiety (Benbow, p.7). Mirrors should have the option of being removed in instances when one’s own reflection triggers distress.  All seating should be designed at a height of approximately 120% of a resident’s lower leg length, if possible (Benbow, p. 9). This height prevents unnecessary knee extension and reduces the amount of effort needed to get up from a sitting position. Benbow also reported that increasing chair height from 17 to 22 inches increased success rate of residents independently rising from a chair (p. 9). Not only should chair heights be adjusted, but beds should also be adjustable to allow residents to easily get in and out of bed and the height of tables must ensure wheelchair access. In addition, tables with rounded edges should be installed in common areas to prevent injuries that may occur when bumping into the corner of a table.

Lastly, special attention should be placed on appliances. All appliances that create a fire hazard should be disabled to prevent any accidents from occurring and to ensure resident safety. Appliances should be easy to use with few buttons to prevent any confusion. One touch technology is ideal with “sensors that stop cooking automatically to prevent over-heating” (Benbow, p. 10). Installing user-friendly appliances that are placed in locations easily visible to staff, is the best way to prevent any unnecessary accident from occurring.

**Social Interaction**. A cross sectional survey evaluating the care of dementia residents found that while basic living needs were met, many vital factors, such as social interaction, were missing in the residential setting (Popham & Orrell, p. 181). Oftentimes, poor architectural design isolates residents; therefore, it is crucial that social areas are designated into the blueprint of a facility. Social interactions improve resident well-being as well as decrease episodes of distress, agitation, and confusion. A study conducted in England evaluated the design of 257 residential communities in search of designated areas for residents to congregate (Popham & Orrell, p. 181). On average, the facilities with rooms specifically designed for social interactions reported fewer episodes of resident distress. Unfortunately, very few offered space for the community to gather and interact. The staff of a care facility housing residents with dementia must ensure that there are scheduled activities to prevent boredom. Keeping individuals engaged is key, and when residents lack social interaction, they become bored, which can ultimately lead to distress. As Popham and Orrell (p. 183) indicated in their analysis, activity and interaction were found to be two of the most important themes of patient care.  Providing social stimulation has been shown to decrease distress and therefore decrease wandering. It is believed that wandering occurs due to a lack of stimulation, or boredom, in search of something intriguing; therefore, providing that stimulation will inhibit the need to wander.

Residential communities must have designated areas to congregate in order to prevent complacency and anxiety. Lester, Garite, and Kohen (2012) suggest placing important common areas, such as dining halls, in memorable areas to assist those with dementia. Another important factor to keep in mind when designing social areas, is that rooms devoted to music have shown to be more effective in decreasing wandering than creating reading rooms (Futrell, Melillo, & Remington, p. 11). Music is believed to have a more stimulating impact than a room designed for staff members or volunteers to read out loud to residents. While social areas are important, offering both quiet and activity rooms is beneficial. This allows residents to have the choice between personal time and stimulating environments. Quieter areas must be provided because too much stimulation and noise can also cause distress and anxiety. Residents need a room they can relax in as well as one in which they can socialize.

Lastly, while social contact is important, “bedrooms need to be private or, at most, shared with one other person” (Zeisel, p. 47). This allows the resident to personalize their space with items such as furniture from home or family photographs. The ability to display his or her own personal items largely benefits the resident and provides them a sense of independence.

**Signage**. Unwanted exiting can occur when the signage for “exiting doors” is too pronounced (Andrews, p. 21). For example, when a door is prominently labeled with a command such as “Exit” or “Push to Exit,” it is human nature to be curious what is beyond the door. Someone in distress may notice the sign and attempt to make an escape. Caution should also be taken when labeling a fire exit due to the same tendency for unwanted exiting (Andrews, p. 21). However, it is important to utilize signage in an appropriate way to communicate with individuals and allow them to orient themselves, which promotes independence.

Personalized memory boxes placed outside of bedroom doors have also been shown to assist residents find their rooms (Lenham, p. 616). Sentimental memorabilia or pictures of loved ones will catch the attention of someone walking by and remind them of which room is theirs. In addition to memory boxes, it is also beneficial to encourage residents to personalize their room with décor from home (Popham & Orrell, p. 185). Having one’s own items from home will help prevent stress and encourage him or her to relax as they would in the comfort of their own home.

Important destinations such as the restroom or dining area should be designated by the use of pictures as well as words because residents may relate to these differently (Lenham, p. 616). Some residents with dementia may respond better to words, whereas others may respond better to pictures. In addition, it is critical that signs be designed in colors that are visible to an individual with dementia. Yellow, being the last color to fade, should be prominently utilized when designing signs to help direct and orient residents. Simple and clear signs, with a serif font no smaller than 60 pt. should be made visible throughout the facility to assist in orienting confused residents. When installing signage, it is beneficial to hang items at door handle height since dementia patients tend to look down (Benbow, p. 9). Following these guidelines when utilizing signage will help decrease confusion and encourage a resident’s sense of independence.

**Locked Doors**. Futrell, Melillo, and Remington, all doctorates in geriatric care, define wandering as “meandering, aimless or repetitive locomotion that exposes the individual to harm; frequently incongruent with boundaries, limits or obstacles” (p. 6). Wandering, or elopement, is a dangerous and life-threatening risk; therefore, it is crucial that once one is determined to be susceptible to wandering, prophylactic interventions be put in place. A case report completed by Lester, Garite, and Kohen, found that residents who wander are at an increased risk of falls, fractures, and weight loss compared to those that do not wander, signifying the importance of preventative interventions (2012). Wandering is problematic for individuals with dementia or Alzheimer’s Disease due to interruptions of one’s sleep, lack of food and water, as well as the obvious safety risk (Futrell, Melillo, & Remington, p. 6). Determining the best and most appropriate intervention for each resident is critical to ensure his or her safety. The cognitive impairment of one individual may be more of a functional impairment, another may be more of a spatial perception impairment, and a third resident may suffer from memory impairment such as forgetting which is their bedroom (Lester, Garite, Kohen, 2012). Each individual with a tendency to wander is unique in his or her reasoning; therefore, it is essential that interventions be personalized for each wanderer. Fortunately, to encourage personalized care, there are several different methods to prevent wandering, such as creating locked units to allow residents independence while also protecting them from harm. In 2013, the National Center for Health Statistics reported that close to 80% of residential care communities had “doors with keypads or electronic keys” and 75% had locked doors (Park-Lee, Sengupta, & Harris-Kojetin, p. 2). Several different tactics to locking doors in a special care community exist, and it is critical to determine the best method to implement. One method frequently used is creating keypad codes or complex door latches that one with dementia will not be able to figure out (Futrell, Melillo, & Remington, p. 10). Although it may seem unnecessary, facilities should also be required to post notices to visitors warning them to not assist residents while attempting to exit the building.

Windowed or see-through doors should not be used as exiting doors because a view of the outside will incite curiosity is likely to trigger an escape attempt (Ziesel, p. 46). Dementia care experts suggest strategically placing murals over doors, or camouflaging exits to disguise an existing door; in addition to placing “gridlines in front of doors to decrease exit seeking” (Futrell, Melillo, & Remington, p. 10). However, these tactics are rather controversial. Lester, Garite, and Kohen, argue, per a Cochrane review, that there has been no significant data found to support the use of barriers such as taping gridlines in front of exiting doors; therefore, they do not decrease the occurrence of wandering (2012). Perhaps the gridlines cause more confusion and lead to distress instead of simply preventing elopement.

