Don’t Forget: Care Plans for Dementia

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Abstract

Dementia can be a devastating diagnosis, and is clinically and financially burdensome. It is also a diagnosis for which care plans are not typically used. High-quality evidence gathered from a systematic search of the literature reveals that the standard use of care plans is associated with improved quality of life and increased provider satisfaction for disease processes such as heart failure and hypertension. Drawing on knowledge from experts in the field, a dementia-centric care plan template was created for this project, with emphasis on ease of use and reduced clinician burden, based on Bandura's Social Learning Theory and built around the framework of Lewin's Change Model. Nine geriatrics clinicians in the Southwestern United States were surveyed for self-satisfaction and self-efficacy, using the Implementation Self-Efficacy for Evidence-Based Practice (ISE4EBP) scale and a brief satisfaction survey, before and after 12 weeks of the template's use, with all human subjects protections pertaining. Descriptive and summary statistics were performed on the data to stratify perceived self-efficacy across education levels and years of experience. The results were consistent in the paper care plan template having no significant bearing on self-efficacy, and it was recommended that the template be implemented into the electronic medical record in future, for effectiveness.

Keywords: dementia, patient care planning, clinician satisfaction, and tool

Early Detection of Dementia

Dementia is one of the fastest growing medical problems in the United States (U.S.). As numbers increase, so does the need to increase the number of clinicians who can recognize and appropriately treat the disease, beginning with its earliest stages – preclinical and prodromal – for maximum impact (Budson & Solomon, 2022). The preclinical stage is defined by normal cognitive ability and occurs before any gross memory deficits are detected. The prodromal phase is characterized by mild cognitive impairment (MCI), which typically involves changes in functioning and behavior, and episodic memory deficits (Delgado-Álvarez et al., 2023). Individuals with MCI have an increased risk of progression to dementia, or alternatively their decline may never worsen (Mayo Clinic, n.d.).

Problem Statement

Alzheimer Disease (AD) is the leading cause of dementia in the world. Currently in Arizona, 150,000 people aged 65 and older are living with AD and it is estimated that by 2025, that number could rise to 200,000 (Alzheimer's Association, 2022). More than 11 million people in the U.S. provide in-home care for loved ones with AD or other dementia (Samuels, 2022). Whether they provide the care directly by themselves, or with a combination of loved ones plus external staff, the costs add up quickly. Genworth Financial (n.d.) states that in 2021, the average hourly wage of an American home health aide was $27.00; however, aides with special dementia training might charge more. In addition, the financial burden extends to cover home safety construction modifications, such as walk-in bathtubs and grab bars, as well as the non-monetary costs of caregiver burnout, emotional strain, and missed workdays. In 2022, dementia caregivers also provided an estimated 18 billion hours of unpaid care in the U.S. alone, which the Alzheimer’s Association values at an approximate contribution of $339.5 billion. Family

caregivers bear 70% of the lifetime cost of dementia care, with an average lifetime cost per ill individual estimated at $392,874 in U.S. dollars (Alzheimer's Association, 2022). The National Institutes of Health reports that the five-year incremental cost to the traditional Medicare program is approximately $15,700 for each dementia patient (White et al., 2019).

Further contributing to the problem is a lack of gerontology specialists – physicians, nurse practitioners, and physician assistants who specialize in the elderly population – for the booming population. By 2034, experts expect the U.S. population to grow by 10.6%, with an estimated 42% increase in individuals over the age of 65. Per the American Geriatrics Society (AGS), currently the U.S. has only 7,300 geriatricians, yielding roughly 1.07 geriatricians for every 10,000 geriatric patients. The AGS estimates that one geriatrician can reasonably care for about 700 patients (ChenMed, 2022). Related to those figures is the number of geriatricians specifically in Arizona. Per the Alzheimer's Association (2022), in 2021 there were only 92 geriatric specialists in the entire state of Arizona. The projected need by 2025, to serve merely 30% of those 65 and older, is 1,089 specialists, a startling contrast between the projected patient numbers and the dearth of specialists.

Dementia screening tools are an obvious way to ameliorate the afore-mentioned problems, assisting in early detection of dementia and reducing clinician burden. Targeted screening can guide clinicians to early diagnoses, before persons with dementia (PWD) show symptoms noticeable to themselves or family members. A more standardized usage of screening tools can yield greater numbers of early diagnoses, and subsequently earlier development of comprehensive care plans. Schmachtenberg et al. (2020) emphasize the criticality of documented dementia care plans involving "communication, language, religious, spiritual, and cultural needs… decision-making, preferences/expectations related to disease, diagnosis, and treatment"

(p. 7). To alleviate the breadth of this need, once a diagnosis of dementia has been made, a templated care plan can further reduce clinician burden for the next steps of treatment.

Purpose and Rationale

The *World Alzheimer Report 2019* lists several worrying trends in current dementia knowledge: nearly 62% of healthcare clinicians worldwide consider dementia to be a normal part of the aging process, and 25% of the public is concerned that there is nothing that can be done to prevent dementia. Additionally, a common public perception is that healthcare workers ignore dementia patients (Alzheimer's Disease International, 2019). Not only are targeted public health campaigns evidently necessary, but it is also clear that specialized education about how to provide person-centered dementia care for patients is crucial. Unfortunately, the significant lack of trained geriatric specialists in the U.S., and particularly in Arizona, means that many patients are not diagnosed with dementia until it is too late. To complicate matters, dementia medications intended to slow the disease process are frequently not prescribed on a timely basis. This can adversely affect patients who present to acute care facilities, increasing hospital length of stay and worsening psychological symptoms associated with AD (Peacock et al., 2022; Pinkert et al., 2018; Prato et al., 2018; Schneider et al., 2021). Greater accuracy in detection of early (less obvious) dementia will yield better care for all patients. One solution to this problem is the use of readily available dementia screenings, such as the Folstein Mini-Mental State Exam (MMSE).

Once a patient is diagnosed with dementia, what then? Pharmacological interventions are available as applicable, and many community resources exist to help both patients and their families. Of particular importance are home safety screenings and reduction of polypharmacy, as well as arrangements for supportive care. Research has found that dementia care is best guided by a palliative approach (Hopkins, 2017), and by federal mandate, all nursing homes must have

an interdisciplinary care planning process with individualized written care plans to support individuals with dementia (Sefcik et al., 2020). Research has shown that documented care plans in the areas of heart failure, diabetes, hypertension, and cancer enhance quality of life (QoL) and patient outcomes in general, while increasing clinicians' feelings of self-efficacy, as well as communication among the members of the treatment team (Casotto et al., 2017; Hey et al., 2021; Hill, 2019; Hill et al., 2019; Ikolaba et al., 2023; Tezcan & Yilmaz, 2024). Considering the importance of care plans for patients with other disease processes, it is important that care plans be examined with relation to dementia. This author theorizes that with a dementia-centric patient-focused plan of care, the various treatment options can be organized and ready to decrease clinician burden.

Background/Significance

Population

In the state of Arizona, current regulations state that MDs and DOs must earn 40 Continuing Medical Education (CME) credits per licensure cycle, which is biennial, in order to renew their medical licenses (AMA, n.d.). Of the hundreds of CME courses offered at this time through the American Medical Association's online education hub, 174 are dementia-related. Of these, only a handful are specifically related to diagnosis of dementia, such as "Ocular Biomarkers for Alzheimer Disease Dementia" and "Assessment of Racial/Ethnic Disparities in Timeliness and Comprehensiveness of Dementia Diagnosis in California." Comparably, the American Association of Nurse Practitioners offers Continuing Education (CE) courses for advanced practice nurses, currently only one of which deals directly with dementia, "Alzheimer's Disease Updates for Nurse Practitioners." Physician Assistants face a similar dilemma. In other words, if clinicians are not trained in school how to detect dementia in its early

stages, it is unlikely that they will receive such rare training once they graduate, as well, leaving all but the few geriatric specialists ill prepared when it comes to early diagnosis.

Intervention

Dementia-specific education is necessary to train clinicians in early detection of cognitive impairment, and specialized education about how to provide person-centered dementia care for patients is crucial. A plethora of dementia screenings exist to assist with the early diagnosis problem – MMSE, Mini-Cog™, Montreal Cognitive Assessment (MoCA) – perhaps too many tools to wade through easily. An extensive review of the literature reveals that many of the screenings are of roughly equivalent value, with regards to reliability, validity, and ease of use; this suggests that the choice of screening tool could matter less than the act of screening itself. Upon screening for and diagnosis of dementia, a targeted dementia-centric patient-focused care plan will then ease the path for clinicians to engage in next steps of care for the patient.

Current Practice

Currently, there are no established dementia care planning standards to be found. Several studies speak of developing advance care plans for PWD, but very few address general care plans specifically for PWD, which is a crucially distinct document. Drummond and Simpson (2017) discuss the importance of written care plans in coordinating care and increasing communication among clinicians, stating that such care plans are considered “fundamental in supporting good quality care” (p. 378). The authors cite the need for electronic medical records (EMRs) to be streamlined for ease of use and the incorporation of care plans for PWD, with the conclusion that frontline staff must be included in the process of designing and updating the EMR (Drummond & Simpson, 2017). Frank and Molnar (2022) additionally cite the critical importance of involving family and caregivers in dementia care planning, as well as early

identification of dementia so that appropriate referrals can be utilized as soon as possible. However, the assertion remains that respecting patient autonomy and involving PWD in the development of their own care plans can be time-consuming and difficult, due to the layers of mobility or sensory disabilities secondary to cognitive deficits (Drummond & Simpson, 2017). Perhaps it is for this reason that there is a scarcity of research investigating general dementia care plans.

Outcomes

Early dementia detection provides the window for therapeutic medications to be prescribed and administered, as well as providing patients and their families with the opportunity to educate and prepare themselves regarding the disease. Medications which slow cognitive decline can subsequently lead to increased QoL for dementia patients, by improving memory to where it was 6 to 12 months before the point of testing (Budson & Solomon, 2022). Positive outcomes of increasing early dementia detection should include greater knowledge for health care clinicians (Hwang et al., 2019). Such education will decrease costs in both healthcare and caregiver burden (Budson & Solomon, 2022; Alzheimer's Disease International, 2019). In addition, Alzheimer's Disease International (2019) cites the need for reduced stigma surrounding dementia, both among healthcare workers and within the public, as well as greater advocacy for people with dementia. This reduction of stigma can be gained through increased understanding, and likewise greater advocacy can be inspired through comprehension of the dementia disease process. Earlier diagnoses of preclinical and prodromal dementia through screening will lead to greater utilization of existing pharmacological therapies, ensuring that patients receive appropriate therapy at the appropriate phase of their illness. Improved diagnostic skills will also yield greater confidence and competence among clinicians. A templated plan of care for newly-

diagnosed dementia patients is another tool to decrease clinician burden and increase patient QoL.

Internal Evidence/Setting-Generated Data

In a nonprofit organization based in a southwestern U.S. metropolis, serving primarily elderly patients and their families, there is concern for improved early recognition of dementia. In addition to providing hospice care and palliative care, the organization also has recently opened a dementia education hub. The stated purpose of this hub is to improve QoL for dementia patients, through compassionate full-spectrum care as well as education and support for family members and caregivers. The organization has been awarded a federal Administration for Community Living three-year grant to further develop the education hub program.

Clinicians are concerned that there is insufficient capacity to recognize, diagnose and manage dementia early, specifically because opportunities for screening are limited by scarce availability and lack of time to invest in further learning. Part of the education hub's mission is to train practicing health care professionals, such as medical, nursing, social work, occupational therapy, and nursing assistant students, as well as first responders (fire and police), in the early detection of dementia. The hub offers continuing medical education credits and training for topics such as "Assessment and Diagnosis of Dementia," "Understanding the Medications that Help and Harm in Dementia," and "Decoding Behaviors in Dementia" (B. Volk-Craft, personal communication, October 11, 2022). Bradford et al. (2009) note that the true prevalence of missed and delayed diagnoses of dementia is impossible to calculate under current guidelines, which do not recommend generalized screening for dementia. However, by abstracting quantitative data from studies among primary care providers, they estimate a high rate of missed occurrences.

Although this problem focuses on clinician practice, it is explicitly a problem for patients who depend on those clinicians, who need diagnoses to be both accurate and timely, as well as for patients' families and caregivers. Along with these efforts to provide education and training to healthcare professionals, there is a need for rapid and reliable dementia screening, so that patients with potential dementia diagnoses are not overlooked; screening is an often-missed step, largely due to the time burden on clinicians and perceived difficulty in administration by unlicensed staff.

To build on these initial educational efforts, it is critical to understand the variety of interventions and services which clinicians can turn to when treating a patient newly diagnosed with dementia; however, administrative burden is cited among clinicians as a major cause of clinician burnout (Dragatsi et al., 2019). It is only a beginning step to have clinicians increase dementia screenings; by providing a templated plan of care to clinicians, services may be more readily accessed and burden reduced. Molle and Froman (2017) list four guiding principles of interdisciplinary care plans, including that they are dynamic and patient-centered, they are unique to each patient, they reflect progress and outcomes of the patient, and they are individualized so as to support each patient's unique education needs. However, Brown et al. (2022) find that although care plans for PWD are good starting points, they are incomplete, in that inconsistencies abound between the written plan and the care delivered. Self-efficacy may be the missing link, as it has been consistently shown to be an indicator of task engagement, task perseverance, and task success (Molle & Froman, 2017). This knowledge has led to the clinically relevant PICOT question: In clinicians caring for the elderly, does the provision of a dementia-centric patient-focused plan of care, as opposed to no plan, affect clinicians' self-efficacy and satisfaction?

Search Strategy

An exhaustive search using key terms was performed in several online databases, including Cumulative Index of Nursing and Allied Health Literature (CINAHL), PubMed, and APA PsycInfo. Search terms for research studies and gray literature included *dementia, patient care planning, clinician satisfaction, self-efficacy,* and *tool,* as well as other more expansive terms such as *questionnaire* and *survey*. Studies were drawn from these results, as well as from the citations and "cited by" papers in these results (see Appendix E). Articles not originally written in, or translated to, English were excluded. Articles dated prior to 2018 were also excluded, so as to utilize only the most current research. A research librarian assisted in the search. Retained studies included two systematic reviews, four quantitative studies, and four qualitative studies (see Appendix A).

Critical Appraisal & Synthesis of Evidence

The ten studies included for focus in this project were disparate in terms of subject, tools, and results (see Appendix B). Three studies focused on the perspectives of PWD, while the other seven looked at healthcare workers' experiences treating PWD. Although they all used different tools, a common finding of the studies was that dementia-centric education and care plans were worth investing in, as they lead to greater feelings of self-efficacy among the treating professionals and increased quality of care among the patients.

Discussion

The MMSE has been translated into fifteen different languages and is used internationally to detect early signs of dementia (Steis & Schrauf, 2009). It is a brief 30-point questionnaire with orienting questions, memory prompts, and queries assessing spatial understanding, which can be

administered and scored by an unlicensed professional such as a medical assistant. The higher the score, the less likely cognitive impairment is present.