In addition to, or in place of, locked environments, many facilities have chosen to incorporate motion sensors to create an increased level of safety for wanderers (Wigg, p. 289). Alarm systems built into objects such as beds, chairs, and wheelchairs that alert staff of resident movement, are frequently used in assisted living facilities (Lester, Garite, Kohen, 2012). Not only can the alarm alert staff members of safety risks, but depending on the cognitive impairment, it may also interrupt the behavior of the resident and prevent him or her from wandering. In regards to sound of the actual alarm, it is prudent to implement systems with verbal alarms instead of irritating beeping or aggressive noises. Screeching noises or other aggressive alarm sounds may cause anxiety and inadvertently cause wandering, while verbal alarm cues create a more personal warning.

Locator devices, such as GPS, have also shown to be utilized in residential care settings, but much less frequently than the previously discussed alarm methods. These personal monitoring devices are often considered an invasion of privacy, which is likely to contribute to only being implemented in 35% of dementia special care units (Park-Lee, Sengupta, & Harris-Kojetin, p. 2). However, personal GPS equipment can easily be applied in the form of a wristband and they provide a heightened level of resident security for those deemed high risk during their cognitive assessment. Using electromagnetism within the wristband to automatically lock an exit door as a resident approaches is an easy way to prevent elopement and allow for safe ambulation (Lester, Garite, & Kohen, 2012). These same devices can also be designed to alert staff members when a resident moves towards an area that should only be accessed with supervision, such as a space containing a flammable object or a slick surface.

Lastly, intelligent video monitoring is currently in development to detect wandering behaviors technologically (Lester, Garite, & Kohen, 2012). This system is only in its infant stage and is now being tested for accuracy; however, by electronically studying the common residential behaviors of daily activities, abnormal behaviors were easily differentiated. Once the monitoring system detects an abnormal behavior, staff can then be notified to prevent elopement. As previously mentioned, this technology is currently being evaluated and improved, but the financial logistics are still unknown. Therefore, before requiring a facility to implement this intelligent video monitoring system, the analysis and improvements should be finalized. Whether a door alarm, GPS, or video monitoring are utilized within a facility, the most important factor is that residents are not confined.

**Walking Pathways**. Architectural design of a special care unit should include secure walkways for residents to purposefully walk or wander (Zeisel, p. 47). Providing an area to safely wander not only increases independence, but also, if executed properly, will help prevent stress and anxiety for the residents by allowing them to freely walk around. It is an innate behavior to move with purpose to fulfill a need; therefore the action of wandering is a natural reaction to stressors or anxiety (Lester, Garite, &Kohen, 2012). Distress caused by hunger, an urge to go to the bathroom, boredom, or overstimulation may all trigger someone to wander, so providing a safe space to wander is crucial. Once a walkway is created, it is also crucial to ensure that it is not an endless wandering loop, but there there are significant destinations such as the dining area of garden one can identify. All too often walkways are created without a reason for the journey in mind. When these continuous loops are made, residents are more prone to become confused with their orientation and will likely wander (Zeisel, p. 47). Also all clutter should be removed and prevented from accumulating within the walkway space. The design of living environments created for residents with dementia or Alzheimer’s “should be safe and free of hazards that may not be known or recognized” by these individuals (Kaskie, Nattinger, & Potter, p. 2016).  Wanderers and other residents with dementia can easily trip and fall over objects unknowingly in their way. In addition to remaining clutter free, handrails of the appropriate height should be secured to increase safety during ambulation.

Kaskie, Nattinger, and Potter, from the Department of Health Management & Policy of Iowa, conducted a study to evaluate and measure various factors that impact the safety of special care units within each state of the United States (p. 202). They determined that on a scale of 1-10, the average environmental safety rating, according to their measurements, was a disappointing 3.06. Oregon, being the highest rated state with a score of 9, had the most clearly defined regulations when compared to all of the other states, while a shocking 10 states had no enforced policies at all in regards to the physical living environment of a resident with dementia (Kaskie, Nattinger, & Potter, p. 202). In addition, only 10 states required secure perimeters for walkways and living areas of dementia residential communities. This lack of exit control can be a detrimental risk to the safety of patients. The state of Texas specifically defined the “door type, locking mechanisms, and outdoor gate and fence features” within their regulations to alleviate the responsibility of each facility choosing its own strategy (Kaskie, Nattinger, & Potter, p. 202). Within this same evaluation, North Dakota was given a safety measure of 0; therefore there is much room for improvement by implementing environmental regulations. Providing a safe and secure pathway for residents to follow not only provides exercise, but also offers many other benefits. Offering this movement helps the residents “stay busy, relaxed, oriented to time and place, and interested in their surroundings; it is important to give these residents opportunities to be active, regardless of the cognitive limitations” (Lester, Garite, Kohen, 2012).

**Outdoor Space**. In the survey completed by Popham and Orrell (p. 186), residents consider access to an outdoor space as one of their most important themes in architectural design of a facility. Spending time outside for one hour every morning was found to have a positive effect on one’s internal clock and therefore assists a resident with dementia regulate their circadian rhythm and prevent evening ”sundowning” (Zeisel, p. 49). Outdoor space, such as a community garden, is crucial to the well-being of residents. The vast majority, over 80%, of long-term care centers in the United States offer an enclosed courtyard to residents to safely spend their time (Park-Lee, et. al., p. 2). Designing a secured outdoor space, garden, or walkway also offers a safe place to wander in addition to an indoor, controlled pathway. Lester, Garite, and Kohen recommend placing the outdoor area centrally within the facility to allow for staff supervision (2012). In addition, the access door to the garden should be well marked and centrally located within a common area to prevent any unnecessary stress or agitation while trying to enter the area. Doors to common areas for social interaction as well as outdoor spaces should be designed invitingly and easy to visualize from surrounding walls to encourage residents to access those areas (Benbow, p. 11). Freedom to move around between outdoor spaces, rooms for social gatherings, walkways, and private space not only allow independence, but also enables a feeling of control over one’s day to day life.

Recently, at an Assisted Living Workgroup seminar, the consensus of ombudspersons was in support of increasing state regulations in regards to environmental safety of residential communities with special care units (Kaskie, Nattinger, & Potter, p. 205). Many individuals with dementia that are capable of living somewhat independently are choosing to live in Basic Care facilities over skilled nursing due to the autonomy that is offered (Kaskie, Nattinger, & Potter, p. 200). Therefore, it is critical to ensure these residents’ safety in addition to providing an attractive space to live. Popham and Orrell (2012) conducted a study analyzing the most important factor to the care environment by interviewing both the residents and staff members. Once the evaluations were complete, four themes were identified. These themes were activity and interaction, freedom and safety, dignity and privacy, and design and environment. Simple changes in the design of an environment can positively impact the daily life of an individual afflicted with dementia. Utilizing proper colors, signage, outdoor space, and locking mechanisms on doors promote safety and independence. Zeisel reminds architectural and interior designers, “when the physical environment is planned to enable users to continue to use whatever capacity remains, the person stays independent from others and from intrusive technologies for longer” (p. 51). The proper architectural and interior design of a care center devoted to dementia residents is essential, and when done well has a surprisingly impactful benefit to a resident’s well-being.