Opinions differ on whether the MMSE is the best targeted screening tool for differentiating between MCI and normal aging, and sufficient evidence has not been gathered to promote standardized dementia screening. However, the MMSE and the MoCA remain two of the most reliable tools for many clinicians when attempting to diagnose MCI or prodromal dementia. As individuals with MCI have an increased risk of progression to full dementia, it is critical that these patients be detected in the early disease stages, so that interventions such as memory-enhancing medications can be implemented swiftly. McDonald (1999) terms the care plan formulation as the fourth stage of care management, not to be forgotten, and Molle and Froman (2017) find that interdisciplinary care plans lead to improved quality and better patient outcomes. Additionally, Boehm et al. (2017) find that focusing interventions on alleviating workload burden facilitates procedural adherence. To that end, this project will use experts' input to create a care plan template encompassing pharmacological, psychosocial, and physical interventions appropriate for early dementia, thereby reducing clinician burden.

Theory Application

Bandura's Social Learning Theory is appropriate to apply to the dilemma of early dementia detection (Appendix C). The theory and its multidimensional model emphasize a learner's degree of self-regulation over what is learned and how it is perceived, and that role models have real power (Braungart & Braungart, 2011). If a respected clinician in a practice consistently uses a targeted dementia screening tool, and thereby increases their rate of dementia diagnosis and implementation of a dementia-centric plan of care, other clinicians can observe this and, per Bandura, experience vicarious reinforcement. This is much the way mentoring

programs are successful: an engaging environment or mentor promotes observational learning, resulting in intrinsic reinforcement for the engaged self. The engaged self then proactively makes a behavior change, which is reinforced in turn by the environment or mentor.

Bandura's self-efficacy theory is also relevant here, as it is a way to assess clinicians' confidence and self-satisfaction when implementing strategies which foster the application and sustainability of evidence-based practice (EBP), in other words, an EBP-based dementia-centric care plan. The Implementation Self-efficacy for EBP (ISE4EBP) Scale demonstrates content validity, internal consistency reliability (Cronbach's alpha = 0.987), and construct validity (Tucker et al., 2020), and thus is an appropriate tool to measure clinicians' perceptions of self-efficacy in using a new dementia care plan template.

Implementation Framework

Lewin's Change Model (Appendix D) is an appropriate implementation framework for this project. The model emphasizes the necessity of a change becoming part of an organization's culture and consists of three phases: unfreeze, change, and refreeze. Per Lewin, change is a dynamic force which drives some participants towards the new behavior while others resist the shift. To implement a new behavior – such as widely screening for early dementia, or utilizing a dementia-centric care plan – an organization must first unfreeze its current behavior, destabilizing it and priming for change. A need for change is perceived, for example through the understanding that dementia diagnosis opportunities are being missed. The new agenda moves forward as resistance fades and enthusiasm for the change grows. Once the new behavior has been implemented, there needs to be a refreezing process, anchoring the behavior and establishing the change as the new norm. For this project, clinicians and management will alike

play critical roles in the refreezing, validating their own and others' increased screenings and care plan usage.

Implications for Practice Change

The literature shows that the MMSE and others like it are effective screening tools for dementia: accuracy, ease of use and scoring, and timely administration. An aim of this project is to encourage clinicians to make dementia screening more widely available through use of these tools. In turn, clinicians will be provided with a dementia-centric patient-focused care plan, enabling them to comprehensively treat a greater number of patients with less burden. Stakeholders in this mission include not only the patients themselves, but also their families and caregivers, as well as clinicians and back-office staff such as medical assistants who can be trained to consistently administer the tools. The intervention will purportedly lead to greater numbers of dementia diagnoses, which will then result in collectible data. The timely diagnoses may improve QoL for patients as well as their loved ones and caregivers, by enabling clinicians to prescribe medications and implement a dementia-centric plan of care earlier in the disease process. This plan of care will necessarily include resiliency-oriented patient goals, an emphasis on shared decision-making, and achievable realistic objectives (Dragatsi et al., 2019). With the aim of screening more patients, fewer diagnoses will likely be missed, and the next steps will be simplified for clinicians, with a templated care plan reducing burden and simplifying the prescription, resources, and referral process. Self-efficacy of clinicians will be evaluated according to the ISE4EBP scale, and results analyzed and disseminated.

Methods

This project caused no physical, social, legal, economic, or psychological risks to participants. The project received an expedited review approval on 9/13/23 from the Arizona

State University IRB. The participating population consisted of physicians and nurse practitioners employed by the site. Nine clinicians participated. Participants were asked to slightly inconvenience themselves by sacrificing a small amount of their time for each relevant patient, and were compensated for this inconvenience with a $5 Starbucks gift card (Operating Budget, Appendix F). Direct benefits to participants were intended to be in the form of greater treatment efficiency and reduced clinician burden. The project leader consented all participants in English, and the informed consent process took place over email. The data collected contained no private medical information or private identification information. Only the project leader had access to the data, which was stored in a locked cabinet in the project leader's home through June, 2024. Data were shared with project mentor and project grader, in advance of being shared with site champion and stakeholders through a final presentation. Presented data were kept entirely confidential. This project involved no sensitive data. This project involved no audio or video recordings. Electronically-signed consent forms were stored in a separate cabinet in the project leader's home, through June, 2024. No de-identification of data was necessary, as there will be no sensitive data involved. No contact information was collected as there was no follow-up anticipated. Data were kept confidential. No pre-existing data sets were used. No data covered under FERPA were used. This study was not sponsored by the Department of Health and Human Services.

Results

Nine geriatrics clinicians participated in this study, completing a brief satisfaction survey before implementation, and the same survey plus the ISE4EBP scale post-implementation. Descriptive statistics were performed on the study population, within which the most frequently observed category of age was 40 to 50 (n = 4, 44%). The most frequently observed category of

gender was Female (n = 8, 89%). The most frequently observed category of years of experience was >5 years (n = 5, 55%), and the most frequently observed category of degree was Master's (n = 5, 56%), with the rest of the sample having doctorates. The sample size was so small that results were not statistically significant.

As shown in Figure 1, years of experience (fewer than five or greater than five) were also stratified across four select stems from the ISE4EBP which the project leader felt best summarized the arc of self-efficacy, namely the following:

Item 7: Highlight the key evidence including expected outcome of the EBP;

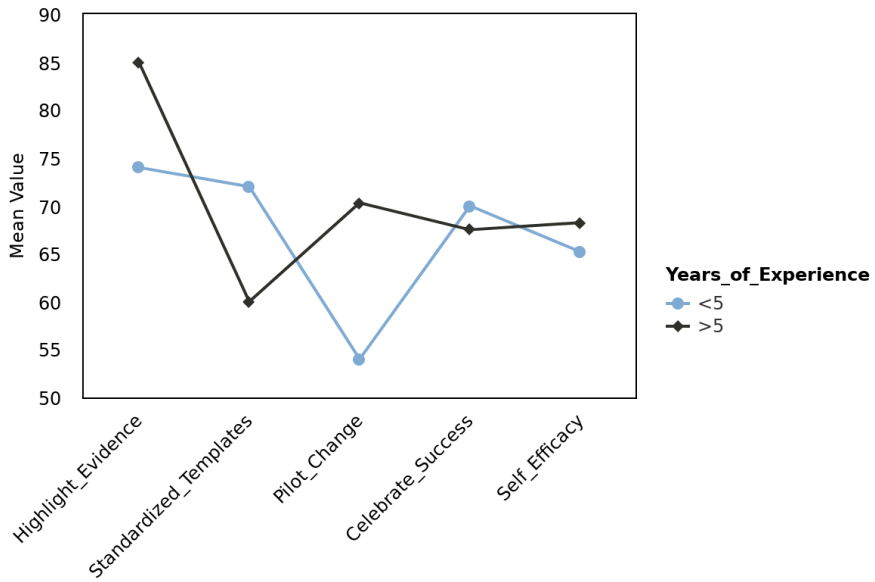
Item 11: Use standardized templates (e.g., standing orders, pre-printed order sets) to promote implementation of EBP;

Item 19: Pilot the practice change on one unit; and

Item 28: Celebrate and recognize program success in promoting implementation of the EBP.

Figure 1

Profile Plot of Selected ISE4EBP Question Stems grouped by Years of Experience



This analysis revealed that the average self-efficacy score across these questions was between 65 and 70% for both groups of years of experience.

Summary statistics were performed on the data to stratify perceived self-efficacy across education levels and years of experience (see Figure 2).

Figure 2

Level of Perceived Self-Efficacy	<5 Years of Experience	>5 Years of Experience
Low Self-Efficacy	2 (40%)	2 (50%)
Mid Self-Efficacy	1 (20%)	1 (25%)
High Self-Efficacy	2 (40%)	2 (35%)

The observations for Self-Efficacy had an average of 67% (*SD* = 24.12, Min = 12.00, Max = 94.00). These results revealed that providers with less than five years of experience sometimes perceived greater self-efficacy than the providers with more than five years of experience. The results were consistent in the paper care plan template having no significant bearing on self-efficacy, and it was recommended that the template be implemented into the electronic medical record in future, for effectiveness. Building an application into the EMR is a multi-step complex process that takes approximately four to six months (A. Bartholomew, personal communication, March 28, 2024). As such, it is beyond the scope of this project, but would lend itself well to a legacy project, to be continued by a future student.

Conclusions

One of the fastest growing medical problems in the U.S., dementia is financially and clinically burdensome, in addition to being potentially devastating for patients, their loved ones, and their caregivers. Some relief exists in the form of memory-enhancing medications, but these must be prescribed early in the disease process to be most effective. Targeted screening tools for dementia abound, and the surplus can be overwhelming for clinicians; some choose to skip the screening step entirely, leading to underdiagnosis. Consistent use of a tool such as the MMSE will result in a greater number of diagnoses early in the disease progression. Research has shown that documented care plans for other disease processes such as heart failure (Hey et al., 2021; Hill, 2019; Hill et al., 2019) improve patient care and increase clinicians' feelings of self-efficacy, however care plans have not yet been widely examined within a dementia context. This author theorizes that clinicians' use of a dementia-centric care plan, embedded into the electronic medical record, will give dementia patients their best chance of taking advantage of medications, resources, and referrals in a timely fashion, as well as increase clinicians' feelings of self-efficacy and satisfaction.

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Appendix A

Evaluation Table

Evaluation Table for Quantitative Studies

Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
Blum et al., Development and validation of a medical chart review checklist for symptom management performance of oncologists in the routine care of patients with advanced cancer, 2014 **Country:** Norway **Funding:** Cancer League Switzerland, the Swiss State Secretariat for	the number of visits with a symptom load above a defined threshold of the five symptoms - pain, depression, shortness of breath, fatigue, and anorexia without immediate intervention - was compared using data derived with the help of the SyMPeC	**Design:** retrospective analysis; feasibility study **Method:** Retrospective chart review compared with direct questioning of patients. **Purpose:** The aim of this study was to develop and test a symptom management performance checklist (SyMPeC) to review medical charts.	**N=** 247 **Demographics:** patients **Setting:** hospital **Exclusion:** unclear **Attrition:** unclear	**IV1:** SyMPeC **DV1:** doctors and nurses	**Tools:** CAT **Validity/ Reliability:** The CAT includes 100 elements with a high inter-rater reliability (>95%); This results in a 77.7% agreement (56/72), which corresponds to Fleiss's kappa of 0.70 for three raters (SE ¼ 0.07; 95% CI ¼ 0.57, 0.83).	**Statistical Tests Used:** Fleiss's kappa When compared with SyMPeC, there was a match in 1003 visits (86%) and a mismatch in 164 visits (14%) recorded. If analyzed per case (six visits), 195 of 247 cases (79%) had one	Retrospective chart review by SyMPeC seems reliable to detect symptom management interventions by oncologists in outpatient clinics. Nonpharmacological interventions were less symptom specific. A template for documentation is needed for standardization.	**Level of Evidence:** 2 **Strengths:** Potential bias minimal **Weakness:** requires basic training and standardization for documentation and the prospective use of such checklists **Feasibility:** not feasible without specific tool (SyMPeC) **Application:** broadly applicable without a specific tool

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
Education, Research and Innovation (SERI), the Swiss Group for Clinical Cancer Research (SAKK), EURO IMPACT-Marie Curie PhD training grant Sanofi-Aventis and Amgen. **Bias:** None						mismatch or less		
Schindel-Martin et al., 2016, An education intervention to enhance staff self-efficacy to provide dementia care in an acute care hospital in	Bandura's Theory of Self-Efficacy	**Design**: Nonrandomized controlled study; Participants completed self-efficacy for dementia and satisfaction measures and provided written descriptions of	**N=** 745 **Demographics:** acute hospital clinical personnel; 90.5% female for the intervention group and and 92.4% female for the control group;	**IV1:** wait-listed group **DV1:** baseline, before intervention **DV2:** immediately	**Tools:** 10-item, 7-point Likert-type scale, SBMSEP **Validity/ Reliability:** Cronbach α .93	**Statistical Tests Used:** 1-way and 2-way repeated measures ANOVA; iterative Markov chain Monte Carlo	**IV1:** mean score of 46.96 **DV1:** mean of 43.06 **DV2:** mean of 57.31 **DV3:** mean of 54.68	**Level of Evidence:** Level 4 **Strengths:** Variety of employee units increases generalizability

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
Canada: A nonrandomized controlled study **Country:** Canada **Funding:** Centre for Healthcare Optimization Research and Delivery (CHORD) award **Bias:** None		dementia care collected at baseline, postintervention (IG only), and at 8-week follow-up. **Method**: nonrandomized controlled, repeated-measures research design **Purpose**: To increase staff's feelings of self-efficacy through a dementia care education program **Sampling**: nonrandomized	majority RNs or LPNs **Setting:** hospital units **Exclusion:** **Attrition:**	after intervention **DV3:** 8 weeks post-intervention **Definitions:**		procedure; multiple linear regression; independent samples *t* test		**Weakness:** Canadian study **Feasibility:** very **Application:**
Mackenzie & Peragine, 2003, Measuring and enhancing self-efficacy among professional caregivers of	Bandura's self-efficacy theory	**Design:** **Method:** quasi-experimental design with nursing caregivers from a long-term care	**N=** 41 **Demographics:** mean age 46.7 years; majority female; majority health care aides;	**IV:** control nurses' unit **DV:** nurses' unit receiving intervention	Cronbach's alpha was .96 and the average item-total correlation was .83.	ANCOVA, repeated-measures ANOVA	• Pretraining: 48.4 • Post-training: 53.0 3 mo. Follow-up: 53.6	**LOE:** 4 **Strengths:** evaluates employees'