**State Regulations**. Currently ten states have no or minimal provisions related to dementia specialized care units including Alaska, Arizona, Missouri, New Hampshire, District of Columbia, Kansas, Hawaii, Michigan, Vermont, and North Dakota (Carder, O’Keeffe, & O’Keeffe, 2015). Among states requirements and regulations for these services vary greatly (see Appendices C and D). Common areas of observation include resident assessment and life safety environmental protections. Separate licensing for certification for a dementia care unit is observed in six states Alabama, Colorado, Mississippi, New York, West Virginia, and Oregon (Carder, O’Keeffe, & O’Keeffe, 2015).

How residents receive services by staffing requirements, employee training, and building design features are observed in Appendix E (Carder, O’Keeffe, & O’Keeffe, 2015). The most common area among staffing is to have at least one awake staff member in a dementia care unit observed in seventeen states, followed by seven states that require either an additional manager or RN available for some hours (Carder, O’Keeffee, & O’Keeffee, 2015). The process of getting admitted into a facility can be a cumbersome task regardless of what desire individuals have for admission. Amenities of skilled care come at the cost of staff training required in twenty three states, specifying hours educated from 2 to 30, with continuing education requirements also following (Carder, O’Keeffe, & O’Keeffee, 2015). Alongside employee requirements the facility must have expectations for residents to fit certain admission criteria. Twelve states have admission screening processes for residents which may include assessments by a provider for admission (Carder, O’Keeffe, & O’Keeffe, 2015).

Once these residents are into a facility the safety requirements are important based on the population’s dementia assessments with the state gold standard being a secured area that prevents wandering (Carder, O’Keeffe, & Okeeffe, 2015). All states observe that Alzheimer’s and Dementia residents are at risk for wandering, jeopardizing their safety, which created provisions to protect this population a standard. Of thirty five states other provisions for physical features including dementia care units, living units, access to bathrooms, and external locking doors with controlled methods of egress to prevent unsafe exits (Carder, O’Keeffe, & O’Keeffe, 2015). Along with internal requirements some states also require outdoor accommodations for residents to move around freely in a contained environment. The overall observation is that based on the state's current requirements for assisted living facilities the additional Alzheimer’s Dementia secured unit must continue to follow the North Dakota state guidelines.  The regulations are placed in order to maintain the individual needs that this disease places on the residents.

An ideal SARDUBC would be focused on individualized assessment and environmental life safety. Best practices that stem from evidence based research would be developed to ensure quality care is delivered. In addition the importance of individualized care plans, environmental support and safety, trained interdisciplinary staff, and family support are paramount to the success of a SARDUBC. The environment needs to be well designed in order to reduce anxiety and improve emotional well-being. Factors that should be focused on when looking at the design of the secured unit include: a focus on exit control; privacy; walking areas; common areas; garden access; sensory comprehension; residential-ness; support for capacity; and safety. An individualized approach to care plans, along with an ideal living environment will enable Alzheimer’s and dementia patients to live in a facility that will provide quality person-centered care.

**Project Problem Identification**

Current gaps in knowledge and awareness observed in literature reviews has led to an understanding of background data supporting SARDUBC. Understanding the flow of knowledge was deciphered by collectively creating a fishbone methodology that observes a simple way of bringing together a holistic observation of information. The Basic Care workgroup members, and their interests on the situation, are represented in all areas of the fishbone diagram expressed in appendix F. All work group members observe a problem in their being no SARDUBC regulations in North Dakota. The collective outcome of all the Basic Care workgroup members is to implement regulations on a SARDUBC. What is currently practiced in basic care facilities for Alzheimer’s and dementia residents is obsolete. Gaps were identified in the NDDH Alzheimer’s and related dementia population and the new waiver from the Centers for Medicare and Medicaid HCBS would allow for the secretary of the division to propose a SARDUBC. In North Dakota it was identified with collaboration from the Health Resources Section Chief of the NDDH that this issue would have to be presented to the collective Basic Care workgroup members to pass enactment into the regulation.

No SARDUBC regulations currently exist in North Dakota and the NDDH needed to fill the gap by relying on evidence based practice observations. Currently other states have enacted facilities to provide the services of secured units for Alzheimer’s or dementia residents. The proposition is to enrich evidence based practice on what is emphasized with individualized quality of care and environment building safety affecting this population. A combination of evidence based literature, most common practices, and recurrent practices of other states will bridge a gap between best and current regulations. The collection of evidence based practices will be emphasized to interested parties of the Basic Care workgroup members.

The Basic Care workgroup members involved, with opinions of authority, include the NDDH, Ombudsman, Long Term Care Association, Alzheimer’s Association, Quality Health Associates of ND, and Basic Care facilities within the state. This workgroup will bring together how residents with Alzheimer’s disease and related dementia, and their families, will rely on regulation standards and their relation to care outcomes of the resident. Areas of individualized assessments include the likelihood of dangerous wandering and the advancement of the Alzheimer's and related dementia diagnosis. The ending of the fishbone analysis as depicted in appendix F shows areas that are identified in reason of setting new regulations on secure units in basic care facilities. The final observation in the Fishbone diagram is awareness of no current rules existing specifying regulations of SARDUBC. The advancement is to set forth a regulation that brings together all the sections of the fishbone model involving regulators, states, evidence based practices, and interested parties views of how the situation will be regulated.

**Internal Evidence**

 The internal evidence is based on Medicare and Medicaid's HCBS federal waiver emphasizing the Affordable Care Act and how it will create licensing rules for Basic Care Facilities in North Dakota in relation to SARDUBC. Medicaid is proposing that it will allow lockable units for residents who do not have these diagnoses or symptoms that affect placement into a nursing facility; a mental disease, an intellectual disability, or needing hospital care (Centers for Medicare & Medicaid Services, 2014). The state of North Dakota and Basic Care facilities see a need to create a secure unit for Basic Care facilities based on the HCBS waiver. Time to enact regulations pertaining to this waiver are immediate. Enactment is limited by Medicare and Medicaid’s time frame of having completion by December of 2018 (Centers for Medicare & Medicaid Services, 2014). The NDDH wishes to pursue the ability for Medicaid funding for a Basic Care secured unit or facility. The inclusion of the HCBS and the NDDH’s observations of SARDUBC creates regulations that Basic Care facilities must follow. North Dakota has seen a need to increase access to home and community based services, and to ensure that Basic Care facilities allow for safer placement of this vulnerable population than if they were kept in their original home settings.

 The current definition of a secured unit does not define needed expectations to meet the HCBS waiver so the Department of Health proposed to add additional instruction. Ideas for instruction include physical, mental, and emotional outcomes that affect admission and discharge into these facilities (North Dakota Department of Health, 2016). In order to meet certain regulations the Department of Health must maintain individualized care that promotes privacy, dignity, and freedom from coercion (North Dakota Department of Health, 2016). Recommendations from evidence based practice will enhance the linkage between what the federal waiver requires and the state of North Dakota’s expectation for implementing secured Basic Care facilities or units.