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
individuals with dementia **Country:** USA **Funding:** Morris Slivka Fellowship **Bias:** none		facility for 472 residents **Purpose:** to describe the development and outcome of an intervention for long-term care nurses designed to decrease stress and burnout by enhancing their self-efficacy in managing challenging team, resident, and family situations	majority working day shift **Exclusions:** sickness; refusal to participate	Baseline (before intervention), immediately after intervention, 3 mos. post-intervention				depersonalization and burnout **Weaknesses:** did not use validated tool **Application:** broad **Generalizability:** small nursing units
Brant et al., 2019, Patient and clinician use of electronic care plans generated from patient-reported outcomes **Country:** USA **Funding:** Carevive	Feasibility study	**Design:** cohort study **Method:** researchers evaluated feasibility, usability, acceptability, and satisfaction of CPs from patient and clinician perspectives; additionally, interviews described	**N**=121 **Demographics**: 51 gynecologic cancer patients, 70 breast cancer patients; 100% female; 86% Caucasian; mean age 56.3 years **Setting:** Cancer clinics	feasibility, usability, acceptability, and satisfaction of CPs; patient perceptions of the CPs	Likert-type scale		(Rated on a scale from 1 (not at all useful) to 5 (very useful) "How useful overall are the care plans you are given at your visit(s)?" Mean answer of 4 "I would recommend that other patients	**Level of Evidence:** 4 **Application:** excellent, care plans can be incorporated broadly **Feasibility:** the specific program used (Carevive) less feasible as it's not

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
Systems, Inc., Moffitt Cancer Center **Bias:** None noted		patient perceptions of the CPs. **Purpose:** To determine if patients and clinicians perceived improved care processes through the delivery of personalized, electronic CPs	**Inclusions:** 18 years or older, decision-making capacity, English-speaking and -reading, computer-literate				with cancer receive similar care plans." Mean answer of 5	available everywhere
Evaluation Table for Qualitative Studies								
Kuusisto et al., 2023, Accessibility of care plan information from previous treatment setting in palliative care unit: A qualitative study		**Design:** qualitative descriptive study **Method:** nurses, social workers and physicians were interviewed and data were analyzed by deductive and inductive content analysis. The FITT was used as a	**Sample:** n=33 **Demographics:** nurses, social workers and physicians; mean age 46 years; mean 6 years' experience in palliative care **Setting:** palliative care **Attrition:** none	What is the individual-technology fit? What is the individual-task fit? What is the task-technology fit?			Medical, nursing, and social work staff were promised a plan with palliative care needs in HIS, and they were trying to get the things they needed into it. Health informatics skills were seen as a prerequisite for	**Level:** 5, cohort study **Strengths:** non-American study; multidisciplinary, and especially, nursing-oriented focus **Application:** The HIS should be reviewed as a whole from a holistic and

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
Country: Finland **Funding:** State Research Funding (Satakunta Hospital District); State Research Funding (the expert responsibility area (ERVA) of Tyks (Turku University Hospital) **Bias:** none disclosed		deductive analysis framework. **Purpose:** To describe accessibility of care plan information from patients' previous treatment setting in palliative care.					care plan information access. Structural factors as a condition for accessing care plan information included issues related to privacy and legislation.	patient-oriented perspective to enable accessibility of care plan information. **Generalization:** wide
Zhao et al., 2021, Dementia care education interventions on healthcare clinicians' outcomes in the nursing home	Integrated model of person-environment fit and social learning theory	**Design:** Systematic review **Method:** cluster RCT **Purpose:** to appraise the evidence of the effects of dementia	**Sample:** 3269 articles **Demographics:** **Exclusions:** non-RCT; did not	What are the effects of dementia care educational programs on improving the preparedness	13 criteria, including randomization, allocation concealment, baseline balance, blinding of participants,	Meta-analysis; JBI Critical Appraisal Checklist for RCT	Nursing home staff knowledge and cultural beliefs about dementia affect the quality of dementia care	**Level of Evidence:** 1 **Strengths:** international study (8 countries)

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
setting: A systematic review **Country:** China/USA **Funding:** unclear		care educational programs on improving the preparedness of nursing home staff	examine staff outcomes **Attrition:** 12.3% to 52.6%.	of nursing home staff?	intervention clinicians, outcome assessors, treatment for groups other than the intervention, completion of follow-up data, analyzed according to group assignment, outcome measurement (ways and instruments), statistical analysis used, and the trial design		Competency-based educational programs in dementia care have shown positive effects on staff outcomes, such as understanding dementia and ability in applying person-centered care, improved knowledge, attitudes, and self-efficacy related to dementia and dementia-related behaviors, and strategies in prevention and management of challenging behaviors	**Weaknesses:** few articles analyzed

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
Chan et al., 2016, End-of-life care pathways for improving outcomes in caring for the dying. **Country:** Australia **Funding:** The National Institute for Health Research (NIHR) **Bias:** none disclosed	Uses the Liverpool Care Pathway for active dying in palliative care	**Design:** Systematic review **Purpose:** To assess the effects of end-of-life care pathways, compared with usual care (no pathway) or with care guided by another end-of-life care pathway across all healthcare settings (e.g. hospitals, residential aged care facilities, community).	**N=** 1024 patients, carers and families who received care guided by end-of-life care pathways **Attrition:** 100%	physical symptom severity, psychological symptom severity, quality of life, and any adverse effects	Physical symptom severity; Psychological symptom severity; Quality of life; Harms	Sensitivity analysis; investigation of heterogeneity	Very low-quality evidence of no difference was found for pain (OR 1.3, 95% CI 0.7 to 2.6, P = 0.461) and nausea and vomiting (OR 1.5, 95% CI 0.7 to 3.2, P = 0.252).	**LOE:** 1
Toteh Osakwe, et al., 2022, Home health aide perceived information needs for dementia-specific care plans	Donabedian's conceptual framework of health care quality	**Design:** qualitative, descriptive study using in-depth, semi-structured interviews **Purpose:** to determine the information needs of HHAs providing care	**Sample:** n = 30 **Attrition:** 6% **Setting:** home healthcare settings 96% female; mean age 49.8 years;	4 major themes: (1) ambiguities related to medication management, (2) clinical information needs, (3)			There are important information needs of HHAs essential to deliver high-quality care to homebound PLWD and	**LOE:** 3 Highly applicable, limited generalization: participants recruited from the NY metropolitan area; recruitment

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Country: USA **Funding:** none **Bias:** none		for PLWD in the home healthcare setting	44% black, 56% Hispanic; 36% of participants had a high school degree or more; 8.6 mean years of experience working as HHAs.	dementia-related concerns, and (4) going above and beyond			support the HHA workforce; future research should assess the most effective strategy to meet ongoing training needs for Spanish-speaking HHAs with limited English proficiency. Results also provide insight to dementia-specific information HHAs seek on care plans and can inform the development of strategies to address them.	relied on agency leadership reaching out to their teams; qualitative studies conducted via telephone interviews raise concerns about inability to appreciate non-verbal communication; furthermore, although participants were assured of confidentiality and their responses appeared candid, unable to rule out the possibility of socially desirable responses.
Bookbinder et al., 2005, Improving end-	Rogers' five-stage diffusion of innovations theory	**Design:** Quasi-experimental; Palliative Care for	**N=** 257	**Definitions:**	**Tools:** CAT, PAT, PCQN	**Statistical Tests Used:**	During the PCAD intervention, dying patients	**Level of Evidence:** RCT, level 2