Table 5

Internal Data table

|  |  |  |
| --- | --- | --- |
| Data Need | Special Considerations | Source |
| Home and Community Based Services (HCBS) 1915(c) Waivers | Individuals receive long term services through HCBS and access to full community living benefits. Individualized care.Privacy, dignity, freedom from coercion.Lockable doors with keys to staff. Visitor access to unit.Assessment can not be for a nursing facility, mental disease, intellectual disability, or hospital.Services to include amount, duration, scope, and location.  | Centers for Medicare & Medicaid Services - Final Rule Medicaid HCBS |
| Licensing Rules for Basic Care Facilities in North DakotaCentury Code 13-09.3Administrative Code 33-03-24.1 and 33-03-24.2 | Maintained as an Alzheimer’s/dementia or special memory care facility. Entity must demonstrate the ability to care for highest functioning and retain those who can meet national fire protection rules while maintaining highest well being consistent with assessment and care plans.Document physical, mental, and emotional functioning.Secure unit, is a facility used as an Alzheimer’s/dementia unit with a restricting device separating two units.  | Health Resources Section Chief of the NDDH, Darleen Bartz |

**External Evidence**

A vast number of studies have been completed in order to pinpoint the best and most beneficial way to assess and care for residents with dementia in the long term setting. External data was gathered to provide evidence as to how to define one’s acuity of dementia and how to then place them in the appropriate environment in order to offer as much independence as possible. What are the best methods according to evidence based practice to assess for dementia as well as provide a living space to promote well-being? Questions such as this can be pondering, but with the support of external evidence, the NDDH is armed with data to develop the appropriate regulations. Architectural design such as walkways, outdoor space, designated areas for social interaction, as well as private bedrooms all emerge to promote independence. In addition, decor elements such as the utilization of low glare windows, prominent signage where appropriate, and contrasting colors aide one with dementia in completing daily tasks. Ensuring that the environment is risk-free by utilizing strategies to deter one from using exit doors and eloping, as well as only providing user friendly appliances, offers a safe environment for residents. Each of these design elements are critical to implement when creating a special facility for individuals with cognitive disorders. In addition to the environmental factors, implementing social workers more and including them in the care teams/meetings will not only help the patient, but also the family, to utilize the sources and organizations that are out there in the community to help them. Ensuring that quality of care and quality of life are at the forefront of the development of the new regulation will guarantee that a person-centered care approach is used with Alzheimer’s and dementia patients in North Dakota.

**Project Recommendations**

 The recommendation for this evidence based project is to follow the HCBS waiver and impose the HCBS requirements to the current North Dakota Basic Care facility regulations. The recommendation falls on the HCBS need to maintain individual's privacy, dignity, and freedom from coercion (Centers for Medicare & Medicaid Services, 2014). Implementation of the federal HCBS in addition to the mission statement of the NDDH division of health facilities on promoting the health, safety, quality of life, and independence of all individuals will incorporate a holistic view of group goals between state and federal vocation.

Some common practices for SARDUBC within other states includes admission screening observed in twelve states, and the recommendation of proper building design features in twenty six states (Carder, O’Keeffe, & O’Keeffe, 2015). Screening should follow life safety codes of the resident’s ability to evacuate a facility safely and whether the resident can assist with their own evacuation. The use of the evacuation score must ensure that the patient can either be prompt or slow in the process of evacuating a building but be able to get themselves out. Assessment needs of the SARDUBC should also be included with residents not having a need for a nursing facility, a mental disease, intellectual disability, or in need of a hospital stay (Centers for Medicare & Medicaid Services, 2014).

The building requirements should ensure that to follow the HCBS that the facility protects from eviction and produces lockable doors with keys that are accessible by staff (Centers for Medicare & Medicaid Services, 2014).  The gold standard observed across all states is a secured area that prevents wandering (Carder, O’Keeffe, & O’Keeffe, 2015). It should be observed that some states also have requirements on outside courtyards but this is not a standard practice. What is observed is that thirty five states have external locking and controlled egress settings placed (Carder, O’Keeffe, & O’Keeffe, 2015). Other areas of interest that can be observed include panic hardware, individualized evacuation plans, and some form of alerting staff of exiting.

**Project Implementation Plan**

The problem is that secured units for Basic Care facilities need more regulation on assessment needs of residents and building design safety to ensure patient quality of life. The implementation plan is to create a draft for a regulation for North Dakota SARDUBC. The plan is to incorporate evacuation scores into assessment planning to ensure that residents meet fire code standards. Current evacuation scores observe seven key areas of assessment for evacuation of a building for safety of residents including; a residents resistance to leaving, impaired mobility, impaired consciousness needs, value of needing help to evacuate, ability to respond to instructions, can they awake to an evacuation alarm, and the individualized responses to fire drills. In addition to evacuation scores Basic Care facilities must ensure that residents do not need a nursing facility, have a mental disease, have an intellectual disability, or need hospitalization. The secured units may be locked with egress control on the provisions of preventing wandering. Once an individual is not a risk for wandering, such as near death and immobile, they will need to be moved to a new appropriate setting. Facility staff must have access to any locked doors that the residents themselves would also use.

**Change Theory**

Lewin’s Theory of change best aligns with the needs of the North Dakota residential care framework. The utilization of the three stage theory will benefit the development of a system in regards to the care of residents with dementia and allow for a smooth transition and implementation. The three stages of Lewin’s Theory include the unfreezing stage, the moving stage, and the refreezing stage. Linda Roussel offers readers an in depth explanation of each of these stages. During unfreezing stage, the need for change is introduced and awareness is created (Roussel, p. 134). No matter the cause of the current problem, Lewin Theory’s first stage is initiated by the motivation for change. Placing the dementia resident in an appropriate environment best allows the resident to thrive; therefore, the development of policies and regulations pertaining to the topic is critical. The second stage, or moving stage, is the gathering and evaluation of data to develop a plan. Roussel explains this as “as knowledgeable, respected, or powerful person influences the change agent in solving the problem (identification),” and “a variety of sources give a variety of solutions (scanning), and a detailed plan is made” (p. 135). This stage also includes the implementation of the decided upon plan to assess whether or not the solution is successful. When North Dakota determines the regulations to be implemented, the changes will be made and the final product will be assessed. Finally, in the refreezing stage, the changes are “established with homeostasis and equilibrium” (Roussel, p. 135). During the last stage of Lewin’s Theory, the implemented plan is stabilized and comfort with the final product is obtained. The problem acknowledged in the unfreezing stage has been solved. In regards to the care of dementia residents in North Dakota, by the refreezing stage, the interventions will have been implemented state-wide and a change of culture will have been obtained.

**Key Stakeholders**

The main lead in this project is the NDDH and the regulations it holds towards Basic Care. These regulations are presented with input from Medicare and Medicaid federal regulations and observed directly in resident rights by Basic Care facilities. The input of information for a specific need for direction on care of Alzheimer’s and dementia residents has been expressed by Basic Care facilities for a need to assist the growing population of Alzheimer’s residents in the state of North Dakota (North Dakota Department of Health, 2016b). Licensure renewal and how these Basic Care facilities can legally care for residents is influenced directly by the relation with the facilities and services provided under Basic Care regulations. A moderator, called an Ombudsmen, between facilities and individual issues can be brought forward to the North Dakota Department of Health in promoting issues related to current regulations.  In 1983, the governor of North Dakota signed the senate Bill 2070 which established a statewide Long-Term care Ombudsman program (North Dakota Department of Human Services. Aging services division, 2014).

The Ombudsman is a subdivision of the North Dakota Department of Human Services (NDDHS) which established the division of aging services to observe issues such as working with Alzheimer’s and dementia concerns. This division helps older adults remain in their own homes and communities by promoting independence related to the individual's physical abilities (NDDHS, 2012). Involvement of Ombudsman outcomes of Basic Care settings is related to complaints, advocacy, and investigations of related issues (NDDHS, 2012). The involvement of NDDHS also impacts directly on dementia care services. Ombudsman work in regional parts of North Dakota and direct their attention to these services. The Ombudsman of North Dakota are involved directly with Basic Care facilities and quality of life issues.