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
of-life care: Development and pilot-test of a clinical pathway. **Country:** USA **Funding:** New York State Department of Health Quality Measurement Grant **Bias:** None		Advanced Disease pathway **Purpose:** to address deficiencies in the care provided to patients dying from advanced medical illnesses in acute care hospitals	**Demographics:** 83% female nurses; mean age 44 years; 47% with >10 years nursing experience; 52% BSN. **Setting:** hospital units; to shape the responses of staff such that treatment respected patients' values and decisions, reduced unnecessary interventions, increased symptom assessment and treatment, enhanced support for families, and facilitated appropriate referrals		**Validity/ Reliability:** CAT: Inter-rater reliability among four nurse and physician coders yielded greater than 95% consistency PAT: An index (total percent adherence with 34 items) was constructed to assess adherence to the PCAD pathway PCQN: extensive validity and reliability testing	F test; p-value Greater than 5% increases for 15 of 20 items.	who resided on Geriatrics, Oncology and palliative care/hospice units were more likely to have DNR orders than the comparison units, whereas the comparison units were more likely to use "morphine infusions" and cardiopulmonary resuscitation than the units that received the PCAD intervention.	**Strengths:** Potential bias minimal **Weakness:** depends upon tool **Feasibility:** Generally feasible with use of tool **Application:** broad

Key: ACP Advance care planning; CAT chart abstraction tool; CIS clinical information systems department; CNS clinical nurse specialist; CP Care plan; DPMPC Departments of Pain Medicine and Palliative Care; EOL end-of-life; FITT fit between individuals, task and technology framework; GPA Gentle Persuasive Approaches program; HHA home health aide; HIS health information system; MBI Maslach Burnout Inventory; PAT process audit tool; PCAD Palliative Care for Advanced Disease; PCQN Palliative Care Knowledge Quiz for Nurses; PWD persons with dementia; SBMSEP Self-Perceived Behavioural Management Self-Efficacy Profile; SyMPeC symptom management performance checklist

Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice/ Generalization
			Exclusion: patients who "rallied" and were discharged **Attrition:** 7%					
Hyde & Murphy, 2012, Computerized clinical pathways (care plans): Piloting a strategy to enhance quality patient care **Country:** USA **Funding:** none **Bias:** none noted	Feasibility study	**Purpose:** To conduct a pilot study on 1 medical department using computerized pathway and determine the pathway's sufficiency for broader implementation	N= 69 Nurses and clinical ancillary staff		Carevive	Staff perceptions	69% increase in the documentation of barriers to patient progression/utilization of the problem list, 10% increase in documentation of patient medication teaching, and 31% increase in documentation by ancillary staff using the computerized pathway	**LOE:** 4 **Limitations:** requires time and effort investment of clinical and ancillary staff **Generalizability:** excellent

Key: ACP Advance care planning; CAT chart abstraction tool; CIS clinical information systems department; CNS clinical nurse specialist; CP Care plan; DPMPC Departments of Pain Medicine and Palliative Care; EOL end-of-life; FITT fit between individuals, task and technology framework; GPA Gentle Persuasive Approaches program; HHA home health aide; HIS health information system; MBI Maslach Burnout Inventory; PAT process audit tool; PCAD Palliative Care for Advanced Disease; PCQN Palliative Care Knowledge Quiz for Nurses; PWD persons with dementia; SBMSEP Self-Perceived Behavioural Management Self-Efficacy Profile; SyMPeC symptom management performance checklist

Appendix B

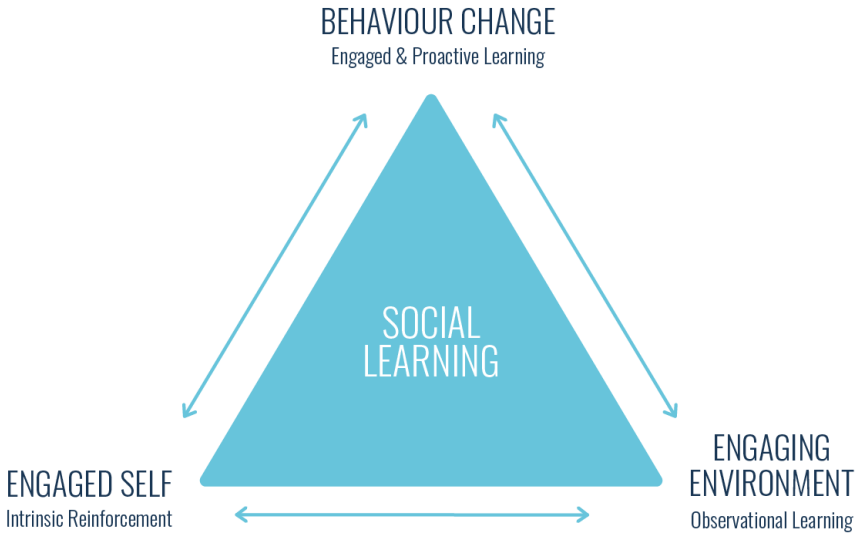
Synthesis Table

Study		Blum et al.	Bookbinder et al.	Brant et al.	Chan et al.	Hyde & Murphy	Kuusisto et al.	Mackenzie & Peragine	Schindel-Martin et al.	Toteh Osakwe, et al.	Zhao et al.
Year		2014	2005	2019	2016	2012	2023	2003	2016	2022	2021
Level of Evidence		2	2	4	1	4	5	4	4	3	1
Mean Age		-	44	56.3	-	-	46	46.7	-	-	-
Participants		PWD	HW	PWD	HW	HW	HW	HW	HW	HW	HW
N		247	257	121	1024	69	33	41	745	30	3269
Type of study	Feasibility	X		X		X					
	Systematic review				X						X
	Self-efficacy							X	X		
	Quality		X				X			X	
Setting	Acute care	X	X	X	X	X			X		
	Long-term care							X			X
	Home health									X	
	Palliative care						X				
Outcomes		Needs standardization	Increased adherence	Recommendation of care plans	Little to no differences found	Increased quality documentation	Informatics skills needed	Evaluates depersonalization and burnout	Increased feelings of self-efficacy	Improvements needed in support for HHAs	Dementia-centric interventions needed
Tools		SyMPeC; CAT	PCAD, CAT, PCQN, PAT	Likert-type scale	EOL care pathway	Carevive	FITT	None validated	SBMSEP	Interviews	Interviews

Key: **CAT** chart abstraction tool; **EOL** end-of-life; **FITT** fit between individuals, task and technology framework; **HW** Healthcare workers; **PAT** process audit tool; **PCAD** Palliative Care for Advanced Disease; **PCQN** Palliative Care Knowledge Quiz for Nurses; **PWD** persons with dementia; **SBMSEP** Self-Perceived Behavioural Management Self-Efficacy Profile; **SyMPeC** symptom management performance checklist