Other organizations that are interested in outcomes include the Alzheimer’s Association, Long Term Care Association of North Dakota, North Dakota Department of Human Services, Quality Health Associates of ND, and the North Dakota State Hospital. On April 4th, 2016 Dr. Rosalie Etherington, a provider from the North Dakota State Hospital, gave a speech at the North Dakota Department of Health Collaborative Meeting. Dr. Etherington emphasized that Alzheimer’s disease itself is generally not cared for properly by providers, and services will only improve if care facilities are more available and all care staff receive training to care for this specific population (North Dakota Department of Health, 2016b). Basic Care facilities that are a part of the Basic Care facility workgroup include administrators from Roseadele, Maple View Memory Care Community, Edgewood Management Group, and Harwood Groves. The issue to key stakeholders is all facilities, regardless of being Basic Care, are struggling with placement of these patients who need Alzheimer’s and Dementia care. The issue of placement, assessment, and individualized environmental factors affect the broader range of all the citizens of North Dakota. Many people are affected either as family members, personally diagnosed, a service provider to this illness, or are paying taxes into Medicare and Medicaid.

**Barriers and facilitators/ drivers and resistors to change**

Licensure rules for a secured unit have been addressed for nursing facilities for individuals with Alzheimer’s disease or related dementia but were repealed by the industry regulators (North Dakota Department of Health, 2016b). The course of a secured unit has been applied before to skilled facilities and brought down to lesser regulations today. The 1989 section 33-07-03.1-22 and 33-07-04.1-20 regulations for secure units in skilled care expressed these seven areas; ability for locked doors, preadmission screening, minimum admission records, prohibitions against residents to be kept, placement evaluation with transfer or discharge, staffing needs, and programs needed (Legislative Council, 1989). Today's state regulations for skilled nursing are held under a secured unit with multiple disciplinary team evaluations on admission, orders for placement, not to be utilized for punishment, and have access to same services at the facility as unsecured residents (North Dakota Department of Health, 2004).

The difference between the 1989 regulations and today’s current regulations are less stringent orders for admission, no discharge requirements, and no staffing directives. Darleen Bartz stated requirements from 1989 were removed in skilled care but some remain in these facilities while Basic Care units have no specific requirements towards secured units (D. Bartz, personal communication, October 7, 2016). The barrier to basic care is knowing that available services are less restrictive and must be less comparative to what is regulated on skilled care. The barrier is that basic care services are less than what is offered in skilled care, while the oxymoron is that these residents will screen for skilled care settings but remain in basic care.

The barrier exists that evidence based observation has not been brought forward to interested parties to express the fact residents who screen skilled for secured units can also be placed into basic care facilities. The lack of representation for less restrictive environments that remain sufficient for home and community-based services must be presented differently than it was in 1989 or the revised current 2004 regulations. Darleen Bartz stated the 1989 regulations were repealed upon the request of the industry, the Alzheimer’s Association had not favored this repeal, and the department of health instituted a counter enactment of having all staff in the Skilled Nursing Facilities and Basic Care Facilities have training related to dealing with behaviors of residents (D. Bartz, personal communication, October 7, 2016). The driver to counterbalance the past resistance to change is the implementation of the HCBS waiver that is at the discretion of the secretary of the NDDH. In order to not repeat what has been repealed, the North Dakota Department of Health will have to observe historical outcomes, current evidence based practices, and the future needs of the demand for SARDUBC.

**Business Impact**

Business of the North Dakota Department of Health Division of Health Facilities- is to ensure that the government, residents, providers, facilities, and interested parties maintain standards of care. With new changes the Health Facilities division will have to ensure proper oversight of these regulations. Facilities that have SARDUBC will need to be observed more closely for compliance to state these specific regulations. This will reduce the department's time abilities to resort to other regulation tasks. Business received by residents will obtain the outcome of increased specific care with decreased costs. External marketing will have to be done towards observing that Medicaid funding can be paid to other parties that benefit the needs for resident care (Centers for Medicare & Medicaid Services, 2014). The facilities and the residents benefit from new business opportunities with parallel benefit outcomes. The financial bottom line from Medicaid is to ensure that funding is placed into these home like environments to increase services available to Alzheimer’s and dementia residents.

Internal marketing will affect getting interested parties to agree to practices that reside around secured units. Interested parties are those of the Basic Care facility workgroup members. Having different professional opinions convene as a workgroup on creating a regulation to stabilize the need for these secured units will help devise the business impact issues. When the new regulation is set it will then be the Health Facilities duties to inform the Basic Care organizations of the new changes. These Basic Care facilities that choose to be licensed as SARDUBC then have to make their own financial undertakings to stay in compliance with the regulations.

**Organization Planning Process**

The mission statement of the NDDH division of health facilities is; we, the employees of the division of health facilities, promote the health, safety, quality of life, and independence of the residents of North Dakota through education, and monitoring the care and service of providers and suppliers consistent with state and federal requirements. The goal of the implementation plan for a new regulation is to improve health care availability for all diagnosed with Alzheimer’s and related dementias and allow for more affordable services. The relation of the mission plan with the implementation plan is that it will promote health, safety, independence, and improve quality of life for those who are needing these services in the state of North Dakota. The financial outcome will be reduced cost for resident placed in basic care that would normally screen skilled. The linkage of the mission value with an implementation plan will allow residents in basic care to receive the best available monitored care and services that are approved by both the state and federal requirements for accessible health care.

**Implementation Plan**

 The implementation plan for the UMary Project Team is to finalize a draft with the North Dakota Department of Health by providing evidence based information to support secured unit basic care regulations by April 28th, 2017. A timeline of these events are depicted in a table in Appendix G. The North Dakota Department of Health Facilities ensures that sixty two Basic Care facilities in the state of North Dakota maintain licensure. The twelve Basic Care facilities that will have immediate observation of licensure of a SARDUBC based on the devised regulations are Edgewood of Bismarck, Fargo, Minot, and Mandan; Maple view of Fargo, Grand Forks, Bismarck, and Minot; with other facilities being Emerald Court, Lakewood Landing, and Roseadelle. These Basic Care settings were selected as they currently have memory care units of interest under a secured unit provision. The group of Basic Care facility workgroup members of the Health Facilities Department and Human Services will meet on the 16th of December, 2016 at the state capitol building in Bismarck, ND to be informed of the evidence based findings that have been collected by the UMary Project Team. The outcome of the 16th of December, 2016 meeting will begin the first informal discussion reviewing the needs for a rough draft at the next meeting in early 2017. The informal discussion will begin the workgroups process of implementing a rough draft proposition. The evidence based finding presentation at the 16th of December, 2016 meeting will discuss SARDUBC needs based on resident assessments and the building safety requirements of this population's national and local requirements for implementation.

The second meeting will take place in early 2017 with emphasis on collaborating with all Basic Care facility workgroup members including Health Facilities, Human Services, Long Term Care Association, Alzheimer’s Association, Quality Health Associates of ND, and Basic Care facilities to collaborate on a draft idea for implementation of regulations on SARDUBC. The Health Resources Section Chief of the NDDH, Darleen Bartz, will draft the draft on regulations for SARDUBC. Formal discussion will include all Basic Care facility workgroup members’ professional inputs and evidence based practices provided by the UMary Project Team. The workgroup will agree or disagree on the SARDUBC draft at this second meeting. If the workgroup members cannot agree on regulations a third meeting will be conducted prior to the 28th of April, 2017 deadline to add additional insight on professional input from the Basic Care workgroup members and UMary Project Team evidence based practice ideas to meet the needs of a SARDUBC. The implementation of input from the University of Mary students after 28th of April, 2017 will not occur. After this date the Basic Care workgroup will finalize regulations no later than December of 2018 on SARDUBC in the state of North Dakota based on collective findings from HCBS, current North Dakota state regulations, evidence based findings from the University of Mary students, and collective professional insight from all workgroup members. The final regulation resulting from this work be submitted to and accepted for the HCBS waiver of the SARDUBC prior to the December 2018 deadline. The NDDH will implement the new SARDUBC regulations into Basic Care licensing rules for North Dakota. The final participants will be the Basic Care facilities that wish to maintain or open a secured Alzheimer's and dementia unit, the residents, care providers, and people of society that are affected by the implementation.

As previously stated, the change theory to be followed is Lewin’s Theory. This is a three stage change theory that includes an unfreezing stage, moving stage, and refreezing stage. During the unfreezing stage, external and internal data were gathered, evaluated, and organized to be presented to the NDDH to allow for the development of patient care regulations based on evidence based research. The second phase, or moving stage, is the presentation of the data analysis in the form of a draft. This draft will include policy recommendations as to assessment and environmental design of dementia care residences within basic care facilities. Once the suggestions are evaluated by a work group, regulations will be drafted and ultimately go through the rule making process based on agreement by workgroup members. Finally, in the refreezing stage, the implemented changes will become second nature to healthcare providers and residents.

**Project Measurement Plan**

 The project will be measured by the implementation of a draft proposal that is worked on together in collaboration with Darleen Bartz to include secured unit design and assessment needs. Construction will be open to a revision of the current definition of a secured unit in the basic care regulations to include assessment needs. The draft will be directed towards the Basic Care facility workgroup input into what the NDDH decisions are on regulating secured units in Basic Care with completion by the 28th of April, 2017. There will be a minimum of three meetings with committee members, one occurring on the 16th of December, 2016, to express evidence based findings, and two to three meetings occurring after the 1st of January, 2017. The meetings in 2017 will include adding any further evidence based knowledge into the project in order to make the first draft of regulations in concurrence with what the committee agreed on. The third meeting, if needed, will discuss any revisions needed to the draft regulations. The measurement will be no change in the current regulations but enact a new regulation on secured units and have this expectation done by the stated dates.

**Human Subject Protection Statement**

 This is an evidence based practice project with a focus on assisting in the implementation of a new section of licensing rules for the NDDH. These rules are directed specifically at, and will regulate, SARDUBC in North Dakota. The project is considered action research, and therefore is required to be submitted to the University of Mary IRB to ensure the protection of involved human subjects. The evidence based project application was submitted to the University of Mary IRB for evaluation prior to implementation.

 The purpose of obtaining an Institutional Review Board (IRB) approval is to ensure that research is in compliance with federal regulations and protects the rights and welfare of human participants in the research (Polit & Beck, 2012). The data gathered for this project is all secondary and was acquired from all US state Health Departments regarding their current regulations on secured units in Basic Care or Assisted Living Facilities. The UMary student team has also researched data bases regarding environmental and assessment needs of residents residing in SARDUBC. The UMary student team, in collaboration with the Health Resources Section Chief of the NDDH will apply this data and draft regulation language for consideration by the NDDH.

**Conclusions**

The goal of the project is to have a holistic approach that covers areas from where the regulations are and where they will be heading as depicted in the fishbone diagram. The gold standard of all states is a secured area that prevents wandering. Lewin’s theory allows for the processional three step change process of a non-current secured unit regulation to the creation of a new regulation. The goal is to create access to care for the 16,000 people that are predicted to be diagnosed with Alzheimer’s disease by 2025 through incorporating the HCBS waiver. The inclusion of this waiver will have no change in existing North Dakota Basic Care regulations. Observation of this new regulation will include observing best practices in individualized assessment and environmental needs of this population. There is growing evidence in Alzheimer and related dementia that non-pharmacological interventions of this population are very effective, as pharmacological interventions are limited to standards of usage. Incorporating a biomedical paradigm and phenomenological paradigm into person centered care is important to a rounded observation of the individual. Most practical environments should incorporate distinct differences in contrasts of lighting, color, design, and structure in order to improve reduced anxiety, wandering, and safety issues in this population.

Involving social workers and quality provider teams in the enrichment of environmental home like care areas of designated social areas, safe explorable environments, and appropriate activities will improve care services.  Having a team that is aware of the evacuation scores of the individual and their evolving needs in relation to their stage of disease and how it is represented in the environment they live in is critical to the outcome. It is important to remember past barriers of 1989 higher regulated secured units and the reduced regulations that were imposed on secured units. Incorporation of current common practices in all fifty states of having appropriate building designs, admission screenings, and staffing requirements help ensure adequate care is delivered. The key stakeholders in the Basic Care workgroup will have this information presented to them on the 16th of December, 2016, with a rough draft of the regulation created by the 28th of April, 2017, and final regulation implemented before December of 2018. The process of Lewin's theory has been started where the topic of a secured unit regulation has been unfrozen and the work group can now meet to keep moving on with implementation of the future freezing of a new regulation. The result will be that the implementation of evidence based practice including the recent HCBS for SARDUBC promote improved quality of care in a homelike environment for individuals with Alzheimer’s and related dementia who reside in a secured basic care facility or unit.

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**Appendices**

Appendix A - Dementia Care Best Practices

Retrieved from Callahan, Sachs, LaMantia, Unroe, Arling & Boustani. (2014).



Appendix B- Sample Behavior Log

Retrieved from HCPro. (2016).



Appendix C

Information, unless marked otherwise, retrieved from: Carder, P., O’Keeffe, J., & O’Keeffe C. (2015)