Appendix C

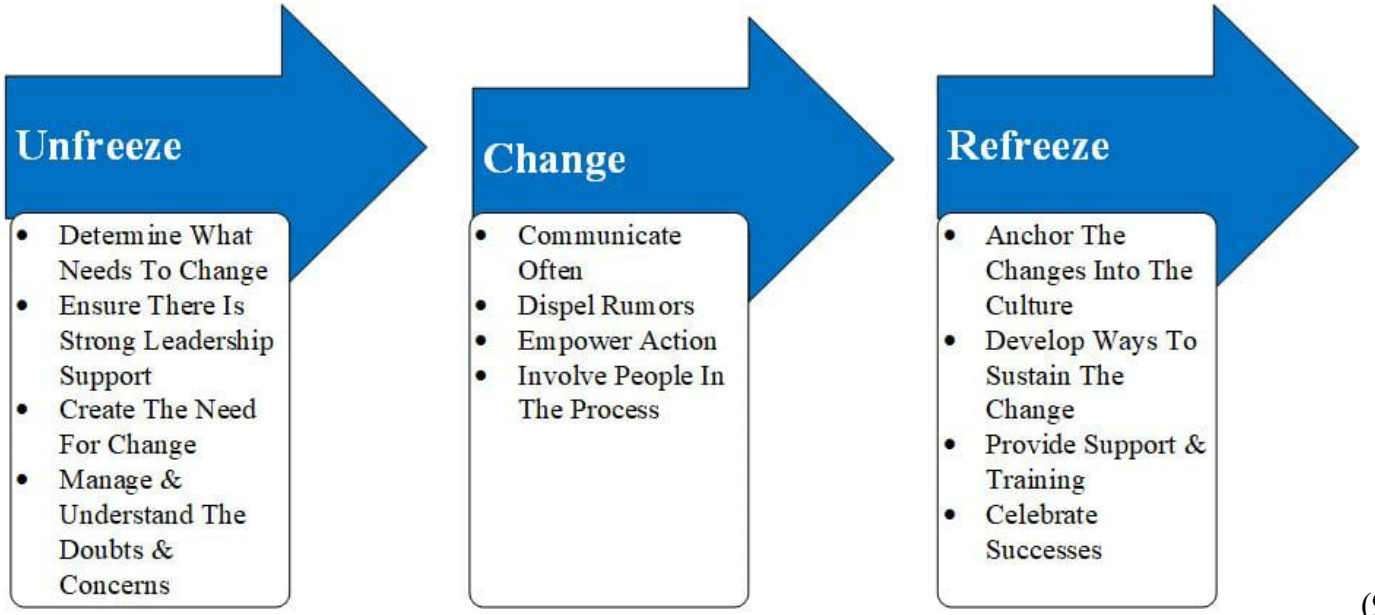
Bandura's Social Learning Theory



(Virtanen, 2011)

Appendix D

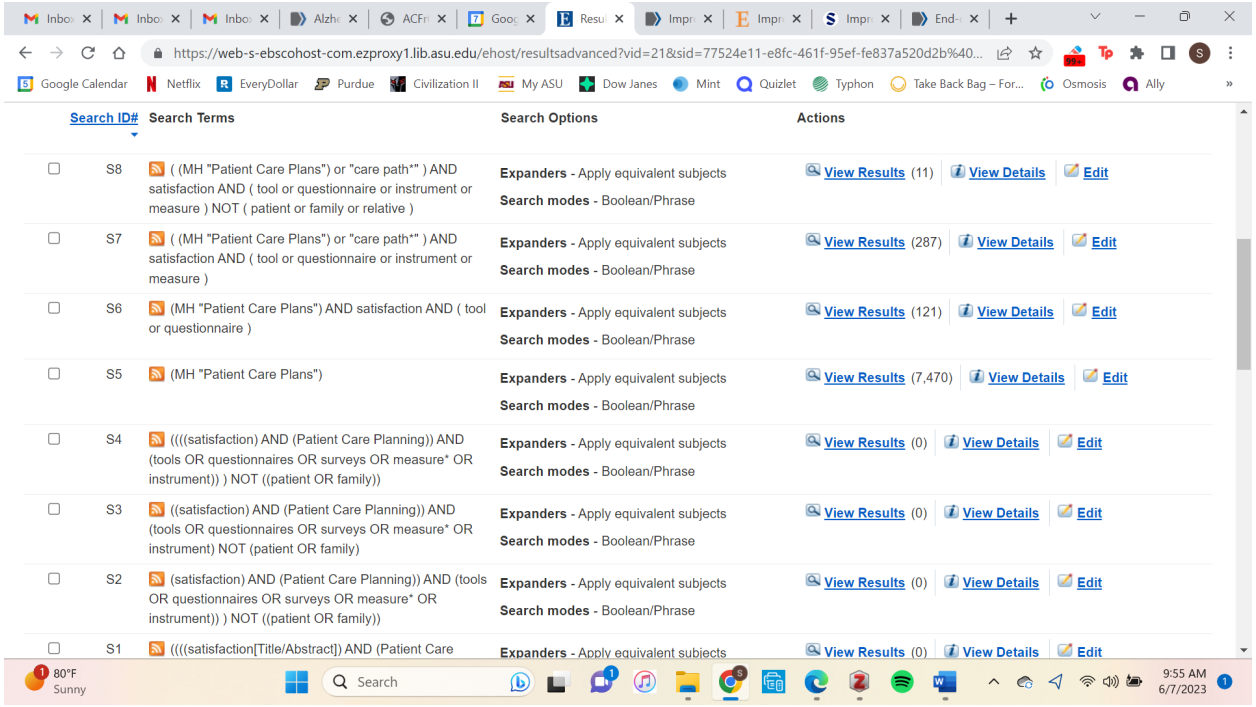
Lewin's Change Model



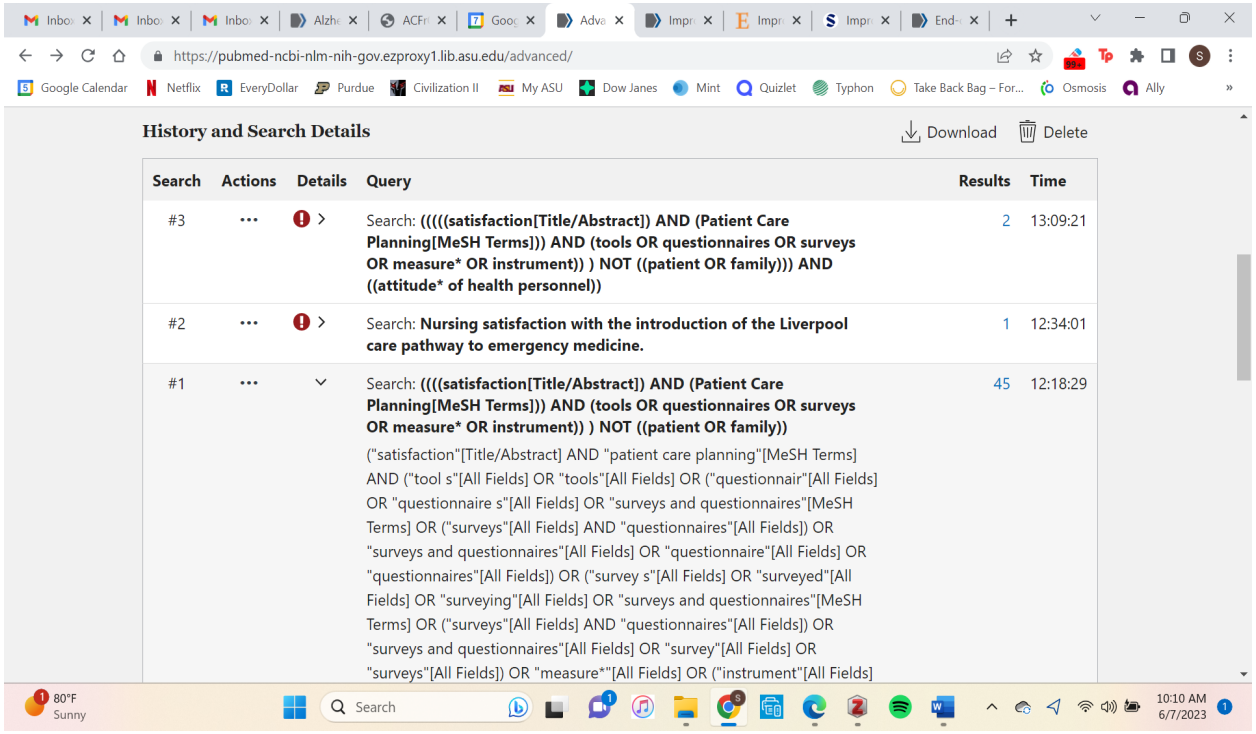
(9m Consulting, 2018)