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| **State** | **Resident** | **Life Safety** |
| Alabama\*Care Unit Certification needed | No: Medical or skilled nursing care, or acute condition, or exacerbation of a chronic condition > 90 days (skilled care), no symptoms affecting others. Yes: Need to do self ADL’s or have the cognitive ability to direct help. | Secure boundary or perimeter for wanderers. Locks, if installed must be electrically locked or electrically delayed-egress. Panic hardware all exit doors.Staffing requirements. |
| Alaska | \*No or minimal provisions r/t a specialized care unit | Method to alert staff when leaving, alarms, delayed exit, wander alarm.\*No or minimal provisions r/t a specialized care unit |
| Arizona | \*No or minimal provisions r/t a specialized care unit | Must have egress controls and access to secure outside areas.\*No or minimal provisions r/t a specialized care unit |
| Arkansas | Prognosis of Alz/Dem, 24 hr supervision, separate job roles employees. Required training for staff on: etiology or treatment of dem/alz, stages, behavior management, egress control, medications, communication, ADL’s, assessments individualized. | Separate unit, policies on egress control, standards of an ASCSU locking device. Staffing requirements.  |
| California | Can not have: a mental disorder affecting others. Staff meet individual needs. Dementia training staff. 16-100 people 1 staff awake 1 on call. Education on wandering, aggression, and inappropriate sexual behavior, and end of life care. | Delayed egress and locked doors and fire clearances and consent from Resident or POA. |
| Colorado\*Care Unit Certification needed | Staff meet individual needs. 8 hours training staff. Admission Screening. | Safe outdoor area accesses to secure areas. Restrictive egress alert.                               |
| Connecticut | Training 8 hours annually staff. | None Specified |
| Delaware | Staff training, | None Specified |
| District of Columbia | None | None |
| Florida | 24 hr staffing- 1 awake night. Staff training of dementia communication, family issues, environment, ethics, behavior management, ADL’s, stress management, and medical needs. | Offer activities for cognitively impaired and safe environment. |
| Georgia | Activities appropriate: Gross motor, self-care, social, & sensory. 1 staff member awake all times. Staff trained alz/dem ex: behaviors, communication, therapeutic, care plans individualized, recognizing physical or cognitive changes, safety, | Multipurpose room dining, group, and activities. Secured outdoor spaces protect from undetected egress. Conceal areas should not enter. Appropriate lighting. Automated alert when leaving. Appropriate floor and wall surfaces.  |
| Hawaii | None | None |
| Idaho | Staff training Dem/alz ex. Symptoms, behaviors, communication, adjustment, stress reduction. | Interior environment and exterior yard secure & safe. |
| Illinois | 1 nurse available at all times, staff training ex: Independence ADLs, behaviors, rights, families, stress, communication. Assessment of abilities, dignity, activities appropriate, medical and social needs. Pharmacological and non- pharmacological interventions. Admission screening. | All exterior doors alarmed. Apartments must include sink, microwave, and refrigerator, although each resident must be assessed for ability. emergency evacuation plans |
| Indiana | Staff training | None Specified. Staffing Requirements.  |
| Iowa | 1 staff awake 24 hours, staff education ex: communication, family issues, activities, ADL’s behaviors, redirecting. | Alarm on each exit door, staff must be able to disable the lock on doors, if kitchens staff must be able to disable or remove appliances. |
| Kansas | Staff education\*No or minimal provisions r/t a specialized care unit | Exits must be controlled in least restrictive manner.\*No or minimal provisions r/t a specialized care unit.  |
| Kentucky | Staff training | None Specified |
| Louisiana | Alzheimer’s Special Care Unit (ASCU) Alz/dem diagnosis. At risk for wandering. Education ex: communication, behavior, independence ADL’s, family. Educated on ex: communication, therapeutic environment, activity focused, behaviors, families. | Specialized unit preventing outside access, specific staff training. An enclosed area to go outside. |
| Maine | Individual activities or group including gross motor, self-care, social, crafts, and sensory. | Distinct unit locked limit access outside. Training for staff. Private rooms not required. Space for dining, group, and individual activities. Residents may not be locked inside or outside their rooms. Secured outdoor space. Prevent undetected egress. Policies on wandering. Electric locking need to release in an emergency. Identify each resident’s rooms for abilities. |
| Maryland |  | Staff training |
| Massachusetts | Quarterly assessments of appropriate staffing levels for patient needs. Education ex: communication, behaviors, therapeutic environment, family, and sexuality. | 2 staff on all times, Entry and exit doors secured. Physical design of structure, environment, and safety features. |
| Michigan | None | None |
| Minnesota | None | Staff training |
| Mississippi\*Secured Unit Certification needed | None | RN or LPN on all shifts. Security all entrances and exits. |
| Missouri | None\*No or minimal provisions r/t a specialized care unitRules fall under state plan services not home and community based waivers.  | Need to meet fire safety requirements, use electronic monitoring, and include an individualized evacuation plan on individual service plan such as residents being closer to an exit for those needing more help in emergency. \*No or minimal provisions r/t a specialized care unit |
| Montana | None specified | Education for staff, separate dining area and activities area. |
| Nebraska | None specified | Staff training. |
| Nevada |  | One staff member awake and on duty at all times. Training of 2 hours in providing care and 8 hours annually. Locked quarters allowed. Exits need warning devices or time-delay locks. Must have a secured yard completely fenced and gated with locking devices.  |
| New Hampshire | \*No or minimal provisions r/t a specialized care unit | May have wandering system, installed locked, secured, or alarmed systems that automatically lock. Mechanical constraints prohibited. Can have fewer than 16 residents with no staff but need wander prevention system. |
| New Jersey | Program meet needs of resident w/ alz/dem. Individualized care assessments.  | None |
| New Mexico | Admission Screening | Staff education, 1 awake staff night. Secured Environment, double alarm system, gates connected to fire alarm, tabs alarm risk for elopement. Fenced and secured outdoor area. |
| New York\*Secured Unit Certification needed | Evaluation by physician and create individual care plan, | Fully locked facilities are prohibited but must have a delayed-egress system all external doors and windows and courtyards. Staff training. Staffing requirements.  |
| North Carolina | None specified | No private rooms needed. Need toilet and sink one for every five residents. Secured outside area. Exit doors may be locked by building code. Not locked need some form of monitoring. Staffing Requirements.  |
| North Dakota | None | Basic care- no provisions |
| Ohio | None | None |
| Oklahoma | None | Staffing requirements |
| Oregon\*Secured Unit Certification needed | Admission Screening | Staff education. Separate locked unit, segregated, or secured. Licensing rules for lighting, floor and wall finishes, common areas, rooms, exit doors, outdoor area, building codes, and fire safety. |
| Pennsylvania | Staff training. Full description implementation to enhance independence. Admission Screening.  | Indoor and outdoor exercise space. No more than two residents per unit. Full description of environmental awareness, minimize environmental stimuli. Doors with key-locking devices prevent egress. Staffing requirements |
| Rhode Island | Requirements: safety concerns due to elopement or other behaviors, inappropriate social behaviors adversely affecting others, inability to self-preserve, physician’s recommendations, or has symptoms representing dementia. | Licensure for Alz/Dem unit. RN at all times. Employee education. Locked unit, secured perimeter, or other mechanisms. |
| South Carolina | None Specified | Sufficient staff/volunteers. Training to staff |
| South Dakota | Admission Screening | Secured unit, access to an outside area. Comply with life safety. Code regarding locked doors. Must be located at ground level. |
| Tennessee | Admission Screening | One person awake on duty. Staff training. |
| Texas | Admission ScreeningType BALF: May require staff assistance to evacuate a facility, incapable following directions, require attendance during sleeping, not be permanently bedfast, may need assistance transferring. Each resident has to be appropriate for the licensure of the facility. After admission if condition changes may not be appropriate if: exhibit symptoms of mental or emotional disturbances affecting others, assistance with mobility, bathing, dressing, and grooming, reminders to toilet, assistance with medication, and incontinent without pressure sores. | Must have a manager, activity director, sufficient staff for persons needs, >17 residents two staff. Staff training. Monitoring stations and at least two approved exits. Outdoor area of at least 800 square feet that is connected to, be a part of, be controlled by, and directly accessible from the facility. Locking devices may be used on control doors. |
| Utah | (Utah Department of Administrative Services, 2016): Admission Screening for placement in the secure unit. May admit with a diagnosis of Alzheimer’s/dementia if they can exit the facility with limited assistance from one person. Wander risk agreement for each individual. Discharge criteria must be specified in Admission agreement.   | 1 trained staff member all times. Secure units must have evacuation plan. |
| Vermont | None | None |
| Virginia | Admission Screening | Two staff awake all times. Activities program. Staff training. One or more secured units or the entire facility can be. Exit doors must be monitored or secured, unless they lead to protected areas. Staff-supervised of secure outdoor areas. Protective devices must be in place on bedroom and bathroom windows and on common area windows that are accessible to residents with dementia. Unrestricted access to an indoor area for walking. Limit environmental hazards. |
| Washington | Care, supervision, and activities tailored to the specific needs, interests, abilities, and preferences of the person, coordinate with person’s family, and nursing services.Allow “age in place” which is a reduced cost from nursing home care. Can have: personal care services, assistance with eating, semi-annual assessments, daily activities. Diagnosis of dementia. Comprehensive Assessment Reporting Evaluation tool (CARE) of 3 or above. Admission must meet the 1915(C) HCBS waiver. (Washington State. Department of Social & Health Services, 2016). | Specialized dementia care program. Awake staff 24 hours. Dementia training for staff.  Safe outdoor environment and walking paths to a secure outdoor area.Facility dedicated to population or designated separate wing (Washington State. Department of Social & Health Services, 2016). |
| West Virginia\*Secured Unit Certification needed | 2.25 hours of direct care time per resident per day. | Administrator, direct care staff, nurse, social worker, and program coordinator and behavioral health specialist. >5 residents need two staff all times. Direct care staff may not have housekeeping, laundry, food preparation, or maintenance duties as their primary responsibilities. 30 hours of training. Secured outdoor space secured, environmental features for safety (ex. High visual floor, walls, and walkways), multipurpose room, nurses station. |
| Wisconsin | None Specified | Staff training |
| Wyoming | Admission Screening.Care and supervision of: behaviors, wandering, delusions, independence, safety risks, side effects of medications, bowel and bladder techniques. | Licensed nurse on floor or available on phone and 1 other staff member at all times. Staff training. |