Appendix E

CINAHL



PubMed


https://pubmed-ncbi-nlm-nih-gov.ezproxy1.lib.asu.edu/advanced/
History and Search Details
Download
Delete
Search Actions Details Query Results Time
#3 Search: (((((satisfaction[Title/Abstract]) AND (Patient Care Planning[MeSH Terms])) AND (tools OR questionnaires OR surveys OR measure* OR instrument))) NOT ((patient OR family))) AND ((attitude* of health personnel)) 2 13:09:21
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80°F Sunny
Search
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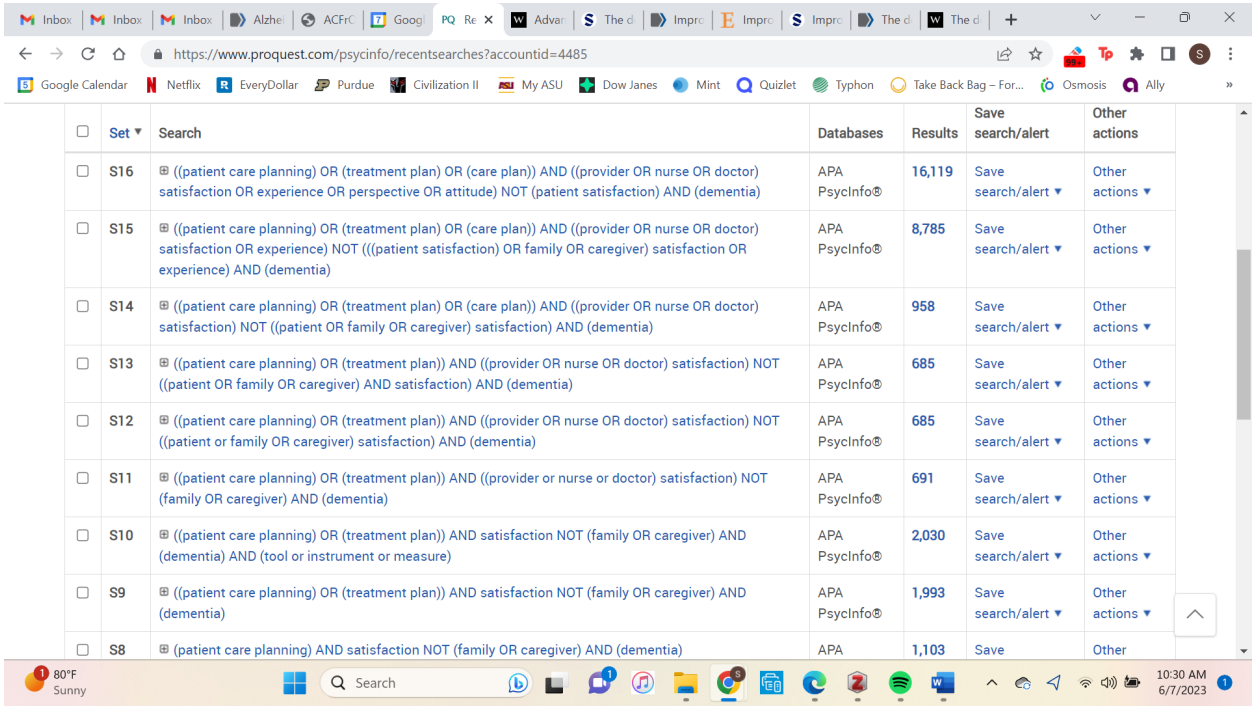
APA PsycInfo



https://www.proquest.com/psycinfo/recentsearches?accountid=4485

Set	Search	Databases	Results	Save search/alert	Other actions
S16	((patient care planning) OR (treatment plan) OR (care plan)) AND ((provider OR nurse OR doctor) satisfaction OR experience OR perspective OR attitude) NOT (patient satisfaction) AND (dementia)	APA PsycInfo®	16,119	Save search/alert	Other actions
S15	((patient care planning) OR (treatment plan) OR (care plan)) AND ((provider OR nurse OR doctor) satisfaction OR experience) NOT (((patient satisfaction) OR family OR caregiver) satisfaction OR experience) AND (dementia)	APA PsycInfo®	8,785	Save search/alert	Other actions
S14	((patient care planning) OR (treatment plan) OR (care plan)) AND ((provider OR nurse OR doctor) satisfaction) NOT ((patient OR family OR caregiver) satisfaction) AND (dementia)	APA PsycInfo®	958	Save search/alert	Other actions
S13	((patient care planning) OR (treatment plan)) AND ((provider OR nurse OR doctor) satisfaction) NOT ((patient OR family OR caregiver) AND satisfaction) AND (dementia)	APA PsycInfo®	685	Save search/alert	Other actions
S12	((patient care planning) OR (treatment plan)) AND ((provider OR nurse OR doctor) satisfaction) NOT ((patient or family OR caregiver) satisfaction) AND (dementia)	APA PsycInfo®	685	Save search/alert	Other actions
S11	((patient care planning) OR (treatment plan)) AND ((provider or nurse or doctor) satisfaction) NOT (family OR caregiver) AND (dementia)	APA PsycInfo®	691	Save search/alert	Other actions
S10	((patient care planning) OR (treatment plan)) AND satisfaction NOT (family OR caregiver) AND (dementia) AND (tool or instrument or measure)	APA PsycInfo®	2,030	Save search/alert	Other actions
S9	((patient care planning) OR (treatment plan)) AND satisfaction NOT (family OR caregiver) AND (dementia)	APA PsycInfo®	1,993	Save search/alert	Other actions
S8	(patient care planning) AND satisfaction NOT (family OR caregiver) AND (dementia)	APA	1,103	Save	Other

80°F Sunny

Search

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Appendix F

Operating Budget

Type	Activities	Cost	Subtotal	Total
Direct costs	Copying of care plan	3 cents per 150 copies	$4.50	$4.50
	Informed consent forms	3 cents per 14 copies	$0.42	$4.92
	Starbucks gift cards for clinician compensation	$5 per 14 cards	$70.00	$74.92
	Presentation materials	$1.50 per foam core board	$1.50	$76.42
Direct costs, subtotal:		$76.42		
Indirect costs	One hour of Geriatric Solutions' staff time	$112 per 14 clinicians	$1568	$1588.02
	10 hours of site champion's staff time	$80 per 10 hours	$800	$2388.02
	20 hours of project mentor's	$67 per 20 hours	$1340	$3728.02

	and project grader's time			
	Unlimited hours of student's time	(unpaid)	0	$3728.02
Indirect costs, subtotal:		**$3728.02**		
Potential funding sources	**Student's private funding**	Copying, gift cards, and uncompensated student time	$70.00	$70.00
Potential funding sources, subtotal:		**$70.00**		
Cost versus revenue/savings			0	$0
Cost versus revenue/savings		**$0**		
Total outlay=				**$3798.02**

Budget justification: Hourly wages are approximated from Glassdoor.com. Currently, site revenue is being lost due to missed dementia screenings and thus missed opportunities for further dementia-specific care. Patients often have to go through multiple visits before diagnosis, utilizing more staff time and costs, and leading to the need for more intensive treatment when finally diagnosed. Implementing this project will encourage clinicians to screen more frequently, and then utilize the templated care plan which will save time for the clinicians and patients, as well as generate revenue for the site.