Appendix D -

Retrieved from: Carder, P., O’Keeffe, J., & O’Keeffe C. (2015)

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| Building Design Features (26) | Disclosure Statement (19) | Admission Screening (12) | Staffing Requirements (18) |
| Alabama, Alaska, Arkansas, California, Colorado, Florida, Georgia, Illinois, Iowa, Louisiana, Maine, Massachusetts, Mississippi, Montana, Nevada, New Mexico, North Carolina, Oregon, Pennsylvania, Rhode Island, South Dakota, Texas, Virginia, Washington, West Virginia, Wyoming | Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Maryland, Nebraska, New Mexico, New Jersey, New York, Ohio, Oklahoma, Oregon, Texas, Washington, West Virginia, Wisconsin | Colorado, Kansas, Illinois, New Mexico, Oregon, Pennsylvania, Tennessee, South Dakota, Texas, Utah, Virginia, Wyoming | Alabama, Arkansas, California, Georgia, Illinois, Indiana, Massachusetts, Mississippi, Nevada, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, Texas, Virginia, West Virginia, Wyoming |

Appendix E - Fish bone table

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| Cause | Description | Action to be Taken |
| Centers for Medicare and Medicaid |
| Federal Government | Overseas Federal groups such as Medicare and Medicaid | States Incorporate regulations into regulating facilities |
| Medicaid 1915(c) home and community-based services | Create individualized care that is set forth by the secretary to enact a state plan for home and community-based services. Five year waiver allows a secured unit to be set to maintain privacy, dignity and freedom from coercion. | North Dakota to follow regulations in 1915(c) to meet the needs of the waiver for a secured Alzheimer’s dementia unit. |
| Social Security act | The division that has granted assistance from Medicaid at the state level. | Utilize Medicare and Medicaid funding at the state level. |
| North Dakota Department, Devision of Health Facilities |
| State Regulations of basic care | Are rules that must be followed by facilities to ensure licensure to maintain ability for facilities to operate under these regulations. | To add additional regulation of a secured basic care facility while maintaining current regulations. |
| Legislators | Oversees legislative affairs. | Ensure authority or regulation making is not overused.  |
| Secretary of Health Facilities | Oversees food and lodging, health facilities, and life safety in the North Dakota Department of Health. | To implement a new rule to be sent to legislators in order to be placed into the Licensing Rules for Basic Care Facilities in North Dakota |
| Other State Regulations |
| Admission and Discharge Screening | Ensures adequate individualized quality of care. | Provide most common areas for screening for Alzheimer’s or dementia residents in assisted living areas. |
| Staffing Requirements | Set forth mandatory amount of providers that must be at the facility providing care. | Provide most common regulated practices for staffing secured units. |
| Environment & Building Safety | Set forth fire safety, facility safety, and general building requirements. | To observe most common regulated practices used with secured units and Alzheimer’s or dementia patients in assisted living areas. |
| Evidence Based Practice |
| Secured Units | Are set forth to protect residents in the least restrictive way to maintain their safety and independence. | Observe how current practices are being implemented in today’s facilities. |
| Environment Standards | Are set forth to protect residents, workers, and visitors to maintain a homelike environment that engages modern safety features affecting assisted living care. | Observe how current practices are being implemented in today’s facilities. |
| Individual Quality of Care | Ensures adequate admission and discharge screening. | Provide most common areas for screening for Alzheimer’s or dementia residents in assisted living areas. |
| Interested Parties |
| Ombudsman | Helps older adults remain in their own homes and communities by promoting independence related to the individual’s physical abilities (NDDHS, 2012). | Take recommendations for concerns of care with a Alzheimer’s or dementia secured unit. |
| Long Term Care Association | Observes an association between long term care facilities and community members involved. | Take recommendations for concerns of care with a Alzheimer’s or dementia secured unit. |
| Alzheimer’s Association | Focuses on the care surrounding issues related to Alzheimer’s disease. | Take recommendations for concerns of care with an Alzheimer’s or dementia secured unit. |
| Residents with Alzheimer’s or dementia |
| Residents | Diagnosed with Alzheimer’s or dementia. | Implementing ways to keep them safe from wandering and be able to monitor their illnesses process. |
| Family Members | Those affected directly by a loved one’s disease.   | Ensure proper facilities are applicable and appropriate to the needs of those looking for alternatives. |
| Society | Those affected directly or indirectly at some point. | Ensuring taxpayers and their money devoted towards Medicaid services are being utilized appropriately and efficiently.   |

Appendix F

Fishbone Diagram



Appendix G - Time Table

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| First Meeting 16th of December, 2016 | First Basic Care facility workgroup meeting attending:· NDDH health facilities management· Human Services· UMary Project TeamPresentation done by Chris Haseleu from the UMary Project Team on evidence based practice findings.Informal discussion about a rough draft to be developed at this next meeting. |
| Second MeetingEarly 2017 | Entire Basic Care facility workgroup committee will meet.Darleen Bartz will present the rough draft of the SARDUBC regulations to the committee prior to the meeting.Formal discussion will revolve around the SARDUBC regulation rough draft.·Each workgroup member will present their skilled area background to the situation.·UMary Project Team will provide evidence based practice input into the situation.Agreement or no-agreement on the rough draft of the SARDUBC regulation. |
| Third Meeting – If no agreementPrior to 28th of April, 2017 | Formal discussion on a revised draft of the SARDUBC regulation presented by the Health Resources Section Chief of the NDDH, Darleen Bartz.Attendance by the entire workgroup committee.·Each workgroup member will present their skilled area background to the situation.·UMary Project Team will provide evidence based practice input into the situation. |
| Formal submission and acceptance with the HCBS waiver by December 2018. | Health Resources Section Chief of the NDDH, Darleen Bartz, will implement the new SARDUBC regulations into Basic Care licensing rules for North Dakota.Darleen Bartz, will have applied and been approved for the NDDH waiver for SARDUBC. |